



Neuroscience  
2015

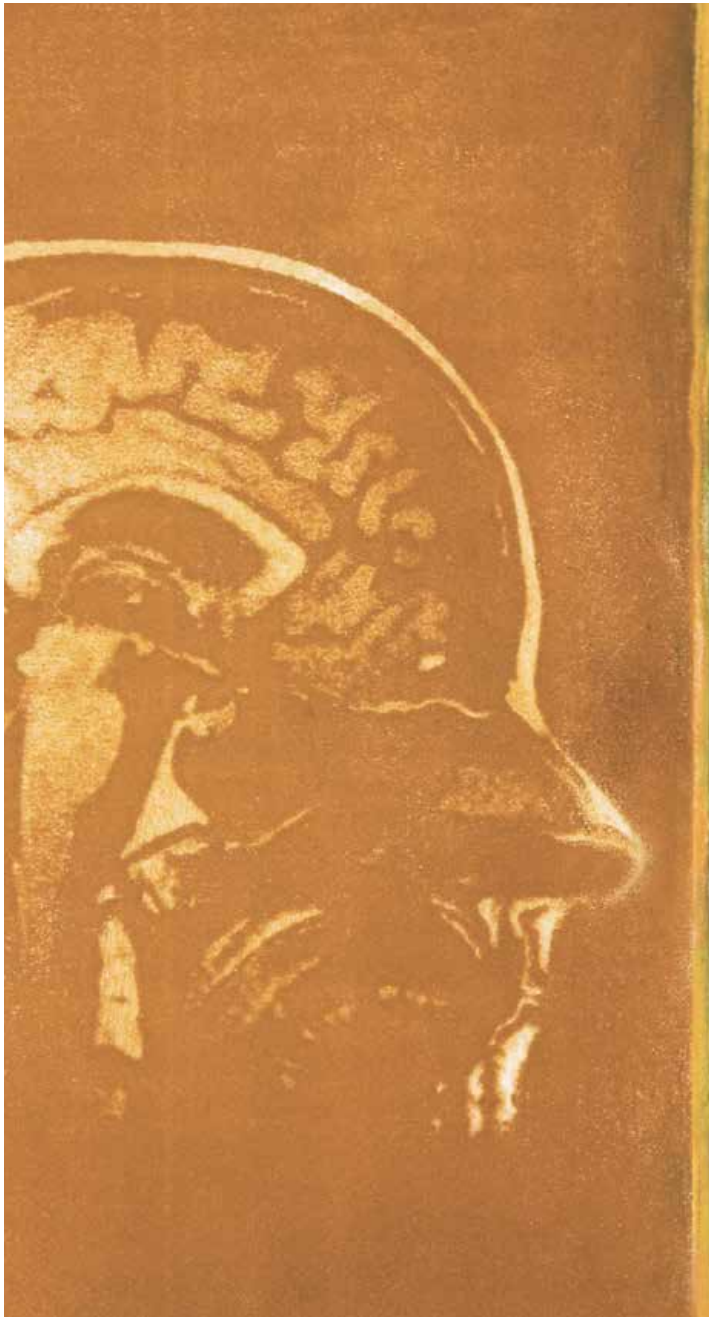
Chicago | October 17-21

# Monday

Scientific Session Listings 269–451



SOCIETY *for*  
NEUROSCIENCE



# Information at a Glance

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## Important Phone Numbers

### Annual Meeting Headquarters Office

Logistics and Programming

Logistics

McCormick Place: Hall A, (312) 791-6700

### Programming

McCormick Place: Hall A, (312) 791-6705

### Volunteer Leadership Lounge

McCormick Place: S505A, (312) 791-6735

### General Information Booths

McCormick Place:

Gate 3 Lobby, (312) 791-6724

Hall A (312) 791-6725

### Press Offices

#### Press Room

McCormick Place: Room S501ABC

(312) 791-6730

### Exhibit Management

McCormick Place: Hall A, (312) 791-6740

### First Aid and Hospital Numbers

#### First Aid Station

McCormick Place: Level 2.5S, (312) 791-6060

### Mercy Hospital

2525 S Michigan Avenue

Chicago, IL 60616

(312) 567-2000

### Physicians Immediate Care

811 S. State Street

Chicago, IL 60605

(312) 566-9510

### Walgreens Pharmacy

(closest to McCormick Place)

3405 S. Martin Luther King Drive

Chicago, IL 60616

(312) 326-4064

### Venues

#### McCormick Place

2301 S. Martin Luther King Drive

Chicago, IL 60616

#### Fairmont Chicago, Millennium Park Hotel

200 N. Columbus Drive

Chicago, IL 60601

(312) 565-8000

#### Hyatt Regency Chicago Downtown Hotel

(not connected to McCormick Place)

151 E. Wacker Drive

Chicago, IL 60601

(312) 565-1234

### Key to Poster Floor by Themes

The poster floor begins with Theme A and ends with Theme H. Refer to the poster floor map at the end of this booklet.

### Theme

**A** Development

**B** Neural Excitability, Synapses, and Glia:  
Cellular Mechanisms

**C** Disorders of the Nervous System

**D** Sensory and Motor Systems

**E** Integrative Systems: Neuroendocrinology,  
Neuroimmunology and Homeostatic Challenge

**F** Cognition and Behavior

**G** Novel Methods and Technology Development

**H** History, Teaching, Public Awareness, and  
Societal Impacts in Neuroscience

**Note:** Theme H Posters will be located in Hall A beginning at 1 p.m. on Saturday, Oct. 17, and will remain posted until 5 p.m., Sunday, Oct. 18.

**Cover artwork by:** Elizabeth Jameson. Face-Off, MRI of the Artist's Brain, is based on an MRI of Elizabeth Jameson's brain. It is a part of a series of etchings that are portraits that express the mystery of the brain revealed through MRI images and angiograms. Digital brain scans became a part of the artist's life when she was diagnosed with Multiple Sclerosis. As her stack of MRIs grew, so did her fascination with the brain as well as the eerie MRIs. They were frightening, yet mesmerizing. The resulting art came from her desire to reinterpret these images, using them to explore the wonder and the complexity of the brain.

2012, *The Journal of Neuroscience*, 32(41).

# Complete Session Listing

## Monday AM

### SPECIAL LECTURE *McCormick Place*

#### 269. Global Positioning System Mechanisms of Migrating Monarch Butterflies — CME

Mon. 8:30 AM - 9:40 AM — Hall B1

*Speaker:* S. M. REPERT, *Univ. of Massachusetts Med. Sch.*

This lecture will focus on the navigational mechanisms exhibited by eastern North American monarch butterflies during their iconic fall migration. This includes use of a time-compensated sun compass and of a light-dependent inclination magnetic compass. Genomic and genetic strategies have been developed to define the genetic underpinning of the migration. The monarch butterfly has emerged as a model system to study the neural, molecular, and genetic basis of long-distance animal migration.

### SYMPOSIUM *McCormick Place*

#### 270. Early Reports from the BRAIN Initiative Frontline: Advancing Technologies to Accelerate Our Understanding of Brain Function — CME

Mon. 8:30 AM - 11:00 AM — S100A

*Chair:* E. E. MARDER  
*Co-Chair:* J. I. ROSKAMS

The BRAIN Initiative was launched in 2013 to stimulate research in key areas of technology development, analysis, and big data research that will accelerate our understanding of brain function. The first funded BRAIN Initiative projects are creating new avenues to understand brain cell diversity, *in vivo* function and connectivity. Based across a variety of organisms, this symposium will present some of the preliminary news from the first round of BRAIN-funded projects.

- 8:30 **270.01** Introduction.
- 8:35 **270.02** Nonlinear optical imaging of mouse brain structure and function. C. XU. *Cornell Univ.*
- 9:10 **270.03** Noninvasive functional brain imaging at the molecular level. A. JASANOFF. *MIT.*
- 9:45 **270.04** High density recording and stimulating electrodes. T. J. GARDNER. *MIT.*
- 10:20 **270.05** Establishing a comprehensive and standardized cell type characterization platform. H. ZENG. *Allen Inst. for Brain Sci.*
- 10:55 **270.06** Closing Remarks.

### SYMPOSIUM *McCormick Place*

#### 271. Retinal Microcircuits for the Computation of Motion Direction: Functional Organization, Development, and Behavior — CME

Mon. 8:30 AM - 11:00 AM — S100B

*Chair:* H. SEUNG

The retina has historically been a region of the mammalian central nervous system that is especially tractable. Two-photon imaging, serial electron microscopy, and genetic manipulations of specific cell types are revealing with unprecedented precision how the microcircuitry is functionally organized, emerges during development, and contributes to visually-guided behaviors. This symposium will survey recent progress using the example of retinal direction selectivity.

- 8:30 **271.01** Introduction.
- 8:35 **271.02** Bipolar cell contributions to retinal motion detection: Spatio-temporal organization. T. EULER. *Univ. of Tübingen.*
- 9:10 **271.03** Space-time wiring specificity supports direction selectivity in the retina. H. SEUNG. *Princeton Univ.*
- 9:45 **271.04** Development of retinal microcircuits for direction selectivity. M. B. FELLER. *Univ. of California, Berkeley.*
- 10:20 **271.05** Parallel motion pathways from retina to brain. A. HUBERMAN. *Univ. of California, San Diego*
- 10:55 **271.06** Closing Remarks.

### MINISYMPOSIUM *McCormick Place*

#### 272. Chaperones in Neurodegeneration — CME

Mon. 8:30 AM - 11:00 AM — S406A

*Chair:* I. LINDBERG

This minisymposium will present new work in the area of neuronal proteostasis with a specific focus on the involvement of cellular chaperones in neurodegenerative disease. There will be a brief discussion of protein misfolding in neurodegenerative disease. Then each speaker will present work on a different aspect of chaperone control of neuronal proteostasis with topics including chaperone engineering, blockade of protein oligomerization and cytotoxicity, as well as the rescue of neurodegenerative processes.

- 8:30 **272.01** Introduction.
- 8:35 **272.02** Protein disaggregases to counter neurodegeneration. J. SHORTER. *Univ. of Pennsylvania.*
- 8:55 **272.03** Regulating extracellular proteostasis through the unfolded protein response. R. L. WISEMAN. *The Scripps Res. Inst.*
- 9:15 **272.04** Chaperones are able to bind to and suppress toxicity of pre-formed protein oligomers. F. CHITI. *Univ. of Florence.*

Mon. AM

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 9:35 **272.05** The neuronal secretory chaperones 7B2 and proSAAS suppress the aggregation of neurodegenerative disease-related proteins. I. LINDBERG. *Univ. of Maryland-Baltimore*.
- 9:55 **272.06** Controlling tau aggregation and toxicity with Hsp90 chaperone complexes. C. A. DICKEY. *Univ. South Florida*.
- 10:15 **272.07** Hsp90 inhibitors as potential therapeutics for Parkinson's disease and related synucleinopathies. P. J. MCLEAN. *Mayo Clin. Jacksonville*.
- 10:35 **272.08** Closing Remarks.

**MINISYMPOSIUM** *McCormick Place*

**273. New Insights into Signal Generation at the Presynaptic Active Zone — CME**

Mon. 8:30 AM - 11:00 AM — S105

*Chair:* A. SCIMEMI  
*Co-Chair:* J. S. DITTMAN

The presynaptic active zone is the site of Ca<sup>2+</sup> channels localization, synaptic vesicle docking, and neurotransmitter release. Recent findings shed new light on the topography of the presynaptic active zone and on the molecular mechanisms underlying its function and plasticity in response to neural activity and pathology. This minisymposium will provide a panel of discussion of recent advances in the molecular organization of the presynaptic active zone at central and peripheral synapses.

- 8:30 **273.01** Introduction.
- 8:35 **273.02** Influence of nanoscale channel-vesicle topography on fast synaptic transmission. D. A. DIGREGORIO. *Inst. Pasteur*.
- 8:55 **273.03** Tuning of voltage-gated calcium channel recruitment to the presynaptic release sites. A. FEJTOVA. *Leibniz Inst. for Neurobio*.
- 9:15 **273.04** Otoferlin, a C2-domain protein with multiple functions at the hair cell active zone. J. NEEF. *Univ. Med. Ctr. Goettingen*.
- 9:35 **273.05** Synaptic vesicles position complexin to inhibit spontaneous fusion. R. T. WRAGG. *Weill Cornell Med. Col.*
- 9:55 **273.06** Homeostatic tuning of presynaptic protein degradation and neurotransmitter release. M. MUELLER. *Univ. of Zurich*.
- 10:15 **273.07** Synaptic and extrasynaptic functions of a molecular co-chaperone. R. FERNANDEZ-CHACON. *Univ. of Seville*.
- 10:35 **273.08** Closing Remarks.

**MINISYMPOSIUM** *McCormick Place*

**274. Can We Merge the Divergent Views of Hippocampal Function? — CME**

Mon. 8:30 AM - 11:00 AM — S103

*Chair:* D. SCHILLER  
*Co-Chair:* H. B. EICHENBAUM

Two views diverge in hippocampal research. Some argue that the hippocampus calculates paths through space, whereas others claim that the hippocampus mediates declarative memory. These views emerged largely through independent fields of research. How can researchers reconcile the spatial and memory views of hippocampal function? The goal of this minisymposium is to discuss novel findings that might provide a bridging framework, paving the way for a unified understanding of hippocampal function.

- 8:30 **274.01** Introduction.
- 8:35 **274.02** Hippocampal ensembles reflect memory for spatial experience. D. FOSTER. *Johns Hopkins Univ. Sch. of Med.*
- 8:55 **274.03** Spatial and memory circuits in hippocampus and medial entorhinal cortex. S. LEUTGEB. *Univ. of California*.
- 9:15 **274.04** Using virtual reality to investigate spatial memory in the nonhuman primate. E. BUFFALO. *Washington Natl. Primate Res. Ctr.*
- 9:35 **274.05** The human hippocampus: A special place for time and space. C. RANGANATH. *UC Davis*.
- 9:55 **274.06** The role of hippocampus in temporal memory. L. DAVACHI. *NYU*.
- 10:15 **274.07** A map for social navigation in the human brain. D. SCHILLER. *Icahn Sch. of Med. at Mount Sinai*.
- 10:35 **274.08** Closing Remarks.

**MINISYMPOSIUM** *McCormick Place*

**275. Internally and Memory-Guided Behaviors: The Role of Frontal Cortical Ensembles — CME**

Mon. 8:30 AM - 11:00 AM — S406B

*Chair:* N. NARAYANAN  
*Co-Chair:* A. C. KWAN

Organized behavior is influenced by internal representations of the external world. How mental models constructed from memory, rules, and timing influence cortical dynamics remains unclear. In this minisymposium, presenters will highlight recent studies of the frontal cortex that have leveraged large-scale recording methods and novel tasks for rodents. These studies are revealing critical roles for cortical oscillations and ensemble activity in mediating internally guided behaviors that could have relevance in understanding brain disease.

- 8:30 **275.01** Introduction.
- 8:35 **275.02** Dynamical function of medial prefrontal cortex in working memory. C. LI. *Shanghai Inst. of Neurosci.*
- 8:55 **275.03** Representation of internal models by rodent mPFC neuronal ensembles. A. Y. KARPOVA. *Janelia Farms*.
- 9:15 **275.04** Distinct roles of visual, parietal, and frontal motor cortices in a memory-guided sensorimotor decision. M. GOARD. *MIT*.
- 9:35 **275.05** Prefrontal 4 Hz oscillations guide the temporal control of action. K. PARKER. *Univ. of Iowa*.

- 9:55 **275.06** Selectivity versus flexibility in frontal cortex representations. J. SEAMANS. *Univ. of British Columbia*.
- 10:15 **275.07** Frontal cortical dynamics during adaptive choice behavior. A. KWAN. *Yale Univ. Med. Sch.*
- 10:35 **275.08** Closing Remarks.

**SPECIAL LECTURE** *McCormick Place*

**276. Development and Reprogramming of Neuronal Diversity in the Central Nervous System — CME**

Mon. 11:30 AM - 12:40 PM — Hall B1

Speaker: P. ARLOTTA, *Harvard Univ.*

Support contributed by: *Lilly USA, LLC*

The mammalian central nervous system (CNS) contains an unparalleled diversity of neuronal subtypes, which are largely generated during embryonic development and maintained unchanged in the adult. This lecture will cover progress made in understanding the regulatory, molecular logic that shapes neuronal diversity in the embryo, consider its importance for CNS assembly and function, and discuss recent evidence for the unexpected capacity of central neurons to post-mitotically “reprogram” their class-specific features.

**DAVID KOPF LECTURE ON NEUROETHICS** *McCormick Place*

**277. Giving Voice to Consciousness: Neuroethics, Human Rights, and the Indispensability of Neuroscience**

Mon. 10:00 AM - 11:10 AM — Hall B1

Speaker: J. J. FINS. *Weill Med. College, Cornell Univ.*

Support contributed by: *David Kopf Instruments*

The ability of neuroprosthetics to restore functional communication in patients with disorders of consciousness has the potential to reintegrate patients into the nexus of family and community. As a worthy scientific pursuit, Fins will argue that this effort is a moral imperative which links respect for persons with the reemergence of voice out of covert consciousness. As such, it is a human rights issue for a population too long marginalized. For rights to come to mind, patients will need greater access to medical care and research and the skilled engagement of the neuroscience community.

**NANOSYMPOSIUM**

**278. Dendritic Growth and Branching**

**Theme A: Development**

Mon. 8:00 AM – *McCormick Place, N426A*

- 8:00 **278.01** Fat3 and Ena/VASP coordinate the polarized development of retinal amacrine cells. S. J. HENLE\*; A. KROL; L. V. GOODRICH. *Harvard Med. Sch., Harvard Med. Sch.*
- 8:15 **278.02** Abnormal mGluR5 activity upregulates NGF/TrkA signaling in cortical glutamatergic neurons leading to aberrant dendritic morphogenesis. J. HUANG\*; H. LU. *Indiana Univ. Bloomington/ Dept. Psychologica.*
- 8:30 **278.03** A neurodevelopmental regulator of the mtor pathway. D. M. FELICIANO\*. *Clemson Univ.*

- 8:45 **278.04** Imaging the growth and pruning of dendritic trees using *in vivo* 2-photon microscopy. J. GONCALVES\*; C. W. BLOYD; S. T. JOHNSTON; M. SHTRAHMAN; S. T. SCHAFFER; T. TRAN; T. CHANG; F. H. GAGE. *Salk Inst. LOG-G, Salk Inst.*
- 9:00 **278.05** 8-Oxoguanine accumulated in mitochondrial DNA disturbs neuritic regeneration of cultured adult mouse cortical neurons under conditions of oxidative stress. J. LEON\*; K. SAKUMI; S. OKA; E. CASTILLO; Y. NAKABEPPU. *Kyushu Univ.*
- 9:15 **278.06** Deletion of the E3 ubiquitin ligase TRIM9 disrupts hippocampal neuron morphology, anatomy and spatial learning and memory. C. C. WINKLE; S. L. GUPTON\*. *UNC, UNC.*
- 9:30 **278.07** MST1/ MST2 kinase function in neuronal development. K. GILL; A. LIN; S. CLAXTON; S. K. ULTANIR\*. *Francis Crick Inst.*
- 9:45 **278.08** Eltrombopag, a thrombopoietin mimetic, induces iron deficiency and impairs mRNA expression of neurodevelopmental genes in cultured primary hippocampal neurons. T. W. BASTIAN\*; L. M. LANIER; M. C. SOLA-VISNER; M. K. GEORGIEFF. *Univ. of Minnesota, Univ. of Minnesota, Boston Children's Hosp.*
- 10:00 **278.09** Conditional knockout of Frizzled3 in the retina disrupts visual function and retinal development. N. SHEN\*; Y. XU; L. ZHOU. *Jinan Univ.*
- 10:15 **278.10** Cypin overexpression distinctly alters dendrite arborization at different developmental time points as shown by novel Sholl analyses. K. O'NEILL\*; B. F. AKUM; S. T. DHAWAN; M. KWON; C. G. LANGHAMMER; B. L. FIRESTEIN. *Rutgers Univ., Rutgers Univ.*
- 10:30 **278.11** Actin filaments within the proximal axon comprise a vesicle filter. V. BALASANYAN\*; K. WATANABE; D. B. ARNOLD. *USC.*

**NANOSYMPOSIUM**

**279. Transcription and Translation in Plasticity I**

**Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms**

Mon. 8:00 AM – *McCormick Place, N230*

- 8:00 **279.01** Activity-induced DNA breaks govern the expression of early response genes in neurons. R. MADABHUSHI\*; F. GAO; A. PFENNING; L. PAN; S. YAMAKAWA; J. SEO; R. RUEDA; T. PHAN; H. YAMAKAWA; P. PAO; R. STOTT; E. GJONESKA; A. NOTT; S. CHO; M. KELLIS; L. TSAI. *MIT, MIT.*
- 8:15 **279.02** An enhancer code underlying the epigenomic regulation of learning and memory. F. TELESE\*; Q. MA; P. MONTILLA PEREZ; D. NOTANI; W. LI; S. OH; D. COMOLETTI; M. G. ROSENFELD. *UCSD, UCSD, Rutgers Univ.*
- 8:30 **279.03** Unique experience-induced gene programs in interneuron subtypes shape cortical circuits. A. R. MARDINLY\*; I. SPIEGEL; J. E. BAZINET; E. CENTOFANTE; D. A. HARMIN; C. MANDEL-BREHM; C. TZENG; M. FAGIOLINI; H. ADESNIK; M. E. GREENBERG. *Univ. of California, Berkeley, Harvard Univ., Boston Children's Hosp. FM Kirby Neurobio. Ctr.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 8:45 **279.04** The involvement of MEF2A in mGluR-dependent AMPAR endocytosis. R. E. CARMICHAEL\*; K. A. WILKINSON; M. C. ASHBY; J. M. HENLEY. *Univ. of Bristol, Univ. of Bristol.*
- 9:00 **279.05** A transcriptional program underlying homeostatic scaling. K. SCHAUKOWITZ\*; A. L. REESE; G. KILARU; J. JOO; E. T. KAVALALI; T. KIM. *UT Southwestern Med. Ctr.*
- 9:15 **279.06** Rewarding and aversive experiences are encoded by unique transcriptional signatures. B. M. IGNATOWSKA-JANKOWSKA\*; D. MUKHERJEE; D. HARITAN; B. J. GONZALES; H. TURM; A. CITRI. *Hebrew Univ. of Jerusalem, Hebrew Univ. of Jerusalem.*
- 9:30 **279.07** Activity-dependent changes in miRNAs and alternative 3'UTR usage during hippocampal plasticity. M. M. FONTES\*; V. HO; A. HUANG; D. ZHENG; B. TIAN; G. COPPOLA; T. O'DELL; K. C. MARTIN. *UCLA/ Kelsey Martin Lab., UCLA, Rutgers Med. Sch., UCLA.*
- 9:45 **279.08** Synaptic vesicles contain small ribonucleic acids (sRNAs). H. LI\*; C. WU; R. ARAMAYO; M. SACHS; M. HARLOW. *Texas A&M Univ., Texas A&M Univ.*
- 10:00 **279.09** Insulin signaling negatively regulates the presynaptic release of neurotransmitter via the Foxo-dependent regulation of the eif-4e binding protein. B. A. EATON\*; R. MAHONEY; J. AZPURUA. *UTHSCSA, UTHSCSA.*
- 10:15 **279.10** Glutamate induces post-synaptic  $\beta$ -actin mRNA localization and translation. Y. J. YOON\*; B. WU; R. H. SINGER. *Albert Einstein Col. of Med.*
- 10:30 **279.11** Cell type specific knock-out of TSC1 in excitatory or inhibitory cells differentially affects hippocampal synaptic transmission, plasticity and contextual fear memory. I. M. RIEBE\*; N. HAJI; A. AGUILAR VALLES; C. PICARD-DELAND; P. XING; J. ARTINIAN; I. LAPLANTE; J. LACAILLE. *Univ. de Montr al.*
- 10:45 **279.12** BET-family protein Brd4 regulates activity-dependent transcription in neurons and BET inhibitor Jq1 prevents memory consolidation in mice. E. KORB\*; M. HERRE; I. ZUCKER-SCHARFF2; R. DARNELL; C. ALLIS. *Rockefeller Univ.*
- 11:00 **279.13** Experience-dependent translation of neurogranin in hippocampus gates contextual memory formation. K. J. JONES\*; H. HWANG; S. B. TEMPLET; F. X. PENA; C. SAENZ; S. NGUYEN; M. C. LEWIS; W. XU. *MIT, Broad Inst.*
- 11:15 **279.14** The activity-regulated GTPase Rem2 and its role in neuronal plasticity. A. R. MOORE\*; S. E. RICHARDS; K. KENNY; U. CHAN; S. D. VAN HOOSER; S. PARADIS. *Brandeis Univ.*

## NANOSYMPOSIUM

### 280. Alzheimer's Disease: Beyond Abeta and Tau

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, N226

- 8:00 **280.01** Clusterin prevents the formation of cerebral amyloid angiopathy. J. D. FRYER\*; A. M. WOJTAS; S. S. KANG; A. AWAN; G. BU. *Mayo Clin. FL, Mayo Clin. Jacksonville.*
- 8:15 **280.02** Ablation of Mfn2 causes an oxidative stress response and neuronal death in the hippocampus and cortex. X. ZHU\*; X. WANG; P. NANDY; C. WANG; H. LEE; G. PERRY. *Case Western Reserve Univ., Case Western Reserve Univ., Univ. of Texas at San Antonio.*

- 8:30 **280.03** Withdrawn.
- 8:45 **280.04** S-Nitrosylation of insulin degrading enzyme as a molecular mechanism linking type 2 diabetes mellitus/ metabolic syndrome to Alzheimer's disease. M. W. AKHTAR; S. SANZ-BLASCO; N. DOLATABADI; J. PARKER; K. CHON; M. LEE; W. SOUSSOU; S. MCKERCHER; R. AMBASUDHAN; T. NAKAMURA; S. A. LIPTON\*. *Sanford-Burnham Med. Res. Inst., UC San Diego.*
- 9:00 **280.05** Mitochondrial F1FO ATP synthase oligomycin sensitivity conferring protein and neuronal mitochondrial dysfunction in Alzheimer's disease. L. GUO; S. J. BECK; J. TIAN; L. WANG; E. GUABA; N. TENDON; L. LU; J. PASCUAL; H. DU\*. *The Univ. of Texas, Dallas, the university of texas southwestern medical center.*
- 9:15 **280.06** Dysfunctional tubular endoplasmic reticulum in Alzheimer's pathogenesis. R. YAN\*; M. SHAROAR; Q. SHI; Y. GE; J. ZHOU; W. HE; X. HU; G. PERRY; X. ZHU. *Lerner Resch Inst., Cleveland Clin. Lerner Res. Inst., Univ. of Texas, Case Western Reserve Univ. Sch. of Med.*
- 9:30 **280.07** Defective UBE2A-mediated protein ubiquitination and degradation are driven by deficits in circular RNA (circRNA) in Alzheimer's disease (AD) and age-related macular degeneration (AMD). W. J. LUKIW\*; Y. ZHAO; P. DUA; S. BHATTACHARJEE. *LSU NEUROSCIENCE CENTER, LSU NEUROSCIENCE CENTER, LA TECHNICAL UNIVERSITY.*
- 9:45 **280.08** Gender related differences in the retinal cholinergic system in the J20 Alzheimer's disease mouse model. F. G. OLIVEIRA SOUZA; M. BOLDING; M. L. SMITH; E. ROBERSON; C. E. STRANG\*. *Univ. Alabama Birmingham, Univ. Alabama Birmingham, Univ. Alabama Birmingham, Univ. Alabama Birmingham.*
- 10:00 **280.09** Aberrant hypothalamic activation and adipocyte dysfunction in transgenic mice overexpressing amyloid precursor protein. M. ISHII\*; M. J. MCGUIRE; G. RACCHUMI; C. IADECOLA. *Weill Cornell Med. Col.*
- 10:15 **280.10** SEPT5 and its potential role in the molecular pathogenesis of Alzheimer's disease. M. MARTTINEN\*; K. M. A. KURKINEN; H. SOININEN; A. HAAPASALO; M. HILTUNEN. *Univ. of Eastern Finland, Univ. of Eastern Finland, Kuopio Univ. Hosp.*
- 10:30 **280.11** A novel mechanism for lowering Abeta. P. C. MULLEN; C. CHEN; E. ZELDICH; L. E. BROWN; J. A. PORCO; C. R. ABRAHAM\*. *Boston Univ. Sch. of Med., Boston Univ.*

## NANOSYMPOSIUM

### 281. Mechanisms of Epilepsy

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, S403

- 8:00 **281.01** Morphological and physiological alterations of postnatally-generated hippocampal granule neurons following PTEN deletion. V. R. SANTOS\*; R. Y. K. PUN; C. L. LASARGE; N. GARCIA-CAIRASCO; S. C. DANZER. *Univ. of Sao Paulo, Univ. of Cincinnati, Univ. de S o Paulo.*
- 8:15 **281.02** Evidence of recurrent network activation in a PTEN knockout model of Temporal Lobe Epilepsy. C. L. LASARGE\*; V. R. SANTOS; R. Y. K. PUN; N. GARCIA-CAIRASCO; S. C. DANZER. *Cincinnati Children's Hosp. Med. Ctr., Ribeir o Preto Med. Sch., Univ. of Cincinnati.*

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▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

## NANOSYMPOSIUM

### 282. Neuropathology: Mechanisms and Biomarkers

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, S102

- 8:00 **282.01** ● Insoluble NKCC1 (SLC12A2) as a marker in chronic mental illness. C. KORTH\*; R. MARREIROS; P. OTTIS; I. PRIKULIS; K. LI; T. HYDE; J. KLEINMAN; S. MOSS; L. SILAYEVY; N. BRANDON; A. B. SMIT; W. HENNAH. *Heinrich Heine Univ. Dusseldorf, Univ. of Dusseldorf, VU Amsterdam, Lieber Inst., Tufts Univ., Tufts Univ., AstraZeneca, Univ. of Helsinki.*
- 8:15 **282.02** Fragmented cortical microcircuit motifs in an NMDAR-hypofunction mouse model support an attractor hypothesis of psychotic states. J. P. HAMM\*; D. PETERKA; R. YUSTE. *Columbia Univ.*
- 8:30 **282.03** Spine pruning in frontal cortex drives antipsychotic-sensitive locomotion via circuit control of striatal dopamine. I. KIM\*; M. A. ROSSI; D. K. ARYAL; B. RACZ; N. KIM; A. UEZU; F. WANG; W. C. WETSEL; R. J. WEINBERG; H. YIN; S. H. SODERLING. *Duke Med. Ctr., Duke Med. Ctr., Duke Med. Ctr., Szent István Univ., Duke Med. Ctr., Univ. of North Carolina.*
- 8:45 **282.04** PCM1 is necessary for the maintenance of focal ciliary integrity and dopamine signaling in the postnatal brain. E. OH\*. *Duke Univ.*
- 9:00 **282.05** Evaluation of chronic nicotine treatment on hippocampal oscillatory activity and sleep pattern analysis of a G72 transgenic mouse model for schizophrenia. A. PAPAZOGLU\*; A. LUND; J. SOÓS; C. HENSELER; M. BAKKI; D. OTTE; B. HAMBSCHE; A. ZIMMER; K. BROICH; M. WEIERGRAEBER. *Federal Inst. for Drugs and Med. Devices, Inst. of Mol. Psychiatry, Univ. of Bonn.*
- 9:15 **282.06** GCLC gene predicts prefrontal glutathione levels: Association with peripheral glutathione peroxidase/glutathione reductase. L. XIN; R. MEKLE; C. FERRARI; P. S. BAUMANN; L. ALAMEDA; H. MOSER; M. FOURNIER; P. CONUS; R. GRUETTER; K. Q. DO\*. *Ecole Polytechnique Fédérale de Lausanne, Physikalisch-Technische Bundesanstalt, Ctr. for Psychiatric Neurosci., Lausanne Univ. Hosp. (CHUV), Univ. of Lausanne, Univ. of Geneva.*
- 9:30 **282.07** Decoupling of transcription and translation in schizophrenia. J. LAVOIE\*; T. TSUJIMURA; H. JAAROPPELED; K. ISHIZUKA; N. T. INGOLIA; A. SAWA. *Johns Hopkins Univ. Sch. of Med., Univ. of California, Berkeley.*
- 9:45 **282.08** Trio-based exome sequencing identified de novo non-synonymous missense mutations in schizophrenia. A. NISHI\*; S. NUMATA; A. TAJIMA; M. KINOSHITA; S. SHIMODERA; S. ONO; S. OCHI; N. KUROTAKI; A. IMAMURA; S. UENO; I. IMOTO; T. OHMORI. *Tokushima Univ., Kanazawa Univ., Tokushima Univ. Grad. Sch., Kochi Med. Sch., Nagasaki Univ. Grad. Sch. of Biomed. Sci., Ehime Univ. Grad. Sch. of Med.*
- 10:00 **282.09** Age-dependent role of Nrg1-ErbB4 signaling in GABAergic interneurons. R. BATISTA-BRITO\*; D. VULLHORST; A. BUONANNO; J. A. CARDIN. *Yale Univ., Natl. Inst. of Child Health and Human Develop., Yale Univ.*

- 8:30 **281.03** Phenotypic modelling of sodium channel drug action using the dynamic clamp. D. I. KAPLAN\*; E. A. THOMAS; C. A. REID; S. PETROU. *The Florey Inst. of Neurosci. and Mental Health, Ctr. for Neural Engin.*
- 8:45 **281.04** Autoimmune targeting of astrocytes results in progressive seizures: Th1 signaling and brain infiltration of professional antigen presenting cells. Y. Y. GRINBERG\*; B. LÓPEZ-BAYGHEN; Z. M. RIVAS; L. A. NAVARRO; D. K. BINDER; D. D. LO; C. C. PLOIX; M. J. CARSON. *Univ. of California, Riverside, CINVESTAV, The Scripps Res. Inst.*
- 9:00 **281.05** Developing a novel *in vitro* model of mitochondrial epilepsy: 'a dual neuronal - astrocytic hit hypothesis'. F. CHAN\*; N. LAX; C. DAVIES; D. TURNBULL; M. CUNNINGHAM. *Inst. of Neuroscience, Newcastle Univ., Inst. of Neuroscience, Newcastle Univ., GlaxoSmithKline Res. and Development, Singapore R&D Site.*
- 9:15 **281.06** Targeting gamma-ketoaldehydes attenuates perirhinal-associated memory deficits in experimental temporal lobe epilepsy. J. PEARSON\*; L. J. ROBERTS, II; M. PATEL. *Univ. of Colorado, Vanderbilt.*
- 9:30 **281.07** Role of anti-inflammatory and antioxidant drugs in the treatment of spasms in the multiple-hit rat model of infantile spasms. O. SHANDRA; Y. WANG; W. MOWREY; A. S. GALANOPOULOU\*. *Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Col. Med., Albert Einstein Col. of Med.*
- 9:45 **281.08** Notch regulation of subgranular zone neurogenesis in a model of mesial temporal lobe epilepsy. M. J. KORN\*; I. P. MAILLARD; J. M. PARENT. *Univ. of Michigan, Univ. of Michigan.*
- 10:00 **281.09** Regulation of sonic hedgehog signaling pathway by dentate gyrus GABA neurons. L. E. GONZALEZ\*; C. C. CHIANG; A. H. KOTTMANN; D. M. DURAND. *Case Western Reserve Univ., Case Western Reserve Univ., City Univ. of New York.*
- 10:15 **281.10** Intracellular chloride accumulation in dentate granule cells in pilocarpine treated organotypic cultures studied using fluorescence lifetime imaging microscopy (FLIM). H. TAKANO\*; F. HSU; D. A. COULTER. *Children's Hosp. of Philadelphia.*
- 10:30 **281.11** Morphology of Interictal Epileptiform Discharges (IEDs) and the BOLD signal: A study of haemodynamic coupling using simultaneously acquired intracranial EEG - fMRI data. T. MURTA\*; U. J. CHAUDHARY; D. W. CARMICHAEL; P. FIGUEIREDO; L. LEMIEUX. *UCL Inst. of Neurol., Inst. Superior Técnico, Univ. de Lisboa, UCL Inst. of Child Health.*
- 10:45 **281.12** Emulating endogenous synchrony dynamics with deep brain stimulation rapidly terminates temporal lobe seizures. T. SOBAYO\*; D. J. MOGUL. *Illinois Inst. of Technol.*
- 11:00 **281.13** Long-range effects of local spike trains during human seizure activity. T. EISSA\*; C. SCHEVON; R. EMERSON; G. MCKHANN; R. GOODMAN; W. VAN DRONGELEN. *Univ. of Chicago, Columbia Univ., Mt. Sinai.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 10:15 **282.10** Functional analysis of mutations in CADPS identified in patients with early onset bipolar disorder. J. SITBON\*; C. KAPPELER; A. NICOLAS; A. HENRION; J. S. RHEE; M. LEBOYER; S. JAMAIN. *INSERM U955, Psychiatrie Translationnelle, Univ. Paris Est, Faculté de Médecine, Fondation FondaMental, Dept. of Mol. Neurobiology, Max Planck Inst. of Exptl. Med., AP-HP, Hôpital H. Mondor – A. Chenevier, Pôle de Psychiatrie.*
- 10:30 **282.11** Methamphetamine-induced locomotor sensitization alters the expression of proteins associated with energy metabolism, oxidative stress and GABAergic neurotransmission in the rat ventral hippocampus: Implications for psychosis. M. K. SAUER\*; M. MIRZAEI; T. A. WEARNE; A. K. GOODCHILD; P. A. HAYNES; J. L. CORNISH. *Macquarie Univ., Macquarie Univ., Macquarie Univ.*

## NANOSYMPOSIUM

### 283. Perception and Auditory Cortex

#### Theme D: Sensory and Motor Systems

Mon. 8:00 AM – McCormick Place, S402

- 8:00 **283.01** Direct recordings of oscillatory activity in the human brain during working memory for tones. P. E. GANDER\*; S. KUMAR; K. V. NOURSKI; H. OYA; H. KAWASAKI; M. A. HOWARD; T. D. GRIFFITHS. *Univ. of Iowa, Newcastle Univ., Univ. Col. London.*
- 8:15 **283.02** Electrocorticographic activation within and beyond auditory cortex during dialogue-based language and cognitive testing. M. STEINSCHNEIDER\*; K. V. NOURSKI. *Albert Einstein Col. of Med., The Univ. of Iowa.*
- 8:30 **283.03** Systematic investigation of auditory rhythmic regularity processing in behaviour and EEG. M. GRUBE\*; I. STURM; A. BEKIUS; T. COPE; K. MUELLER. *TU Berlin, Newcastle Univ., Humboldt Univ., Univ. of Amsterdam, Univ. of Cambridge, TU Berlin.*
- 8:45 **283.04** Cortical network activation during conscious sound-pattern perception with and without informational masking. A. GUTSCHALK\*; K. WIEGAND. *Univ. of Heidelberg.*
- 9:00 **283.05** The “where” auditory processing pathway in the human: Insights from intracranial electrophysiology. K. V. NOURSKI\*; M. STEINSCHNEIDER; A. E. RHONE; M. A. HOWARD, III. *The Univ. of Iowa, Albert Einstein Col. of Med.*
- 9:15 **283.06** Rule-based sequences of nonsense words elicit similar nested oscillations in intracranial recordings from human and monkey auditory cortex. Y. KIKUCHI\*; A. E. RHONE; K. V. NOURSKI; P. E. GANDER; A. ATTAHERI; C. KOVACH; H. KAWASAKI; T. D. GRIFFITHS; M. A. HOWARD III; C. I. PETKOV. *Newcastle Univ. Med. Sch., The Univ. of Iowa, Univ. Col. London.*
- 9:30 **283.07** Pitch-responsive cortical regions in subjects with congenital amusia. S. V. NORMAN-HAIGNERE\*; P. ALBOUY; A. CACLIN; N. KANWISHER; J. H. MCDERMOTT; B. TILLMANN. *MIT, Lyon Neurosci. Res. Centre, CNRS.*
- 9:45 **283.08** Downregulation of cortical inhibition but not map reorganization underlies tinnitus. S. YANG\*; A. MIYAKAWA; S. BAO. *Univ. of California at San Francisco, City Univ. of Hong Kong, Helen Wills Neurosci. Institute, Univ. of California at Berkeley, Univ. of Arizona.*
- 10:00 **283.09** The role of auditory cortex in mid-level audition. A. S. GREENBERG\*; R. RANDALL. *Univ. of Wisconsin-Milwaukee, Carnegie Mellon Univ.*

## NANOSYMPOSIUM

### 284. Visual Processing: Representation of Faces and Bodies

#### Theme D: Sensory and Motor Systems

Mon. 8:00 AM – McCormick Place, S401

- 8:00 **284.01** Form- and motion-based face spaces encoded in the human brain. N. FURL\*; M. LOHSE. *Royal Holloway, Univ. of London, MRC Cognition and Brain Sci. Unit, Oxford Neurosci.*
- 8:15 **284.02** A neural basis of facial action recognition in humans. R. SRINIVASAN\*; J. D. GOLOMB; A. M. MARTINEZ. *The Ohio State Univ., The Ohio State Univ.*
- 8:30 **284.03** Parts-based representations of perceived face movements in the superior temporal sulcus. B. M. DEEN\*; R. SAXE. *MIT.*
- 8:45 **284.04** Dorsal stream contribution to the configural processing of faces. V. ZACHARIOU\*; Z. N. SAFIULLAH; L. G. UNGERLEIDER. *NIH/NIMH, NIH/NIMH.*
- 9:00 **284.05** Social-affective dimensions underlie cortical tuning to face images in the human brain. A. COWEN\*; S. A. ABDEL-GHAFFAR; J. L. GALLANT; S. J. BISHOP. *UC Berkeley, UC Berkeley.*
- 9:15 **284.06** Imaging amygdala connections to the monkey face-processing system using electrical stimulation. A. MESSINGER\*; J. M. SEIDLITZ; R. B. H. TOOTELL; L. G. UNGERLEIDER. *NIMH.*
- 9:30 **284.07** The time course of human face identification - a pattern analysis of EEG signals. D. NEMRODOV\*; M. NIEMEIER; J. N. Y. MOK; A. NESTOR. *Univ. of Toronto Scarborough, Univ. of Toronto.*
- 9:45 **284.08** Principles for mapping view tuned neurons in the face selective region of anterior inferotemporal cortex revealed by dense neural recordings. A. SASAKI; C. LIN; M. MATSUDA; T. SATO; G. UCHIDA; C. HUNG; M. TANIFUJI\*. *Riken BSI, The Univ. of Tokyo, Natl. Yang-Ming Univ., Georgetown Univ.*
- 10:00 **284.09** Unsupervised learning of invariant face representations from natural video in a model of the macaque face processing system. Q. LIAO; J. Z. LEIBO\*; T. POGGIO. *MIT, DeepMind Technologies Ltd.*
- 10:15 **284.10** Two parallel streams for face- and body processing. E. PREMEREUR\*; J. TAUBERT; P. JANSSEN; W. VANDUFFEL; R. VOGELS. *KU Leuven, Harvard Med. Sch., Athinoula A. Martinos Ctr. for Biomed. Imaging.*
- 10:30 **284.11** Decoding neural activity in response to approaching familiar and unfamiliar people in face and body selective areas. C. HAHN\*; P. PHILLIPS; A. J. O'TOOLE. *The Univ. of Texas At Dallas, Natl. Inst. of Standards and Technol.*

## NANOSYMPOSIUM

### 285. Energy Metabolism and Cardiovascular Regulation

#### Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge

Mon. 8:00 AM – McCormick Place, S405

- 8:00 **285.01** A1 and A3 adenosine receptors mediate hypothermia via distinct mechanisms. J. CARLIN\*; D. K. TOSH; A. PANYUTIN; R. A. PIÑOL; K. A. JACOBSON; O. GAVRILOVA; M. L. REITMAN. *Natl. Inst. of Hlth., NIH, NIDDK/National Inst. of Hlth., NIDDK/National Inst. of Hlth.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author



- 8:15 **285.02** Brain endothelial MYD88-dependent signaling in inflammation-induced fever. E. MIRRASEKHIAN\*; D. ENGBLOM. *Linköping Universitet, Linköping Univ.*
- 8:30 **285.03** Thermogenic effects of bombesin receptor subtype-3 (BRS-3) activation in selective brain nuclei. R. A. PINOL\*; S. H. ZAHLE; C. XIAO; M. L. REITMAN. *NIDDK, NIH.*
- 8:45 **285.04** Blood pressure regulation by the C1 neurons determined by optogenetic acute loss of function in conscious rats. I. C. WENKER\*; C. ABE; R. L. STORNETTA; P. G. GUYENET. *Univ. of Virginia.*
- 9:00 **285.05** Dorsal hypothalamic area neurons mediate psychological stress-induced hyperthermia in conscious mice. N. L. MACHADO\*; S. B. G. ABBOTT; P. M. FULLER; M. P. FONTES; C. B. SAPER. *Federal Univ. of Minas Gerais, Beth Israel Deaconess Med. Ctr. – Harvard Med. Sch.*
- 9:15 **285.06** Hippocampal neurons utilize multiple energy sources during metabolic challenges. C. SOBIESKI\*; A. A. TAYLOR; S. J. MENNERICK. *Washington Univ. In St Louis.*
- 9:30 **285.07** Modulation of voltage-dependent anion channel 1 (VDAC1) in CB1 receptor knockout mice. N. P. BOWLES\*; J. L. QUINTERO; B. S. MCEWEN. *Rockefeller Univ.*
- 9:45 **285.08** Food restriction changes GABAA and angiotensin II AT1 receptors activity within the paraventricular nucleus of the hypothalamus of female Fisher rats. R. C. MENEZES\*; A. M. A. SOUZA; L. G. B. T. SANTOS; D. A. CHIANCA, Jr. *Federal Univ. of Ouro Preto- UFOP, Federal Univ. of Ouro Preto- UFOP.*
- 10:00 **285.09** Characterizing cardiovascular autonomic dysfunction in individuals with spinal cord injury. S. WANG\*; S. ASLAN; C. FERREIRA; J. GUNTER; J. WYLES; D. WANG; S. HARKEMA. *Univ. of Louisville, Frazier Rehab Inst.*
- 10:15 **285.10** Shift work-simulated disruption of circadian rhythms exacerbates pathological outcomes in an animal model of ischemic stroke. D. J. EARNEST\*; J. COFFMAN; N. NEUENDORFF; S. KIM; A. SELVAMANI; F. SOHRABJI. *Texas A&M Hlth. Sci. Ctr. Col. of Medicin, Texas A&M Univ., Texas A&M Hlth. Sci. Ctr. Col. of Med.*
- 8:45 **286.04** ● Chronic Vasculotide treatment in a mouse model of Alzheimer's disease. M. LYNCH\*; P. VAN SLYKE; D. DUMONT; I. AUBERT. *Sunnybrook Res. Inst., Univ. of Toronto, Vasomune Therapeut., Univ. of Toronto.*
- 9:00 **286.05** The effects of MRI-guided focused ultrasound in a mouse model of Alzheimer's disease. K. A. MARKHAM-COULTES\*; M. LYNCH; M. O'REILLY; M. KAWAJA; K. HYNYNEN; I. AUBERT. *Sunnybrook Res. Inst., Univ. of Toronto, Sunnybrook Res. Inst., Queen's Univ., Queen's Univ., Univ. of Toronto.*
- 9:15 **286.06** Focused ultrasound-mediated delivery of natural antibodies to the brain enhances neurogenesis and cognition in a mouse model of amyloidosis. S. DUBEY\*; A. BURGESS; J. MCLAURIN; D. BRANCH; K. HYNYNEN; I. AUBERT. *Sunnybrook Res. Inst., Univ. of Toronto, Sunnybrook Res. Inst., Univ. of Toronto.*
- 9:30 **286.07** MRI-guided focused ultrasound gene delivery to the brain using chimeric adeno-associated virus. D. WEBER-ADRIAN\*; Z. NOROOZIAN; J. SILBURT; K. SHAH; A. BURGESS; S. KÜGLER; K. HYNYNEN; I. AUBERT. *Sunnybrook Res. Inst., Sunnybrook Res. Inst., Univ. of Med. Göttingen.*
- 9:45 **286.08** Mapping cerebrovascular dynamics with magnetic resonance advection imaging (MRAI): Modeling challenges and estimation bias. H. U. VOSS\*; J. P. DYKE; K. TABELOW; N. D. SCHIFF; D. J. BALLON. *Weill Cornell Med. Col., Weierstrass Inst., Weill Cornell Med. Col.*
- 10:00 **286.09** Quantification of cerebral hemodynamics and neural activity in awake and anesthetized marmoset by two-photon imaging. T. P. SANTISAKULTARM\*; C. J. KERSBERGEN; D. K. BANDY; D. C. IDE; S. CHOI; A. C. SILVA. *NIH, NIH.*
- 10:15 **286.10** Three-dimensional spatiotemporal stHRF for laminar analysis of fMRI. M. M. SCHIRA\*; A. M. PUCKETT; K. M. AQUINO; P. A. ROBINSON; M. J. BREAKSPEAR. *Univ. of Wollongong, Neurosci. Res. Australia, Univ. of Sydney, Univ. of Sydney, QIMR-Berghoffer.*

## NANOSYMPOSIUM

### 287. Stress and Negative Emotion

#### Theme F: Cognition and Behavior

Mon. 8:00 AM – McCormick Place, N227

286. **Blood Brain Barrier, Blood Flow, and Imaging**
- Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge**
- Mon. 8:00 AM – McCormick Place, S404
- 8:00 **286.01** Angiopoietin-2 blockade prevents microaneurysm formation and maintains blood-retinal barrier integrity even in the absence of pericyte. J. LEE\*; J. KOH; A. UEMURA; G. Y. KOH; Y. H. YOON. *Asan Med. Ctr., Asan Inst. for Life Sciences, Asan Med. Center, Univ. of Ulsan Col. of Med., Nagoya City Univ., Korea Advanced Inst. of Sci. and Technol.*
- 8:15 **286.02** Endothelial LRP1 controls cerebrovascular integrity and neuronal survival via the CycA-MMP9-NFkB pathway. Z. ZHAO\*; A. M. NIKOLAKOPOULOU; S. V. REGE; A. MONTAGNE; Q. MA; A. SAGARE; Y. WANG; J. MAKSHANOFF; A. AHUJA; G. SI; N. C. OWENS; J. HERZ; B. V. ZLOKOVIC. *USC, USC, UT Southwestern Med. Ctr.*
- 8:30 **286.03** Connexin and Ca<sup>2+</sup> signaling in glial and endothelial cells is implicated in inflammation-induced blood-brain barrier permeability changes *in vivo*. M. DE BOCK\*; V. VAN HAVER; E. DECROCK; L. LEYBAERT. *Ghent Univ.*
- 8:00 **287.01** The effect of acute stress on fear generalization. J. E. DUNSMOOR\*; A. R. OTTO; E. A. PHELPS. *New York Univ.*
- 8:15 **287.02** The neural substrates of anxious temperament in young rhesus monkeys. A. S. FOX\*; A. J. SHACKMAN; J. A. OLER; R. M. BIRN; A. A. ALEXANDER; S. E. SHELTON; R. J. DAVIDSON; N. H. KALIN. *Univ. of Wisconsin, Univ. of Maryland, Col. Park, Univ. of Wisconsin-Madison.*
- 8:30 **287.03** Effects of early life stress on neural mechanisms of fear learning. J. A. SILVERS\*; D. S. LUMIAN; L. GABARD-DURNAM; D. GEE; B. GOFF; D. S. FARERI; C. CALDERA; J. FLANNERY; E. H. TELZER; K. L. HUMPHREYS; N. TOTTENHAM. *Columbia Univ., Univ. of Denver, Weill Cornell Med. Col., UCLA, Univ. of Oregon, Univ. of Illinois, Urbana-Champaign, Tulane Sch. of Med.*
- 8:45 **287.04** Childhood as a sensitive period for human medial prefrontal cortex learning. L. GABARD-DURNAM\*; N. TOTTENHAM. *Columbia Univ.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 9:00 **287.05** Can people be trained to be better emotion regulators? Evidence that longitudinal reappraisal training reduces self-reported negative emotion and amygdala activity and increases prefrontal cortex activity in borderline personality disorder patients. B. T. DENNY\*; J. FAN; X. LIU; K. N. OCHSNER; S. MAYSON; L. RIMSKY; A. MCMASTER; H. ALEXANDER; A. S. NEW; M. GOODMAN; L. J. SIEVER; H. W. KOENIGSBERG. *Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Queens College, City Univ. of New York, Chinese Acad. of Sci., Columbia Univ., James J Peters VA Med. Ctr.*
- 9:15 **287.06** Stress exposure decreases cooperative behavior. C. M. RAIIO\*; O. FELDMANHALL; M. GAIKWAD; E. PHELPS. *New York Univ., Nathan Kline Inst.*
- 9:30 **287.07** Reappraisal alters the construction the emotional experiences. L. CHANG\*; P. J. GIANAROS; J. GROSS; S. B. MANUCK; T. D. WAGER. *Univ. of Colorado, Univ. of Pittsburgh, Stanford Univ.*
- 9:45 **287.08** Brain mechanisms of worse than expected rewards. J. MOLLICK\*; L. J. CHANG; A. KRISHNAN; G. FRANK; T. D. WAGER; R. O'REILLY. *Univ. of Colorado Boulder, Univ. of Colorado Denver.*
- 10:00 **287.09** Neural responses during vicarious reward predict enhanced well-being. S. MORELLI\*; M. E. ARNN; J. ZAKI. *Stanford Univ.*
- 10:15 **287.10** Variability in real-world daily emotion predicts lower well-being and is associated with increased variability in prefrontal BOLD engagement. A. HELLER\*; A. S. FOX; E. K. WING; R. J. DAVIDSON. *Univ. of Miami, Univ. of Wisconsin - Madison, Univ. of Kansas.*
- 10:30 **287.11** The effects of orienting attention and action readiness on emotion regulation. G. SURI\*. *Stanford Univ.*
- 10:45 **287.12** Coping with setbacks: Emphasis on learning from setbacks counteracts effects of acute stress on persistence. J. P. BHANJI\*; E. S. KIM; M. DELGADO. *Rutgers Univ.*
- 11:00 **287.13** Social support and safety: Examining the role of social support figures as prepared safety stimuli. E. HORNSTEIN\*; N. EISENBERGER. *UCLA.*
- 11:15 **287.14** An enhanced default approach bias following human amygdala lesions. L. A. HARRISON\*; R. HURLEMANN; R. ADOLPHS. *Caltech, Univ. of Bonn.*
- 8:45 **288.04** Efficiently scalable, modular *in vivo* neuronal recordings with a readout integrated circuit. M. KOLLO\*; W. WRAY; R. R. RACZ; N. KISKIN; M. ANGLE; A. T. SCHAEFFER. *The Francis Crick Inst. Mill Hill Lab., Stanford Univ., Univ. Col. London.*
- 9:00 **288.05** Optical reflectometry with capacitive signal enhancement for multiplexed neural recording. S. G. RODRIQUES\*; A. H. MARBLESTONE; E. S. BOYDEN. *MIT, MIT.*
- 9:15 **288.06** Long-term, multisite, noninvasive, in-cell recordings by extracellular gold mushroom-shaped microelectrode array from *in vitro* bursting rat hippocampal neurons networks. M. E. SPIRA\*; S. M. OJOVAN; N. RABIEH; N. SHMOEL; H. EREZ. *The Hebrew Univ. of Jerus.*
- 9:30 **288.07** Multimodal interrogation of brain circuits with thermally drawn flexible neural probes. A. CANALES\*; X. JIA; U. P. FRORIEP; R. A. KOPPES; C. M. TRINGIDES; J. SELVIDGE; Y. FINK; P. ANIKEEVA. *MIT.*
- 9:45 **288.08** A storm is coming: The challenges of analyzing, modeling, and using huge volumes of data from nanoscale electrophysiological recordings. G. A. SILVA\*. *UCSD.*
- 10:00 **288.09** Cmos-nanoelectrode array for high fidelity, multiplexed interrogation of neuronal ensembles. H. PARK\*. *Harvard Univ.*
- 10:15 **288.10** Nanoelectrodes for intracellular electrophysiology recording. B. CUI\*; A. MCGUIRE; W. ZHAO. *Stanford Univ.*
- 10:30 **288.11** ● Integrated neurophotonics: Precisely localized optogenetic stimulation via photonic neural nanopores. E. SEGEV\*; J. REIMER; L. C. MOREAUX; T. M. FOWLER; D. CHI; A. FARAON; A. G. SIAPAS; A. S. TOLIAS; M. L. ROUKES. *Caltech, Baylor Col. of Med., Caltech, Caltech, Caltech.*
- 10:45 **288.12** Wireless magnetothermal deep brain stimulation. R. CHEN\*; G. ROMERO; M. G. CHRISTIANSEN; A. MOHR; P. ANIKEEVA. *MIT, MIT, MIT.*
- 11:00 **288.13** Mesostructured silicon for enhanced biointerfaces. B. TIAN\*. *The Univ. of Chicago.*
- 11:15 **288.14** Suspended nano-electrodes for high-throughput electrophysiological phenotyping of *C. elegans*. D. L. GONZALES\*; K. N. BADHIWALA; B. W. AVANTS; J. T. ROBINSON. *Rice Univ., Rice Univ., Rice Univ., Baylor Col. of Med.*

## NANOSYMPOSIUM

### 288. Electrode Arrays II

#### Theme G: Novel Methods and Technology Development

Mon. 8:00 AM – McCormick Place, N228

- 8:00 **288.01** Syringe injectable macroporous electronics for *in vivo* electrophysiology. C. M. LIEBER\*; T. FU; G. HONG; T. ZHOU; T. SCHUHMANN; J. LIU. *Harvard Univ., Harvard Univ., Stanford Univ.*
- 8:15 **288.02** Organized hydrogel scaffolds for promoting and directing neuronal growth. M. ANTMAN- PASSIG\*; O. SHEFI. *Bar-Ilan Univ., Bar-Ilan Univ., Bar-Ilan Univ.*
- 8:30 **288.03** Tetherless upconverting nanocrystal light bulbs for targeted deep tissue nearinfrared optogenetic stimulation. M. CHAMANZAR\*; D. J. GARFIELD; J. IAFRATI; V. SOHAL; E. CHAN; B. COHEN; P. SCHUCK; M. M. MAHARBIZ. *Univ. of California Berkeley, the Mol. Foundry, Lawrence Berkeley Natl. Lab., the Univ. of California San Francisco, Univ. of California San Francisco, Mol. Foundry, Lawrence Berkeley Natl. Lab.*

## DYNAMIC POSTERS

### DP04. Dynamic Posters—Monday Morning

Mon. 8:00 AM – McCormick Place, Hall A

All dynamic poster presentations will take place during the full four-hour session time. The theme of the dynamic poster being presented is indicated by the letter in the leftmost column.

- A DP01 **DP04.01** Lattice light-sheet imaging reveals dynamic aspects of neural crest stem cell migration and differentiation *in vivo*. \*A. SAXENA; B.-C. CHEN; E. BETZIG; M. E. BRONNER. *Biol. & Biol. Engin., Caltech, Biol. Sci., Univ. of Illinois at Chicago, HHMI Janelia Res. Campus, Res. Ctr. for Applied Sci., Academia Sinica.*
- B DP02 **DP04.02** Role of NMDA receptors in vulnerability of prefrontal somatostatin-positive interneurons to ischemia. \*N. V. POVYSHEVA; G. BARRIONUEVO; J. W. JOHNSON. *Neurosci., Univ. Pittsburgh.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- C DP03 **DP04.03** Ethanol withdrawal produces hyperexcitability and lowers seizure threshold in an oligogenic model of seizure. \*D. C. KLORIG; G. E. ALBERTO; M. L. MASICAMPO; D. W. GODWIN. *Neurosci. Program, Neurobio. and Anat., Wake Forest Hlth. Sci.*
- D DP04 **DP04.04** Layer-specific coding of taste quality in gustatory cortex during active sensing. \*D. M. GRAHAM; N. DIKECLIGIL; A. FONTANINI. *Neurobio. and Behavior, Stony Brook Univ., Stony Brook Univ.*
- D DP05 **DP04.05** Behavioral and neural effects of visual masking and optogenetic V1 suppression in mice. \*M. WATANABE; S. LOEWE; A. VAICELIUNAITE; N. LOGOTHETIS; S. KATZNER; L. BUSSE. *Max Planck Inst. For Biol. Cybernetics, Univ. of Tokyo, Univ. of Tuebingen, Univ. of Manchester.*
- D DP06 **DP04.06** Multimodal neural decoding with natural data. N. X. R. WANG; J. OLSON; B. BRUNTON; A. FARHADI; J. G. OJEMANN; \*R. P. RAO. *Dept of Comp Sci. & Engin., Dept of Rehabil. Med., Dept of Biol., Dept of Neurolog. Surgery, Univ. of Washington.*
- E DP07 **DP04.07** Activation of the reward system boosts immunity. \*T. BEN-SHAANAN; H. AZULAY-DEBBY; T. DUBOVIK; E. STAROSVETSKY; B. KORIN; M. SCHILLER; F. HAKIM; S. SHEN-ORR; A. ROLLS. *Immunol., Technion Fac. of Med.*
- E DP08 **DP04.08** Microbiota modulate brain-derived neurotrophic factor (BDNF) and behaviors via gut-brain neural circuits. \*Y.-C. YEN; Y. XIAO; J. SELKRIG; C. LIEN; X. ZHANG; S. PETERSSON; H. JE. *Neurosci. and Behavioural Disorders, Duke-Nus Grad. Med. Sch., Genome Biol., EMBL Heidelberg, Lee Kong Chain Sch. of Med., Nanyang Technological Univ.*
- F DP09 **DP04.09** Comparative connectivity of the amygdala in chimpanzees and humans. \*T. M. PREUSS; E. E. HECHT; N. J. JACQUEZ; K. L. BRYANT; A. L. FIELDS; III; L. LI; D. A. GUTMAN. *Yerkes Natl. Primate Res. Ctr., Ctr. for Translational Social Neurosci., Ctr. for Behavioral Neurosci., Grad. Program in Neurosci., Marcus Autism Center, Children's Healthcare of Atlanta, Emory Univ., Psychology, Ctr. for Behavioral Neurosci., Georgia State Univ., Resverlogix, Inc, History and Philosophy of Science, Cognitive Sci., Indiana Univ., Biomed. Informatics, Emory Univ. Sch. of Med.*
- F DP10 **DP04.10** Regulating emotion using transcranial direct current stimulation of the medial prefrontal cortex. \*R. ABEND; R. SAR-EL; T. GONEN; I. JALON; Y. BAR-HAIM; T. HENDLER. *Sch. of Psychological Sci., Fac. of Med., Sagol Sch. of Neurosci., Tel Aviv Univ., Wohl Inst. for Advanced Imaging, Tel Aviv Sourasky Med. Ctr.*
- 10:00 A3 **289.03** Odorant receptor expression is perturbed in mice following recovery from genetically-mediated lesion. J. H. BRANN\*; X. ZHANG; E. F. SPINAZZI; C. FRANKLIN; P. LIS; N. KHARAS; C. ALTOMARE; S. J. FIRESTEIN. *Loyola Univ. Chicago, BiolInfoRx, Columbia Univ., Loyola Univ. Chicago.*
- 11:00 A4 **289.04** A novel postnatal population of cortical projection neurons characterized by the co-expression of Ctip2 and Satb2 in the mouse neocortex. M. C. STUDER\*; K. HARB; E. MAGRINELLI; C. NICOLAS; N. LUKIANETS; G. SANDOZ; F. GRAMMONT; C. ALFANO. *Inst. of Biology, Ibv (UMR INSERM1091/CNRS7277/UNS), Univ. of Nice Sophia Antipolis.*
- 8:00 A5 **289.05** Differential effects on ventricular zone cell genesis following deafferentation or direct injury to the olfactory bulb in adult zebrafish. D. M. TRIMPE\*; C. A. BYRD-JACOBS. *Western Michigan Univ.*
- 9:00 A6 **289.06** Spatiotemporal dynamics of adult-born granule cell mossy fiber terminal development in aged hippocampus. K. D. MURRAY; X. LIU; L. P. CAMERON; M. YOSHIHARA; H. CHENG\*. *UC Davis, Univ. of California, Davis, UC Davis.*
- 10:00 A7 **289.07** Preferential targeting of lateral perforant path inputs to newly-generated dentate granule cells. N. I. WOODS; C. CHATZI; J. PEREDERIY; K. TOVAR; G. L. WESTBROOK\*. *Vollum Inst.*
- 11:00 A8 **289.08** Combining Ki-67 and the thymidine analogue 5-chloro-2-deoxyuridine (CldU) to monitor cell proliferation in the dentate gyrus of the adult rat. R. E. KALIL\*; M. L. HENDRICKSON; L. R. STIPPICH. *Univ. of Wisconsin-Madison.*
- 8:00 A9 **289.09** Adult peripheral nervous system stem cells: From their identification towards their role and fate in pathological conditions. M. MANIGLIER\*; M. VIDAL; C. BACHELIN; C. DEBOUX; A. BARON VAN EVERCOOREN. *ICM (institut Du Cerveau Et De La Moelle Epiniere, ICM, INSERM U1127, UPMC Univ. Paris 06 UM 75, CNRS UMR 7225.*
- 9:00 A10 **289.10** Effects of cholinergic manipulations on adult neurogenesis. S. L. OTTO\*; J. L. YAKEL. *NIEHS.*
- 10:00 A11 **289.11** Survival of adult born hippocampal neurons. P. WU; H. LIN; G. LAI\*. *Natl. Chengchi Univ., Res. center for mind, brain & learning, Natl. Chengchi Univ.*
- 11:00 A12 **289.12** Impact of muscular overexpression of PGC-1 $\alpha$  on photothrombotic stroke in the mouse neocortex. L. KARLSSON\*; N. GONZÁLEZ-ALVARADO; A. OSMAN; K. BLOMGREN; G. KUHN. *Univ. of Gothenburg, Karolinska Institute.*

**POSTER**

**289. Postnatal Neurogenesis: Temporal and Spatial Patterns**

**Theme A: Development**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 A1 **289.01** Plastic changes of the early spinal cord in mice with the genetic absence of corticospinal tract. J. DUAN\*; L. HUANG; Y. QU; L. ZHOU. *Jinan Univ.*
- 9:00 A2 **289.02** Incorporation of parvalbumin expressing neurons in the caudomedial nidopallium (NCM) of juvenile zebra finches is affected by song tutor availability. K. ASIK\*; J. R. KIRN. *Wesleyan Univ.*
- 8:00 A13 **289.13** Effects of reduced adult neurogenesis on cognition and emotional behavior of mice and environmental strategies as possible rescue. M. E. SAKALEM\*; T. SEIDENBECHER; R. SAFFARI; M. ZHANG; K. DIEDERICH; J. C. SCHWAMBORN; W. ZHANG; O. AMBRÉE. *Universitätsklinikum Münster, Univ. Münster, Universitätsklinikum Münster, Univ. Münster, Univ. Luxemburg.*
- 9:00 A14 **289.14** Extended intermittent access to palatable food decreases hippocampal neurogenesis and impairs hippocampal function. A. FERRAGUD\*; C. VELÁZQUEZ-SÁNCHEZ; A. AL ABDULLATIF; V. SABINO; P. COTTONE. *Boston Univ.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 10:00 A15 **289.15** Cytokine regulation of adult neurogenesis: The immune system provides neuronal precursors for adult neurogenesis. B. S. BELTZ\*; E. COCKEY; J. LI; J. L. BENTON. *Wellesley Col.*
- 11:00 A16 **289.16** Bipolar cell death precedes retinal ganglion neuron loss in a complex 1 deficiency mouse model. L. SONG\*. *Univ. of California-Davis.*
- 8:00 A25 **290.09** Changes in thalamic connectivity of primary somatosensory cortex resulting from early bilateral enucleations in the short-tailed opossum (*Monodelphis domestica*). J. C. DOOLEY\*; M. S. DONALDSON; L. A. KRUBITZER. *UC Davis, Univ. of California, Davis.*
- 9:00 A26 **290.10** PRDM12 is a novel, evolutionarily conserved transcription factor that controls sensory neuron specification and nociception. V. NAGY\*; T. COLE; C. VAN CAMPENHOUT; T. M. KHOUNG; C. LEUNG; S. VERMEIREN; M. NOVATCHKOVA; D. WENZEL; D. CIKES; A. A. POLYANSKY; I. KOZIERADZKI; A. MEIXNER; E. J. BELLEFROID; G. G. NEELY; J. M. PENNINGER. *Inst. of Mol. Biotech., Garvan Inst. of Med. Res., Charles Perkins Ctr. and Sch. of Mol. Biosci., Univ. Libre de Bruxelles, UNSW Med., Max Perutz Labs.*

## POSTER

### 290. Development of Sensory Systems

#### Theme A: Development

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 A17 **290.01** ▲ Maturation of postural sway is not influenced by body mass index or gender. C. FRENCHIK\*; S. M. SORIA; S. SCHULMAN; D. PICARDI; D. J. GOBLE; H. S. BAWEJA. *San Diego State Univ.*
- 9:00 A18 **290.02** ● Changes in ankle joint proprioception resulting from robotic training of ankle mobility rehabilitation in cerebral palsy children. Y. LEE\*; D. XU; Y. REN; K. CHEN; D. GAEBLER-SPIRA; L. ZHANG. *Rehabil. Inst. of Chicago.*
- 10:00 A19 **290.03** Twitches drive neural activity in the deep cerebellar nuclei of sleeping newborn rats: Implications for sensorimotor development. A. M. PLUMEAU\*; C. DEL RIO-BERMEDEZ; G. SOKOLOFF; M. BLUMBERG. *Univ. of Iowa, Univ. of Iowa.*
- 11:00 A20 **290.04** The inferior olive processes twitch-related information during active sleep in newborn rats: Evidence of corollary discharge. D. MUKHERJEE\*; G. SOKOLOFF; M. S. BLUMBERG. *Univ. of Iowa.*
- 8:00 A21 **290.05** Sensorimotor integration in the red nucleus of infant rats during active sleep. C. DEL RIO BERMEDEZ\*; G. SOKOLOFF; M. BLUMBERG. *Univ. of Iowa.*
- 9:00 A22 **290.06** Mosaic regulation of placodal and neural crest-derived cranial sensory neurons establishes distinct developmental states during early neuronal differentiation and axon outgrowth. B. A. KARPINSKI; C. BRYAN; A. HORVATH; A. FERNANDEZ; J. L. BAKER; T. M. MAYNARD; S. A. MOODY; A. LA MANTIA\*. *The George Washington Univ. Sch. of Med., The George Washington Univ. Sch. of Med., The George Washington Univ. Sch. of Med., The George Washington Univ. Sch. of Med., The George Washington Univ. Sch. of Med., The George Washington Univ.*
- 10:00 A23 **290.07** Electrophysiological recording of the sensory sural nerves from artificial reared pups of 14 and 21 postnatal days: Role of tactile stimulation. A. I. MELO\*; S. MORENO-PÉREZ; G. RAMÍREZ-FUNEZ; I. JIMÉNEZ-ESTRADA; M. E. MENDOZA -GARRIDO; B. SEGURA; M. GONZÁLEZ DEL PLIEGO; E. L. AGUIRRE-BENITEZ; J. HERNÁNDEZ-FALCÓN; A. S. FLEMING; R. ZEMPOALTECA-RAMÍREZ. *Cinvestav-lab.tlax.Universidad Autónoma De Tlaxcala, Univ. Autónoma de Tlaxcala, BUAP, CINVESTAV-IPN, UNAM, FES Iztaacala, UNAM, UNAM, Univ. of Toronto, Univ. Autónoma de Tlaxcala.*
- 11:00 A24 **290.08** Elucidating the role of spinal cord Atoh1-lineage neurons in proprioception. H. C. LAI\*. *UT Southwestern Med.*
- 10:00 A27 **290.11** A detailed Golgi-Cox morphological analysis of the auditory cortex and inferior colliculus in rats exposed to an acoustically enriched environment. J. BURIANOVA\*; L. OUDA; J. SYKA. *Inst. of Exptl. Medicine, CAS CZ.*
- 11:00 A28 **290.12** Lack of muscle spindles in infant ErbB2 knockout mice is associated with deficits in functional and anatomical cerebellar development. N. J. SATTTLER; A. J. YONK; C. M. COLEMAN; G. SOKOLOFF\*; M. S. BLUMBERG. *The Univ. of Iowa, The Univ. of Iowa.*
- 8:00 A29 **290.13** Highly patterned spontaneous activity in the developing mammalian auditory system *in vivo*. A. P. LOMBROSO\*; A. GRIBIZIS; H. C. WANG; W. ZHANG; T. BABOLA; D. BERGLES; M. CRAIR. *Yale Univ., Johns Hopkins Univ., Johns Hopkins Univ.*
- 9:00 A30 **290.14** Anatomical study of transient commissural projections between the vestibular ganglia in neonatal opossums (*Monodelphis domestica*). F. LANTHIER\*; A. LALONDE-LARUE; T. CABANA; J. PFLIEGER. *Univ. De Montréal.*
- 10:00 A31 **290.15** Alcohol-sensitive period during early octavolateral organ development in Zebrafish (*Danio rerio*). L. ZAMORA\*; K. C. MIGUEL; Z. LU. *Univ. of Miami, Univ. of Miami, Shanghai Ocean Univ.*
- 11:00 A32 **290.16** Brief developmental hearing loss leads to a deficit in inhibitory synaptic transmission in the adult auditory striatum. T. M. MOWERY\*; V. KOTAK; D. SANES. *New York Univ.*
- 8:00 A33 **290.17** Mapping of pain circuitry in early post-natal development using manganese-enhanced MRI. M. M. SPERRY\*; B. M. KANDEL; K. E. BASS; S. R. DAS; P. S. DHILLON; J. C. GEE; G. A. BARR. *Univ. of Pennsylvania, Children's Hosp. of Philadelphia.*
- 9:00 A34 **290.18** Measuring the development of auditory-language function in the first year with functional MRI. C. J. WILD\*; A. C. LINKE; L. ZUBIAURRE-ELORZA; C. HERZMANN; H. DUFFY; V. K. HAN; D. S. C. LEE; R. CUSACK. *Brain and Mind Inst., Fac. of Psychology and Educ., Univ. of Warwick, Lawson Hlth. Res. Inst.*
- 10:00 A35 **290.19** Long and short term effects of the mother's presence during noxious stimulation in the infant rat. G. A. BARR\*; R. PERRY; R. M. SULLIVAN. *Children's Hosp. of Philadelphia, New York Univ. Langone Med. Ctr.*

- 11:00 A36 **290.20** Analysis of proprioceptive sensory afferent inputs on populations of spinal interneurons in neonatal mice. D. R. LADLE\*; B. GOSKY; T. RAPETTI; P. PAINTER; Y. DAI. *Wright State Univ.*
- 8:00 A37 **290.21** Larval mutant ninja zebrafish: An axon initial segment *in vivo* imaging project. A. S. DUMITRESCU\*; M. P. MEYER; M. S. GRUBB. *Kings Col. London.*
- 9:00 A38 **290.22** Disabled-1 expression identifies a subset of Lmx1b superficial dorsal horn neurons involved in nociceptive circuits. G. METTA YVONE\*; H. ZHAO; J. C. UDEOCHU; P. E. PHELPS. *UCLA.*

## POSTER

### 291. Peripheral Nervous System Regeneration

#### Theme A: Development

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 A39 **291.01** Potency and neurogenesis in the basal stem cells of the olfactory and respiratory epithelia. J. N. PETERSON\*; J. SCHWOB. *Tufts Univ. Sackler Sch. of Grad. Biomed.*
- 9:00 A40 **291.02** Location, location, location: Neuronal diversification in the olfactory epithelium. J. C. HEWITT\*; R. P. LANE; J. E. SCHWOB. *Tufts Univ., Wesleyan Univ., Tufts Univ.*
- 10:00 A41 **291.03** Estrogen signaling is necessary for the exercise-mediated increase in motoneuron participation in axon regeneration after peripheral nerve injury in mice. J. C. WILHELM\*; P. A. COPLEY; M. C. ACOSTA; J. R. HARRELL. *Col. of Charleston.*
- 11:00 A42 **291.04** Neuropeptide Y induces hematopoietic stem cell mobilization and improves bone loss. H. JIN\*; N. KIM; M. PARK; J. BAE. *Kyungpook Natl. Univ., Kyungpook Natl. Univ.*
- 8:00 A43 **291.05** AlphaB-crystallin does not alter the immune response after sciatic nerve crush injury. E. F. LIM\*; V. HOGHOOGHI; S. S. OUSMAN. *Univ. of Calgary, Univ. of Calgary.*
- 9:00 A44 **291.06** Notch signaling helps maintain reserve neural stem cell quiescence in the setting of neuronal injury. D. B. HERRICK\*; J. E. SCHWOB. *Tufts Univ., Tufts Univ.*
- 10:00 A45 **291.07** MiR-9 inhibits Schwann cell migration by targeting Cthrc1 followingsciatic nerve injury. S. ZHOU; D. SHEN; Q. ZHANG; H. SHI; X. GU; F. DING\*. *Nantong University, China.*
- 11:00 A46 **291.08** Olfactory bulb targeting after recovery from olfactory epithelial injury. E. H. HOLBROOK\*; A. R. DEZUBE; J. E. SCHWOB. *Mass Eye & Ear Infirmary, Tufts Univ. Sch. of Med.*
- 8:00 A47 **291.09** A transgenic mouse model for accelerated olfactory aging. W. JANG\*; E. HOLBROOK; K. CHILD; J. SCHWOB. *Tufts Univ. Sch. of Med., Massachusetts Eye and Ear Infirmary, Harvard Med. Sch.*
- 9:00 A48 **291.10** Stimulation of a denervated laryngeal muscle with low frequency promotes selective reinnervation and restores function. Y. LI\*; S. HUANG; D. ZEALEAR. *Vanderbilt Univ. Med. Center/Oto, Vanderbilt Univ. Med. Ctr.*
- 10:00 A49 **291.11** Injury can induce neuronally committed Neurog1+ progenitors to become multi-potent. B. LIN\*; J. HEWITT; J. PETERSON; J. E. SCHWOB. *Tufts University, Sackler Sch., Tufts University, Sackler Sch.*
- 11:00 A50 **291.12** Neuropeptide Y regulates the hematopoietic stem cell microenvironment and prevents nerve injury in the bone marrow. J. BAE\*; M. PARK; N. KIM; H. JIN. *Kyungpook Natl. Univ., Kyungpook Natl. Univ.*
- 8:00 A51 **291.13** Administration of ursolic acid promotes axon regeneration by activating akt/s6 pathway after peripheral nerve injury. J. KIM\*; M. KIM; J. HYUN. *Dankook Univ., Dept. of Nanobiomedical Sci. and BK21 PLUS NBM Global Res. Ctr. for Regenerative Medicine, Dankook Univ., Inst. of Tissue Regeneration EngineeringInstitute of Tissue Regeneration Engineering, Dankook Univ., Dept. of Rehabil. Medicine, Col. of Medicine, Dankook Univ.*
- 9:00 A52 **291.14** Acute intermittent hypoxia promotes regeneration-associated gene expression in axotomized peripheral nerve akin to electrical stimulation. J. R. NADEAU\*; B. M. ARNOLD; G. D. MUIR; V. M. K. VERGE. *Univ. of Saskatchewan, Univ. of Saskatchewan, Univ. of Saskatchewan.*
- 10:00 A53 **291.15** Involvement of c-jun N-terminal kinase in neurite extension of cultured DRG neurons. T. H. NGUYEN; S. MATSUMURA; T. KATANO; S. ITO\*. *Kansai Med. Univ.*
- 11:00 A54 **291.16** Chronic effect of Pacific Ciguatoxin-1 on axonal regeneration and functional synapse formation after peripheral nerve injury. G. KUMAR\*; P. ASTHANA; N. P. B. AU; C. TIN; Y. L. MAK; L. L. CHAN; P. K. S. LAM; C. H. E. MA. *Dept. of Biomed. Sci., Dept. of Mechanical and Biomed. Engin., State Key Lab. in Marine Pollution, Shenzhen Key Lab. for the Sustainable Use of Marine Biodiversity, Res. Ctr. for the Oceans and Human Health, City Univ. of Hong Kong Shenzhen Res. Inst., Dept. of Biol. and Chem.*
- 8:00 A55 **291.17** A peripheral compensatory mechanism of nerve debris clearance after injury in the absence of CCR2+ macrophages. J. LINDBORG\*; R. ZIGMOND. *Case Western Reserve Univ.*
- 9:00 A56 **291.18** Reduced induction of injury-induced cytokines and neuropeptides after nerve injury in a mouse model of type 1 diabetes. A. R. FILOUS\*; J. P. NIEMI; A. DEFRANCESCO-LISOWITZ; R. E. ZIGMOND. *Case Western Reserve Univ.*
- 10:00 A57 **291.19** Overexpression of CCL2 in dorsal root ganglia is sufficient for enhanced axonal regeneration. J. P. NIEMI\*; A. DEFRANCESCO-LISOWITZ; M. HOWARTH; R. ZIGMOND. *Case Western Reserve Univ.*
- 11:00 A58 **291.20** Potential therapeutic applications of chondroitinase C for *in vivo* selective CSPG degradation. J. B. GRAHAM\*; D. MUIR. *Univ. of Florida Col. of Med.*
- 8:00 A59 **291.21** Mesoporous silica nanoparticles as a delivery system for nerve regeneration. M. KIM\*; H. AHN; J. KIM; H. KIM; Y. SON; J. HYUN. *Dankook Univ., Dankook Univ., Dankook Univ., Dankook Univ., Temple Univ. Sch. of Med., Temple Univ. Sch. of Med., Dankook Univ.*
- 9:00 A60 **291.22** Brief electrical stimulation promotes immune cell clearance and polarizes macrophages toward a pro-repair M2 phenotype in focally demyelinated peripheral nerve. N. A. MCLEAN\*; V. M. K. VERGE. *Univ. of Saskatchewan, CMSNRC.*

Mon. AM

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 10:00 A61 **291.23** Lycium barbarum polysaccharide enhances the intrinsic growth capacity of dorsal root ganglion neurons. N. P. B. AU\*; G. KUMAR; R. C. C. CHANG; K. F. SO; C. H. E. MA. *City Univ. of Hong Kong, LKS Fac. of Medicine, The Univ. of Hong Kong, The Univ. of Hong Kong, LKS Fac. of Medicine, The Univ. of Hong Kong, City Univ. of Hong Kong.*
- 11:00 A62 **291.24** A comparative proteomics analysis of proteins involved in modulating axonal growth in peripheral neurons. J. S. VONG\*; C. H. E. MA. *City Univ. of Hong Kong.*
- 8:00 A63 **291.25** Adult Skin-derived precursor Schwann cells (aSKP-SCs), like acutely injured nerves Schwann cells, exhibit superior myelination and regeneration supportive properties compared to chronically denervated nerve Schwann cells. R. KUMAR\*; S. SINHA; E. RAHARJO; A. HAGNER; M. STYKEL; K. SINGH; R. MIDHA; J. BIERNASKIE. *Univ. of Calgary, Univ. of Toronto, McMaster Univ.*
- 9:00 A64 **291.26** The axonal palmitoyl acyltransferases DHHC5 and DHHC8 are essential for retrograde injury signaling by the gp130/JAK/STAT3 pathway. A. MONTERSINO\*; K. M. COLLURA; S. M. HOLLAND; G. M. THOMAS. *Temple Univ.*
- 10:00 A65 **291.27** Chemotherapeutics and the taste system: Using cyclophosphamide to study system recovery. D. HARRIS\*; D. E. MORGAN; E. R. DELAY. *Univ. of Vermont, Univ. of Vermont.*
- 11:00 A66 **291.28** ▲ Sensory neuron involvement in caudal fin regeneration in zebrafish, *Danio rerio*. M. YOUNISS; N. W. KLECKNER\*. *Bates Col., Bates Col.*
- 8:00 A67 **291.29** Transforming growth factor beta regulates expression of fibroblast growth factor -7 in schwann cells. D. H. NGUYEN; A. MUHAMMAD; I. IWUCHUKWU\*; W. O. SULAIMAN. *Ochsner Med. Ctr., Ochsner Med. Ctr., Ochsner Clin. Fndn.*
- 9:00 A68 **291.30** ▲ Cyclophosphamide-induced loss in murine olfactory systems. N. AWADALLAH; K. R. PROCTOR; E. R. DELAY; R. J. DELAY\*. *Univ. of Vermont, Univ. of Vermont, Univ. of Vermont.*
- 10:00 A69 **291.31** Zinc supplementation by zinc plus cyclo-(His-Pro) increases progenitor cell proliferation after hypoglycemia. A. KHO\*; J. KIM; I. KIM; B. CHOI; S. LEE; M. SOHN; S. SUH. *Hallym Univ., Hallym Univ., Inha university.*
- 9:00 A71 **292.02** Removal of  $\alpha 4$  nAChR subunits from adult VTA neurons alters VTA dopamine neuron excitability and locomotor activity. S. E. ENGLE\*; J. N. BERRY; M. C. ARVIN; J. M. MCINTOSH; R. M. DRENAN. *Purdue Univ., George E. Wahlen Veterans Affairs Med. Ctr., Univ. of Utah.*
- 10:00 A72 **292.03** Nicotine dependence reveals distinct responses from neurons and their resident nicotinic receptors in medial habenula. P. SHIH; R. M. DRENAN\*. *Purdue Univ., Purdue Univ.*
- 11:00 A73 **292.04** Development and validation of an  $\alpha 3\beta 4$  nicotinic acetylcholine receptor (nAChR) high-throughput screening- (HTS-) ready assay. P. WHITEAKER\*; M. KASSNER; B. EATON; J. PETIT; N. MEURICE; H. YIN. *Barrow Neurolog. Inst., Translational Genomics Inst., Barrow Neurolog. Inst., Mayo Clin.*
- 8:00 A74 **292.05** Nicotinic transmission onto layer 6 cortical neurons relies on synaptic activation of non- $\alpha 7$  receptors. Y. A. HAY; B. LAMBOLEZ; L. TRICOIRE\*. *Univ. Pierre Et Marie Curie-CNRS-INSERM.*
- 9:00 A75 **292.06** Functional characterization of  $\alpha 4\beta 2^*$  nicotinic receptors in principal neurons of the young postnatal mouse hippocampal formation. B. Y. T. CHUNG; C. D. BAILEY\*. *Univ. of Guelph.*
- 10:00 A76 **292.07** Curcumin potentiates human  $\alpha 7$ -nicotinic acetylcholine receptors. K. S. YANG\*; S. M. NURULAIN; F. C. HOWARTH; M. OZ. *Chapman Univ., UAE Univ., UAE Univ.*
- 11:00 A77 **292.08** ● Investigating the role of the nicotinic receptor modulator, lynx2, on cholinergic-based anxiety mechanisms. K. R. ANDERSON\*; H. WANG; J. MIWA. *Lehigh Univ.*
- 8:00 A78 **292.09** ● Cembranoids structure-activity relationship for protection against diisopropylfluorophosphate damage. V. A. ETEROVIC\*; M. CARRASCO; D. PEREZ; H. Y. EBRAHIM; P. A. FERCHMIN; K. A. EL SAYED. *Univ. Central Del Caribe, Sch. of Pharm., Univ. of Louisiana.*
- 9:00 A79 **292.10** Optical control of midbrain dopamine neurons using a light-inhibited nicotinic receptor. R. DURAND-DE CUTTOLI\*; F. MARTI; S. PONS; D. TRAUNER; R. H. KRAMER; U. MASKOS; P. FAURE; A. MOUROT. *Univ. Pierre Et Marie Curie, Inst. Pasteur, Ludwig-Maximilians-University (LMU), UC Berkeley.*
- 10:00 A80 **292.11** Use of the novel toxin M2E11R to study the role of  $\alpha 6$ - nAChRs in visual function. D. BARLOSCIO; E. CERRI; L. DOMENICI; R. LONGHI; M. MORETTI; C. GOTTI; N. ORIGLIA\*. *CNR- Neurosci. Inst., CNR, CNR.*
- 11:00 A81 **292.12** Nicotinic activity of arecoline, the psychoactive element of betel nuts, suggests a basis for habitual use and anti-inflammatory activity. R. L. PAPKE\*; N. A. HORENSTEIN; C. STOKES. *Univ. Florida, Univ. Florida.*
- 8:00 A82 **292.13** Chronic opioid treatment downregulates alpha4beta2 nicotinic acetylcholine receptors while upregulating alpha3\* and alpha7 nicotinic acetylcholine receptors in cell lines. R. TALKA\*; O. SALMINEN; R. K. TUOMINEN. *Univ. of Helsinki.*
- 9:00 A83 **292.14**  $\alpha 7$  nicotinic acetylcholine receptor-mediated intracellular cAMP changes in hippocampal dentate gyrus neurons. Q. CHENG\*; P. W. LAMB; J. L. YAKEL. *NIEHS, NIEHS.*

## POSTER

### 292. Nicotinic Acetylcholine Receptors: Physiology and Function

#### Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 A70 **292.01** A G protein-binding domain within the M3-M4 loop of the  $\alpha 7$  nicotinic acetylcholine receptor enables a downstream calcium signaling response beyond the time course of channel activation. J. KING\*; M. LIN; N. KABBANI. *Krasnow Inst.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 10:00 A84 **292.15** The beta2 subunit C loop of the nicotinic acetylcholine receptor directs allosteric modulator specificity. M. M. LEVANDOSKI\*; A. R. MACK; C. A. SIBBALD. *Grinnell Col.*
- 11:00 A85 **292.16** ● Cognitive enhancement through augmentation of alpha7 nicotinic acetylcholine receptor function: *In vitro* and *in vivo* characterization of alpha7 agonist EVP-6124 and alpha7 positive allosteric modulator JNJ-39393406. M. GRUPE\*; K. FREDERIKSEN; M. JESSEN; J. FULLERTON STØIER; A. PARACHIKOVA; C. BUNDGAARD; A. MITTOUX; J. BASTLUND. Synaptic Transmission In Vivo, H. Lundbeck A/S, H. Lundbeck A/S, H. Lundbeck A/S, H. Lundbeck A/S, H. Lundbeck A/S.
- 8:00 A86 **292.17** ● Antidyskinetic effect of the novel  $\alpha 7$  nicotinic receptor agonist ABT-126 in parkinsonian monkeys. M. MCGREGOR; D. ZHANG\*; T. BORDIA; X. A. PEREZ; M. W. DECKER; M. QUIK. *SRI Intl., AbbVie Inc.*
- 9:00 A87 **292.18** Striatal cholinergic interneurons regulate L-dopa-induced dyskinesias. T. BORDIA\*; X. A. PEREZ; D. ZHANG; M. QUIK. *SRI Intl.*
- 10:00 A88 **292.19** Nicotinic receptors control prefrontal cortex activity. F. KOUKOULI; M. ROOY; B. GUTKIN; K. SAILOR; J. STITZEL; D. DIGREGORIO; U. MASKOS\*. *Inst. Pasteur, ENS, Univ. Colorado, Inst. Pasteur.*
- 11:00 A89 **292.20** Circuit level mechanisms enable the control of prefrontal cortex activity by nicotinic receptors. M. ROOY; F. KOUKOULI; D. DIGREGORIO; U. MASKOS; B. S. GUTKIN\*. *Ecole Normale Supérieure, Inst. Pasteur, Inst. Pasteur, Group For Neural Theory, LNC INSERM U960, Ecole Normale Supérieure, Natl. Res. Univ. Higher Sch. of Econ.*
- 11:00 A93 **293.04** Neuronal connectivity at resting-state decreased in cortex induced by cocaine. G. XIAOCHUN\*; J. CHOI; N. VOLKOW; Y. PAN; C. DU. *Dept. of Biomed. Engineering, State Univer, Key Lab. of Developmental Genes and Human Diseases, Dept. of Anat. and Neuroscience, Med. School, Southeast University, Nanjing, 210009, PR China, Natl. Inst. on Drug Abuse, NIH.*
- 8:00 A94 **293.05** Spatio-temporal dynamics of network activity coupled to the action of the neuromodulator adenosine. M. J. RICHARDSON\*; F. FERMANI; A. NEWTON; M. THOMAS; M. WALL. *Univ. of Warwick.*
- 9:00 A95 **293.06** Relating spatial patterns of beta oscillations to their power in macaque motor cortex: A case study in using the “Elephant” data analysis framework in a reproducible analysis workflow. M. DENKER\*; L. ZEHL; B. KILAVIK; M. DIESMANN; T. BROCHIER; A. RIEHLE; S. GRÜN. *Jülich Res. Ctr. and JARA, CNRS, Aix-Marseille Univ., RIKEN Brain Sci. Inst., RWTH Aachen Univ.*
- 10:00 A96 **293.07** Contribution of synchronized GABAergic neurons to dopaminergic neuron firing and bursting. E. MOROZOVA\*; D. ZAKHAROV; M. MYROSHNYCHENKO; M. DI VOLO; B. GUTKIN; C. LAPISH; A. KUZNETSOV. *Indiana Univ., Indiana University-Purdue Univ., Inst. of Applied Physics, Indiana Univ., École normale supérieure, Natl. Res. Univ. Higher Sch. of Econ., Indiana University-Purdue Univ.*
- 11:00 A97 **293.08** Simulating the effects of ethanol on Ventral Tegmental Area local circuit dynamics and Dopamine neuron firing. M. DI VOLO\*; E. MOROZOVA; M. MYROSHNYCHENKO; C. LAPISH; A. KUZNETSOV; B. GUTKIN. *Dept. of Physics, IUPUI, Group of Neural Theory, ENS, Program in Neuroscience, Indiana Univ., Addiction Neurosci. Program, IUPUI, Dept. of Mathematical sciences, IUPUI., Theoretical Neurosci. Group, Ctr. for Cognition and Decision Making, Natl. Res. Univ. Higher Sch. of Econ.*
- 8:00 A98 **293.09** Spontaneous calcium transients precede hemodynamic activity and produce homotopic functional connectivity maps. P. WRIGHT\*; A. BAUER; G. BAXTER; J. CULVER. *Washington Univ. In St. Louis.*
- 9:00 A99 **293.10** Modulation of hippocampal gamma oscillation activity by histone acetylation and nuclear receptor family 4a in Alzheimer’s disease model mice. K. TAKASU; K. NIIDOME; M. HASEGAWA; G. SAKAGUCHI; K. OGAWA\*. *SHIONOGI & CO., LTD.*
- 10:00 A100 **293.11** Entrainment of local oscillatory activity in the human brain: Evidence from Intracranial multi-electrode stimulation recordings. J. AMENGUAL; M. VERNET; C. ADAM; A. VALERO CABRE\*. *Cerebral Dynamics, Plasticity and Rehabil. Group, Frontlab, Pitié-Salpêtrière Hospital-APHP, Lab. Cerebral Dynamics, Boston Univ. Sch. of Med., Open Univ. of Catalonia (UOC).*
- 11:00 A101 **293.12** The effect of resonance frequency on network oscillations through electrical gap junction coupling. X. LI\*; Y. CHEN; H. G. ROTSTEIN; F. NADIM. *Dept Biol. Sci., Rutgers/Njit, New Jersey Inst. of Technol.*
- 8:00 A102 **293.13** Modeling the effects of inhibitory and excitatory synchrony on seizure generation in a CA1 circuit. J. R. CRESSMAN\*; D. B. DORMAN. *George Mason Univ., George Mason Univ.*

**POSTER**

**293. Oscillations and Synchrony: Other I**

**Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 A90 **293.01** Building a large-scale cortical network model incorporating laminar structure: Frequency-specific feedforward and feedback interactions. J. F. MEJIAS\*; J. D. MURRAY; H. KENNEDY; X. WANG. *Ctr. for Neural Science, New York Univ., Stem-Cell and Brain Res. Institute, INSERM and Univ. de Lyon, NYU-ECNU Inst. of Brain and Cognitive Science, NYU Shanghai.*
- 9:00 A91 **293.02** Diversity of sharp wave-ripples in the CA1 of the macaque hippocampus and their brain wide signatures. J. F. RAMIREZ-VILLEGAS\*; N. K. LOGOTHETIS; M. BESSERVE. *Max Planck Inst. For Biol. Cybernetics, Eberhard-Karls Univ. Tuebingen, The Univ. of Manchester, Max Planck Inst. For Intelligent Systems.*
- 10:00 A92 **293.03** VIP and SOM interneurons compete to cooperate. M. M. KARNANI\*; J. C. JACKSON; I. AYZENSHTAT; R. YUSTE. *Columbia University, Dept. of Biol. Sci.*

• Indicated a real or perceived conflict of interest, see page 160 for details.  
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 \* Indicates abstract’s submitting author

- 9:00 A103 **293.14** Intracerebral recordings of slow wave and rapid eye-movement sleep in naturally sleeping pigeons. J. VAN DER MEIJ\*; G. J. L. BECKERS; N. C. RATTENBORG. *Max Planck Inst. For Ornithology, Cognitive Neurobio. and Helmholtz Institute, Utrecht Univ.*
- 10:00 A104 **293.15** ▲ Hippocampal rhythm and subfield oscillatory coupling modulation by the hypothalamic vasopressinergic magnocellular system. M. M. MÁRQUEZ\*; H. BARRIO-ZHANG; V. S. HERNANDEZ; L. ZHANG. *Nacional Autonomous Univ. of Mexico.*
- 11:00 A105 **293.16** Neural basis of at-rest band-limited fMRI. J. LI\*; W. J. BENTLEY; L. H. SNYDER. *Washington Univ. In St Louis, Washington Univ. in St Louis.*
- 8:00 A106 **293.17** Influence of the stomach electrical pacemaker on spontaneous brain activity measured with fMRI. I. REBOLLO\*; C. LÉBOULLENGER; A. LODEHO; C. TALLON-BAUDRY. *LNC, INSERM, ENS.*
- 9:00 A107 **293.18** Mapping tACS-entrained brain oscillations using magnetoencephalography (MEG). S. R. SOEKADAR\*; M. WITKOWSKI; E. GARCIA COSSIO; B. S. CHANDER; C. BRAUN; L. G. COHEN; S. E. ROBINSON. *Applied Neurotechnology / Univ. of Tübingen, Donders Ctr. for Cognition, Radboud Univ., Univ. of Tübingen, NIH, NIH.*
- 10:00 A108 **293.19** Frequency dependent entrainment of spontaneous Ca transients by extracellular AC electric fields in CA1 pyramidal neurons of rat hippocampal slices. I. KATO\*; H. MIYAKAWA; M. INOUE; T. AONISHI. *Tokyo Inst. of Technol., Tokyo university of Pharm. and Life Sci.*
- 11:00 B1 **293.20** Effect of inter-modular connection on fast sparse synchronization in clustered small-world networks. S. KIM\*; W. LIM. *Inst. of Computat. Neurosci.*
- 8:00 B2 **293.21** *In vivo* characterization of hippocampal theta and gamma spontaneous oscillations in familial Alzheimer's disease mouse models based on mutant presenilin-2. R. FONTANA\*; M. RUBEGA; G. SPARACINO; C. FASOLATO; S. VASSANELLI. *Univ. of Padua, Univ. of Padua, Univ. of Padua.*
- 9:00 B3 **293.22** Spike-field coupling does not imply spike-spike coupling. E. PETERSON\*; B. VOYTEK. *U.C. San Diego.*
- 9:00 B5 **294.02** Predicting cell-type specific active properties by developing multi-compartment models using databases and electrophysiological feature constraints: Application to interneuron specific 3 (IS3) cells in the hippocampus. A. T. GUET-MCCREIGHT\*; O. CAMIRÉ; L. TOPOLNIK; F. K. SKINNER. *Toronto Western Res. Inst., Univ. of Toronto, Ctr. de Recherche de l'Institut Universitaire en Santé Mentale de Québec, Univ. Laval, Univ. of Toronto.*
- 10:00 B6 **294.03** Dendritic integration in dentate gyrus parvalbumin expressing perisoma inhibiting interneurons. C. ELGUETA\*; M. BARTOS. *Freiburg Univ.*
- 11:00 B7 **294.04** Characterization of dendritic processing for signal propagation in model primary neurons. H. KIM\*. *Daegu Gyeongbuk Inst. of Sci. & Technol.*
- 8:00 B8 **294.05** Graded boosting of synaptic signals by low threshold voltage activated calcium conductance. M. CARBÓ-TANO; L. SZCZUPAK\*. *IFIByNE UBA-CONICET, Univ. de Buenos Aires.*
- 9:00 B9 **294.06** Continuous gradients of gene expression underlie prominent CA1 pyramidal neuron variability. M. S. CEMBROWSKI\*; J. L. BACHMAN; L. WANG; K. SUGINO; B. SHIELDS; N. SPRUSTON. *Howard Hughes Med. Inst.*
- 10:00 B10 **294.07** Localized synaptically activated sodium signals in hippocampal pyramidal neurons show both AMPA and NMDA receptor components. K. MIYAZAKI\*; W. N. ROSS. *New York Med. Col.*
- 11:00 B11 **294.08** Two-photon subcellular optogenetic stimulation of layer 2/3 cortical pyramidal neurons *in vivo* during network activity. L. FERRARESE\*; J. F. A. POULET. *Max Delbrueck Ctr. Berlin-Buch, Neurosci. Res. Ctr. and Cluster of Excellence NeuroCure, Charité-Universitätsmedizin.*
- 8:00 B12 **294.09** *In vivo* adrenergic modulation of dendritic HCN channels in layer 5 pyramidal neurons. M. LONDON\*; C. LABARRERA MØNSTED. *The Hebrew Univ. of Jerusalem.*
- 9:00 B13 **294.10** Functional role of coupling axons to dendrites in layer 5 pyramidal neurons. M. S. HAMADA\*; M. H. KOLE. *Netherlands Inst. for Neurosci.*
- 10:00 B14 **294.11** Active dendritic integration in L5 pyramidal neurons forms a conjunctive sensorimotor representation that contributes to learning. G. NATTAR RANGANATHAN\*; N. XU; J. C. MAGEE. *Howard Hughes Med. Inst., Shanghai Inst. for Biol. Sciences, Chinese Acad. of Sci.*
- 11:00 B15 **294.12** Integration of synaptic input during active firing in the L5 pyramidal neurons of mouse motor cortex. N. C. DEMBROW\*; G. S. NEWKIRK; W. SPAIN. *Univ. of Washington, VA Epilepsy Ctr. for Excellence.*
- 8:00 B16 **294.13** Dendritic nonlinearities are tuned to fast synaptic inward currents. B. KALMBACH; R. A. GRAY\*; D. JOHNSTON; E. COOK. *The Univ. of Texas At Austin, McGill Univ.*
- 9:00 B17 **294.14** The interplay between synaptic and nonsynaptic activity. Y. BUSKILA; J. C. TAPSON\*; J. MORLEY; A. VAN SCHAİK. *Univ. of Western Sydney, Univ. of Western Sydney, Univ. of Western Sydney.*

## POSTER

### 294. Dendritic Excitability and Synaptic Integration

#### Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 B4 **294.01** Investigating spiking resonance in computational models of oriens-lacunosum/moleculare (O-LM) hippocampal interneurons with dendritic synaptic inputs. V. SEKULIC\*; J. J. LAWRENCE; F. K. SKINNER. *Univ. Hlth. Network, Univ. of Toronto, Texas Tech. Univ. Hlth. Sci. Ctr., Univ. of Toronto.*
- 9:00 B17 **294.14** The interplay between synaptic and nonsynaptic activity. Y. BUSKILA; J. C. TAPSON\*; J. MORLEY; A. VAN SCHAİK. *Univ. of Western Sydney, Univ. of Western Sydney, Univ. of Western Sydney.*

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\* Indicates abstract's submitting author



- 10:00 B18 **294.15** HippoSeq: A cell class- and region-specific RNA-seq atlas of excitatory neurons in the hippocampus. N. P. SPRUSTON\*; L. WANG; K. SUGINO; B. SHIELDS; M. S. CEMBROWSKI. *Scientific Program Director and Lab. Head, Howard Hughes Med. Inst.*
- 11:00 B19 **294.16** A consistent electrophysiological model of dentate granule cells based on pharmacology to study adult-born neurons. M. BEINING\*; L. A. MONGIAT; S. SCHWARZACHER; H. CUNTZ; P. JEDLICKA. *Ernst Strüngmann Inst. (ESI) For Neurosci., Frankfurt Inst. for Advanced Studies, Goethe Univ. Frankfurt, CONICET-Universidad Nacional Comahue.*
- 8:00 B20 **294.17** Synaptic input patterns underlying dendritic computation *in vivo*. L. GOETZ; M. R. GROEN; A. ROTH\*; M. HAUSSER. *Univ. Col. London, Univ. Col. London.*
- 9:00 B21 **294.18** Dendritic serotonergic neuromodulation in the anterior cingulate cortex alleviates neuropathic pain. M. SANTELLO; A. BISCO; T. NEVIAN\*. *Univ. of Bern.*
- 10:00 B22 **294.19** Local dendritic modulation by multimodal sensory input. L. M. PALMER\*; M. E. LARKUM. *Univ. of Melbourne, Humboldt Univ.*
- 11:00 B23 **294.20** Control of spatially patterned gene expression in dendrites. A. H. WILLIAMS\*; C. O'DONNELL; T. SEJNOWSKI; E. MARDER; T. O'LEARY. *UC San Diego, Salk Inst. for Biol. Studies, Brandeis Univ.*
- 8:00 B24 **294.21** Active dendrites and differential calcium channel distribution allow Golgi cells to independently regulate dendritic processing and spontaneous firing. S. RÜDOLPH\*; C. HULL; W. G. REGEHR. *Harvard Med. Sch., Duke Univ. Sch. of Med.*
- 9:00 B25 **294.22** Electrophysiological properties of nodes of ranvier revealed by patch-clamp recordings from intact afferent nerve fibers of mammals. J. GU\*; H. KANDA; W. CHANG; J. LING. *Univ. of Alabama At Birmingham.*
- 8:00 B30 **295.05** Cultured astrocytes exhibit high-frequency voltage oscillations. S. THEISS\*; W. FLEISCHER; J. SLOTTA; A. SCHNITZLER. *Univ. of Duesseldorf, Univ. of Duesseldorf.*
- 9:00 B31 **295.06** Acoustic trauma-induced strial vascular degeneration is associated with motile myofibroblastic PCs. X. SHI\*, Dr.; Z. HOU; J. CAI; X. WANG; J. ZHANG. *Oregon Hlth. & Sci. Univ.*
- 10:00 B32 **295.07** The death mechanism of extracellular acidosis on neonatal rat astrocytes. Y. WANG\*; Y. CHEN; Y. LEUNG. *China Med. Univ., China Med. Univ., China Med. Univ., China Med. Univ.*
- 11:00 B33 **295.08** Modulation by metformin and AICAR of astrocytic glucose metabolism. I. ALLAMAN\*; G. GRENNINGLOH; C. BARRIERE BORGIONI; P. J. MAGISTRETTI. *EPFL/Brain Mind Inst., KAUST.*
- 8:00 B34 **295.09** ● *In vitro* reprogramming of adults rat astrocytes using SOX2. S. T. PERUZZARO\*; S. M. RAUPP; M. M. ANDREWS; M. LU; Z. NAN; J. ROSSIGNOL; G. L. DUNBAR. *Central Michigan Univ.*
- 9:00 B35 **295.10** Phenotypic changes during an endothelin-induced cell cycle in rat cortical astrocytes in culture. N. ZAFEIRAKOU; M. MELISSOURGOU; E. TSIRIMONAKI; A. GAITANAKI; N. SAKELLARIDIS; D. A. MANGOURA\*. *Biomed Res. Found Athens Acad., Natl. and Kapodistrian Univ. of Athens, Fac. of Medicine, Sch. of Hlth. Sciences, Univ. of Thessaly.*
- 10:00 B36 **295.11** Purines modulate growth of plasma membrane extensions in isolated astrocytes. M. CHISARI\*; A. SCUDERI; M. A. SORTINO. *Univ. of Catania.*
- 11:00 B37 **295.12** Functional maturation of astrocytic syncytium during postnatal development in mice hippocampus. S. ZHONG; C. M. KIYOSHI; B. MA; X. LIU; M. ZHOU\*. *Ohio State Univ., Shanghai 10th People's Hospital, Tongji Univ. Sch. of Med.*
- 8:00 B38 **295.13** Complement peptide C3a promotes astrocyte survival in response to ischemic stress. M. PEKNA\*; N. SHINJYO; Y. DE PABLO; M. PEKNY. *Univ. of Gothenburg.*
- 9:00 B39 **295.14** The examination of the distribution of proteins within complex three-dimensional astrocytes. A. L. BENEDIKTSSON\*; K. MILLOY; N. RASIAH; L. ALVIS. *Mount Royal Univ., Univ. of Calgary, Univ. of Calgary.*
- 10:00 B40 **295.15** Modeling isopotentiality in the astrocytic syncytium. R. BUCKALEW; B. MA; M. ZHOU; D. H. TERMAN\*. *Ohio State Univ.*
- 11:00 B41 **295.16** Gap junction coupling confers isopotentiality on astrocyte syncytium. B. MA\*; R. BUCKALEW; Y. DU; C. KIYOSHI; C. ALFORD; W. WANG; D. MCTIGUE; J. ENYEART; D. TERMAN; M. ZHOU. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ.*
- 8:00 B42 **295.17** Loss of GSK-3 causes abnormal astrogenesis and behavior in mice. E. JUNG; W. KIM\*. *Univ. of Nebraska Med. Ctr.*
- 9:00 B43 **295.18** Nitric oxide modulation of phosphodiesterase activity and cAMP levels in astrocytes. R. KO\*; H. B. CHOI; B. A. MACVICAR. *Univ. of British Columbia.*

**POSTER**

**295. Astrocyte Cell Biology and Modulation**

**Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 B26 **295.01** Expression of APP and its processing enzymes in glial cells of APP transgenic mice with or without Npc1 protein. A. SASSE\*. *Univ. of Alberta.*
- 9:00 B27 **295.02** Astrocytes control synapses formation and pruning: Is FGF signaling pathway involved? S. SCUDERI\*; H. E. STEVENS; S. TOMASI; F. DRAGO; F. M. VACCARINO. *Yale Univ., Univ. of Iowa, Univ. of Catania, Yale Univ., Yale Univ.*
- 10:00 B28 **295.03** Regulatory role of proinflammatory cytokines in the expression of aromatase in reactive astrocytes. J. WANG\*; R. K. VADLAMUDI; D. BRANN. *Georgia Regents Univ., Univ. of Texas Hlth. Sci. Ctr.*
- 11:00 B29 **295.04** ● The novel state of astrocyte for inducing long-term memory with contexture fear conditioning test. M. CHOI\*; H. KIM. *Seoul Natl. Univ.*

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

- 10:00 B44 **295.19** Astrocytic syncytial isopotentiality in grey matter and white matter of adult mice. S. ZHONG\*; C. M. KIYOSHI; B. MA; X. LIU; M. ZHOU. *The Ohio State Univ. Wexner Med. Ctr., Shanghai 10th People's Hospital, Tongji Univ. Sch. of Med.*
- 11:00 B45 **295.20** ● Highly purified adult astrocytes display diverse stimulus-dependent activation and cytokine secretion. H. ZHANG; M. JUNGBLUT; S. REISS; L. ZATRIEB; S. RÜBERG; L. WILLNOW; S. WILD; J. KOLLET; S. TOMIUK; R. FEKETE; A. BOSIO\*. *Miltenyi Biotec, Fluidigm Corp.*
- 8:00 B46 **295.21** Valproic acid promotes fibroblast growth factor 21 gene expression and neurite-like elongation through inhibition of HDAC2 and 3 in glial cells. Y. LENG\*; J. WANG; Z. WANG; H. LIAO; P. LEEDS; D. CHUANG. *Natl. Inst. Mental Health/NIH.*
- 9:00 B47 **295.22** ● Monoacylglycerol lipase inhibitors block astrocyte cytokine/chemokine secretions following LPS *in vitro*. S. SUTTON\*; Y. HE; N. TAYLOR; N. DERECKI; A. BHATTACHARYA; P. BONAVENTURE. *Janssen Res. & Develop., Janssen Res. & Development, LLC.*
- 10:00 B48 **295.23** Untangling GFAP via Alexander disease patient derived astrocytes. J. JONES\*; R. KRENCIK; M. DOERS; T. HAGEMANN; R. BRADLEY; M. DUBOVIS; A. MESSING; S. ZHANG. *Univ. of Wisconsin-Madison Wasiman Ctr., Univ. of California San Francisco.*
- 11:00 B49 **295.24** Astrocytes engulf apoptotic cells through the Megf10 scavenger receptor. T. IRAM\*; D. FRENKEL; J. EL KHOURY. *Sagol Sch. for Neuroscience, Tel Aviv Univ., Tal Aviv Univ., Tal Aviv Univ., Mass Gen. Hosp. and Harvard Med. Sch.*
- 8:00 B50 **295.25** Mitochondrial glutamate carrier SLC25A22 inhibition in astrocytes does not result in energy failure. F. MOLINARI\*; E. GOUBERT; Y. MIRCHEVA; F. M. LASORSA; J. C. SUTERA-SARDO; H. BECQ; F. PALMIERI; L. PALMIERI; L. ANIKSZTEJN. *INMED - INSERM U901, Lab. of Biochem. and Mol. Biol.*
- 9:00 B51 **295.26** Regulation of mitochondrial respiration in astrocytes. I. JUARISTI; A. DEL ARCO; J. A. ESTEBAN\*; J. SATRUSTEGUI; I. LLORENTE-FOLCH. *Dept. de Biología Molecular, Ctr. de Biología Mol. Severo Ochoa, Consejo Superior de Dept. de Investigaciones Científicas-Universidad Autónoma de Madrid (CSIC-UAM), Ctr. de Investigación Biomédica en Red de Enfermedades Raras (CIBERER), Inst. de Investigación Sanitaria Fundación Jiménez Díaz (IIS-FJD), Ctr. regional de Investigaciones Biomédicas, Facultad de Ciencias Ambientales y Bioquímica, Univ. de Castilla La Mancha, Ctr. De Biología Mol. Severo Ochoa.*
- 10:00 B52 **295.27** Astrocytic mitochondria undergo delayed fragmentation and degradation in response to an *in vitro* model of ischemia/reperfusion injury. J. C. O'DONNELL\*; J. G. JACKSON; M. B. ROBINSON. *Univ. of Pennsylvania, Children's Hosp. of Philadelphia.*
- 11:00 B53 **295.28** Acute exposure to methamphetamine decreases activity of K2P channels and voltage-gated K<sup>+</sup> channels in primary human fetal astrocytes. S. DAVE\*; C. YU; C. E. KHODR; M. SEATON; L. CHEN; L. AL-HARTHI; X. HU. *Rush Univ. Med. Ctr.*
- 8:00 B54 **295.29** Robust and reliable Ca<sup>2+</sup> response in microdomains of astrocytes. R. GARCIA\*; R. RIKHYE; M. SUR. *MIT.*
- 9:00 B55 **295.30** Modulators of the activity threshold for evoked astrocyte Ca<sup>2+</sup> signals during neurovascular coupling. A. INSTITORIS\*; G. R. GORDON. *Univ. Of Calgary, Univ. of Calgary.*

## POSTER

### 296. Astrocyte-Neuron Interactions I

#### Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 B56 **296.01** *Drosophila* astrocytes transport glutamate at identified synapses. S. E. MACNAMEE\*; K. E. LIU; S. GERHARD; R. D. FETTER; L. P. TOLBERT; A. CARDONA; L. A. OLAND. *Univ. of Arizona, HHMI Janelia Res. Campus, Univ. of Zurich and ETH Zurich.*
- 9:00 B57 **296.02** ▲ Modulation of neural activity affects astrocyte morphology in *Drosophila*. J. CHARLTON; C. TRAN; S. MACNAMEE; L. P. TOLBERT; L. A. OLAND\*. *Univ. of Arizona.*
- 10:00 B58 **296.03** ▲ Morphological analysis of astrocyte-like glial cells in the *Drosophila* ventral nerve cord. E. HERNANDEZ; K. LANCE; J. CHARLTON; S. MACNAMEE; L. A. OLAND; L. P. TOLBERT\*. *Univ. of Arizona.*
- 11:00 B59 **296.04** Comparative effects of methylmercury on type 1 cerebellar and cortical astrocytes. R. JAIMAN\*; W. D. ATCHISON. *Michigan State Univ.*
- 8:00 B60 **296.05** ● Neuronal activity controls astrocyte proliferation through NMDA receptor signaling. Y. CHEN\*; M. WEBER; F. CHU; Z. MODRUSAN; J. KAMINKER; M. SHENG. *Genentech INC, Roche Group, Chinese Acad. of Sciences, SIOC.*
- 9:00 B61 **296.06** ▲ Astrocytes affect the electrical activities of neurons to sound in medial geniculate body. X. SUN\*; M. HUANG. *Hangzhou Normal Univ., Hangzhou Normal Univ.*
- 10:00 B62 **296.07** NF-κB-mediated regulation of astrocyte-secreted signals affects the neurogenic potential of adult hippocampal neural progenitors. V. BORTOLOTTI; S. CVIJETIC; M. MANFREDI; E. RANZATO; E. MARENGO; P. L. CANONICO; M. GRILLI\*. *DSF, Univ. of Piemonte Orientale Amedeo Avogadro, DISIT, Univ. of Piemonte Orientale Amedeo Avogadro, Univ. of Piemonte Orientale Amedeo Avogadro.*
- 11:00 B63 **296.08** Are astrocytes involved in extending serotonin-mediated neuromodulatory actions to every synapse? E. QUON; L. K. BEKAR\*. *Univ. of Saskatchewan.*
- 8:00 B64 **296.09** Role of astrocytic Ca<sup>2+</sup> signaling in structural synaptic plasticity. P. RAGUNATHAN\*; Y. JUNG; A. DUNAEVSKY. *Munroe-Meyer Institute, Univ. of Nebraska Med. Ctr.*
- 9:00 B65 **296.10** Reduced rate of glutamate clearance by astrocytes at cortical excitatory synapses in a mouse model of familial hemiplegic migraine type 2. C. CAPUANI; A. TOTTENE; G. CRIVELLARO; P. PIZZO; M. MELONE; L. BRIGINA; G. CASARI; F. CONTI; D. PIETROBON\*. *Univ. Padova, Università Politecnica delle Marche, Università Vita Salute San Raffaele.*

- 10:00 B66 **296.11** Astrocytic ALDH7A1 dysfunction in the pathophysiology of neuropsychiatric disorders. T. E. FAUST\*; T. CASH-PADGETT; D. WOOD; S. ZOUBOVSKY; H. JAARO-PELED; A. SAWA. *Johns Hopkins Univ. SOM, Johns Hopkins Univ. SOM.*
- 11:00 B67 **296.12** Astrocytic modulation of striatal neurotransmission and endocannabinoid-signaling in Wistar rats. L. ADERMARK\*; F. IVARSSON; A. LOTFI. *Addiction Biol. Unit.*
- 8:00 B68 **296.13** 3D Ca<sup>2+</sup> imaging provides new insight into the biology of astrocytes. E. BINDOCCI; N. LIAUDET; I. SAVTCHOUK; C. DÜRST; D. BECKER; A. AGARWAL; D. E. BERGLES; A. VOLTERRA\*. *Univ. of Lausanne, Johns Hopkins Univ. Sch. of Med.*
- 9:00 B69 **296.14** Expansion of astrocytic processes and reduction of extracellular space volume through activation of  $\beta$ -adrenergic receptors in rat visual cortex. A. D. SHERPA\*; F. XIAO; N. JOSEPH; C. AOKI; S. HRABETOVA. *SUNY Downstate Med. Ctr., Herrick High Sch., New York Univ.*
- 10:00 B70 **296.15** Changes to AMPAR-mediated glutamatergic signaling at neuron-glia synapses in developing corpus callosum. B. T. KULA\*; A. HOVHANNISYAN; T. CHEN; B. NAGY; M. KUKLEY. *Werner Reichardt Ctr. For Integrative Neurosci., Univ. of California.*
- 11:00 B71 **296.16** Astrocytic K<sup>+</sup> buffering as a mechanism to modulate neuronal oscillations. J. W. MORLEY\*; Y. BUSKILA. *Univ. of Western Sydney.*
- 8:00 B72 **296.17** Potassium efflux through postsynaptic NMDA receptors suppresses astrocytic glutamate uptake. O. TYURIKOVA\*; P. SHIH; L. SAVTCHENKO; D. RUSAKOV; A. SEMYANOV. *Univ. of Nizhny Novgorod, Purdue Univ., UCL Inst. of Neurol.*
- 9:00 B73 **296.18** Subcellular distribution of aquaporin-4 in the human cortex: A study using immunogold electron microscopy. V. A. EIDSVAAG; R. ENGER; A. E. THOREN; K. HEUSER; P. K. EIDE; E. A. NAGELHUS\*. *Oslo Univ. Hosp., Univ. of Oslo, Oslo Univ. Hosp., Univ. of Oslo, Univ. of Oslo.*
- 10:00 B74 **296.19** Abnormal astrocytic Ca<sup>2+</sup> signaling in the sclerotic hippocampus of awake mice: A two-photon imaging study using the intracortical kainate injection model of mesial temporal lobe epilepsy. R. ENGER\*; K. HEUSER; C. NOME; W. TANG; V. JENSEN; P. J. HELM; K. VERVAEKE; P. BEDNER; C. STEINHÄUSER; E. TAUBØLL; E. A. NAGELHUS. *Univ. of Oslo, Oslo Univ. Hospital, Rikshospitalet, Univ. of Oslo, Univ. of Bonn, Inst. of Cell. Neurosciences.*
- 11:00 B75 **296.20** Lactate dehydrogenase is an electrical regulator in astrocyte-neuron lactate shuttle of the hippocampus. T. INOUE\*; N. SADA. *Okayama Univ.*
- 8:00 B76 **296.21** Astrocyte glutamate and metabolic abnormalities in Juvenile Batten Disease. M. BOSCH\*; T. KIELIAN. *Univ. of Nebraska Med. Ctr.*
- 9:00 B77 **296.22** Astroglial type-1 cannabinoid receptors (CB1) are necessary for object recognition memory and synaptic plasticity. L. M. ROBIN\*; J. F. OLIVEIRA DA CRUZ; V. C. LANGLAIS; A. BUSQUETS-GARCIA; E. SORIA-GOMEZ; F. DRAGO; A. PANATIER; F. GEORGES; M. METNA-LAURENT; S. OLIET; G. MARSICANO. *Neurocentre Magendie, Univ. of Bordeaux, Univ. of Catania.*
- 10:00 B78 **296.23** The role of astrocytic versus neuronal cannabinoid receptors in developmental plasticity of the visual cortex. R. MIN\*; B. LUTZ; G. MARSICANO; C. N. LEVELT. *Netherlands Inst. for Neurosci., Univ. Med. Ctr. of the Johannes Gutenberg Univ., INSERM U862 NeuroCentre Magendie.*
- 11:00 B79 **296.24** Somatostatin and parvalbumin interneuron signalling to astrocytes. L. MARIOTTI; G. LOSI; M. SESSOLO; I. MARCON; S. BOVETTI; T. FELLIN; G. CARMIGNOTO\*. *Neurosci. Institute, CNR and Univ. of Padova, Inst. Italiano di Tecnologia.*
- 8:00 B80 **296.25** Role of astrocytic coupling in rhythmogenesis in rat trigeminal neurons involved in mastication. S. CONDAMINE\*; R. LAVOIE; A. KOLTA. *Univ. De Montréal, Douglas Mental Hlth. Res. Inst.*
- 9:00 B81 **296.26** Unique Ca<sup>2+</sup> responses of subpial and perivascular astrocytic endfeet to hypo-osmotic stress: A two-photon imaging study using acute cortical slices from adult mice. M. EILERT-OLSEN\*; V. JENSEN; R. ENGER; P. J. HELM; T. WANNAN; A. E. THOREN; E. A. NAGELHUS. *Univ. of Oslo, Inst. of Basic Med. Sci., Oslo Univ. Hospital, Rikshospitalet, Ctr. for Mol. Med. Norway, Univ. of Oslo.*
- 10:00 B82 **296.27** ● ▲ Volume dynamics of astroglial endfeet during cortical spreading depression in adult mice: An *in vivo* two-photon imaging study. D. B. DUKEFOSS\*; B. ROSIC; V. JENSEN; A. THOREN; R. ENGER; E. A. NAGELHUS. *Univ. of Oslo, Inst. of Basic Med. Sci., Oslo Univ. Hosp.*
- 11:00 B83 **296.28** A computational model of purinergic modulation of synaptic transmission by astrocytes. A. G. PILLAI\*; S. NADKARNI. *IISER Pune.*
- 8:00 B84 **296.29** *In vivo* exosome-mediated transfer of microRNA from neuron to astroglia. N. H. BOWENS\*; J. YELICK; Y. YANG. *Tufts Univ.*
- 9:00 B85 **296.30** Neurons diversify astrocytes in the adult brain through Sonic Hedgehog signaling. W. T. FARMER\*; T. ABRAHAMSSON; S. CHIERZI; C. LUI; E. JONES; B. PONROY; J. PENG; F. CHARRON; P. SJOSTROM; K. MURAI. *McGill Univ., Inst. de Recherches Cliniques de Montréal.*

**POSTER**

**297. Astrocyte-Neuron Interactions II**

**Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 B86 **297.01** Calcium imaging of cocultured GABAergic interneurons with FGFR1 knock out astrocytes. D. J. ROGERS\*; M. JACKSON; H. TORRES; B. FORET; G. WATSON; K. M. SMITH. *Univ. of Louisiana at Lafayette, Univ. of Louisiana at Lafayette.*
- 9:00 B87 **297.02** Retroaxonal barrage firing in NPY interneurons of the hippocampus: A role for astrocytes. T. DEEMYAD\*; N. SPRUSTON. *Howard Hughes Med. Institute/Janelia Farm, Howard Hughes Med. Institute/Janelia.*

• Indicated a real or perceived conflict of interest, see page 160 for details.  
▲ Indicates a high school or undergraduate student presenter.  
\* Indicates abstract's submitting author

- 10:00 B88 **297.03** Fibroblast growth factor receptor signaling in astrocytes. K. M. SMITH\*; L. B. RUBIN; L. CHOUBEY; J. COLLETTE; R. R. H. DEEGAN; F. M. VACCARINO. *Univ. of Louisiana At Lafayette, Univ. of Louisiana At Lafayette, Yale Univ. Sch. of Med., Yale Univ. Sch. of Med.*
- 11:00 B89 **297.04** Dissecting the role of IP3-Receptor subtypes in hippocampal LTP. M. W. SHERWOOD\*; M. ARIZONO; C. HISATSUNE; H. BANNAI; E. EBISUI; J. L. SHERWOOD; A. PANATIER; S. H. R. OLIET; K. MIKOSHIBA. *INSERM U862, Univ. de Bordeaux, RIKEN Brain Sci. Inst., Nagoya Univ., Harvard Univ.*
- 8:00 B90 **297.05** TNF $\alpha$  suppresses drug induced synaptic plasticity and behavior. S. C. KONEFAL\*; G. M. LEWITUS; K. AUGEREAU; S. CHERZI; K. MURAI; D. STELLWAGEN. *McGill Univ., McGill Univ.*
- 9:00 B91 **297.06** The influence of immune and endocrine signaling on the neuroanatomy of the bed nucleus of the stria terminalis. R. KHALID\*; J. A. FOSTER. *McMaster Univ., St. Joseph's Healthcare, Brain Body Inst.*
- 10:00 B92 **297.07** Glial miRNA regulates Progesterone's neuroprotective function by altering the PGRMC1/KLF4 signaling. T. NGUYEN\*; M. SINGH; C. SU. *Univ. of North Texas Hlth. Sci. Ctr.*
- 11:00 B93 **297.08** D-Serine promotes synapse maturation and axonal branch stabilization in the developing visual system of the *Xenopus* tadpole. M. VAN HORN\*; L. POLLEGIONI; E. RUTHAZER. *McGill Univ., Univ. of Insubria.*
- 8:00 B94 **297.09** EphB3 receptors control synaptic NMDAR functions. V. C. LANGLAIS\*; S. H. R. OLIET; A. PANATIER. *Neurocentre Magendie INSERM U862.*
- 9:00 B95 **297.10** Astrocyte neuron interactions in synchronous bursting behavior. K. R. SANCHEZ; M. TEMBURNI\*; M. HARRINGTON. *Delaware State Univ.*
- 10:00 B96 **297.11** Measurement of H<sup>+</sup> fluxes from cultured rat cortical astrocytes using self-referencing H<sup>+</sup>-selective microelectrodes. J. CHOI\*; C. GOEKE; M. GUIZZETTI; R. P. MALCHOW. *Univ. of Illinois At Chicago, Univ. of Illinois at Chicago, Oregon Hlth. & Sci. Univ., VA Portland Hlth. Care Syst., Univ. of Illinois at Chicago.*
- 11:00 B97 **297.12** Directed differentiation of human induced pluripotent stem cells to astrocytes for the study of spinal muscular atrophy. S. LOH\*; L. W. STANTON. *Genome Inst. Singapore, Nanyang Technological Univ.*
- 8:00 B98 **297.13** ● Determining the role of TREM-2 in cerebral ischemic reperfusion injury. Y. TANG\*; X. RONG; P. XU; Y. XU; R. WU. *Sun Yat-Sen Mem. Hospital, Sun Yat-Sen Univ.*
- 9:00 B99 **297.14** Model of electro-metabolic coupling of the neuro-glia-vasculature in the cerebral cortex explores role of the glycogen shunt. J. S. COGGAN\*; D. KELLER; J. G. KING; C. CALI; H. LEHVASLAIHO; F. SCHÜRMANN; H. MARKRAM; P. J. MAGISTRETTI. *Blue Brain Project / EPFL, King Abdullah Univ. of Sci. and Technol.*
- 10:00 B100 **297.15** Astrocytic lesions that spare neurons in the nucleus tractus solitarius interfere with cardiorespiratory control. G. B. RICHERSON; D. N. DRAGON; S. JONES; Y. WU; W. T. TALMAN\*. *Carver Col. of Medicine, Univ. Iowa, Carver Col. of Medicine, Univ. Iowa, Dept. of Veterans Affairs Med. Ctr.*
- 11:00 B101 **297.16** Cellular contributions of gap junctions to gamma oscillations in the hippocampus. A. D. JOHNSTON\*; B. S. KHAKH. *UCLA.*
- 8:00 B102 **297.17** Pyruvate carboxylase rate determined in awake rats using [2-13C]glucose. L. F. MCNAIR\*; G. F. MASON; H. S. WAAGEPETERSEN; K. L. BEHAR. *Univ. of Copenhagen, Yale Univ. Sch. of Med., Yale Univ. Sch. of Med.*
- 9:00 B103 **297.18** Astrogliosis: Changes in astrocyte KIR expression and function in Alzheimer's. L. M. OSBORN\*; L. KOOIJMAN; W. KAMPHUIS; W. J. WADMAN; E. M. HOL. *Univ. of Amsterdam, Netherlands Inst. for Neurosci., Univ. Med. Ctr. Utrecht.*
- 10:00 B104 **297.19** Specific expression and function of the metabolic master regulator PGC-1 $\alpha$  in the brain. H. BAYER\*; E. BARTH; T. LUCAS; I. MERDIAN; P. WEYDT; A. WITTING. *Ulm Univ., Ulm Univ.*

## POSTER

### 298. Microglia

#### Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 B105 **298.01** Status epilepticus increases microglial engulfment of newborn cells. C. LUO\*; K. RYUTA; Y. IKEGAYA. *The Univ. of Tokyo.*
- 9:00 B106 **298.02** Microglial modulation affect respiratory rhythm generation and autoresuscitation. J. LOREA\*; T. MORALES; F. PEÑA. *Univ. Nacional Autónoma De México (UNAM), Univ. Nacional Autónoma De México (UNAM).*
- 10:00 B107 **298.03** Microglia rapidly adopt a filopodia-rich phenotype upon oxygen depletion by sensing tissue acidosis. L. BERNIER\*; L. DISSING-OLESEN; J. K. HEFENDEHL; J. M. LEDUE; B. A. MACVICAR. *Univ. of British Columbia.*
- 11:00 B108 **298.04** Selective inhibition of sEH phosphatase function attenuates oxygen-glucose deprivation/reperfusion-induced microglial activation. H. LEE\*. *No 155, Section 2, Li-Nong Street, Natl. Yang-Ming Univ.*
- 8:00 B109 **298.05** Annexin-1 promotes microglial activation and migration during oxygen-glucose deprivation/reperfusion via formyl peptide receptors. L. LIU\*; Y. GAO; S. LIU; J. SHI. *Tongji Med. College, HUST.*
- 9:00 B110 **298.06** The induction of hippocampal long-term potentiation increases the motility of microglial processes and their engagement with dendritic spines. T. PFEIFFER\*; E. AVIGNONE; V. NAGERL. *Interdisciplinary Inst. For Neurosci.*

10:00 B111 **298.07** Erythropoietin attenuated the microglial cytotoxicity. T. TAMURA\*; M. AOYAMA; H. KAKITA; S. UKAI; K. SOBUE; K. ASAI. *Nagoya City Univ., Nagoya City Univ., Nagoya City Univ. Grad. Sch. of Med. Sci., Nagoya City Univ. Grad. Sch. of Med. Sci., Nagoya City Univ. Grad. Sch. of Med. Sci.*

11:00 B112 **298.08** Control of microglia reactivity elicited by elevated hydrostatic pressure through A2A receptor blockade. A. F. AMBROSIO\*; I. AIRES; C. NEVES; R. BOIA; M. H. MADEIRA; A. R. SANTIAGO. *AIBILI NIF 502288957, Inst. for Biomed. Imaging and Life Sci. (IBILI), Fac. of Medicine, Univ. of Coimbra, CNC.IBILI, Univ. of Coimbra, Assn. for Innovation and Biomed. Res. on Light and Image (AIBILI).*

8:00 C1 **298.09** ● MicroRNA including exosome shuttling as a mechanism of neuron-microglia communication. E. A. OLD\*; M. MALCANGIO. *King's Col. London.*

9:00 C2 **298.10** Acute effects of glutamate on brain and spinal microglia. S. BASKAR JESUDASAN\*; M. CHURCHWARD; K. G. TODD; I. R. WINSHIP. *Univ. of Alberta, Univ. of Alberta.*

10:00 C3 **298.11** Microglia establish region specific phenotypes in the basal ganglia and exhibit variable responses to normal aging. L. M. DE BIASE\*; Z. H. FUSFELD; K. E. SCHUEBEL; K. JAIR; H. ZHANG; Q. LIU; S. P. RIBEIRO; R. CIMBRO; I. A. HAWES; H. SHEN; Z. XI; D. GOLDMAN; A. BONCI. *Natl. Inst. on Drug Abuse, Natl. Inst. on Alcohol Abuse and Alcoholism, Johns Hopkins Sch. of Med.*

11:00 C4 **298.12** Early inflammation dysregulates neural circuit formation *in vivo* via microglial activation and IL-1 $\beta$ . N. FAROOQI\*; J. P. ANTEL; E. S. RUTHAZER. *McGill Univ.*

8:00 C5 **298.13** Metabolic Stress and Survival of Microglia. M. A. CHURCHWARD\*; K. G. TODD. *Univ. of Alberta.*

9:00 C6 **298.14** LPS enhanced M2-polarized macrophages/microglia promote robust remyelination in lysocleithin demyelination injury. M. K. MISHRA\*; K. RAWJI; M. B. KEUOGH; Y. FAN; V. W. YONG. *Univ. of Calgary.*

10:00 C7 **298.15** Pharmacological depletion of microglia attenuates experimental autoimmune encephalomyelitis. J. NISSEN\*; S. E. TSIRKA. *Stony Brook Univ.*

11:00 C8 **298.16** *In vivo* activating microglia imaging in multiple sclerosis using PET with DPA-713. S. KONO\*; T. TERADA; Y. OUCHI; H. MIYAJIMA. *Hamamatsu Univ. Sch. of Med., Hamamatsu Univ. Sch. of Med.*

8:00 C9 **298.17** Selective manipulation of spinal microglia by chemogenetics: Implications for allodynia and inflammatory signaling. P. M. GRACE\*; X. WANG; D. J. URBAN; M. V. BARATTA; E. L. GALER; K. A. STRAND; Y. ZHANG; H. YIN; B. L. ROTH; S. F. MAIER; L. R. WATKINS. *Univ. of Colorado, Boulder, Univ. of North Carolina.*

9:00 C10 **298.18** Intracellular calcium dynamics in cortical microglia responding to focal laser injury. P. TVRDIK\*; A. POZNER; B. XU; S. PALUMBOS; J. GEE; M. R. CAPECCHI. *Univ. of Utah.*

10:00 C11 **298.19** Macrophages and microglia that phagocytose myelin debris acquire a unique activation status and produce factors that stress axons. M. M. STANDIFORD\*; C. L. HOWE. *Mayo Grad. Sch.*

11:00 C12 **298.20** CSF from progressive MS patients stimulates microglial activation pathways *in vitro* and *in vivo*. M. CRISTOFANILLI\*; K. MCDERMOTT; B. PAGANO; D. GRATCH; S. A. SADIQ. *Tisch MS Res. Ctr. of New York.*

8:00 C13 **298.21** ● Triggering a moderate brain inflammatory response by MPL or Pam3Cys preserve normal performance in a rat model of Alzheimer's disease. H. G. BADIE\*; M. SAYYAH; B. KHOSHKHOLGH-SIMA; S. CHOOPANI; M. SHOKRGOZAR. *Neurosci. Res. Ctr., Pasteur Inst. of Iran, Pasteur Inst. of Iran.*

**POSTER**

**299. Neuropharmacology and Neurotransmission in Dementia**

**Theme C: Disorders of the Nervous System**

Mon. 8:00 AM – McCormick Place, Hall A

8:00 C14 **299.01** ▲ The effect of polysaccharide of cistanche deserticola on synaptic plasticity in mice. G. LI\*; M. GUO; H. ZHANG; Y. WU; R. YIN. *Inner Mongolian Med. Univ.*

9:00 C15 **299.02** Neurochemical characterization of xanomeline and a selective muscarinic M4 receptor positive allosteric modulator in the rat and non-human primate. M. KANDEBO\*; J. MARCUS; M. STRANIERI MICHENER; B. E. SMITH; S. M. SMITH; L. YAO; J. A. MORROW. *Merck & Co., Inc., Merck & Co., Inc., Merck & Co., Inc., Merck & Co., Inc.*

10:00 C16 **299.03** Role of Somatostatin in RA induced neurogenesis of SH-SY5Y cells and  $\beta$ A induced toxicity. S. PAIK; R. K. SOMVANSHI; U. KUMAR\*. *Univ. of British Columbia.*

11:00 C17 **299.04** ● Centrally acting non-narcotic antitussives improve A $\beta$ 25-35 induced cognitive deficits in mice. R. KAWAHARA\*; F. SOEDA; S. MISUMI; K. TAKAHAMA. *Dept. Env. Mol. Health. Sci. Grad. Sch. Pharm. Sci., Kumamoto Univ., Program for Leading Grad. Sch. "HIGO Program", Kumamoto Univ., Res. Inst. for Drug Discovery Sch. of Pharm. Kumamoto Univ., Kumamoto Hlth. Sci., Univ.*

8:00 C18 **299.05** CB2 receptors are not required in ameliorating Alzheimer's disease neuropathology by inhibition of MAGL. J. ZHANG; C. CHEN\*. *LSU Hlth. Sci. Ctr., LSU Hlth. Sci. Ctr.*

9:00 C19 **299.06** L-3-n-butylphthalide improves cognitive impairment in APP/PS1-AD transgenic mouse model by enhancing neurogenesis. Y. PENG\*; H. LEI; Y. ZHANG; S. XU; J. LI; L. WANG; X. WANG. *Inst. of Materia Medica.*

10:00 C20 **299.07** Transient receptor potential ankyrin 1 (TRPA1) is important for A $\beta$ O-induced toxicity: A new perspective for Alzheimer's disease? M. A. BICCA\*; E. C. S. SANTOS; K. L. VIOLA; G. LOCH-NECKEL; W. L. KLEIN; J. B. CALIXTO. *UFSC - Univ. Federal de Santa Catarina, Northwestern Univ.*

11:00 C21 **299.08** ● Therapeutic effect of novel cholinesterase inhibitor 6-chlortacrine on cognitive deficit induced by 3-quinuclidinyl benzilate in rats performing the water maze task. J. MISIK\*; M. HRABINOVA; J. KORABECNY; E. NEPOVIMOVA; O. SOUKUP; K. KUCA; J. KASSA. *Fac. of Military Hlth. Sci., Fac. of military health sciences, Fac. of Military Hlth. Sci., Fac. Hosp.*

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

- 8:00 C22 **299.09** Isopimaric acid protects hippocampal neural injury and improves learning-memory deficits in APP/PS1 mice. L. WANG\*; Z. LIU; J. JIA; Z. TANG; Y. SHUI; J. JIAO. *China-Japan Friendship Hosp., Dept. of Neurology, China-Japan friendship hospital, Dept. of Physiology, Capital Med. Univ., Dept. Med. Genetics, Capital Med. Univ., Pain Mgmt. Center, China-Japan friendship hospital, Dept. of Neurology, China-Japan friendship hospital.*
- 9:00 C23 **299.10** Deficits in Morris water maze performance exacerbated by minimal neocortical injury in a mouse model of Alzheimer's disease. N. KATO\*; J. ZOU. *Dept Physiol, Kanazawa Med. Univ.*
- 10:00 C24 **299.11** ▲ Low-dose ketamine, spine density and cognition in a mouse model of Alzheimer's disease. J. SMITH; P. N. PALLIER; A. T. MICHAEL-TITUS; G. J. MICHAEL\*. *Barts & London SMD.*
- 11:00 C25 **299.12** ● Activation of  $\alpha 7$  nACh receptors in A $\beta$  overproducing transgenic mice augments hippocampal theta oscillation. M. STOILJKOVIC\*; D. NAGY; G. P. HAJOS; C. KELLEY; G. KOENIG; T. PISER; L. LEVENTHAL; M. HAJÓS. *Yale Univ. Sch. of Med., FORUM Pharmaceuticals Inc.*
- 8:00 C26 **299.13** The role of the locus coeruleus projection system in neuronal and cerebrovascular dysfunction in preclinical AD. S. C. KELLY\*; E. J. MUFSON; P. T. NELSON; S. E. COUNTS. *Michigan State Univ., Michigan State Univ., Barrow Neurolog. Inst., Univ. of Kentucky, Michigan State Univ., Mercy Hlth. St. Mary's.*
- 9:00 C27 **299.14** Somatostatin receptor subtype-4 agonist enhances learning and memory in aged SAMP8 mice. K. A. WITT\*; A. M. CRIDER; J. E. MORLEY; S. A. FARR; K. E. SANDOVAL. *Southern Illinois Univ. Edwardsville, Southern Illinois Univ. Edwardsville Sch. of Pharm., St. Louis Univ. Sch. of Med.*
- 10:00 C28 **299.15** Quercetin protects against the A $\beta$ -induced amnesic injury through inhibiting RAGE-mediated pathway and preserving the neurovascular unit. R. LIU\*; D. ZHOU; X. BAI; C. HUANG; J. SONG; G. DU. *Inst. of Materia Medica, Chinese Acad. of Me.*
- 11:00 C29 **299.16** Changes in the purinergic and glutamatergic neurotransmission in a model of Alzheimer's disease modulated by P2X receptors. F. SÁEZ-ORELLANA\*; P. A. GODOY; T. SILVA-GRECCHI; K. M. BARRA; J. FUENTEALBA. *Univ. De Concepción.*
- 8:00 C30 **299.17** Impact of 17-beta estradiol (E2) loss on hippocampal synaptic function in an Alzheimer's disease rat model and the role of GluN2B-NMDARs. L. A. SMITH\*; T. TOWN; L. L. MCMAHON. *Univ. of Alabama, Birmingham (UAB), Zilkha Neurogenetic Inst.*
- 9:00 C31 **299.18** Early LTP deficits in 3xTg mice are restored by D-serine. J. VERAN\*; A. PANATIER; G. BONVENTO; S. H. R. OLIET. *Neurocentre Magendie, CEA.*
- 10:00 C32 **299.19** AMPA-receptor subunit composition determines the susceptibility of synapses and memory to amyloid-beta. N. R. REINDERS\*; Y. PAO; M. C. RENNER; R. MALINOW; H. W. KESSELS. *Netherlands Inst. of Neurosci., Univ. of California.*
- 11:00 C33 **299.20** Cell signaling proteins in the early phase of Alzheimer's disease. M. A. ANSARI\*; E. J. MUFSON; S. W. SCHEFF. *Univ. Kentucky, Barrow Neurol. Inst., Univ. of Kentucky.*

## POSTER

### 300. Synaptic Pathology in Alzheimer's Disease

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 C34 **300.01** Alzheimer's disease pathology in aged chimpanzees. M. K. EDLER\*; P. R. HOF; E. J. MUFSON; W. D. HOPKINS; J. J. ELY; S. E. PEREZ; J. M. ERWIN; C. C. SHERWOOD; M. A. RAGHANTI. *Kent State Univ., Icahn Sch. of Med. at Mount Sinai, Barrow Neurolog. Inst., Yerkes Natl. Primate Res. Ctr., Georgia State Univ., MAEBIOS-TM, Rush Univ., The George Washington Univ., Kent State Univ.*
- 9:00 C35 **300.02** Aggravated post-traumatic epileptogenesis associates with acquired channelopathy in the perilesional cortex of APP/PS1 mouse model of Alzheimer's disease. D. MISZCZUK\*; K. J. DęBSKI; H. TANILA; K. LUKASIUK; A. PITKANEN. *Nencki Inst. of Exptl. Biol., A. I. Virtanen Inst. for Mol. Sciences, Univ. of Eastern Finland.*
- 10:00 C36 **300.03** The development and characterisation of a high-throughput assay for evaluation of neuronal excitability and synaptic function in neuronal models of Alzheimer's disease. J. K. VIRDEE\*; Y. SINHA; S. GLOVER; F. FERRERIA; M. O'NEILL; J. WOLAK; D. URSU. *Eli Lilly and Co.*
- 11:00 C37 **300.04** Understanding the melanocortin circuit in the mouse hippocampus. Y. SHEN\*; M. TIAN; Y. ZHENG; A. K. Y. FU; N. IP. *The Hong Kong Univ. of Sci. and Technol., The Hong Kong Univ. of Sci. and Technol., The Hong Kong Univ. of Sci. and Technol.*
- 8:00 C38 **300.05** Melanocortin 4 receptor signaling modulation ameliorates synaptic dysfunction in Alzheimer's disease models. M. TIAN\*; Y. SHEN; E. Y. L. CHENG; A. K. Y. FU; N. Y. IP. *The Div. of Life Science, Mol. Neurosci. Ctr., State Key Lab. of Mol. Neurosci.*
- 9:00 C39 **300.06** The EphA4 inhibitor rynchophylline ameliorates disease pathology in a mouse model of Alzheimer's disease. W. FU\*; B. BUTT; K. HUNG; F. C. F. IP; A. K. Y. FU; N. Y. IP. *Hong Kong Univ. of Sci. and Technol., Hong Kong Univ. of Sci. and Technol., Hong Kong Univ. of Sci. and Technol.*
- 10:00 C40 **300.07** Establishing the role of eukaryotic elongation factor-2 kinase (eEF2K) in Alzheimer's disease and relevance for therapies. A. JAN\*; G. LEPRIVIER; S. SOMASEKHARAN; M. VANDAL; F. CALON; M. HAYDEN; P. SORENSEN. *BC Cancer Agency, Univ. of Laval, Ctr. for Mol. Med. and Therapeut. (CMMT).*
- 11:00 C41 **300.08** Liraglutide protects the brains of macaques against synapse loss caused by A $\beta$  oligomers. A. F. BATISTA\*; L. FORNY-GERMANO; N. M. LYRA E SILVA; J. BRITO-MOREIRA; M. GRALLE; S. BOEHNKE; B. COE; A. LABLANS; C. HOLSCHER; S. MARQUES; A. BLANCO MARTINEZ; W. KLEIN; J. HOUZEL; S. FERREIRA; D. MUNOZ; F. DE FELICE. *Federal Univ. of Rio de Janeiro, Queen's Univ., Lancaster Univ., Northwestern Univ.*
- 8:00 C42 **300.09** Enhanced acetylation of tau in Alzheimer's disease causes deficits in synaptic plasticity and memory formation. T. E. TRACY\*; P. SOHN; S. MINAMI; C. WANG; Y. ZHOU; D. LE; Y. LI; I. LO; R. PONNUSAMY; B. W. GIBSON; L. ELLERBY; L. GAN. *Gladstone Inst. of Neurolog. Dis., UCSF, Buck Inst.*

- 9:00 C43 **300.10** Dysregulation of eukaryotic elongation factor 1A expression and synaptic plasticity impairments in Alzheimer's disease. B. C. BECKELMAN\*; T. MA. *Wake Forest Sch. of Med., Wake Forest Sch. of Med., Wake Forest Sch. of Med., Wake Forest Sch. of Med.*
- 10:00 C44 **300.11** Modeling of normal and pathological synaptic plasticity related to amyloid beta effects. P. ÉRDI\*; T. MATSUZAWA; M. GHANNAM; L. ZALÁNYI. *Kalamazoo Col., Kalamazoo Col., Wigner RCP, RMI, Hung. Acad. Sci.*
- 11:00 C45 **300.12** Analysis of synaptic-related miRNAs expression in experimental models of Alzheimer's disease. A. MIÑANO-MOLINA; D. SIEDLECKI; A. OTXOA DE AMÉZAGA; J. CATALA; C. SAURA; J. RODRIGUEZ-ALVAREZ\*. *Inst. De Neurociencias/ UAB, CIBERNED.*
- 8:00 C46 **300.13** Oxidative stress and synaptic protein loss in preclinical Alzheimer's disease. S. W. SCHEFF\*; M. A. ANSARI; E. J. MUFSON. *Univ. Kentucky, Barrow Neurolog. Inst.*
- 9:00 C47 **300.14** Soluble A $\beta$  oligomers disrupt homeostasis of synaptic vesicle pool among synapses by inhibiting interboutonal synaptic vesicle movements. D. PARK; M. NA; S. CHANG\*. *Seoul Natl. Univ. Col. of Med., Seoul Natl. Univ. Col. of Med., Seoul Natl. Univ. Col. of Med.*
- 10:00 C48 **300.15** Early synaptic deficits in Alzheimer's disease involve neuronal adenosine A2A receptors. S. VIANA DA SILVA\*; M. G. HABERL; P. BETHGE; C. LEMOS; A. FRICK; V. NÄGERL; R. A. CUNHA; C. MULLE. *CNRS IINS UMR 5297, BEB PhD program CNC Coimbra, Univ. of Coimbra, Univ. of Bordeaux, Neurocentre Magendie, INSERM U862, Univ. of Bordeaux, Interdisciplinary Inst. for Neuroscience, CNRS UMR 5297, CNC-Center for Neurosci. and Cell Biology, Univ. of Coimbra.*
- 11:00 C49 **300.16** Adenosine A2A receptor blockade reverts installed deficits of hippocampal-dependent memory and synaptic plasticity in animal models of Alzheimer's disease. R. A. CUNHA\*; J. P. LOPES; C. LEMOS; A. M. CARVALHO-DA-SILVA; A. PLIASSOVA; F. Q. GONÇALVES; N. J. MACHADO; P. M. CANAS; P. AGOSTINHO. *CNC -Center For Neurosci. and Cell Biol., CNC-Center for Neurosci. and Cell Biol.*
- 8:00 C50 **300.17** Sigma-1 receptor involvement in an animal model of Alzheimer's disease. M. A. SNYDER\*; K. MCCANN; M. M. J. LALANDE; R. BERGERON. *Ottawa Hosp. Res. Inst.*
- 9:00 C51 **300.18** Effect of the pentraxins on neurons and microglia in the CNS. T. BENWAY\*; D. M. CUMMINGS; E. FOSTER; W. LIU; M. V. YASVOINA; F. A. EDWARDS; D. A. SALIH. *Univ. Col. London.*
- 10:00 C52 **300.19** Rapid modulation of protein expression in the rat hippocampus following deep brain stimulation of the fornix. E. GONDARD\*; H. N. CHAU; A. MANN; T. S. TIERNEY; C. HAMANI; S. K. KALIA; A. M. LOZANO. *Toronto Western Hosp. - Univ. of Toronto, Brigham and Women's Hospital, Harvard Med. Sch., Res. Imaging Centre, Ctr. for Addiction and Mental Hlth.*
- 11:00 C53 **300.20** Increased hippocampal extracellular matrix causes cognitive decline in a mouse model of Alzheimer's disease. C. HELDRING\*; M. J. VEGH; I. PALIUKHOVICH; M. J. M. SASSEN; K. LI; P. VAN NIEROP; E. M. HOL; A. B. SMIT; R. E. VAN KESTEREN. *VU Univ. Amsterdam, Univ. Med. Ctr. Utrecht.*

- 8:00 C54 **300.21** Precuneus dendritic spine reduction is associated with cognitive impairment in MCI and early Alzheimer's disease. Z. MI\*; E. E. ABRAHAMSON; A. Y. RYU; L. SHAO; J. K. KOFLER; K. N. FISH; R. A. SWEET; E. J. MUFSON; M. D. IKONOMOVIĆ. *Univ. of Pittsburgh, VA Pittsburgh Healthcare Syst., Univ. of Pittsburgh, Univ. of Pittsburgh, VA Pittsburgh Healthcare Syst., Barrow Neurolog. Inst.*
- 9:00 C55 **300.22** Chronic deep brain stimulation enhances learning in young mice. A. MANN\*; C. HAMANI; A. M. LOZANO. *Toronto Western Hospital-UHN, Res. Imaging Centre, Ctr. for Addiction and Mental Health.*
- 10:00 C56 **300.23** ▲ Amyloid Beta co-localizes with dopamine beta hydroxylase in dense core vesicles of cortical noradrenergic terminals: Anatomical evidence for putative regulated co-secretion. J. ROSS\*; B. A. S. REYES; A. SAUNDERS; E. J. VAN BOCKSTAELE. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Arts and Sci.*

**POSTER**

**301. Alpha-Synuclein, LRRK2, and Other Molecular Mechanisms: Human Studies**

**Theme C: Disorders of the Nervous System**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 C57 **301.01** Defective glucocerebrosidase in GBA mutant Parkinson's disease fibroblasts is rescued by chemical chaperone ambroxol through modulation of lysosomal factors. F. BLANDINI\*; C. GHEZZI; R. ZANGAGLIA; G. LEVANDIS; C. PACCHETTI; G. AMBROSI. *Natl. Neurolog. Inst. C.Mondino.*
- 9:00 C58 **301.02** Differential neuronal vulnerability by  $\alpha$ -synucleinopathy in the human anterior olfactory nucleus in Parkinson's disease. I. UBEDA-BANON\*; A. FLORES-CUADRADO; D. SAIZ-SANCHEZ; C. DE LA ROSA-PRIETO; A. MARTINEZ-MARCOS. *Fac. Med. Ciudad Real-Crib Univ. Castilla-La Mancha.*
- 10:00 C59 **301.03**  $\alpha$ -synucleinopathy and differential vulnerability of interneurons in the human amygdala and hippocampus. A. FLORES-CUADRADO; I. UBEDA-BANON; D. SAIZ-SANCHEZ; C. DE LA ROSA-PRIETO; A. MARTINEZ-MARCOS\*. *Fac. Med. Ciudad Real, CRIB Univ. Castilla-La Mancha.*
- 11:00 C60 **301.04** Activity-dependent neuroprotective protein expression in nigral dopaminergic neurons in sporadic Parkinson's disease. Y. CHU\*; Y. HE; J. H. KORDOWER. *Rush Univ. Med. Ctr.*
- 8:00 C61 **301.05** Using eye movements to identify early biomarkers of disease progression in Parkinson's patients with and without LRRK2 gene mutations. J. MORRIS\*; D. C. BRIEN; B. C. COE; N. VISANJI; T. GHATE; A. E. LANG; C. MARRAS; D. P. MUNOZ. *Queen's Univ., Univ. Hlth. Network.*
- 9:00 C62 **301.06** Parkinson's and Crohn's disease-associated LRRK2 mutations and LRRK2 inhibitors alter type II interferon responses of human peripheral blood monocyte *ex vivo*. T. IKEZU\*; H. ASAI; S. IKEZU; B. WOLOZIN; F. FARRAYE; Z. WSZOLEK. *Boston Univ. Sch. of Med., Boston Univ. Sch. of Med., Mayo Clin.*
- 10:00 C63 **301.07** microRNAs as progression biomarkers for Parkinson's disease. S. KHOO\*. *Grand Valley State Univ.*

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

- 11:00 C64 **301.08** Examination of iron-management proteins in Parkinson's disease patients. A. M. SNYDER\*; J. R. CONNOR; C. STETTER; L. KONG; M. M. LEWIS; X. HUANG. *Penn State Univ. Coll Med., Penn State Univ. Coll Med., Penn State Univ. Coll Med.*
- 8:00 C65 **301.09** Specific changes of serum proteins in Parkinson's disease patients. X. WANG\*; Y. SUN; B. CHEN; W. LU. *Inst. Materia Med., Inst. of Materia Medica, Xuanwu Hosp.*
- 9:00 C66 **301.10** Study of the CD163 receptor in Parkinson's disease: A prospective Biomarker? M. ROMERO-RAMOS\*; K. SHRIVASTAVA; D. BERG; H. J. MØLLER. *NEURODIN, Dept. Biomedicine, Aarhus Univ., Ctr. of Neurology, Hertie Inst. for Clin. Brain Res., Aarhus Univ. Hosp.*
- 10:00 C67 **301.11** Gene expression profiling of anterior cingulate cortex from subjects with Lewy body dementia. M. PIETRZAK\*; A. PAPP; A. CURTIS; M. KATAKI; D. SCHARRE; G. REMPALA; W. SADEE. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ., The Ohio State Univ., The Ohio State Univ., The Ohio State Univ. Columbus.*
- 11:00 C68 **301.12** Angiogenic biomarkers in Parkinson's disease dementia: Clinical-biochemical-pathological correlations. V. FRANCARDO\*; S. JANELIDZE; G. SERRANO; T. BEACH; C. KONRADI; O. HANSSON; M. CENCI. *Lund Univ., Malmö Univ., Banner Sun Hlth. Res. Inst., Vanderbilt Univ., Memory Clinic, Skåne Univ. Hosp.*
- 8:00 C69 **301.13** Natural history of rigidity in Parkinson's disease. R. XIA\*; A. MUTHUMANI; Z. MAO; D. POWELL. *Univ. of St. Mary, Montana State Univ., Univ. of Pittsburgh, Campbell Univ.*
- 9:00 C70 **301.14** Visuomotor control in patients with Parkinson's disease. J. CHEN\*; S. HO; M. LEE; S. CHANG; Y. PANG; L. LI. *Dept. of Psychology, The Univ. of Hong K, Div. of Neurology, Univ. Dept. of Medicine, The Univ. of Hong Kong, Lab. of Neuropsychology, The Univ. of Hong Kong., The State Key Lab. of Brain and Cognitive Science, The Univ. of Hong Kong.*
- 10:00 C71 **301.15** Rhythmic auditory cues shape neural network plasticity underlying motor control in Parkinson's disease. M. H. THAUT\*; K. BRAUNLICH; B. KLUGER; G. MCINTOSH; C. SEGER. *Colorado State Univ., COLORADO STATE UNIVERSITY, UNIVERSITY OF COLORADO, UNIVERSITY OF COLORADO HEALTH.*
- 11:00 C72 **301.16** BDNF-TrkB signaling in lymphocytes of patients with Parkinson's disease increases after a four-week intensive rehabilitation treatment. C. FONTANESI\*; S. KVINT; G. FRAZZITTA; R. BERA; D. FERRAZZOLI; A. DI ROCCO; H. REBHOLZ; E. FRIEDMAN; G. PEZZOLI; A. QUARTARONE; H. WANG; M. F. GHILARDI. *City Col. of New York, The Grad. Center, CUNY, CUNY Med. Sch., "Moriggia Pelascini" Hosp., NYU-Langone Sch. of Med., Istituti Clinici di Perfezionamento, Univ. of Messina.*
- 8:00 C73 **301.17** Evaluation of anti-alpha-synuclein autoantibody affinity in Parkinson's disease and multiple system atrophy. T. BRUDEK\*; J. FOLKE; K. WINGE; K. FOG; B. PAKKENBERG; L. ØSTERGAARD PEDERSEN. *Res. Lab. For Stereology and Neuroscienc, Bispebjerg Movement Disorders Biobank, Bispebjerg and Frederiksberg Hosp., H. Lundbeck A/S.*
- 9:00 C74 **301.18** ▲ Deregulation of HNF4A and PTBP1 in Parkinson's disease. C. WAN\*; A. B. WEST; A. B. RAWLINS. *Univ. of Alabama At Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*
- 10:00 C75 **301.19** Increase of red blood cell putrescine detected by cze-lifd in parkinson patients. L. R. BETANCOURT; P. V. RADA; G. A. CEBALLOS; H. F. ARAUJO; L. F. HERNANDEZ\*. *Univ. de los Andes.*
- 11:00 C76 **301.20** Paradoxical changes in intrinsic motoneuron excitability between flexors and extensors in Parkinson's disease. J. M. WILSON\*; C. K. THOMPSON; L. C. MILLER; C. MACKINNON; C. J. HECKMAN. *Northwestern Univ., Northwestern Univ., Univ. of Minnesota.*
- 8:00 C77 **301.21** Bimanual synchronized finger tapping in young and elderly subjects. F. JUNG\*; P. LÖHRER; I. WEBER; F. NETTERSHEIM; T. A. DEMBEK; E. A. PELZER; C. HUBER; M. TITTEMEYER; L. TIMMERMANN. *Univ. Hosp. Cologne, Depart. of Neurol., Max Planck Inst. for Metabolism Res.*
- 9:00 C78 **301.22** Repetitive finger movement and quality of life in persons with Parkinson's disease. J. UZOCHUKWU\*; R. WILLE; E. L. STEGEMÖLLER. *Iowa State Univ.*
- 10:00 C79 **301.23** The implication of basal ganglia  $\alpha 7$  nicotinic acetylcholine receptors (nAChR) in MPTP-lesioned monkeys and parkinsonian patients with motor complications. N. MORIN; M. MORISSETTE; L. GRÉGOIRE; A. RAJPUT; A. H. RAJPUT; T. P. DIPAOLO\*. *Ctr. de Recherche de CHUQ-CHUL, Univ. of Saskatchewan, Royal Univ. Hosp.*
- 11:00 C80 **301.24** Human dopaminergic neurons used in an *in vitro* model of Parkinson's disease. M. ROACH\*; K. GOMES; R. MALAVARCA; K. COOK; S. CHVATAL. *PhoenixSongs Biologicals, Inc., Axion BioSystems.*
- 8:00 C81 **301.25** Using a modified cannula delivery system to implant sural nerve grafts into the rhesus macaque midbrain. J. E. QUINTERO; E. S. FORMAN; Y. AI; A. K. EVANS; R. M. WEEKS; F. POMERLEAU; P. HUETTL; L. H. BRADLEY\*; R. GRONDIN; Z. ZHANG; G. GERHARDT; C. G. VAN HORNE. *Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky, Univ. of Kentucky.*
- 9:00 C82 **301.26** Analysis of cellular morphology, growth dynamics and autophagic mechanisms in primary skin fibroblasts from individuals diagnosed with sporadic Parkinson's disease. A. J. FLORES\*; M. J. CORENBLUM; C. CURIEL; S. J. SHERMAN; L. MADHAVAN. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*

## POSTER

### 302. Circuit Mechanisms in Parkinson's Disease

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 C83 **302.01** Investigating cortico-basal-ganglia neural dynamics with optogenetic stimulation in hemi-parkinsonian rats. Z. YU; R. DARIE; J. PERGE; W. ASAAD; A. V. NURMIKKO; I. OZDEN\*. *Brown Univ., Brown Univ., Brown Univ. Alpert Med. Sch. and Rhode Island Hosp.*
- 9:00 C84 **302.02** Sensory integration in the dopamine-depleted striatum. M. KETZEF\*; A. BONITO-OLIVA; G. SPIGOLON; G. FISONE; G. SILBERBERG. *Karolinska Inst.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author



- 10:00 C85 **302.03** Beta frequency oscillations are neither necessary nor sufficient for emergence of Parkinsonian symptoms in rats. C. BEHREND\*; D. T. BROCKER; W. M. GRILL. *Duke Univ., Duke Univ., Duke Univ., Duke Univ.*
- 11:00 C86 **302.04** Motor and cognitive functions of striatal cholinergic interneurons in Parkinson's disease: Optogenetic and pharmacological approaches. S. ZTAOU\*; M. LIBERGE; N. MAURICE; F. JOUEN; L. KERKERIAN-LEGOFF; C. BEURRIER; M. AMALRIC. *Aix Marseille Univ. - CNRS UMR 7291, Aix-Marseille University, CNRS UMR7288.*
- 8:00 C87 **302.05** Temporal modulation of striatal cholinergic system and behavior analysis in the 6 hydroxydopamine mouse model of Parkinson's disease. A. C. FARIA-MELIBEU\*; A. C. M. N. FERNANDES, JR; R. C. FIGUEIREDO; L. S. HAYASHIDE; P. PANDOLFO; C. A. SERFATY; P. CAMPOLLO-COSTA; M. G. L. RIBEIRO. *Univ. Federal Fluminense, Fluminense Federal Univ.*
- 9:00 C88 **302.06** Dopamine manipulation disrupts delta/theta activity in medial frontal cortex during cognitive tasks in humans and rodents. R. N. RUGGIERO\*; K. PARKER; Y. KIM; J. KINGYON; J. CAVANAGH; N. NARAYANAN. *Dept. of Neurology, Univ. of Iowa, Univ. of New Mexico.*
- 10:00 C89 **302.07** Movement and striatal activity in the development of L-Dopa-induced dyskinesias. S. L. ALBERICO\*; Y. KIM; S. J. GROSS; N. S. NARAYANAN. *Univ. of Iowa, Univ. of Iowa.*
- 11:00 C90 **302.08** Pathway-specific remodeling of thalamostriatal synapses in parkinsonian mice. P. R. PARKER\*; A. C. KREITZER. *UCSF GIND, UCSF/Gladstone Inst.*
- 8:00 C91 **302.09** Electrophysiological study of the substantia nigra reticulata activity in a rat model of l-dopa induced dyskinesia. L. UGEDO\*; A. ARISTIETA; C. MIGUELEZ; T. MORERA\_HERRERAS; J. A. RUIZ-ORTEGA. *Univ. Basque Country, Univ. Basque Country, Univ. Basque Country.*
- 9:00 C92 **302.10** Muscarinic dependent cholinergic modulation of striatal beta oscillations. K. KONDABOLU\*; E. A. ROBERTS; M. BUCKLIN; M. M. MCCARTHY; N. KOPELL; X. HAN. *Boston Univ., Boston Univ.*
- 10:00 C93 **302.11** High striatal cholinergic tone attenuates theta-gamma coupling in M1 and striatum. M. ROMANO\*; B. PITTMAN-POLLETTA; M. MCCARTHY; K. KONDABOLU; N. KOPELL; X. HAN. *Boston Univ., Boston Univ., Boston Univ.*
- 11:00 C94 **302.12** Striatal cholinergic and dopaminergic tone modulate distinct beta band sub-frequencies in the cortical-basal ganglia-thalamic loop. A. QUACH\*; B. R. PITTMAN-POLLETTA; N. KOPELL; M. MCCARTHY; X. HAN. *Boston Univ.*
- 8:00 C95 **302.13** ● A possible mechanistic link between beta oscillations and bursting in the parkinsonian basal ganglia. M. M. MCCARTHY\*; B. R. PITTMAN-POLLETTA; A. QUACH; X. HAN; N. KOPELL. *Boston Univ.*
- 9:00 C96 **302.14** Enhanced cortico-striatal beta oscillations and synchrony mediated by optogenetic increase of striatal cholinergic tone. E. A. ROBERTS\*; K. KONDABOLU; M. ABDULKERIM; M. M. MCCARTHY; N. KOPELL; X. HAN. *Boston Univ.*
- 10:00 D1 **302.15** Spiking neuron model of the basal ganglia for the generation of parkinsonian pathological oscillations. O. SHOUNO\*; K. DOYA. *Honda Res. Inst. Japan Co Ltd, Okinawa Inst. of Sci. and Technol. Grad. Univ.*
- 11:00 D2 **302.16** Phase coupling between neural populations in Parkinson's disease. H. CAGNAN\*; A. SHAROTT; N. MALLETT; P. MAGILL; P. BROWN. *Univ. Col. of London, Univ. of Oxford, Univ. of Bordeaux.*
- 8:00 D3 **302.17** Gamma band favors levodopa-induced dyskinesia: An *in vivo* study on freely-moving rats. V. D'ANGELO; A. STEFANI\*; A. SALVADÉ; A. KAEELIN; S. GALATI. *Univ. Tor Vergata, Neurocenter of Southern Switzerland, Movement Disorders Ctr.*

## POSTER

### 303. Huntington's Disease *In Vivo*

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 D4 **303.01** Neuronal, glial and neural stem cell marker expression in mesenchymal stem cells from R6/2 (transgenic mouse model of Huntington's disease). C. B. KAYA\*; M. LU; K. L. RETERSTORF; T. S. WHITE; G. DUNBAR; J. ROSSIGNOL. *Central Michigan Univ., Central Michigan Univ., Central Michigan Univ., Central Michigan Univ.*
- 9:00 D5 **303.02** Huntingtin mRNA 3'UTR isoform abundance changes in a mouse model of Huntington's disease. L. ROMO\*; E. PFISTER; A. ASHAR-PATEL; M. MOORE; N. ARONIN. *Umass Med. Sch., Umass Med. Sch.*
- 10:00 D6 **303.03** Assessment of demyelination/remyelination responses in cuprizone-treated YAC128 Huntington's disease mice. R. TEO\*; C. FERRARI BARDILLE; A. TAN; M. R. HAYDEN; M. A. POULADI. *TLGM, Ctr. for Mol. Med. and Therapeut., Yong Loo Lin Sch. of Medicine, Natl. Univ. of Singapore.*
- 11:00 D7 **303.04** Neurons and astrocytes contributions to striatal degeneration and behavioral deficits in Huntington's disease. C. MEUNIER\*; N. MERIENNE; C. JOLLE; M. REY; C. PYTHOUD; D. NICOLE; L. PELLERIN. *UNIL, Lausanne Univ. Hosp. (CHUV).*
- 8:00 D8 **303.05** Neurophysiological correlates of motivation and timing in a mouse model of Huntington's disease. N. E. ZLEBNIK\*; E. A. COLE; I. GILDISH; D. P. COVEY; J. F. CHEER. *Univ. of Maryland Sch. of Med.*
- 9:00 D9 **303.06** Genetic editing with the CRISPR/Cas9 system for Huntington's disease. N. MERIENNE\*; C. MEUNIER; V. ZIMMER; G. PERRIARD; M. CANALES; G. VACHEY; L. HERRGOTT; T. BELTRAMINELLI; T. DEQUESNE; C. PYTHOUD; M. REY; R. DU PASQUIER; A. L. PERRIER; L. PELLERIN; N. DÉGLON. *CHUV, Univ. of Lausanne, Lausanne Univ. Hosp. (CHUV), Inst. Natl. de la Santé et de la Recherche Médicale (INSERM).*

Mon. AM

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 10:00 D10 **303.07** Changes in structure and function of diaphragm neuromuscular junctions from BACHD mouse model for Huntington's disease. C. GUATIMOSIM\*; B. ARAGAO; H. RODRIGUES; P. VALADAO; W. CAMARGO; L. NAVES; F. RIBEIRO. *Univ. Federal De Minas Gerais, ICB, Dept. De Morfologia, Univ. Federal de Minas Gerais, ICB, Dept. de Fisiologia e Biofísica, Univ. Fedearl de Minas Gerais, ICB, Dept. de Bioquímica e Imunologia.*
- 11:00 D11 **303.08** Intravascular AAV9-EAAT2 upregulates corticostriatal EAAT2 in the Q175 mouse model of Huntington's disease. G. V. REBEC\*; C. RANGEL-BARAJAS; K. D. BUNNER; S. J. BARTON. *Indiana Univ.*
- 8:00 D12 **303.09** RNA interference therapy in mice subjected an experimental model of Huntington's disease. R. AVILES REYES\*; D. SANCHEZ; S. CABRERA; S. ANDRADE; P. PALACIOS. *Pontificia Univ. Católica Del Ecuador, Secretaria Nacional de Educación Superior, Ciencia, Tecnología e Innovación.*
- 9:00 D13 **303.10** Striatal local field potential Activity in the Q175 knock-in mouse model of Huntington's disease during plus-maze motor activity. C. RANGEL BARAJAS\*; K. D. BUNNER; S. J. BARTON; G. V. REBEC. *Indiana Univ.*
- 10:00 D14 **303.11** Role of p75 neurotrophin receptor in the Q175 mouse model of Huntington's disease. A. WEHNER\*; A. MILEN; R. L. ALBIN; B. A. PIERCHALA. *Univ. of Michigan-Ann Arbor, Univ. of Michigan.*
- 11:00 D15 **303.12** Abnormalities in the dendritic branching of cholinergic interneurons and their thalamostriatal input in the Q140 knock-in mouse model of Huntington's disease. Y. DENG\*; A. REINER. *Univ. of Tennessee HSC.*
- 8:00 D16 **303.13** ● A small molecule p75 neurotrophin receptor ligand reduces Huntington's disease phenotypes in R6/2 and BACHD mice. D. A. SIMMONS\*; N. P. BELICHENKO; S. SEMAAN; E. FORD; M. MONBUREAU; S. AIYASWAMY; C. M. HOLMAN; C. CONDON; M. SHAMLOO; S. M. MASSA; F. M. LONGO. *Stanford Univ., Stanford Univ., Univ. of California, San Francisco, Univ. of California, San Francisco.*
- 9:00 D17 **303.14** Retinal degeneration in Huntington's disease. M. LIN\*; Y. CHERN. *Inst. of Biomed. Science, Academia Sinica, Natl. Yang Ming Uinervsity.*
- 10:00 D18 **303.15** Investigating behavior-related changes in striatal firing patterns in the Q175 knock-in mouse model of Huntington's disease. K. D. BUNNER\*; C. RANGEL-BARAJAS; B. M. MCCORMICK; S. J. BARTON; G. V. REBEC. *Indiana Univ., Indiana Univ.*
- 11:00 D19 **303.16** Respiratory activity and calcium uptake capacity in brain mitochondria from R6/2 mice, a model of Huntington's disease. J. HAMILTON\*; J. J. PELLMAN; T. BRUSTOVETSKY; N. BRUSTOVETSKY. *Indiana Univ. Sch. of Med., Stark Neurosciences Res. Inst.*
- 8:00 D20 **303.17** Human glia can both induce and rescue aspects of disease phenotype in Huntington's disease. A. BENRAISS; S. WANG; S. HERRLINGER; X. LI; D. CHANDLER-MILITELLO; J. P. MAUCERI; H. B. BURM; M. J. TONER\*; Q. XU; F. DING; F. WANG; N. KANG; J. KANG; M. S. WINDREM; I. MUNOZ-SANJUAN; M. NEDERGAARD; S. A. GOLDMAN. *Univ. of Rochester, Univ. of Copenhagen, Univ. of Rochester, New York Med. Col., CHDI Fndn.*
- 9:00 D21 **303.18** Nucleus accumbens dopamine release and motivated behavior are compromised in the Q175 mouse model of Huntington's disease. D. P. COVEY\*; H. M. DANTRASSY; I. GILDISH; J. F. CHEER. *Univ. of Maryland, Univ. of Maryland.*
- 10:00 D22 **303.19** Further evidence of defective sphingolipid metabolism across multiple HD animal models\*. A. DI PARDO; E. AMICO; M. FAVELLATO; S. SCIACCA; F. SQUITIERI; V. MAGLIONE\*. *IRCCS Neuromed.*
- 11:00 D23 **303.20** Decrease in maximal, not basal, CMRO2 in R6/2 mouse model of Huntington's disease by ultra-high field 17O magnetic resonance spectroscopy. J. M. DUBINSKY\*; S. LOU; T. LEPAK; W. CUI; X. ZHU; G. OZ. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*
- 8:00 D24 **303.21** Nine reactions to powerhouse abnormalities in Huntington's disease. N. NASERI\*; H. XU; J. BONICA; J. G. VONSATTEL; E. P. CORTES; L. C. PARK; J. ARJOMAND; G. E. GIBSON. *Weill Cornell Med. Col., Weill Cornell Med. Col., New York Brain Bank at Columbia Univ., CHDI Fndn.*
- 9:00 D25 **303.22** Mitochondrial biogenesis attenuates polyQ-induced proteotoxicity in yeast, fly, and human cell models of Huntington's disease. A. RUETENIK\*; A. OCAMPO; K. RUAN; K. RING; L. M. ELLERBY; G. R. ZHAI; A. BARRIENTOS. *Univ. of Miami, Miller Sch. of Med., Univ. of Miami, Miller Sch. of Med., Univ. of Miami, Miller Sch. of Med., Buck Inst. for Res. on Aging, Univ. of Miami, Miller Sch. of Med.*
- 10:00 D26 **303.23** Genome-wide DNA methylation in mouse models of Huntington's disease: Impact of super-enriched environment. J. HWANG\*; M. SUZUKI; K. NOH; B. L. COURT VAZQUEZ; J. M. GREALLY; R. S. ZUKIN. *Albert Einstein Col. Med., Abert Einstein Col. of Med., Abert Einstein Col. of Med.*
- 11:00 D27 **303.24** ● ▲ Imaging intrinsic connectivity networks in a full-length huntingtin knock-in mouse model. T. REN\*, SR; H. LU; Q. LI; P. QI; J. ZHANG; Y. YANG; W. DUAN. *Beijing Tiantan Hosp. Capital Med. Universit, Johns Hopkins Univ. Sch. of Med., Natl. Inst. on Drug Abuse, NIH, Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*
- 8:00 D28 **303.25** Loss of the Huntington's disease-associated palmitoyltransferase HIP14 in adulthood leads to death due to progressive paralysis and seizures, motor and psychiatric disturbances, and astrogliosis and microglial activation. S. S. SANDERS\*; M. P. PARSONS; A. L. SOUTHWELL; K. K. N. MUI; S. FRANCIOSI; L. A. RAYMOND; M. R. HAYDEN. *The Univ. of British Columbia, The Univ. of British Columbia, The Univ. of British Columbia.*
- 9:00 D29 **303.26** Investigating the effects of conditional caspase-6 deficiency on the YAC128 mouse model of Huntington's disease. S. LADHA\*; D. E. EHRNHOEFER; B. K. Y. WONG; P. RUDDLE; Q. XIA; Y. DENG; D. CHEUNG; S. FRANCIOSI; M. R. HAYDEN. *Univ. of British Columbia, Ctr. For Molecul.*

POSTER

**304. Frontotemporal Dementia and Other Neurodegenerative Disease**

**Theme C: Disorders of the Nervous System**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 D30 **304.01** ▲ Effect of resveratrol on neuronal dendritic morphology of medial prefrontal cortex and dorsal hippocampus in spontaneously hypertensive rats. H. COATL CUAYA\*; L. M. DE JESÚS; A. D. DÍAZ; R. A. VÁZQUEZ-ROQUE; M. J. GÓMEZ-VILLALOBOS; G. FLORES. *Benemerita Univ. Atonoma De Puebla, Benemerita Univ. Atonoma De Puebla.*
- 9:00 D31 **304.02** ● Interfering with progranulin degradation to combat frontotemporal dementia. X. ZHOU\*; Y. WEN; E. GIBBS; W. JIA; M. S. CYNADER. *Brain Res. Ctr. Univ. of British Columbia.*
- 10:00 D32 **304.03** Pick's disease: Characterization of pathology with diverse stains. J. BAUN\*; S. HUTCHINGS; J. BALLARD; C. ZURHELLEN; B. TIPTON; J. KIEFFER; R. C. SWITZER, III. *Neurosci. Associates.*
- 11:00 D33 **304.04** Myocilin protects axons from myelin-associated glycoprotein-induced degeneration. S. I. TOMAREV\*; H. S. KWON; C. JAWORSKI; I. YANG. *NEI, NEI, NIH, Johns Hopkins Univ.*
- 8:00 D34 **304.05** Emotion recognition in the behavioral variant of frontotemporal dementia: Evidence from error patterns analysis and resting-state brain activity. S. F. CAPPA\*; N. CANESSA; A. DODICH; C. CERAMI; G. LETTIERI; C. CRESPI; S. IANNACCONE; A. MARCONE; A. FALINI; D. PERANI. *IUSS Pavia, San Raffaele Scientific Inst., San Raffaele Univ.*
- 9:00 D35 **304.06** ▲ Association of genetic variations and neuropsychiatric symptoms in progressive supranuclear palsy (PSP). K. TERNES\*; K. RASCOVSKY; E. M. WOOD; M. GROSSMAN; V. VAN DEERLIN; C. T. MCMILLAN. *Univ. of Pennsylvania, Univ. of Pennsylvania.*
- 10:00 D36 **304.07** Progranulin deficiency delays nerve regeneration and functional recovery following nerve crush injury. S. BEEL; L. DE MUYNCK; L. M. J. VAN DEN BOSCH; W. L. ROBBERECHT; P. VAN DAMME\*. *Lab. of Neurobiology, Vesalius Res. Center, VIB, Neurol. Department, UZ Leuven.*
- 11:00 D37 **304.08** Effect of genetic background on the phenotype of chorea-acanthocytosis model mouse. H. SAKIMOTO\*; O. NAGATA; S. YOKOTSUKA; K. ARAI; M. NAKAMURA; A. SANO. *Kagoshima Univ.*
- 8:00 D38 **304.09** Motor-related neuronal activity in cerebellar thalamus of Essential Tremor patients. D. J. SEGAR\*; S. LEE; S. R. JONES; W. F. ASAAD. *Brown Univ., Brown Univ.*
- 9:00 D39 **304.10** Anxiety in Wfs1-deficient mice is probably related to changes in brain cells' ability to cope with endoplasmic reticulum stress. A. ALTPERE\*; S. SÜTT; S. RAUD; R. REIMETS; M. LOOMETS; E. VASAR. *Univ. of Tartu.*
- 10:00 D40 **304.11** Increased presence of inflammatory proteins within the pontocerebellar tracts in Multiple System Atrophy. A. B. VALENTI; W. T. BOOTHBY-SHOEMAKER; B. KATBAMNA; C. F. IDE\*. *Western Michigan Univ., Western Michigan Univ.*
- 11:00 D41 **304.12** Dorsal genital nerve stimulation reduces incontinence episodes in idiopathic OAB patients. J. DONG\*; A. M. RYHAMMER; N. J. M. RIJKHOFF. *Aalborg Univ., Aarhus Univ. Hospital, Skejby.*
- 8:00 D42 **304.13** Low dose aspirin as a prophylactic against the progression of Scrapie in Mice. D. N. BRYANT\*; M. A. BENNEYWORTH; D. M. SEELIG. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*
- 9:00 D43 **304.14** Behavioral and sperm motility analyses of male infertility in Chorea-acanthocytosis model mouse. O. NAGATA\*; H. SAKIMOTO; S. YOKOTSUKA; K. ARAI; M. NAKAMURA; A. SANO. *Kagoshima Univ.*
- 10:00 D44 **304.15** Role of yeast Hsp31/DJ1 in Sup35 prion aggregation. K. ASLAM\*; T. HAZBUN. *Purdue Univ.*
- 11:00 D45 **304.16** Intraoperative recording and computational modeling of modulation of tremor related oscillations in human ventral intermediate nucleus of the thalamus. S. LEE\*; D. J. SEGAR; W. F. ASAAD; S. R. JONES. *Brown Univ., Brown Univ.*
- 8:00 D46 **304.17** Suppressing an infantile neuronal ceroid lipofuscinosis associated nonsense mutation. R. GERAETS\*; J. M. WEIMER; D. A. PEARCE. *Sanford Sch. of Med. - Univ. of South D, Sanford Res.*
- 9:00 D47 **304.18** Fluctuation analysis of steady gaze in essential tremor. J. H. ANDERSON\*; J. WILLGING; J. ASHE. *Univ. Minnesota, Minneapolis VA Hlth. Care Syst., Univ. Minnesota, Minneapolis VA Hlth. Care Syst., Univ. of Minnesota.*
- 10:00 D48 **304.19** ▲ Morphological changes in the peripheral tissues of Neuronal Ceroid Lipofuscinosis mouse models. R. N. LAUFMANN\*; D. TIMM; J. M. WEIMER. *Sanford Res.*
- 11:00 E1 **304.20** ▲ Functional compensation for executive deficits in progressive supranuclear palsy. C. A. OLM\*; B. M. KANDEL; B. B. AVANTS; J. A. DETRE; J. C. GEE; K. RASCOVSKY; M. GROSSMAN; C. T. MCMILLAN. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*
- 8:00 E2 **304.21** ● The contralateral cortical silent period is not abnormal in primary Restless Legs Syndrome / Willis-Ekbom disease. A. CONFORTO\*; G. DO PRADO; E. AMARO JR.; A. ECKELI; S. MAGALHÃES. *Hosp. Das Clínicas/São Paulo Univ. and Inst. Israelita De Ensino E P, Univ. Federal de São Paulo, Hosp. Israelita Albert Einstein, Univ. de São Paulo - Ribeirão Preto.*
- 9:00 E3 **304.22** Spontaneously emerging parkinsonism-cerebellar syndrome in a subspecies of Japanese macaque (macaca fuscata yakui): A potential analogue of multiple system atrophy. K. W. MCCAIRN\*; Y. NAGAI; K. KIMURA; Y. GO; K. INOUE; M. ISODA; T. MINAMIMOTO; M. MATSUMOTO; T. NINOMIYA; M. TAKADA. *Korea Brain Res. Inst., Primate Res. Inst. - Kyoto Univ., Natl. Inst. of Radiological Sci., Natl. Inst. of Physiological Sci., Kansai Med. Univ. Sch. of Med., Fac. of Medicine, Univ. of Tsukuba.*

Mon. AM

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

- 10:00 E4 **304.23** ● Walking performance and deep brain stimulation in Essential Tremor. C. J. HASS\*; J. SKINNER; R. ROEMMICH; M. TERZA; J. ROPER; P. ZEILAMAN; M. OKUN. *Univ. of Florida, Johns Hopkins, Univ. of Florida.*
- 11:00 E5 **304.24** Pseudogene-mediated expression dysregulation contributes to the development of neurodegeneration in a haplotype-specific manner. A. E. FURTERER\*; P. NGUYEN; J. CHEN; M. PRIBADI; F. GAO; M. RAMOS; G. COPPOLA. *UCLA.*
- 8:00 E6 **304.25** Post-developmental LIS1 knockout in mice produces a lethal phenotype. T. J. HINES\*; X. GAO; D. SMITH. *Univ. of South Carolina, Univ. of South Carolina.*
- 9:00 E7 **304.26** ● Function improved in essential tremor by incobotulinumtoxinA injection patterns using upper limb biomechanical characterization. O. SAMOTUS\*; H. V. MORADI; J. LEE; M. JOG. *London Hlth. Sci. Ctr., Western Univ., London Hlth. Sci. Ctr.*
- 10:00 E8 **304.27** Genetic of prion diseases in Brazil. M. C. LANDEMBERGER\*; C. F. MACHADO; J. SMID; H. R. GOMES; L. CHIMELLI; N. H. S. CANEDO; S. ROSEMBERG; R. NITRINI; V. R. MARTINS. *A.C. Camargo Cancer Ctr., USP, USP, UFRJ.*
- 11:00 E9 **304.28** Microglia and the complement pathway in sandhoff and tay-sachs disease. B. JUN\*; F. S. EICHLER. *MGH.*
- 8:00 E10 **304.29** Propofol induces autophagy by causing calcium release from endoplasmic reticulum via activation of IP<sub>3</sub>R. G. REN; M. F. ECKENHOFF\*; H. WEI. *Perelman Schl Med. UPENN.*
- 9:00 E11 **304.30** High-throughput screen for inhibitors of RAN translation. K. M. GREEN\*; M. G. KEARSE; P. K. TODD. *Univ. of Michigan, Univ. of Michigan, Veteran Admin. Med. Ctr.*
- 11:00 E15 **305.04** Examination of sex differences in c-Fos expression in adult and aged Fischer 344 rats reveals that females, but not males, display enhanced neural activation after social interaction. A. E. PERKINS\*; R. L. SPENCER; E. I. VARLINSKAYA; E. A. WOODRUFF; L. A. CHUN; J. M. INTERRANT; T. DEAK. *Binghamton Univ., Univ. of Colorado-Boulder.*
- 8:00 E16 **305.05** Changed HRG expression and cell types in micro-environment of old NSC niche. Y. KIM; H. LEE; Y. JUNG; Y. K. KWON\*. *Kyung Hee Univ., Kyunghee university.*
- 9:00 E17 **305.06** Aging transition of perimenopause is associated with bioenergetic shift and decline in long-term potentiation in the female brain. F. YIN\*; J. YAO; H. SANCHETI; T. FENG; T. E. MORGAN; C. E. FINCH; C. J. PIKE; W. J. MACK; E. CADENAS; R. D. BRINTON. *USC, USC, USC.*
- 10:00 E18 **305.07** Continuous 17β-estradiol combined with cyclic progesterone modulates female brain bioenergetic functions in an endocrine status dependent manner. Z. MAO\*; F. YIN; J. YAO; T. E. MORGAN; E. CADENAS; R. D. BRINTON. *USC, USC.*
- 11:00 E19 **305.08** Mechanism of perimenopausal hot flash: Involvement of brain hypometabolism and mitochondrial uncoupling. R. D. BRINTON\*; F. YIN; J. YAO; A. MISHRA. *USC.*
- 8:00 E20 **305.09** Mechanistic pathways linking mitochondrial hydrogen peroxide production and white matter degeneration in the aging mammalian female brain. L. KLOSINSKI\*; J. YAO; S. CHEN; Z. MAO; E. TRUSHINA; S. TIWARI-WOODRUFF; L. ZHAO; R. BRINTON. *USC, Mayo Clin., Univ. of California Riverside, Univ. of Kansas.*
- 9:00 E21 **305.10** Mitochondrial gene expression during perimenopause and chronological aging. Y. WANG\*; F. YIN; R. D. BRINTON. *USC, USC.*
- 10:00 E22 **305.11** Expression of alternative splicing factors change in a brain region-specific manner with loss of circulating 17β-estradiol in the aged female rat brain. C. L. SHULTS\*; E. PINCETI; Y. S. RAO; T. R. PAK. *Loyola Univ. Chicago.*
- 11:00 E23 **305.12** Mitogen Activated Protein kinase pathways are altered by loss of circulating estrogen in the aged female brain and heart in a region specific way. E. PINCETI\*; C. L. SHULTS; Y. S. RAO; T. R. PAK. *Loyola Univ. Chicago, Loyola UniversityChicago.*
- 8:00 E24 **305.13** Age related changes in GABAergic inhibition in mouse auditory cortex, measured using *in vitro* flavoprotein autofluorescence imaging. K. STEBBINGS\*; H. CHOI; A. RAVINDRA; J. TURNER; D. CASPARY; D. LLANO. *Univ. of Illinois At Urbana Champaign, Illinois Col., Southern Illinois Univ. Sch. of Med., Univ. of Illinois At Urbana Champaign.*
- 9:00 E25 **305.14** ● Ampakines stimulate dendritic growth in the hippocampus of middle-aged, environmentally enriched rats. J. C. LAUTERBORN\*; L. C. PALMER; Y. JIA; B. HOU; D. T. PHAM; W. WANG; B. H. TRIEU; C. D. COX; S. KANTOROVICH; C. M. GALL; G. LYNCH. *Univ. of California at Irvine.*

## POSTER

### 305. Aging: Animal and Cellular Models

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 E12 **305.01** Disrupted fractalkine signaling impairs synaptic plasticity and long term memory retention. B. GRIMMIG; L. DESFOSES; L. DALY; C. HUDSON; X. WANG; E. WEEBER; P. C. BICKFORD\*. *USF, USF Morsani Col. of Med., James A Haley Veterans Hospital, USF Byrd Alzheimers Ctr.*
- 9:00 E13 **305.02** Chronic HIV exposure and aging render mPFC pyramidal neurons in the reward circuits more vulnerable to excitatory stimuli. L. CHEN\*; C. E. KHODR; S. DAVE; L. AL-HARTHI; X. HU. *Rush Univ. Med. Ctr., Rush Univ. Med. Ctr., Rush Univ. Med. Ctr.*
- 10:00 E14 **305.03** Increased risk aversion with age on a probability discounting task. V. L. TRYON\*; H. O. KING; J. M. LONG; P. R. RAPP; S. J. Y. MIZUMORI. *Univ. of Washington, NIH.*

- 10:00 E26 **305.15** Long-term HMB supplementation ameliorates aging effects in the dendritic morphology of mPFC layer 5 pyramidal neurons in aged male and female rats. D. G. KOUGIAS\*; S. O. NOLAN; T. KIM; W. A. KOSS; J. M. GULLEY; J. M. JURASKA. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*
- 11:00 E27 **305.16** Differential expression of calcium binding proteins (CBPs) in hippocampal subregions with aging. D. SIMKIN\*; J. MA; A. HOFFMAN; M. OH; J. F. DISTERHOFT. *Northwestern Univ.*
- 8:00 E28 **305.17** Acute insulin on Ca<sup>2+</sup> homeostasis and glucose utilization in single hippocampal neurons. S. MAIMAITI\*; K. L. ANDERSON; J. POPOVIC; L. BREWER; Z. MAJEED; H. FRAZIER; N. M. PORTER; P. W. LANDFIELD; O. THIBAUT. *Univ. of Kentucky, Univ. of Kentucky.*
- 9:00 E29 **305.18** Acute intranasal insulin in young and aged F344 rats: Signaling and MRI brain changes. K. L. ANDERSON\*; S. MAIMAITI; Z. R. MAJEED; H. FRAZIER; V. BAKSHI; L. D. BREWER; N. M. PORTER; A. LIN; O. THIBAUT. *Univ. of Kentucky, Univ. of Kentucky.*
- 10:00 E30 **305.19** Characterization of a truncated human insulin receptor signaling. Z. R. MAJEED\*; H. N. FRAZIER; K. HAMPTON; S. MAIMAITI; K. L. ANDERSON; J. POPOVIC; L. B. BREWER; S. D. KRANER; C. M. NORRIS; N. PORTER; R. J. CRAVEN; O. THIBAUT. *Univ. of Kentucky, Dept. of Biol., Univ. of Kentucky.*
- 11:00 E31 **305.20** Neuronal adenosine A2A receptor overexpression affects AMPA and NMDA currents in CA1 hippocampal neurons. L. V. LOPES\*; M. TEMIDO-FERREIRA; J. E. COELHO; D. G. FERREIRA; T. F. OUTEIRO; M. BADER; H. MARIE; P. A. POUSINHA. *Inst. de Medicina Molecular, Fac Med. Lisbon, Dept. of Neurodegeneration and Restorative Res., Max-Delbrück-Center for Mol. Med. (MDC), Inst. de Pharmacologie Moléculaire et Cellulaire (IPMC), Ctr. Natl. de la Recherche Scientifique (CNRS).*
- 8:00 E32 **305.21** Phagocytic macrophages are associated with processes involved in age and cognitive decline. E. SHOBIN\*; T. L. MOORE; D. L. ROSENE. *Boston Univ., Boston Univ.*
- 9:00 E33 **305.22** Prolactin receptor signaling mitigates retinal function deficiency associated with ageing. E. ARNOLD\*; S. THEBAULT; G. MARTÍNEZ DE LA ESCALERA; C. CLAPP. *Natl. Autonomous Univ. of Mexico.*
- 10:00 E34 **305.23** Age-related changes in substance P immunoreactivity and motoneuron morphological alterations in lumbosacral spinal nuclei. H. W. S. TSANG; M. ZHANG; G. BLACK; M. J. SAFFREY; R. N. RANSON\*. *Northumbria Univ., Open Univ.*
- 11:00 E35 **305.24** Aging increases the activity of neurons in the bed nucleus of the striata terminalis (BNST). H. E. SMITHERS\*; J. BROWN; J. TERRY; A. RANDALL. *Univ. of Exeter, Univ. of Bristol.*
- 8:00 E36 **305.25** Bexarotene treatment rescues aging-related loss of synaptic proteins in a neuronal LRP1-dependent manner. M. TACHIBANA\*; M. SHINOHARA; Y. YAMAZAKI; C. LIU; J. ROGERS; G. BU; T. KANEKIYO. *Mayo Clin.*

- 9:00 E37 **305.26** An enriched environment modulates factors associated with healthy brain aging in rats. M. J. ZIGMOND\*; F. AMBROSIO; S. L. CASTRO; J. D. JAUMOTTE; D. L. KOROL; L. A. NEWMAN; L. H. SANDERS; R. J. SMEYNE; A. D. VALLEJO. *Univ. of Pittsburgh, Univ. of Pittsburgh, Syracuse Univ., St. Jude children's Res. Hosp.*
- 10:00 E38 **305.27** Enriched environment improves micturition activity in awake freely moving aged mice. F. SOEDA\*; N. GOTO; S. SAMESHIMA; S. MISUMI; K. TAKAHAMA. *Kumamoto Univ., Kumamoto Univ., Kumamoto Hlth. Sci. Univ.*
- 11:00 E39 **305.28** Daily exposure to environmental novelty in young mice promotes corticostriatal and behavioral flexibility in old age. S. L. HONG\*; S. J. BARTON; G. V. REBEC. *Ohio Univ., Indiana Univ.*
- 8:00 E40 **305.29** Treadmill exercise attenuates aging-related bradykinesia in aged rats: Potential involvement of increased nigral glial cell line-derived neurotrophic factor family receptor-alpha 1 (GFR-α1) expression and dopamine tissue content. J. C. ARNOLD\*; M. F. SALVATORE. *Louisiana State Univ. Hlth. Sci. Ctr., Univ. of North Texas Hlth. Sci. Ctr. at Ft. Worth.*

**POSTER**

**306. Behavioral Analyses in Autism Spectrum Disorder**

**Theme C: Disorders of the Nervous System**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 E41 **306.01** On the spectrum: Sensory perception influences socio-communication in ASD. R. A. STEVENSON\*; M. SEGERS; M. D. BARENSE; S. FERBER. *Univ. of Toronto, York Univ., Univ. of Toronto.*
- 9:00 E42 **306.02** ● Characterization of levels of corporeal awareness in Autism Spectrum Disorders and neurotypical controls. V. KALAMPRATSIDOU\*; E. B. TORRES. *Rutgers Univ., Rutgers Univ.*
- 10:00 E43 **306.03** SHANK3 single nucleotide variant associated with social behavior in rhesus macaques. S. MADLON-KAY\*; A. BEY; R. PASSMAN; L. BRENT; K. WATSON; P. SKENE; J. HORVATH; M. PLATT; Y. JIANG. *Duke Univ., Univ. of Exeter, Univ. of Colorado, North Carolina Central Univ.*
- 11:00 E44 **306.04** Altered brain connectivity patterns in face processing in autism spectrum disorder. I. M. REZAZADEH\*; S. K. LOO; S. J. WEBB; M. C. GRABB; B. H. KING; J. T. MCCRACKEN. *UCLA, Seattle Children's Hosp., NIMH.*
- 8:00 E45 **306.05** Objective characterization of sensory-motor physiology underlying dyadic interactions during the Autism Diagnostic Observation Schedule-2: Implications for research and clinical diagnosis. C. WHYATT\*; A. MARS; E. M. DICICCO-BLOOM; E. B. TORRES. *Rutgers Univ., Robert Wood Johnson Med. Group.*
- 9:00 E46 **306.06** Quantitative and qualitative improvement of cognitive and social skills in autistic children after virtual stimulation. C. CRESPO-CORTES\*; P. CARRILLO; G. A. CORIA-AVILA; L. I. GARCIA; R. TOLEDO; M. E. HERNANDEZ; J. MANZO. *Univ. Veracruzana, Univ. Veracruzana, Univ. Veracruzana.*

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

- 10:00 E47 **306.07** ● Sex differences in real-world executive functioning in children with Autism Spectrum Disorder. E. I. WHITE\*; G. L. WALLACE; A. B. RATTO; A. C. ARMOUR; H. S. POPAL; A. MARTIN; L. KENWORTHY. *NIH, George Washington Univ., Children's Natl. Hlth. Syst.*
- 11:00 E48 **306.08** ● A new vasopressin V1a antagonist restores normal cognitive and social behavior while revealing a specific brain network in the rat valproate model of autism. C. GRUNDSCHÖBER\*; T. MUEGLER; F. KNOFLACH; C. RISTERUCCI; P. SCHNIDER; B. BIEMANS. *Roche Innovation Ctr.*
- 8:00 F1 **306.09** ● ▲ Characterization of sensory-motor physiological signatures underlying decision making about corporeal self-awareness. S. MISTRY\*; P. YANOVICH; E. TORRES. *Rutgers Univ., Rutgers, Rutgers.*
- 9:00 F2 **306.10** Increased social behaviors and GluA2 phosphorylation in mice-lacking glutamate receptor interacting proteins. M. HAN\*; R. MEJIAS-ESTEVEZ; R. ROSE; S. CHIU; A. ADAMCZYK; R. HUGANIR; T. WANG. *The Johns Hopkins Univ., The Johns Hopkins Univ.*
- 10:00 F3 **306.11** ▲ A direct GABAergic output from the striatum to the amygdala. Y. ZHANG\*; X. LI. *Zhejiang Univ. Sch. of Med., Zhejiang Univ.*
- 11:00 F4 **306.12** ● Hearing one's name in autism spectrum disorder: An fMRI investigation. S. HUEMER\*; F. KRUGGEL; V. MANN; J. GEHRICKE. *Loyola Marymount Univ., Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Irvine.*
- 8:00 F5 **306.13** Modeling increased autism risk following maternal SSRI use. S. E. MALONEY\*; S. AKULA; K. CHANDLER; J. D. DOUGHERTY. *Washington Univ. Med. Sch.*
- 9:00 F6 **306.14** Optogenetic and electrophysiological dissection of oxytocin in brain circuits underlying social and fear behavior: Differentiating roles for the central and medial amygdala. C. HEGOUBURU; S. GHOSH; S. CHENAUX; R. TRIANA DEL RIO; G. GIOBELLINA; I. SALGADO; C. GRUNDSCHÖBER; R. STOOP\*. *Ctr. For Psychiatric Neuroscience, Univ. Lausanne, Roche Innovation Ctr.*
- 10:00 F7 **306.15** Potential contributions of GABA-A and alpha7 nicotinic receptors to behavior in the BTBR mouse model of autism. R. F. YOSHIMURA\*; M. B. TRAN; D. J. HOGENKAMP; A. J. DUNNIGAN; T. K. GEE; K. W. GEE. *Univ. of California, Irvine.*
- 11:00 F8 **306.16** Prenatal zinc prevents communication and tyrosine hydroxylase impairments in a rat model of autism induced by prenatal lipopolysaccharide. T. B. KIRSTEN\*; G. P. CHAVES-KIRSTEN; C. SCAVONE; M. M. BERNARDI; L. F. FELÍCIO. *Paulista Univ., Sch. of Vet. Medicine, Univ. of Sao Paulo, Inst. of Biomed. Science, Univ. of Sao Paulo.*
- 8:00 F9 **306.17** Advanced paternal age as a risk factor for autism: Behavioral and morphological alterations in rats and humans. R. K. SCHWARTING\*; D. SEFFER; A. KRUG; J. C. EGGBRECHT; H. RIPPBERGER; B. DIETSCH; H. BACKES; T. KIRCHER; M. WÖHR. *Philipps-University of Marburg, Philipps-University of Marburg, Philipps-University of Marburg.*
- 9:00 F10 **306.18** Common symptoms, distinct brain function: An fMRI study of social cognition in the autism and schizophrenia spectrums. A. STANFIELD\*; R. PHILIP; H. WHALLEY; L. ROMANIUK; J. HALL; E. JOHNSTONE; S. LAWRIE. *Univ. of Edinburgh, Tailor Ed Fndn., Univ. of Cardiff.*
- 10:00 F11 **306.19** Audiovisual processing of social robot stimuli: Understanding therapeutic outcomes in adolescents with autism spectrum disorder. L. F. PRZYBYŁOWSKI\*, III; F. SARTORATO; A. PHILLIPS; M. PROUGH; J. J. DIEHL; D. K. SARKO. *Edward Via Col. of Osteo. Med., Univ. of Notre Dame.*
- 11:00 F12 **306.20** Developmental hyperserotonemia affects partner play preference and reduces oxytocin expressing cells in the adult PVN of male, but not female, rats. K. WAGNER\*; A. M. K. MADDEN; S. L. ZUP. *Univ. of Massachusetts Boston.*
- 8:00 F13 **306.21** A neural correlate of disembodied intention? N. TADIMETI\*; J. COLE; E. TORRES. *Rutgers Univ., Poole Hosp. NHS Fndn., Rutgers Univ.*
- 9:00 F14 **306.22** Structure and function of neonatal social communication in a genetic mouse model of autism. T. TAKAHASHI; S. OKABE; P. O'BROIN; A. NISHI; K. YE; M. V. BECKERT; T. IZUMI; A. MACHIDA; G. KANG; J. PENA; A. GOLDEN; T. KIKUSUI; N. HIROI\*. *Albert Einstein Col. of Med., Azabu Univ., Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Col. Med.*
- 10:00 F15 **306.23** Potential N170 in Mexican children with autism spectrum disorder. C. VELA\*; P. TORRES; D. E. GRANADOS. *Univ. Veracruzana, Univ. Veracruzana, Univ. Veracruzana, Univ. Veracruzana.*
- 11:00 F16 **306.24** Unifying statistical framework to study brain-body physiological interactions in typical and pathological nervous systems. E. B. TORRES\*. *Rutgers Univ.*
- 8:00 F17 **306.25** Anodal and cathodal tDCS as a therapy for fine motor skill impairment in Autism Spectrum Disorder. S. M. OWEN\*; N. HOSEINI; G. C. FREY; H. J. BLOCK. *Indiana Univ., Indiana Univ.*
- 9:00 F18 **306.26** Characterization of sensory-motor physiological signatures of typical and atypical gait patterns in autism of known and unknown etiology. D. WU\*; J. NGUYEN; S. MISTRY; E. TORRES; J. V. JOSÉ. *Indiana Univ., Rutgers Univ., Rutgers Univ., Rutgers Univ., Indiana Univ. Med. Sch.*
- 10:00 F19 **306.27** Characterization of sensory-motor behavior under different mindsets. J. RYU\*; E. TORRES. *Rutgers Univ.*
- 11:00 F20 **306.28** ▲ Sensory-Motor physiological signatures underlying natural behaviors: A characterization across the human spectrum ranging from typical to pathological states. U. V. MAJMUDAR\*; J. NGUYEN; E. TORRES. *Rutgers Univ.*
- 8:00 F21 **306.29** Cerebrolysin remodels neuronal morphology in the limbic system and improves behavioral deficit in rat model of autism. M. E. BRINGAS\*; M. MAXIMINO ROJAS; O. APARICIO; C. ESCOBAR JARQUÍN; S. R. ZAMUDIO HERNÁNDEZ; F. DE LA CRUZ; M. ATZORI; G. FLORES. *Benemerita Univ. Autonoma De Puebla, Inst. Politecnico Nacional, Sch. of Behavioral and Brain Sciences, Univ. of Texas at Dallas, Univ. Autónoma de San Luis Potosí.*

9:00 F22 **306.30** An association between lower- and higher-level visual perception in autism spectrum disorder. J. GUY\*; L. MOTTRON; C. BERTHIAUME; A. BERTONE. *McGill Univ., Perceptual Neurosci. Lab. for Autism and Develop., Hôpital Rivière-des-Prairies.*

## POSTER

### 307. Ischemia: Molecular Mechanisms and Neuroprotection

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, Hall A

8:00 F23 **307.01** Regulation of mitochondrial form and function by mitochondrial fission factor (mff) splice variants and phosphorylation. R. A. MERRILL\*; T. WILSON; N. SRAYOSHI; J. WANG; Y. KONG; J. CRIBBS; M. GHONEIM; H. N. HIGGS; M. SPIES; S. STRACK. *Univ. of Iowa, Univ. of Iowa, Dartmouth Med. Sch.*

9:00 F24 **307.02** Postischemic oral resveratrol attenuates neuronal damage in mice with photothrombotic cerebral ischemia. W. LEE\*; Y. FANG; C. KIM. *Pusan Natl. Univ. Sch. of Med.*

10:00 F25 **307.03** BDNF “highjacks” the SUMO pathway to induce synaptic GABAergic plasticity after ischemia. Z. S. THIROUIN\*; R. GILL; R. A. MCKINNEY; S. K. TYAGARAJAN. *Inst. of Pharmacol. and Toxicology, Neurosci. Ctr. Zurich, Dept. of Pharmacol. and Therapeutics, McGill Univ.*

11:00 F26 **307.04** Wnt5a regulates differentiation of stroke-responsive neural progenitors. A. J. BRUMM\*; M. MACHNICKI; A. RANDHAWA; J. TOOR; G. COPPOLA; S. T. CARMICHAEL. *UCLA.*

8:00 F27 **307.05** Aging is associated with suppressed activation of stress response pathways in post-ischemic brains: Implications for impaired functional recovery from ischemic stress. W. YANG\*; S. LIU; Z. YU; H. SHENG; W. PASCHEN. *Duke Univ. Med. Ctr.*

9:00 F28 **307.06** Protective effects of estrogen against progressive lesion of vascular dementia in rats. Y. ZHU\*; W. ZHANG; N. LI; Y. DAI; Q. ZHANG; R. WANG. *North China Univ. of Sci. and Technol., Med. Col. of Georgia.*

10:00 F29 **307.07** Ischemic stroke and Neuregulin-1: Understanding mechanisms using the Neuroscience Information Framework and biological approaches. M. C. SURLES-ZEIGLER\*; A. BANDROWSKI; M. MARTONE; J. GRETHE; Y. LI; B. FORD. *Morehouse Sch. of Med., Univ. of California, San Diego.*

11:00 F30 **307.08** Caspase-9 activation in cerebral ischemia does not require MMP-9. E. CANEPA; T. KICHUK; A. GEEVARGHESE; B. R. CHRISTOPHE; E. S. CONNOLLY; C. M. TROY\*. *Columbia Univ. Medl Ctr., Columbia Univ. Medl Ctr., Columbia Univ. Medl Ctr.*

8:00 F31 **307.09** The point mutation uch-l1 c152a protects primary neurons against cyclopentenone prostaglandin-induced cytotoxicity: Implications for post-ischemic neuronal injury. H. LIU\*; M. E. ROSE; R. W. HICKEY; G. UECHI; M. BALASUBRAMANI; S. H. GRAHAM. *Univ. of Pittsburgh, Geriatric Res. Educational and Clin. Center, VA Pittsburgh Healthcare Syst., Univ. of Pittsburgh Sch. of Med., Univ. of Pittsburgh.*

9:00 F32 **307.10** A novel FBN1 mutation associated with recurrent spontaneous cervical arteries dissections. F. CORTINI\*; S. LANFRANCONI; B. MARINELLI; S. CORTI; N. BRESOLIN; A. BASSOTTI. *Ospedale Maggiore Policlinico (milan, Italy), IRCCS Fndn. Ca' Granda Ospedale Maggiore Policlinico, Univ. of Milan, IRCCS Fndn. Ca' Granda Ospedale Maggiore Policlinico, Univ. of Milan, Univ. of Milan, Dino Ferrari Centre, Neurosci. Section, Dept. of Pathophysiology and Transplantation (DEPT), Neurol. Unit, IRCCS Fndn. Ca' Granda Ospedale Maggiore Policlinico, Univ. of Milan, Via Francesco Sforza 35, 20122, Milan, Italy., IRCCS Fndn. Ca' Granda Ospedale Maggiore Policlinico.*

10:00 F33 **307.11** Role of brain-derived estrogen in regulation of pro-survival and pro-apoptotic factors in the hippocampal ca1 region following global cerebral ischemia. R. WANG\*; Q. ZHANG; R. VADLAMUDI; D. BRANN. *GEORGIA REGENTS UNIVERSITY, Dept. of Obstetrics and Gynecology, Univ. of Texas Hlth. Sci. Ctr.*

11:00 F34 **307.12** Activation of Serpin-1B-mediated apoptotic pathway in focal brain ischemia. V. V. DIDENKO\*. *Baylor Col. of Med.*

8:00 F35 **307.13** Mitochondria/endoplasmic reticulum dysfunction exacerbates oxidative damage in aging white matter ischemia. C. BASTIAN\*; K. STAHON; S. GRIFFITH; G. KIDD; S. BRUNET; S. BALTAN. *Cleveland Clin. Fndn.*

9:00 F36 **307.14** Transgenic mice overexpressing human angiotensin i receptor gene are susceptible to stroke injury. J. TULSULKAR\*; S. JAIN; A. RANA; A. KUMAR; Z. SHAH. *Univ. of Toledo, Univ. of Toledo.*

10:00 F37 **307.15** Ischemia/reperfusion injury leads to upregulation of contractile proteins of pericytes. S. YILMAZ OZCAN\*; L. ALARCON-MARTINEZ; B. DONMEZ-DEMIR; T. DALKARA; M. YEMISCI. *Inst. of Neurolog. Sci. and Psychiatry, Hacettepe, Fac. of Medicine, Dept. of Neurology, Hacettepe Univ.*

11:00 F38 **307.16** Mass spectrometry analysis of post-ischemic insoluble proteins reveals preferential accumulation of proteins involved in RNA/protein synthesis and cell signaling. K. HOCHRAINER\*; A. KAHL; K. JACKMAN; J. BASKAR; S. ZHANG; J. ANRATHER; C. IADECOLA. *Weill Cornell Med. Col., Cornell Univ.*

8:00 F39 **307.17** Salubrin post-ischemic treatment effect on the tumor necrosis factor receptor 1 (TNFR-1) pathways. E. FONT BELMONTE\*; B. ANUNCIBAY-SOTO; M. SANTOS-GALDIANO; I. F. UGIDOS; M. REGUEIRO-PURRIÑOS; J. M. GONZALO-ORDEN; A. FERNÁNDEZ-LÓPEZ. *Univ. De Leon. Inst. De Biomedicina, Facultad de Veterinaria, Univ. De Leon. Inst. De Biomedicina.*

9:00 F40 **307.18** The role of interplay between AKAP1 complex with CaN and PKA in mitochondrial morphology and neuronal survival. Y. LIU\*; R. A. MERRILL; A. SLUPE; K. FLIPPO; A. CHAUHAN; S. MCKNIGHT; S. STRACK. *Univ. of Iowa Carver Col. of Med. Depa, Univ. of Iowa Carver Col. of Med., Univ. of Iowa Carver Col. of Med., Univ. of Washington Sch. of Med.*

Mon. AM

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 10:00 F41 **307.19** Galectin-3: Modulator of microglia function. R. RAHIMIAN\*; E. ABDELHAMID; S. SATO; L. SCHLICHTER; S. LIVELY; J. KRIZ. *Laval Univ., Universitaire en Santé Mentale de Québec, and Dept. of Psychiatry and Neurosci., Lab. of Glycobiology and Bioimaging, Res. Ctr. for Infectious Diseases, Dept. of Microbiology and Immunology, Fac. of Medicine, Laval Univ., Genes and Develop. Division, Toronto Western Res. Institute, Univ. Hlth. Network Toronto, ON, Canada ; Dept. of Physiology, Univ. of Toronto Toronto, Inst. Universitaire en Santé Mentale de Québec, and Dept. of Psychiatry and Neurosci.*
- 11:00 F42 **307.20** Deletion of trpc6 attenuates nmda receptor-mediated Ca<sup>2+</sup> entry and Ca<sup>2+</sup>-induced neurotoxicity in models of cerebral ischemia. J. CHEN; Z. LI; S. CHAN; Z. CHENG\*. *Univ. of Central Florida.*
- 8:00 F43 **307.21** IRF2BP2 necessity in innate immune response affecting stroke recovery in mice. S. A. CRUZ\*; A. HARI; Z. QIN; X. ZHOU; C. CHANG; J. BUI; A. F. R. STEWART; H. CHEN. *Dept. of Cell. and Mol. Med., Ottawa Hosp. Res. Inst., Dept. of Biochemistry, Microbiology and Immunol., Univ. of Ottawa Heart Inst., Dept. of Medicine, Univ. of Ottawa.*
- 9:00 F44 **307.22** Molecular mechanisms of axonal sprouting in a cortical circuit induced by limb overuse after stroke. E. H. NIE\*; G. COPPOLA; S. T. CARMICHAEL. *UCLA, UCLA David Geffen Sch. of Med., UCLA David Geffen Sch. of Med.*
- 10:00 G1 **307.23** Aging upregulates Ca<sup>2+</sup>-permeable AMPA receptors and renders them the predominant mediators of injury during white matter stroke. S. BALTAN\*; S. GRIFFITH; C. BASTIAN; B. SCOTT; S. BRUNET. *Cleveland Clin.*
- 11:00 G2 **307.24** Differential activity of aminopeptidase N (EC 3.4.11.2) contributes to selective vulnerability of Cornu Ammonis 1 to oxygen-glucose deprivation in the rat hippocampus. Y. OU\*; S. WEBER. *Univ. of Pittsburgh.*
- 8:00 G3 **307.25** Neuroprotection against ischemic cell death - a novel role of polycomb group protein EZH2. P. SHARMA; T. LENG; Z. XIONG; Z. YANG; R. SIMON; A. ZHOU\*. *Morehouse Sch. of Med.*
- 9:00 G4 **307.26** Pyruvate and cilostazol protect cultured rat cortical pericytes against tissue plasminogen activator (tPA)-induced cell death. H. KIM\*; T. KIM; Y. YOON; J. KOH. *Asan Inst. For Life Sci., Dept. of Ophthalmology, Asan Med. Ctr., Dept. of Neurology, Asan Med. Ctr.*
- 10:00 G5 **307.27** Mechanisms of neuroprotection elicited by polycomb group protein scm1. A. KEY\*; P. SHARMA; Z. YANG; A. MCDOWELL; A. ZHOU. *Morehouse Sch. of Med.*
- 11:00 G6 **307.28** A transcriptional program underlying neuronal survival. B. MAINO\*; S. PAPANONE; C. SEVERINI; V. D'AGATA; M. CIOTTI; P. CALISSANO; S. CAVALLARO. *ISN-CNR, Inst. of Neurolog. Science, Italian Res. Council, Inst. of Neurolog. Science, Italian Res. Council, Univ. of Catania.*

## POSTER

- 308. Ischemia: Human and Translational Studies and Cell-Based Therapies**
- Theme C: Disorders of the Nervous System**
- Mon. 8:00 AM – McCormick Place, Hall A
- 8:00 G7 **308.01** Profiling plasma miRNA in intracerebral hemorrhage of small and large volume size. R. C. MARTINEZ; A. VARMA; I. O. IWUCHUKWU; D. NGUYEN\*. *Louisiana State Univ. Hlth. Sci. Ctr., Kasturba Med. Sch., Ochsner Med. Ctr., Ochsner Hlth. Syst.*
- 9:00 G8 **308.02** Test-retest reliability of transcranial magnetic stimulation measures in stroke. J. M. CASSIDY\*; H. CHU; J. R. CAREY. *Univ. of California, Irvine, Univ. of Minnesota, Univ. of Minnesota.*
- 10:00 G9 **308.03** Feasibility of robotic assessment in cynomolgus macaques following middle cerebral artery occlusion (MCAO). S. V. OLESOVSKY\*; J. Y. NASHED; J. Z. WANG; T. ST. AMAND; D. J. COOK. *Queen's Univ., Queen's Univ.*
- 11:00 G10 **308.04** Altered hippocampal resting-state functional connectivity in patients with heart failure. B. PARK\*; M. A. WOO; P. M. MACEY; G. C. FONAROW; R. M. HARPER; R. KUMAR. *Univ. of California At Los Angeles, Univ. of California At Los Angeles, Univ. of California At Los Angeles, Univ. of California At Los Angeles, Univ. of California At Los Angeles.*
- 8:00 G11 **308.05** Circulating miRNA profile in cerebrospinal fluid and plasma of patients with spontaneous intracerebral hemorrhage. A. VARMA; R. C. MARTINEZ\*; I. IWUCHUKWU; D. NGUYEN. *Ochsner Med. Ctr., Louisiana State Univ. Hlth. Sci. Ctr., Ochsner Med. Ctr.*
- 9:00 G12 **308.06** Hemodynamic lag: Prevalence after stroke and effects on functional connectivity. J. S. SIEGEL\*; L. E. RAMSEY; A. Z. SNYDER; G. L. SHULMAN; M. CORBETTA. *Washington Univ. Sch. of Med.*
- 10:00 G13 **308.07** ▲ Impaired resting-state insular brain functional connectivity in heart failure. R. VIG\*; B. PARK; M. A. WOO; G. C. FONAROW; R. M. HARPER; R. KUMAR. *UCLA, UCLA, UCLA, UCLA, UCLA, UCLA.*
- 11:00 G14 **308.08** Changes in microglia and neural stem cell characteristics after exposure to hypoxia. M. K. TOBIN\*; J. A. BONDS; E. SZILAGYI; A. M. BARTHOLOMEW; D. A. PELLIGRINO; O. LAZAROV. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*
- 8:00 G15 **308.09** Effects of the constraint-induced movement therapy (cimt) and neural precursor cell (npc) transplantation in the corpus callosum of the hemiplegic mouse model. P. RUMAJOGEE\*; S. ALTAMENTOVA; D. VAN DER KOOY; M. G. FEHLINGS. *Univ. Hlth. Network, Inst. of Med. Science, Univ. of Toronto.*
- 9:00 G16 **308.10** Intravenously transplanted human bone marrow mesenchymal stem cells preferentially migrate to spleen and abrogate splenic inflammatory response in a chronic ischemic stroke model. S. A. ACOSTA\*; N. TAJIRI; J. HOOVER; Y. KANEKO; C. V. BORLONGAN. *Universty of South Florida.*



10:00 G17 **308.11** ● hESC-Oligodendrocyte Precursor Cell transplantation after white matter stroke enhances recovery. I. L. LLORENTE\*; N. C. MANLEY; C. C. CASE; E. WIRTH, III; S. T. CARMICHAEL. *Univ. of California, Los Angeles, Asterias Biotherapeutics, Inc.*

## POSTER

### 309. Traumatic Brain Injury: Therapeutic Strategies II

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, Hall A

8:00 G18 **309.01** miR-711 up-regulation induces neuronal cell death after traumatic brain injury. B. SABIRZHANOV\*; B. A. STOICA; Z. ZHAO; D. J. LOANE; J. WU; S. DORSEY; A. I. FADEN. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Medicine, Baltimore.*

9:00 G19 **309.02** ● Adenosine A2A receptor blockade alleviates memory dysfunction caused by traumatic brain injury via ROCK2 inhibition. Y. NING; Z. ZHAO; N. YANG; Y. PENG; R. XIONG; X. CHEN; Y. ZHAO; P. LI; Y. ZHOU\*. *Res. Inst. Surg and Daping Hosp., TMMU.*

10:00 G20 **309.03** Activated neutrophils are modifiers of barrier disruption after pediatric traumatic brain injury. A. TRIVEDI\*; K. TERCOVICH; L. J. NOBLE-HAEUSSLEIN. *Univ. of California, San Francisco.*

11:00 G21 **309.04** The role of mTOR/Akt pathway in recovery of neural electrophysiology in an *in vitro* model of traumatic brain injury. P. SWIATKOWSKI\*; B. L. FIRESTEIN. *Rutgers Univ., Rutgers Univ.*

8:00 G22 **309.05** N-acetyl-seryl-aspartyl-lysyl-proline improves functional recovery in rats after traumatic brain injury. Y. ZHANG\*; M. CHOPP; Y. MENG; L. ZHANG; Z. ZHANG; A. MAHMOOD; Y. XIONG. *Henry Ford Hosp., Henry Ford Hosp., Oakland Univ.*

9:00 G23 **309.06** ▲ Asparagus racemosus exhibits anti-post traumatic stress disorder (PTSD)-like effect through 5HT1A mediated mechanism in experimental rats. R. VIG\*; D. GARABADU; P. ADITYA; S. KRISHNAMURTHY. *Indian Inst. of Technol. (BHU).*

10:00 G24 **309.07** Glucose-dependent insulinotropic polypeptide reduces sensorimotor impairments after traumatic brain injury in rats. Y. YU\*; T. HSIEH; J. LAI; K. CHEN; J. LIN; B. J. HOFFER; N. H. GREIG; Y. CHIANG. *Taipei Med. Univ., Taipei Med. Univ., Taipei Med. Univ., Chang Gung Univ., Taipei Med. Univ., Case Western Reserve Univ. Sch. of Med., NIH.*

11:00 G25 **309.08** A combined regimen of environmental enrichment and citalopram improves attentional set-shifting after brain trauma. C. O. BONDI\*; M. J. LAPORTE; H. M. TENNANT; J. P. CHENG; A. E. KLINE. *Univ. of Pittsburgh.*

8:00 G26 **309.09** Delayed and abbreviated environmental enrichment after experimental traumatic brain injury increases hippocampal neurogenesis. N. LAJUD; J. P. CHENG; C. O. BONDI; A. E. KLINE\*. *Ctr. de Investigación Biomédica de Michoacán, Inst. Mexicano del Seguro Social, Univ. Pittsburgh.*

9:00 G27 **309.10** Time-dependent mechanisms of striatal stimulation for enhanced neural recovery following traumatic brain injury. A. HUGUENARD; H. KATNANI\*; E. ESKANDAR. *Massachusetts Gen. Hosp.*

10:00 G28 **309.11** A hemostatic, tissue adhesive with immunomodulatory properties. J. L. SKOUSEN\*; M. POLEI; P. A. TRESKO. *Univ. of Utah.*

11:00 G29 **309.12** Administration of lithium improves neurotransmission and increases vesicular docking proteins in the striatum after traumatic brain injury. S. W. CARLSON\*; A. DESANA; E. MADHA; H. Q. YAN; C. E. DIXON. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

8:00 G30 **309.13** Effects of early glucocorticoid antagonism or late progesterone agonism on the psychological symptoms of mild traumatic brain injury in male and female rats. L. C. FOX\*; D. R. DAVIES; G. M. PALMER; J. L. SCHOLL; M. J. WATT; G. L. FORSTER. *Univ. of South Dakota.*

9:00 G31 **309.14** ● ▲ Water-soluble gelatinase inhibitor O-phosphate prodrug and its metabolite p-hydroxy SB-3CT ameliorate motor functions against brain damage after severe traumatic injury in mice. M. R. JUAREZ\*; Z. CHEN; M. LEE; B. TOMLINSON; M. GOOYIT; R. NIZAM; D. HESEK; B. BOGGESS; V. A. SCHROEDER; W. R. WOLTER; M. A. SUCKOW; J. CUI; S. MOBASHERY; M. CHANG; Z. GU. *Univ. of Missouri - Columbia, Ctr. for Translational Neurosci., Univ. of Missouri - Columbia, Univ. of Notre Dame, Univ. of Missouri - Columbia, Freimann Life Sci. Ctr., Univ. of Notre Dame, Ctr. for Botanical Interaction Studies.*

10:00 G32 **309.15** Dietary omega-3 polyunsaturated fatty acids ameliorate PTSD-like behaviors while improving hippocampal morphology following mild traumatic brain injury in rats. J. D. FIGUEROA\*; T. HEERS; P. KALYAN-MASIH; J. VEGA-TORRES; E. KINNEY-LANG; M. DE LEON; A. OBENAU. *Loma Linda Univ. Sch. of Med., Loma Linda Univ. Sch. of Med.*

11:00 G33 **309.16** Selective PDE4B inhibition reverses chronic memory impairments following traumatic brain injury. D. J. TITUS\*; C. FURONES; W. D. DIETRICH; M. E. GURENY; C. M. ATKINS. *Univ. of Miami Miller Sch. of Med., Tetra Discovery Partners.*

8:00 G34 **309.17** Effect of repetitive transcranial magnetic stimulation (rTMS) in traumatic brain injury (TBI) of rats. L. VERDUGO; A. HERNANDEZ-CHAVEZ; E. HERNANDEZ-LOPEZ; A. GARCIA-ESPOZO; F. ESTRADA-ROJO; M. MARTINEZ-VARGAS; L. NAVARRO\*; A. PEREZ-ARREDONDO. *UNAM Fac Med., UNAM Fac Med.*

9:00 G35 **309.18** water soluble analog of progesterone for the treatment of traumatic brain injury. B. WALI\*; I. SAYEED; D. GUTHRIE; N. TURAN; D. LIOTTA; M. NATCHUS; D. G. STEIN. *Emory Univ., Emory Univ., Emory Univ.*

10:00 G36 **309.19** ● Modulation of autophagy by lanthionine ketimine improves outcome following traumatic brain injury. M. E. HARRIS-WHITE\*; A. POTESHKINA; M. JOHNSON; P. ESLAMI; K. HENSLEY. *UCLA & Veterans Administration-Greater Los Angeles, Veterans Administration-GLA, Univ. of Toledo.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 11:00 G37 **309.20** Stabilizing intracellular calcium channels prevents acute and sustained tau pathology in traumatic brain injury and AD models. N. KAPECKI; S. FISHER; B. DESAI; C. A. BRIGGS\*; N. JAMNIA; D. PETERSON; D. KOZLOWSKI; G. STUTZMANN. *Rosalind Franklin Univ. / The Chicago Med. Sch., Rosalind Franklin Univ., DePaul Univ.*
- 8:00 G38 **309.21** Effect of creatine supplementation on cognition during hypoxia in mild traumatic brain injury. C. E. TURNER\*; W. BYBLOW; S. BARKER-COLLO; R. KYDD; N. GANT. *The Univ. of Auckland.*
- 9:00 G39 **309.22** The efficacy of progesterone depends on the traumatic brain injury model. A. M. CHOO\*; R. KOMLO; M. MANZANO; A. BARBOZA; Q. CHANG; T. HANANIA. *PsychoGenics, PsychoGenics.*
- 10:00 G40 **309.23** Hippocampal degeneration after traumatic brain injury: The roles of the PGE<sub>2</sub> EP1 receptor. A. V. GLUSHAKOV; J. M. GALVIS; S. L. SOLASKI; S. DORÉ\*. *Univ. of Florida, Univ. of Florida.*
- 11:00 G41 **309.24** ● A specific multi-nutrient intervention, designed to enhance synapse formation and function, improves functional outcome following traumatic brain injury. O. THAU ZUCHMAN\*; P. N. PALLIER; M. DAVIES; M. GROENENDIJK; M. C. DE WILDE; J. L. TREMOLEDA; A. T. MICHAEL-TITUS. *Queen Mary Univ. of London, Nutricia Res.*
- 8:00 G42 **309.25** Neurons are lost in brain regions controlling movement and fear after mild TBI and rescued by a CB2 receptor inverse agonist. W. BU; H. REN; Y. DENG; N. DEL MAR; N. M. GULEY; Y. GAO; M. G. HONIG; S. A. HELDT; B. M. MOORE, II; A. J. REINER\*. *The Univ. of Tennessee Hlth. Sci. Ctr., The Univ. of Tennessee Hlth. Sci. Ctr.*
- 9:00 G43 **309.26** Hippocampal neurophysiology in awake behaving swine after diffuse brain injury. P. KOCH\*; A. TEKRIWAL; M. GROVOLA; A. V. ULYANOVA; D. K. CULLEN; J. A. WOLF. *Univ. of Pennsylvania, Philadelphia VA Med. Ctr.*

## POSTER

### 310. Spinal Cord Injury: Animal Models and Human Studies

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 G44 **310.01** Precision and reliability of diffusion-weighted magnetic resonance imaging in healthy muscles of the lower extremity. J. G. MCPHERSON\*; M. WASIELEWSKI; J. M. ELLIOTT. *Florida Intl. Univ., Northwestern Univ.*
- 9:00 H1 **310.02** Assessment of thoracic and cervical spinal cord injuries using intercostal motor evoked potentials in humans. F. D. BENAVIDES\*; A. J. SANTAMARIA; A. Y. FLORES; J. D. GUEST. *Univ. of Miami, Miller Sch. of Med., Univ. of Miami.*
- 10:00 H2 **310.03** Use of swimming test for evaluating spasticity after contusive spinal cord injury. Y. RYU\*; N. FUJITA; T. OGATA. *Grd. Sch. of Agr. and Life Sci., Univ. of Tokyo, Natl. Rehabil. Ctr.*
- 11:00 H3 **310.04** Long-term longitudinal urodynamic findings in awake spinal cord injured rats. M. P. SCHNEIDER\*; A. K. ENGMANN; A. JESKE; M. E. SCHWAB; T. M. KESSLER. *Univ. of Zürich, Neuro-Urology, Univ. of Zürich, Balgrist Univ. Hosp.*
- 8:00 H4 **310.05** Biological effects of vibration simulating helicopter and MRAP transport on spinal cord injured pigs. N. MANOUCHEHRI\*; F. STREIJGER; J. H. T. LEE; A. D. MELNYK; J. D. CHAK; S. TIGCHELAAR; K. SO; E. B. OKON; S. JIANG; R. KINSLER; K. BARANZANJI; P. A. CRIPTON; B. K. KWON. *UBC, UBC, US Army Aeromedical Res. Lab., Vancouver Spine Surgery Institute, UBC.*
- 9:00 H5 **310.06** Generating graded spinal cord contusion injury using Louisville injury system apparatus (LISA) in adult mice. X. WU\*; W. QU; C. M. E. FRY; H. DAI; Y. ZHANG; C. SHIELDS; X. XU. *Spinal Cord and Brain Injury Res. Group, Stark Neurosciences Res. Inst., Indiana Univ. Sch. of Med., Norton Neurosci. Inst.*
- 10:00 H6 **310.07** Spinal Cord pressure, blood flow and oxygenation and the effect of Duraplasty after SCI. K. SHORTT\*; F. STREIJGER; N. MANOUCHEHRI; K. SO; E. OKON; B. K. KWON. *Univ. of British Columbia, Univ. of British Columbia.*
- 11:00 H7 **310.08** Hemodynamic management of acute spinal cord injury: Use and effects of common vasopressors on spinal cord blood flow, oxygenation and downstream metabolic responses after SCI in a porcine model. K. SO\*; F. STREIJGER; N. MANOUCHEHRI; E. B. OKON; K. SHORTT; J. H. T. LEE; B. K. KWON. *Univ. of British Columbia, Univ. of British Columbia.*
- 8:00 H8 **310.09** Changes in spinal cord metabolism, oxygenation and blood flow after acute SCI using a porcine model. E. B. OKON\*; F. STREIJGER; N. MANOUCHEHRI; K. SHORTT; K. SO; B. K. KWON. *Univ. of British Columbia, Univ. of British Columbia.*
- 9:00 H9 **310.10** Effect of injury severity on serum and cerebrospinal fluid miRNA expression profile after traumatic spinal cord injury in pigs. S. S. TIGCHELAAR\*; F. STREIJGER; S. SINHA; N. MANOUCHEHRI; K. SO; I. MALENCIA; A. COURTRIGHT; T. BEECROFT; K. VAN KEUREN-JENSEN; C. NISLOW; B. KWON. *ICORD, ICORD, UBC, Dept. of Pharmaceut. Sciences, UBC, TGen, Vancouver Spine Surgery Institute, UBC.*
- 10:00 H10 **310.11** ● Characterization of circulating monocytes in individuals with acute spinal cord injury. O. BLOOM\*; R. MONAHAN; K. GIBBS; A. PAPTAEODOROU; A. STEIN; M. BANK. *Feinstein Institute, Hofstra North Shore LIJ Sch. of Med., Feinstein Inst., Hofstra North Shore LIJ Sch. of Med., North Shore Univ. Hosp.*
- 11:00 H11 **310.12** Circulating microRNAs reflect neural dysfunction in patients with cervical spondylotic myelopathy (CSM): Implications for a novel biomarker of disease pathobiology. A. M. LALIBERTE\*; S. K. KARADIMAS; S. KALSI-RYAN; A. NOURI; E. MASSICOTTE; M. G. FEHLINGS. *Univ. of Toronto, Univ. Hlth. Network, Univ. Hlth. Network.*
- 8:00 H12 **310.13** Leveraging big-data analytics for reproducibility testing in preclinical spinal cord injury research. J. L. NIELSON\*; C. F. GUANDIQUE; A. W. LIU; C. A. TOVAR; M. S. BEATTIE; J. C. BRESNAHAN; A. R. FERGUSON. *Univ. of California San Francisco, Ohio State Univ.*

- 9:00 H13 **310.14** Dietary strategies following spinal cord injury: Ketogenic Diet and Modified Adkins Diet with oral administration of ketone supplementation. F. STREIJGER\*; K. WU; O. JANG; W. T. PLUNET; J. LIU; W. TETZLAFF. *ICORD, UBC, Dept. of Zoology, UBC.*
- 10:00 H14 **310.15** Effective gene silencing in brain and spinal cord *in vivo* models mediated by lipid nanoparticle technology. O. SEIRA; J. LIU; A. ANSARI; D. ZWAENEPOEL; C. L. WALSH; A. THOMAS; T. LEAVER; A. WILD; J. R. TAYLOR; E. RAMSAY; P. CULLIS; W. TETZLAFF\*. *Intl. Collaboration on Repair Discoveries (ICORD), Precision NanoSystems Inc., Univ. of British Columbia, Univ. of British Columbia.*
- 11:00 H15 **310.16** AAV-mediated conditional deletion of PTEN in the adult sensorimotor cortex causes robust hypertrophy of cortical motoneurons. E. A. GUTILLA\*; O. STEWARD. *UC IRVINE SCHOOL OF MEDICINE, UC IRVINE.*
- 8:00 H16 **310.17** Evoked potential analysis of hmsc and anastomosis mediated functional recovery for chronic thoracolumbar sci. X. ZENG\*; D. YU; J. E. ANDERSON; Z. ALJUBOORI; R. D. ZAFONTE; Y. D. TENG. *Brigham & Women's Hospital/Harvard Med. Sch., VA Boston Healthcare Syst., Spaulding Rehabil. Hospital/Harvard Med. Sch.*
- 9:00 H17 **310.18** Safety and feasibility of the use of tms on the cervical spinal cord injury site: A radio-telemetric study of cardiovascular and brain activity. P. K. BOSE\*; J. HOU; R. NELSON; M. H. MODARRES; F. J. THOMPSON. *North Florida/South Georgia VAMC, Univ. of Florida, Univ. of Florida, Univ. of Florida.*
- 10:00 H18 **310.19** Lipidomic analysis of spinal cord injury: Cardiolipin loss and peroxidation mediated by cPLA2 activation. N. LIU\*; L. DENG; M. WANG; Q. LU; X. WU; C. WANG; X. HAN; X. XU. *Indiana Univ., Sanford-Burnham Med. Res. Inst.*
- 11:00 H19 **310.20** Persistent inflammatory response to spinal cord injury leads to decrease of mRNA editing through down-regulation of Adar2. S. DRACHEVA\*; A. F. DI NARZO; A. KOZLENKOV; Y. GE; B. ZHANG; C. CARDOZO; E. KOONIN; L. SANELLI; Z. MAY; Y. LI; K. FOUAD; D. BENNETT. *James J. Peters VA Med. Ctr., Icahn Sch. of Med. at Mount Sinai, Natl. Ctr. for Biotech. Information, Natl. Library of Medicine, Natl. Inst. of Health., Univ. of Alberta.*
- 8:00 H20 **310.21** HuR modulates the inflammatory response in astrocytes following spinal cord injury. T. KWAN\*; C. L. FLOYD; P. H. KING. *Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*
- 9:00 H21 **310.22** Activated astrocytes modulate survival and fate specifications of adult spinal cord neural precursor cells. C. HART\*; S. M. DYCK; S. KARIMI-ABDOLREZAAE. *Univ. of Manitoba.*
- 10:00 H22 **310.23** Dendritic plasticity of layer V pyramidal neurons in the primary motor cortex after lesions to the pyramid and thoracic spinal cord. X. LIN; T. ZHAO; X. GAO; W. XIONG; S. ZHAO; W. WU; X. PING; S. LIN; X. JIN; J. CHEN; W. GAN; X. M. XU\*. *Indiana Univ. Sch. of Med., Gen. Hosp. of Jinan Military Region, Beijing Inst. of Basic Med. Sci., New York Univ. Sch. of Med., Indiana Univ.*
- 11:00 H23 **310.24** The role of L-selectin in leukocyte recruitment and secondary pathogenesis following spinal cord injury. D. A. MCCREEDY\*; C. J. SONTAG; S. M. LEE; A. F. MARTINEZ; T. M. FANDEL; S. D. ROSEN; L. J. NOBLE-HAEUSSLEIN. *Gladstone Inst., Univ. of California, Univ. of California.*
- 8:00 H24 **310.25** A combination of nutrients designed to enhance synapse formation and function improves functional outcome following spinal cord injury. P. N. PALLIER\*; L. PODDIGHE; V. ZBARSKY; M. KOSTUSIAK; R. CHOUDHURY; T. HART; M. A. BURGUILLOS; O. MUSBAHI; M. GROENENDIJK; J. W. SIJBEN; M. C. DE WILDE; M. QUARTU; J. V. PRIESTLEY; A. T. MICHAEL-TITUS. *Queen Mary Univ. of London, Univ. of Cagliari, Nutricia Research, Nutricia Advanced Med. Nutr.*
- 9:00 H25 **310.26** Effect of PPAR- $\gamma$  agonist on inflammatory mediators in rats following spinal contusion. J. OH; G. PARK; Y. KIM; J. KIM; Y. W. YOON\*. *Korea Univ. Col. Med., Korea Univ. Col. Hlth. Sci.*
- 10:00 H26 **310.27** Acute neuroprotection after spinal cord injury - going solo or in need of a friend. N. SILVA\*; N. VASCONCELOS; E. GOMES; E. OLIVEIRA; C. SILVA; R. SILVA; R. LIMA; N. SOUSA; A. SALGADO. *Life and Hlth. Sci. Res. Inst. (ICVS), Sch. of Hlth. Sci.*
- 11:00 H27 **310.28** Functional recovery conferred by a prophylactic Omega-3 and Vitamin E-enriched diet and its potential link to the scavenger receptor/lipid transporter CD36 in spinal cord injury. K. CORDERO\*; J. D. FIGUEROA; M. DE LEÓN. *Loma Linda Univ. Sch. of Med.*
- 8:00 H28 **310.29** Ephb3 receptors function as dependence receptors to mediate oligodendrocyte cell death following contusive spinal cord injury. Y. E. TSENKINA\*; J. RICARD; E. RUNKO; M. M. QUIALA-ACOSTA; J. MIER; D. J. LIEBL. *Univ. of Miami Miller Sch. of Med., Drexel Univ.*
- 9:00 H29 **310.30** De-novo myelination of grafted neural progenitor cells in the adult CNS. M. A. HUNT\*; P. LU; M. H. TUSZYNSKI. *Univ. of California San Diego, Univ. of California San Diego, Veterans Affairs Med. Ctr.*

**POSTER**

**311. Major Mental Disorders: Clinical Studies**

**Theme C: Disorders of the Nervous System**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 H30 **311.01** Attentional effects on the auditory steady-state response in schizophrenia-related disorders. L. MORAVEC\*; J. M. HOWELL; D. R. WESTFALL; D. EWBANK; W. P. HETRICK; A. R. BOLBECKER; A. BREIER; B. O'DONNELL. *Psychological and Brain Sci., Indiana Univ., Univ. of Illinois at Urbana-Champaign, Indiana Univ. Sch. of Med.*
- 9:00 H31 **311.02** Prior cannabis abuse exacerbates impairments in action monitoring in first episode psychosis. C. P. WALKER\*; S. BANGALORE; E. BELCHER; M. CARL; R. ZENISEK; R. Y. CHO. *Univ. of Texas Hlth. Sci. Ctr. at Houst, Univ. of Pittsburgh, Univ. of Rochester, Univ. of Tennessee, Univ. of Nevada, Las Vegas, Univ. of Texas Hlth. Sci. Ctr. at Houston.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 10:00 H32 **311.03** Converging evidence of aberrant neural synchrony in schizophrenia and relatives. E. H. ANDERSEN\*; A. M. CAMPBELL; S. E. SCHIPUL; S. E. SCHIPUL; A. BELGER. *Univ. of North Carolina, Univ. of North Carolina - Chapel Hill.*
- 11:00 H33 **311.04** Spindle deficits, cognitive impairment and real-life functioning in schizophrenia. R. A. FOWLER; D. CORRELL\*; B. BARAN; C. DEMANUELE; T. VUPER; B. SEICOL; C. CALLAHAN; E. PARR; R. STICKGOLD; D. MANOACH. *Massachusetts Gen. Hosp. (MGH), Athinoula A. Martinos Ctr. for Biomed. Imaging, Beth Israel Deaconess Med. Ctr.*
- 8:00 H34 **311.05** Hallucinations and immunoreactivity: IL-6 is elevated in subjects who experience 'Voices Conversing'. C. ROSEN; K. A. CHASE; B. FEINER; J. MELBOURNE; H. GIN; R. P. SHARMA\*. *Univ. of Illinois at Chicago, Univ. of Chicago, Jesse Brown Veterans Affairs Med. Ctr.*
- 9:00 H35 **311.06** Magnocellular deficits in high-risk psychosis syndrome: An ERP study. S. A. CORRAL\*; B. ABURTO; R. CASTILLO; R. MAYOL; A. MATURANA; V. DE ANGEL; D. GONZALEZ; H. SILVA; A. MARTINEZ; P. A. GASPAS. *Univ. of Chile, Columbia Univ.*
- 10:00 H36 **311.07** Gamma band auditory steady-state responses in first episode psychosis and chronic schizophrenia. N. ORIBE\*; H. KUGA; I. NAKAMURA; Y. HIRANO; T. ONITSUKA; T. UENO. *Kyushu Univ., Natl. Hosp. Organization Hizen Psychiatric Ctr.*
- 11:00 H37 **311.08** Chondroitin Sulfate Proteoglycan expression in the human olfactory system: Implications for the pathophysiology of schizophrenia. F. J. HAMATI\*; A. BOYER-BOITEAU; H. PANTAZOPOULOS; S. BERRETTA. *McLean Hosp., McLean Hosp., Harvard Med. Sch.*
- 8:00 H38 **311.09** Abnormalities in P300 reveal impaired working memory processing in subjects at high-risk of psychosis. R. I. CASTILLO; R. MAYOL; S. A. CORRAL; B. ABURTO; V. DE ANGEL; H. SILVA; D. GONZALEZ; P. A. GASPAS\*. *Univ. of Chile Clin. Hosp., Fac. of Medicine, Univ. of Chile, Univ. of Chile, Biomed. Neurosci. Inst., Nathan Kline Inst.*
- 9:00 H39 **311.10** The predictive power of early treatment response in first-onset psychosis: A randomized controlled trial of haloperidol versus olanzapine. S. RASMUSSEN\*; P. I. ROSEBUSH; M. F. MAZUREK. *McMaster Univ.*
- 10:00 H40 **311.11** Study for the effect of carbonyl stress makers on cognitive impairment of schizophrenia. A. KOBORI\*; S. HATAKEYAMA; Y. HORIUCHI; K. TORIUMI; M. MIYASHITA; M. ITOKAWA; H. ARAI; M. ARAI. *Tokyo Metropolitan Inst. of Med. Sci., Shinsyu Univ. Sch. of Med., Juntendo Univ. Grad. Sch. of Med.*
- 11:00 H41 **311.12** ● Detection of brain correlates of Schizophrenia deficits with a novel electroencephalography mobile system. R. GIL-DA-COSTA\*; R. FUNG; M. CASWELL; T. P. COLEMAN; G. LIGHT. *Salk Inst. for Biol. Studies, Neuroverse, Inc., UCSD, UCSD.*
- 8:00 H42 **311.13** Sensory-motor control underpinnings of a baseline-pointing task in patients with schizophrenia and in neurotypical controls. J. NGUYEN\*; S. M. SILVERSTEIN; T. V. PAPATHOMAS; E. B. TORRES. *Rutgers Univ.*
- 9:00 H43 **311.14** The augmentation effect of electroconvulsive therapy on the antipsychotic action of medications and functional corticoatrial connectivity in patients with schizophrenia. P. LI\*; R. ZHAO; L. SHI; S. MENG; H. SUN; L. LU. *Peking Univ. Sixth Hosp., Dept. of Alcohol and Drug Dependence, Beijing Hui-Long-Guan Hospital, Peking Univ., Natl. Inst. on Drug Dependence, Peking Univ.*
- 10:00 H44 **311.15** Processing bimodal altered in individuals at high risk for psychosis: An ERP study. M. B. ABURTO\*; R. CASTILLO; S. CORRAL; R. MAYOL; V. DE ANGEL; D. GONZÁLEZ; M. J. VILLAR; J. CORTÉS-BRIONES; H. SILVA; P. GASPAS. *Univ. of Chile, Translational Psychiatry Laboratory, Dept. of Psychiatry and Mental Health, Clin. Hospital, Univ. of Chile, Yale University, West Haven, CT, United States, Biomed. Neurosci. Inst.*
- 11:00 H45 **311.16** Prevalence of psychoactive substance use and its effects on mental health of students of abubakar tafawa balewa university, bauchi, Nigeria. Y. M. MAHMUD\*; K. A. AYANDA; D. SULYMAN. *Abubakar Tafawa Balewa Univ. Teaching Hospita, Abubakar Tafawa Balewa Univ. Teaching Hospita.*
- 8:00 H46 **311.17** Aberrant activity in coherent motion perception at high risk Psychosis subjects. R. MAYOL\*; B. ABURTO; R. CASTILLO; S. CORRAL; D. GONZÁLEZ; V. DE ANGEL; J. CORTES-BRIONES; H. SILVA; P. GASPAS. *Univ. De Chile, Clínica Psiquiátrica Universitaria, Yale University, Dept. of Psychiatry, Clínica Psiquiátrica Universitaria.*
- 9:00 H47 **311.18** Early integration of visual and audiovisual information in schizophrenia as assessed by contour integration and sound induced flash illusion paradigms. H. TURKOZER\*; E. KALE; Z. PAMIR; H. BOYACI; D. ONGUR; V. TOPCUOGLU. *Marmara Univ., Ankara Univ., Bilkent Univ., Bilkent Univ., Harvard Univ. and McLean Hosp.*
- 10:00 H48 **311.19** ● Mismatch negativity is associated with plasma levels of glutamate in patients with first-episode psychosis. D. KOSHIYAMA\*; T. NAGAI; K. KIRIHARA; M. TADA; S. KOIKE; M. SUGA; T. ARAKI; K. KASAI. *The Univ. of Tokyo, Office for Mental Hlth. Support, the Univ. of Tokyo, Dept. of Youth Mental Health, Grad. Sch. of Medicine, Univ. of Tokyo.*
- 11:00 I1 **311.20** ● Adjuvant pioglitazone for unremitted depression: Clinical correlates of treatment response. K. WATSON LIN; T. WROOLIE; N. L. RASGON\*. *Stanford Univ., Stanford Sch. of Medicine, Stanford Univ.*
- 8:00 I2 **311.21** Off-label use of transmucosal ketamine as a rapid acting antidepressant: A retrospective chart review. L. NGUYEN\*; C. B. WEAVER; K. J. CRAMER; S. E. POLLARD; P. J. MARSHALEK; R. R. MATSUMOTO. *WVU Sch. of Pharm., WVU Sch. of Med., WVU School of Nursing, Touro Univ. CA Col. of Pharm.*
- 9:00 I3 **311.22** Cooling the forebrain in adults. B. BARRERA-MERA\*. *Fac Med, UNAM.*

POSTER

**312. Major Mental Disorders: Human Postmortem Studies**

**Theme C: Disorders of the Nervous System**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 I4 **312.01** Development of a genetic risk score to index the integrity of somatostatin-positive GABA neurons in human cortex. Y. S. NIKOLOVA\*; J. PIPITONE; E. SIBILLE. *Ctr. for Addiction and Mental Hlth., Campbell Family Mental Hlth. Res. Inst. of CAMH, CAMH, Univ. of Toronto.*
- 9:00 I5 **312.02** ▲ In subjects with major depressive disorder CREB expression in the dentate gyrus correlates with number of granule neurons and decreases with aging. L. BONILLA; R. HEN; A. J. DWORK; G. B. ROSOKLIJA; V. ARANGO; J. J. MANN; M. BOLDRINI\*. *Barnard Col., Columbia Univ. - NYSPi.*
- 10:00 I6 **312.03** Sex differences in glutamate receptors in major depression and suicide. M. S. SODHI\*; A. GRAY; A. DEEP-SOBOSLAY; T. HYDE; J. KLEINMAN. *Univ. of Illinois At Chicago, UIC, Lieber Inst. for Brain Develop.*
- 11:00 I7 **312.04** VEGFR2 is increased in the dentate gyrus of antidepressant treated subjects and correlates with measures of angiogenesis, neurogenesis, and serotonin 1A receptor mRNA. A. N. SANTIAGO\*; K. B. STEELE; T. H. BUTT; S. KASSIR; M. BAKALIAN; V. ARANGO; A. DWORK; G. ROSOKLIJA; J. MANN; M. BOLDRINI. *Columbia Univ., New York Univ., Albert Einstein Col. of Med., New York State Psychiatric Inst., Columbia Univ., Columbia Univ., Macedonian Acad. of Sci. & Arts.*
- 8:00 I8 **312.05** Oxytocin: A neurohormone link to the epigenetics of early life adversity and suicide. D. ALMEIDA\*; L. FIORI; G. TURECKI. *McGill Group For Suicide Studies, McGill Univ., McGill Univ., McGill Univ.*
- 9:00 I9 **312.06** Increase in the nitration levels and astrocytes in the Prefrontal Cortex of suicide victims. F. GARCIA-DOLORES\*; F. E. TAKAHASHI; R. C. MENDOZA MORALES; R. A. VAZQUEZ-ROQUE; A. D. DÍAZ FONSECA; F. DE LA CRUZ LÓPEZ; G. FLORES. *Inst. De Ciencias Forenses, Inst. de Ciencias Forenses, Inst. de Ciencias Forenses, Benemerita Uniersidad Autonoma de Puebla, Benemerita Univ. Autónoma de Puebla, Inst. Politecnico Nacional, Benemerita Unversida Autonoma de Puebla.*
- 10:00 I10 **312.07** Association between kynurenine metabolism and transcripts related to neuroinflammatory signaling in postmortem human brain. A. POCIVAVSEK\*; A. W. LEE; A. ADBOURAHMAN; K. V. SATHYASAIKUMAR; J. A. TAMM; F. M. NOTARANGELO; J. WIEDEMANN; T. MÖLLER; G. TURECKI; R. SCHWARCZ; B. CAMPBELL. *Univ. of Maryland Sch. of Med., Lundbeck Res. USA, Lundbeck, McGill Univ.*
- 11:00 I11 **312.08** The microRNA regulatory network is altered in anterior cingulate cortex of patients with unipolar and bipolar depression. J. A. AZEVEDO\*; B. S. CARTER; F. MENG; D. L. TURNER; M. DAI; A. F. SCHATZBERG; J. D. BARCHAS; E. G. JONES; W. E. BUNNEY; R. M. MYERS; H. AKIL; S. J. WATSON; R. C. THOMPSON. *Univ. of Michigan, MIT, Univ. of Michigan, Stanford Univ., Cornell Univ., Univ. of California - Davis, Univ. of California - Irvine, HudsonAlpha Inst. for Biotech.*
- 8:00 I12 **312.09** Polyamine metabolic enzyme gene expression analysis of human amygdala of major depressive disorder samples. V. SHARMA\*; M. HAGENAUER; S. CHAUDHURY; R. C. THOMPSON; R. M. MYERS; A. F. SCHATZBERG; J. D. BARCHAS; W. E. BUNNEY; H. AKIL; S. J. WATSON. *Univ. of Michigan, HudsonAlpha Inst. for Biotech., Stanford Sch. of Med., Weil Cornell Med. Col., Univ. of California Irvine.*
- 9:00 I13 **312.10** Expression of GABA(A) receptor trafficking molecules in schizophrenia brain. T. M. MUELLER\*; V. HAROUTUNIAN; J. H. MEADOR-WOODRUFF. *UAB, Mt Sinai Sch. of Med.*
- 10:00 I14 **312.11** GABAergic gene expression in the anterior cingulate cortex in schizophrenia. G. C. BRISTOW\*; M. S. SODHI. *Univ. of Illinois At Chicago, Univ. of Illinois At Chicago.*
- 11:00 I15 **312.12** Region and pyramidal cell level expression of glutamate transporters EAAT1 and EAAT2 and their splice variants in schizophrenia. S. M. O'DONOVAN\*; K. HASSELFELD; D. BAUER; M. SIMMONS; P. ROUSSOS; V. HAROUTUNIAN; J. H. MEADOR WOODRUFF; R. E. MCCULLUMSMITH. *Univ. of Cincinnati, Wellsley Col., Univ. of Alabama, Icahn Sch. of Med. at Mount Sinai.*
- 8:00 I16 **312.13** Altered expression of adenosine system components in pyramidal neuron and glial cell populations in schizophrenia. K. A. HASSELFELD\*; R. H. KOENE; S. M. O'DONOVAN; R. C. ROBERTS; R. E. MCCULLUMSMITH. *Univ. of Cincinnati, Univ. of Alabama at Birmingham.*
- 9:00 I17 **312.14** Expression of EAAT mRNA isoforms in Nissl-stained astrocyte populations in post-mortem schizophrenia. R. KOENE\*; K. HASSELFELD; S. M. O'DONOVAN; R. C. ROBERTS; R. E. MCCULLUMSMITH. *Univ. of Cincinnati, Univ. of Alabama at Birmingham.*
- 10:00 I18 **312.15** Altered expression of monocarboxylate transporter 1 in laser captured pyramidal neurons and astrocytes in schizophrenia. C. R. SULLIVAN\*; S. O'DONOVAN; R. KOENE; K. HASSELFELD; R. MCCULLUMSMITH. *Univ. of Cincinnati.*
- 11:00 I19 **312.16** Analysis of the EAAT2 interactome coupling to metabolic function in schizophrenia. A. E. GARDNER\*; S. M. O'DONOVAN; K. E. CLICK; A. J. FUNK; R. E. MCCULLUMSMITH. *Univ. of Cincinnati.*
- 8:00 I20 **312.17** Developmental molecular profiles of human choroid plexus epithelial cells determined by whole transcriptome rna sequencing. K. ATHANAS; E. KOHLBRENNER; S. JACKSON; K. VARMA; S. MAUNEY; K. SONNTAG; S. BERRETTA; T. WOO\*. *McLean Hosp., Life Technologies, McLean Hosp/Harvard Med. Sch., McLean Hosp/Harvard Med. Sch., McLean Hosp/Harvard Med. Sch.*
- 9:00 I21 **312.18** Prefrontal cortical perineuronal net ensheathment of pyramidal neurons in schizophrenia. K. M. ATHANAS\*; T. W. WOO. *McLean Hosp., Beth Israel Deaconess Med. Ctr., Harvard Med. Sch.*
- 10:00 I22 **312.19** UBE3B expression in the prefrontal cortex during development and in schizophrenia. E. KOHLBRENNER\*; W. T. WOO. *McLean Hospital; Harvard Med. Sch., McLean Hospital; Harvard Med. Sch., Beth Israel Deaconess Med. Ctr., Harvard Med. Sch.*

Mon. AM

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

- 11:00 I23 **312.20** Whole-genome expression analysis across major mental disorders allows examining disease-specific changes and potential common molecular pathogenic mechanisms. R. KRAMER\*; M. MISTRY; M. FROMER; A. ELKAHLOUN; N. FENG; B. K. LIPSKA. *Natl. Inst. of Mental Hlth., Harvard Sch. of Publ. Hlth., Icahn Sch. of Med. at Mount Sinai, Natl. Human Genome Inst.*
- 8:00 I24 **312.21** Decreased number of perineuronal nets in the reticular thalamic nucleus of individuals with schizophrenia and bi-polar disorder. M. ARDELT\*. *McLean Hosp.*
- 9:00 I25 **312.22** CRH, CRH-R1, CRH-R2 and CRH-BP in the prefrontal cortex and hippocampus of teenage suicide victims. X. REN\*; H. RIZAVI; G. N. PANDEY. *Univ. of Illinois at Chicago.*
- POSTER**
- 313. Mechanisms of Withdrawal from Alcohol, Nicotine and Morphine**
- Theme C: Disorders of the Nervous System**
- Mon. 8:00 AM – McCormick Place, Hall A
- 8:00 I26 **313.01** The effects of smoking reduced nicotine cigarettes upon resting state functional connectivity, craving and withdrawal in young smokers. P. FAULKNER\*; D. GHAREMANI; C. COX; G. HELLEMANN; E. LONDON. *UCLA.*
- 9:00 I27 **313.02** Effect of gender and estrous cycle phase on nicotine withdrawal syndrome in the rat. M. HENCEROTH\*; J. R. CAMPBELL; M. L. CANDELARIO; C. L. AGUILAR; C. A. MADISON; E. A. ODOM; M. F. MERIANO; D. H. MALIN. *Univ. of Houston Clear Lake.*
- 10:00 I28 **313.03** ● A subtype-specific NPF receptor antagonist reverses nicotine dependence. D. H. MALIN\*; M. M. HENCEROTH-CHOMIAK; J. J. IZYGON; D. J. MCGHIEY; K. M. BRIGHT; D. M. NGHIEM; P. GOYARZU; E. S. BURSTEIN. *Univ. Houston-Clear Lake Mail Code 265, Univ. of Houston-Clear Lake, ACADIA Pharmaceuticals Inc.*
- 11:00 I29 **313.04** ● The effect of nicotine administration and withdrawal on sleep in mice. H. L. MATHEWS\*; V. GRIMSHAW; J. A. STITZEL. *Univ. of Colorado - Boulder, Univ. of Colorado - Boulder, Univ. of Colorado - Boulder.*
- 8:00 I30 **313.05** Glutamate mediates p38-induced presenilin 1 activation. M. E. JUNG\*; D. METZGER. *Univ. N Texas Hlth. Sci. Ctr.*
- 9:00 I31 **313.06** Tissue hypothalamic-pituitary-adrenal axis responses to nicotine and mecamylamine following *in vivo* continuous nicotine administration and withdrawal. M. E. RHODES\*; L. E. HARBAUGH; J. A. RUTKAUSKAS; R. T. RUBIN. *St. Vincent Col., VA Greater Los Angeles Healthcare Syst.*
- 10:00 I32 **313.07** Activation of the dynorphin-kappa system in the central nucleus of the amygdala mediates the negative emotional state of nicotine withdrawal but not escalation of nicotine intake. M. KALLUPI\*; A. COHEN; T. E. GRIEDER; G. DE GUGLIELMO; O. GEORGE. *Scripps Res. Inst., Inst. of Med. Sci. and Dept. of Mol. Genet.*
- 11:00 I33 **313.08** Chronic ethanol enhances corticotrophin-releasing factor-dependent potentiation of glutamatergic transmission in lateral habenula neurons. J. YE\*; W. ZUO. *Rutgers, New Jersey Med. Sch., Rutgers, New Jersey Med. Sch.*
- 8:00 I34 **313.09** CaV1.3 channels in inferior colliculus neurons are critical for alcohol withdrawal seizures. P. N'GOUEMO\*. *GEORGETOWN UNIVERSITY MEDICAL CENTER.*
- 9:00 I35 **313.10** ▲ Reduced dendritic complexity in the agranular insular cortex of rats following ethanol exposure and withdrawal. M. E. FROST\*; C. W. BIRD; V. L. PETERSON; B. MCCOOL; D. A. HAMILTON. *Univ. of New Mexico, Wake Forest Sch. of Med.*
- 10:00 I36 **313.11** Acute alcohol withdrawal induces sex-dependent alterations in endocannabinoid mRNA expression and negative affect in alcohol dependent rats. A. WILLIAMS\*; A. L. BERGER; R. J. MCLAUGHLIN. *Washington State Univ.*
- 11:00 I37 **313.12** ▲ Kappa opioid regulation of depressive-like behavior and ethanol self-administration following protracted withdrawal from ethanol. D. M. CHAPA; S. K. JARMAN; G. R. VALDEZ\*. *Grand Valley State Univ.*
- 8:00 I38 **313.13** Protective role of delta opioid receptor in alcohol withdrawal-induced hyperalgesia. D. ALONGKRONRUSMEE; R. M. VAN RIJN\*. *Purdue Univ., Purdue Univ.*
- 9:00 I39 **313.14** Inhibitor-2 (I-2), a regulator of protein phosphatase-1 (PP1), mediates alcohol withdrawal anxiety-like behavior in rats. H. YANG\*; H. HOU; E. R. HELLARD; C. ITOGA; B. BAYNES; Y. TANG; N. W. GILPIN; H. XIA. *LSU Hlth. Sci. Ctr., LSU Hlth. Sci. Ctr., LSU Hlth. Sci. Ctr.*
- 10:00 I40 **313.15** N-acetylcysteine prevents alcohol withdrawal-induced anxiety in rats. R. GOMEZ\*; R. SCHNEIDER JR; S. BANDIERA; A. W. HANSEN; R. PULCINELLI; G. CALETTI; E. ELISABETSKY. *Univ. Federal Do Rio Grande Do Sul - UFRGS, Programa de Pós-Graduação em Neurociências, Programa de Pós-Graduação em Farmacologia e Terapêutica, Programa de Pós-Graduação em Ciências da Saúde.*
- 11:00 I41 **313.16** Failure of abstinent alcoholics to engage frontoparietal control systems when viewing alcohol beverage pictures: A task-activated fMRI study. E. M. MULLER-OEHRING\*; W. CHU; E. V. SULLIVAN; A. PFEFFERBAUM; T. SCHULTE. *Stanford Univ. Sch. of Med., SRI Intl., Palo Alto Univ.*
- 8:00 I42 **313.17** Rostromedial tegmental nucleus (RMTg) mediates aversive consequences of spontaneous morphine withdrawal. G. I. ELMER\*; K. E. RIEGGER; C. L. MAYO; H. PALACOROLLA; D. B. BELL; P. D. SHEPARD. *Maryland Psychiatric Res. Center, Univ. of Maryland.*
- 9:00 I43 **313.18** Microglial P2X7 receptor activity is gated by morphine-induced phosphorylation. H. L. LEDUC-PESSAH\*; N. L. WEILINGER; C. Y. FAN; N. E. BURMA; R. J. THOMPSON; T. TRANG. *Univ. of Calgary, Hotchkiss Brain Inst., Univ. of Calgary, Hotchkiss Brain Inst., Univ. of Calgary, Hotchkiss Brain Inst.*
- 10:00 I44 **313.19** Morphine withdrawal critically involves spinal microglial P2X7 receptors. N. E. BURMA\*; H. L. LEDUC-PESSAH; Z. F. CAIRNCROSS; T. TRANG. *Univ. of Calgary, Hotchkiss Brain Inst., Univ. of Calgary, Hotchkiss Brain Inst.*

**POSTER**

**314. Alcohol and Stress**

**Theme C: Disorders of the Nervous System**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 I45 **314.01** Escalated alcohol drinking in socially stressed mice: CRF-R1 in the ventral tegmental area. L. S. HWA\*; E. N. HOLLY; E. ZHANG; J. F. DEBOLD; K. A. MICZEK. *Tufts Univ.*
- 9:00 I46 **314.02** ▲ Stress modulation of alcohol consumption and anxiety-like behavior in specially bred alcohol-preferring and non-preferring rats. T. O'CONNOR; D. CRETHERS; T. B. PATTON\*. *Georgia Regents Univ., Georgia Regents Univ.*
- 10:00 I47 **314.03** The effect of stress on the acquisition of ethanol self-administration in rats. C. J. HEYSER\*; B. HOFF. *UCSD.*
- 11:00 I48 **314.04** Stress promotes alcohol consumption and excitatory GABA transmission in the VTA. A. OSTROUMOV\*; A. THOMAS; W. DOYON; B. KIMMEY; J. DANI. *Univ. of Pennsylvania.*
- 8:00 J1 **314.05** Combined chronic intermittent ethanol exposure and stress exposure alter micro-RNA expression in prefrontal cortex and hippocampus of C57BL/6J Mice. M. G. SOLOMON; M. P. OVERSTREET; R. MCCANN; R. I. ANDERSON; M. F. LOPEZ\*; H. C. BECKER. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*
- 9:00 J2 **314.06** Optical stimulation of CRF-positive neurons in the pVTA decreases later ethanol drinking in mice. L. M. DARNIEDER\*; K. GOBROGGE; L. C. MELON; J. MAGUIRE; K. A. MICZEK. *Tufts Univ. Sackler Sch. of Grad. Biomed, Tufts Univ., Tufts Univ. Sch. of Med.*
- 10:00 J3 **314.07** Alcohol programs the stress axis to hyper-response to a future stress challenge from prenatal to pre-pubertal period and not after puberty. S. MURUGAN; M. CABRERA; L. G. CHASTAIN\*; D. K. SARKAR. *Rutgers, the State Univ. of New Jersey, Rutgers, The State Univ. of New Jersey.*
- 11:00 J4 **314.08** CRF1R antagonism reduces ethanol consumption in models of binge drinking, relapse drinking, and stress-induced drinking in adult male C57BL/6J mice. R. I. ANDERSON\*; M. F. LOPEZ; H. C. BECKER. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*
- 8:00 J5 **314.09** Alcohol induces changes in the endocannabinoid and dopaminergic systems and concentration of GABA and glutamate in the nucleus accumbens of rats with maternal separation and early stress. A. ROMANO\*; L. ALVARADO-CAPULEÑO; M. MÉNDEZ-DÍAZ; A. RUIZ-CONTRERAS; O. PROSPÉRO-GARCÍA. *Univ. Nacional Autonoma De Mexico, Univ. Nacional Autonoma De Mexico Grupo de Neurociencias, Lab. de Canabinoides, Univ. Nacional Autonoma De Mexico Grupo de Neurociencias UNAM. Lab. De Canabinoides, Univ. Nacional Autonoma De Mexico, Lab. Neurogenomica Cognitiva, Univ. Nacional Autonoma De Mexico, Grupo de Neurociencias Lab. de Canabinoides.*
- 9:00 J6 **314.10** Acupuncture attenuates increases in anxiety-like behaviors and ethanol self-administration in dependent rats via activation of the endogenous opioid system. C. YANG\*; S. CHANG; J. KIM; Y. GWAK; J. LEE; J. LEE; B. LEE; H. KIM. *Daegu Haany Univ.*

- 10:00 J7 **314.11** Sex differences in alcohol and corticosterone modulation of glutamatergic input from the basolateral to the central nucleus of the amygdala. M. L. LOGRIP\*; C. OLEATA; M. ROBERTO. *The Scripps Res. Inst.*
- 11:00 J8 **314.12** Ventral subiculum is critical for context-induced relapse to alcohol seeking after punishment-imposed abstinence. N. J. MARCHANT\*; K. KAGANOVSKY; E. J. CAMPBELL; J. M. BOSSERT; A. BONCI; Y. SHAHAM. *Natl. Inst. On Drug Abuse, Sch. of Biomed. Sci. and Pharmacy, Univ. of Newcastle, and Hunter Med. Res. Inst.*
- 8:00 J9 **314.13** NMDA and GABAA receptor-mediated plasticity in the ventral tegmental area by acute and chronic ethanol. A. NELSON\*; T. J. WOODWARD; H. PARK; S. I. SHIN; S. S. PISTORIUS; S. D. BAIR; S. C. STEFFENSEN. *Brigham Young Univ.*
- 9:00 J10 **314.14** Functional switch in GABA(A) receptors on VTA GABA neurons by acute and chronic ethanol. H. PARK\*; A. C. NELSON; T. J. WOODWARD; S. I. SHIN; S. S. PISTORIUS; S. D. BAIR; S. C. STEFFENSEN. *Brigham Young Univ.*

**POSTER**

**315. Cocaine: Mechanisms of Reinforcement and Relapse**

**Theme C: Disorders of the Nervous System**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 J11 **315.01** Estrogen-potentiated reinstatement of cocaine seeking. E. M. DONCHECK\*; J. J. TUSCHER; M. C. DEBAKER; L. A. URBANIK; L. E. MCCARTAN; E. E. HERDEMAN; K. M. FRICK; J. R. MANTSCH. *Marquette Univ., Univ. of Wisconsin-Milwaukee.*
- 9:00 J12 **315.02** Role of a crf receptor-regulated dopaminergic projection from the ventral tegmental area to the prelimbic cortex in stress-induced relapse. O. VRANJKOVIC\*; T. M. KLOEHN; M. E. NORDNESS; D. A. BAKER; J. R. MANTSCH. *Marquette Univ., Marquette Univ.*
- 10:00 J13 **315.03** ● Corticosterone potentiates reinstatement of cocaine seeking through endocannabinoid-mediated inhibition of GABAergic neurotransmission in the prelimbic cortex. J. R. MCREYNOLDS\*; E. M. DONCHECK; O. VRANJKOVIC; E. N. GRAF; Q. LIU; C. J. HILLARD; J. R. MANTSCH. *Marquette Univ., Med. Col. of Wisconsin.*
- 11:00 J14 **315.04** Exposure to anabolic androgenic steroids in adolescent male rats triggers changes in susceptibility to cocaine use in adulthood. M. POMPILUS\*; S. SERRANO; J. GESTE; G. SOTO; T. ORTIZ; T. ORTIZ; W. NORZE; C. S. MALDONADO-VLAAR. *Univ. of Puerto Rico-Rio Piedras.*
- 8:00 J15 **315.05** A history of physical, emotional, or sexual abuse predicts higher mesolimbic response to drug cues in cocaine-dependent patients. P. REGIER\*; Z. A. MONGE; J. J. SUH; K. JAGANNATHAN; Z. WANG; J. F. MAGLAND; A. TEITELMAN; T. R. FRANKLIN; R. R. WETHERILL; K. YOUNG; M. J. GAWRYSIK; D. D. LANGLEBEN; C. P. O'BRIEN; A. R. CHILDRESS. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*

Mon. AM

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

- 9:00 J16 **315.06** Corticotropin releasing factor and dopamine interactions in a heterogeneous ventral tegmental area: How can aversive experiences heighten cocaine self-administration? E. N. HOLLY\*; C. O. BOYSON; S. MONTAGUD-ROMERO; J. F. DEBOLD; K. A. MICZEK. *Tufts Univ., Univ. of Chicago, Univ. de València.*
- 10:00 J17 **315.07** Identification of a novel CRF-VTA microcircuit in the mouse midbrain underlying stress and psychostimulant sensitization. K. L. GOBROGGE\*; A. HOOPER; E. HOLLY; X. HAN; J. DEBOLD; J. MAGUIRE; K. A. MICZEK. *Tufts Univ., Tufts Med. Sch.*
- 11:00 J18 **315.08** Prevention of escalated cocaine self-administration and cocaine seeking by CRF R1 antagonist in socially defeated mice. X. HAN\*; K. A. PEREZ; A. J. LOTSTEIN; J. F. DEBOLD; K. A. MICZEK. *Tufts Univ.*
- 8:00 J19 **315.09** Increased sensitivity to cocaine-induced relapse to drug-seeking behavior in organic cation transporter 3 knockout mice. P. J. GASSER\*; J. R. MCREYNOLDS; O. VRANJKOVIC; O. DERRICKS; B. NINO; T. AMBROSIUS; J. R. MANTSCH. *Marquette Univ.*
- 9:00 J20 **315.10** Corticosterone potentiates the effect of cocaine on nucleus accumbens dopamine release and clearance. D. S. WHEELER\*; A. L. EBBEN; A. T. BOHN; I. A. JASEK; D. A. BAKER; J. R. MANTSCH; R. A. WHEELER; P. J. GASSER. *Marquette Univ.*
- 10:00 J21 **315.11** ▲ Effects of cannabidiol on cocaine self-administration and cue-induced cocaine seeking in male rats. A. MAHMUD; S. GALLANT; T. D'CUNHA; U. SHALEV\*. *Concordia Univ.*
- 11:00 J22 **315.12** Cannabinoid exposure in adolescence modulates cocaine reward in adulthood. J. M. WENZEL\*; J. F. CHEER. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*
- 8:00 J23 **315.13** Pituitary adenylate cyclase activating polypeptide (PACAP) increases neuronal excitability in the bed nucleus of the stria terminalis (BNST). K. R. LEZAK\*; V. MAY; S. E. HAMMACK. *Univ. of Vermont, Univ. of Vermont.*
- 9:00 J24 **315.14** Intra-bed nucleus of the stria terminalis (BNST) pituitary adenylate cyclase activating peptide (PACAP) infusion reinstates cocaine seeking in rats. O. MILES\*; E. A. THRILKILL; V. MAY; M. E. BOUTON; S. E. HAMMACK. *The Univ. of Vermont, The Univ. of Vermont.*
- 10:00 J25 **315.15** Antagonism of dopamine D4 receptors in the lateral habenula reduces the anxiogenic response to cocaine in a runway model of drug self-administration. K. SHELTON\*; K. BOGYO; T. SCHICK; A. ETTEMBERG. *Univ. of California, Santa Barbara, Univ. of California, Santa Barbara.*
- 11:00 J26 **315.16** Activation of serotonin 1B autoreceptors in the Bed Nucleus of the Stria Terminalis attenuates the negative/anxiogenic effects of cocaine. A. KLEIN\*; M. BRITO; N. LE; T. OHANA; A. PATIL; C. PROVENZANO; A. WEI; A. ETTEMBERG. *UC Santa Barbara.*
- 8:00 J27 **315.17** Role of anterior dorsal lateral hypothalamic area perineuronal nets in the acquisition of cocaine-induced conditioned place preference. J. M. BLACKTOP\*; L. CHURCHILL; R. P. TODD; M. SLAKER; B. A. SORG. *Washington State Univ. Vancouver, Washington State Univ.*
- 9:00 J28 **315.18** Fos and dopamine activation in reward pathways of rats selectively bred for enhanced drug self-administration. H. XU\*; S. HE; K. GRASING. *Kansas City VA Med. Ctr.*
- 10:00 J29 **315.19** Extended cocaine-seeking produces a shift from goal-directed to habitual responding in rats. K. LEONG\*; C. R. BERINI; S. M. GHEE; C. M. REICHEL. *Med. Univ. of South Carolina.*
- 11:00 J30 **315.20** Chronic stress exposure during early withdrawal from extended access cocaine self-administration facilitates incubation of cue-induced cocaine craving. J. A. LOWETH\*; R. M. GLYNN; J. A. ROSENKRANZ; M. E. WOLF. *Rosalind Franklin Univ. of Med. and Sci., Rosalind Franklin Univ. of Med. and Sci.*

## POSTER

### 316. Amphetamine and Related drugs: Neural Mechanisms of Addiction

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 J31 **316.01** Rats that experience footshock-induced abstinence from methamphetamine self-administration exhibit increased prodynorphin mRNA in the nucleus accumbens. M. T. MCCOY\*; O. V. TORRES; B. LADENHEIM; I. N. KRASNOVA; J. CADET. *DHHS/NIH/NIDA/IRP.*
- 9:00 J32 **316.02** Phentermine induces the conditioned rewarding effects via the activation of PI3K/Akt signaling pathway in the nucleus accumbens. S. HONG\*; S. MA; J. HWANG; J. SEO; Y. KO; S. LEE; C. JANG. *Sungkyunkwan Univ.*
- 10:00 J33 **316.03** BDNF-TrkB signaling in the nucleus accumbens plays a key role in methamphetamine withdrawal symptoms. Q. REN\*; M. MA; C. YANG; J. ZHANG; W. YAO; K. HASHIMOTO. *Chiba Univ. Ctr. Forensic Mental Hlth.*
- 11:00 J34 **316.04** Acid-sensing ion channels control locomotor and rewarding effects of amphetamine. X. CHU\*; Q. JIANG; C. HASSANZADEH; A. JIVAN. *Univ. Missouri-Kansas City, Univ. of Missouri-Kansas City, Univ. of Missouri-Kansas City.*
- 8:00 J35 **316.05** Individual differences in methamphetamine self-administration model methamphetamine-addicted phenotype and are associated with cellular alterations in dentate gyrus of hippocampus. M. H. GALINATO\*; M. FANNON; J. C. SOBIERAJ; A. GHOFRANIAN; A. I. NAVARRO; S. CHAING; S. S. SOMKUWAR; C. MANDYAM. *UCSD, The Scripps Res. Inst.*
- 9:00 J36 **316.06** Investigating the role of nucleus accumbens core astrocytes in reinstated methamphetamine seeking. M. D. SCOFIELD; K. LEONG; C. GARCIA-KELLER; S. M. GHEE; C. A. THOMAS; P. W. KALIVAS; C. M. REICHEL\*. *Med. Univ. of South Carolina.*
- 10:00 J37 **316.07** ● Neuron-specific modulation of dendritic spine dynamics in nucleus accumbens by amphetamine-paired contextual stimuli. P. VEZINA\*; N. BUBULA; D. LI; V. BINDOKAS; B. F. SINGER. *The Univ. of Chicago, The Univ. of Chicago, Univ. of Michigan.*



- 11:00 J38 **316.08** Therapeutic potential of perirhinal cortex DREADDs on methamphetamine-induced deficits in novelty recognition and relapse. J. PETERS\*; M. D. SCOFIELD; S. M. GHEE; J. A. HEINSBROEK; C. M. REICHEL. *Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. of South Carolina.*
- 8:00 J39 **316.09** Amphetamine affects reward-related behavior but not reward-evoked dopamine signals. D. R. SCHUWEILER\*; J. M. ATHENS; J. M. THOMPSON; S. T. VAZHAYIL; P. A. GARRIS. *Illinois State Univ.*
- 9:00 J40 **316.10** Inhibition of AKT phosphorylation in the rat ventral tegmental area prevents intermittent social defeat stress-induced weight gain deficits and the expression of amphetamine cross-sensitization. C. E. JOHNSTON\*; R. P. HAMMER, Jr; E. M. NIKULINA. *Arizona State Univ. - Neurosci. Program, Univ. of Arizona Col. of Med.*
- 10:00 J41 **316.11** Social play behavior in juvenile rats after neonatal exposure to methamphetamine. M. SEVCIKOVA\*; A. HOLUBOVA; I. HREBICKOVA; R. SLAMBEROVA. *Charles Univ. In Prague, Third Fac. of Med.*
- 11:00 J42 **316.12** Sex dimorphic effect of acute methamphetamine treatment on behavior of adult rats exposed to the same drug throughout gestation and early neonatal period. I. HREBICKOVA\*; M. SEVCIKOVA; R. SLAMBEROVA. *Charles University, Third Fac. of Med.*
- 8:00 J43 **316.13** Differential rearing alters amphetamine self-administration: Role of mGluR2/3 activation. D. ARNDT\*; E. GARCIA; G. ERICKSON; M. ULMER; M. CAIN. *Kansas State Univ.*
- 9:00 J44 **316.14** Exposure to amphetamine during development changes drug response, histone methylation, and reduces dopamine uptake in *Caenorhabditis elegans* progeny. T. J. MCCOWAN\*; B. D. SAFRATOWICH; L. CARVELLI. *Univ. of North Dakota.*
- 10:00 J45 **316.15** Estimation of contribution of newly synthesized dopamine to amphetamine-induced increases in extracellular dopamine. L. J. WALLACE\*; K. E. ROONEY; M. T. JANSON. *Ohio State Univ.*
- 11:00 J46 **316.16** The effect of reactive oxygen species scavengers in methamphetamine-taking behaviors and dopamine release in the nucleus accumbens. E. JANG\*; S. P. KIM; D. M. HEDGES; J. Y. LEE; T. EKINS; A. PEREZ; C. FREEMAN; A. LAMPRECHT; D. BRADSHAW; H. Y. KIM; C. H. YANG; S. C. STEFFENSEN. *Brigham Young Univ., Daegu Haany Univ.*
- 8:00 J47 **316.17** Acute methamphetamine induces hydrogen peroxide formation in dopamine terminals of the nucleus accumbens. D. HEDGES\*; E. JANG; A. W. PEREZ; N. D. SCHILATY; E. S. SCHRIEVER; N. FOLEY; B. R. BLUMMELL; J. T. YORGASON; F. P. BELLINGER; J. D. UYS; S. C. STEFFENSEN. *Brigham Young Univ., Brigham Young Univ., Ohio State Univ., Oregon Hlth. & Sci. Univ., Univ. of Hawaii, Med. Univ. of South Carolina.*
- 9:00 J48 **316.18** Selenium deficiency alters dopamine transmission and response to methamphetamine in the mouse nucleus accumbens. D. J. TORRES; S. M. BARAYUGA; R. H. L. H. RUEL; D. M. HEDGES; N. D. SCHILATY; J. T. YORGASON; M. A. ANDRES; S. C. STEFFENSEN; F. P. BELLINGER\*. *JABSOM, Univ. Hawaii, Brigham Young Univ., Oregon Hlth. and Sci. Univ., PBRC, Univ. Hawaii.*
- 10:00 K1 **316.19** Effect of preexposure on methylphenidate-induced taste avoidance and related BDNF/TrkB activity in the insular cortex of the rat. B. WETZELL\*; M. M. MULLER; S. M. FLAX; H. E. KING; K. DECICCO-SKINNER; A. L. RILEY. *American Univ., American Univ.*
- 11:00 K2 **316.20** Homer2 regulates sensitivity to methamphetamine reward. C. BROWN\*; S. G. QUADIR; D. M. FLAHERTY; K. K. SZUMLINSKI. *UCSB Psychological and Brain Sci., UCSB.*
- 8:00 K3 **316.21** vmPFC infusion of mGlu2/3 receptor agonist during protracted withdrawal does not prevent incubation of cocaine-seeking. C. B. SHIN\*; M. A. RUPPERT-MAJER; M. M. SERCHIA; J. R. SHAHIN; T. E. KIPPIN; K. K. SZUMLINSKI. *Univ. of California, Santa Barbara.*
- 9:00 K4 **316.22** Withdrawal-dependent incubation of anxiogenesis and dipsomania following a history of binge alcohol drinking during adolescence. K. M. LEE\*; M. A. COEHLO; N. R. SOLTAN; T. E. KIPPIN; K. K. SZUMLINSKI. *Univ. of California At Santa Barbara.*
- 10:00 K5 **316.23** Rottlerin and psychostimulant-induced conditioned place preference. T. LIAO\*; L. YU. *Inst. of Behavioral Medicine, Natl. Cheng K, Natl. Cheng Kung University, Col. of Medicine, Inst. of Behavioral Med.*

**POSTER**

**317. Amphetamines and Cocaine**

**Theme C: Disorders of the Nervous System**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 K6 **317.01** Sex differences in novel object recognition after a binge methamphetamine treatment. A. KLAMBATSEN\*; S. NYGARD; V. QUINONES-JENAB; S. JENAB. *Hunter Col., The Grad. Center, CUNY, Washington Univ.*
- 9:00 K7 **317.02** Methamphetamine-induced aberrant neurogenesis: Protection by exercise. M. TOBOREK\*; H. LEVINE; M. PARK. *Univ. of Miami Sch. of Med.*
- 10:00 K8 **317.03** ▲ The effect of exercise on the neurochemical consequences of methamphetamine abuse. M. MURRAY\*; Z. VLASTOS; K. VARLEY; A. N. FRICKS-GLEASON. *Regis Univ.*
- 11:00 K9 **317.04** Consequences of self-administered methamphetamine throughout pregnancy on rat dams and their offspring. D. RÜEDI-BETTSCHEIN\*; S. CHAWLA; C. S. WASHINGTON; D. M. PLATT. *Univ. of Mississippi Med. Ctr.*
- 8:00 K10 **317.05** Differential dopaminergic toxicity of bath salt intermediates in mice: Implications for the mechanism of methamphetamine toxicity. J. H. ANNEKEN\*; M. ANGOA-PEREZ; G. SATI; D. CRICH; D. M. KUHN. *Wayne State Univ., John D. Dingell VAMC, Wayne State Univ.*
- 9:00 K11 **317.06** Neurotoxic consequences of serial exposure to alcohol and methamphetamine. A. L. BLAKER\*; B. K. YAMAMOTO. *Univ. of Toledo.*
- 10:00 K12 **317.07** P47 phox contributes to induce methamphetamine dopaminergic neurotoxicity. D. DANG; Y. NAM; T. TRAN; C. JANG; E. SHIN; H. KIM\*. *Col. of Pharmacy, Kangwon Natl. Univ., Sch. of Pharmacy, Sungkyunkwan Univ.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 11:00 K13 **317.08** Comparison of C57 B6N versus C57 B6 (NCTR strain) mice response to methamphetamine-induced seizures gives insights into the role of temperature, BBB breakdown and seizures on neurotoxicity. J. F. BOWYER\*; K. M. TRANTER; S. SARKARA; J. RAYMICK; L. C. SCHMUED; J. P. HANIG. *NCTR/FDA, CDER/ FDA.*
- 8:00 K14 **317.09** ▲ Amphetamine addiction produces neuronal death in dorsal hippocampus and an increase of metabolites related with oxidative stress. L. ARROYO GARCÍA\*, SR; H. TENDILLA BELTRAN; R. A. VÁZQUEZ-ROQUE; A. D. DIAZ FONSECA; E. BRAMBILA COLOMBRES; E. MONJARAZ GUZMÁN; F. DE LA CRUZ LÓPEZ; G. FLORES ALVARES. *Benemerita Univ. Autonoma De Puebla, Inst. Politécnico Nacional.*
- 9:00 K15 **317.10** MDMA reduces markers for GABAergic neurons in the hippocampus and increases seizure susceptibility: Role of glutamate mediated excitotoxicity. C. L. HUFF\*; J. P. HERMAN; B. K. YAMAMOTO; G. A. GUDELSKY. *Univ. of Cincinnati, Univ. of Toledo Sch. of Med.*
- 10:00 K16 **317.11** MDMA decreases paired-pulse depression and afterdischarge threshold in the dentate gyrus: Roles of 5HT<sub>2a</sub> and EP1 receptor activation. S. A. COLLINS\*; G. GUDELSKY; B. YAMAMOTO. *Univ. of Toledo, Univ. of Cincinnati.*
- 11:00 K17 **317.12** Clinically-relevant pharmacological strategies that reverse MDMA-induced brain hyperthermia potentiated by social interaction. E. A. KIYATKIN\*; S. REN; K. T. WAKABAYASHI; M. H. BAUMANN; Y. SHAHAM. *NIDA-IRP, NIH, DHHS.*
- 8:00 K18 **317.13** ▲ Sex-differences in rodent methamphetamine self-administration. A. JOHANSEN\*; A. E. FLECKENSTEIN; A. E. FLECKENSTEIN; L. M. MCFADDEN. *Univ. of Utah.*
- 9:00 K19 **317.14** Sex differences in the developmental and behavioral effects of chronic oral methylphenidate in rats. M. MICHAELOS\*; L. S. ROBISON; J. GANDHI; E. MIAO; C. LAM; A. MAUCERI; M. VITALE; J. LEE; S. PAENG; D. E. KOMATSU; M. HADJIARGYROU; P. K. THANOS. *Stony Brook Univ., NYIT.*
- 10:00 K20 **317.15** Segregated effects of 4-methylcathinone on CPP, locomotor sensitization and anxiety-like behavior. P. XU; Y. QIU; P. XU; Y. LIU; H. SHEN\*. *Drug Intelligence and Forensic Center, Ministry of Publ. Security, Natl. Inst. On Drug Dependence, Peking Univ.*
- 11:00 K21 **317.16** Cocaine-paired cues contribute to the acquisition, but not escalation, of intravenous cocaine self-administration in rats. P. A. VIEIRA\*; L. BUBALO; K. L. PLOENSE; J. BAGLEY; C. SHIN; K. NOVICK; R. BOZADJIAN; T. E. KIPPIN. *Univ. of California, Santa Barbara, Inst. for Collaborative Biotechnologies, Univ. of California, Santa Barbara.*
- 8:00 K22 **317.17** Extended-access to cocaine has a distinct behavioral and molecular profile from yoked- and limited-access to cocaine. K. PLOENSE\*; L. BUBALO; A. CARR; T. KIPPIN. *Univ. of California Santa Barbara, Univ. of California Santa Barbara, Wake Forest Univ.*
- 9:00 K23 **317.18** Chronic cocaine disrupts angiogenesis and cerebral blood flow in the mouse brain. K. PARK\*; J. YOU; J. CHOI; N. D. VOLKOW; C. DU; Y. PAN. *Stony Brook Univ., NIH.*
- 10:00 K24 **317.19** Amphetamine and morphine may produce aspects of acute withdrawal by initially affecting a common pathway. W. WHITE\*; R. WARD; I. WHITE. *Morehead State Univ.*
- 11:00 K25 **317.20** Disruption of the hubs of the connectome in cocaine addiction. A multimodal approach. A. ZILVERSTAND\*; R. O'HALLORAN; P. KUNDU; M. A. PARVAZ; S. J. MOELLER; G. GAN; F. D'OLEIRE UQUILLAS; N. ALIA-KLEIN; R. Z. GOLDSTEIN. *Icahn Sch. of Med. at Mount Sinai, Mount Sinai.*
- 8:00 K26 **317.21** Characterizing atherosclerosis in asymptomatic cocaine addicted individuals. K. BACHI\*; V. MANI; R. Z. GOLDSTEIN; Z. A. FAYAD; N. ALIA-KLEIN. *Icahn Sch. of Med. MSSM, Icahn Sch. of Med. MSSM.*

## POSTER

### 318. Cannabinoids

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 K27 **318.01** Endocannabinoid system alterations in an animal model of autism spectrum disorders. E. S. ONAIVI\*; J. ESCOSTEGUY-NETO; J. SANTOS-JUNIOR; S. SGRO; N. SCHANZ; E. DENNIS; L. N. PAMEN; C. M. LEONARD; K. PENKOSKI; M. CHUNG; N. TERRY; J. WOOD; S. TAMMAREDDY; Z. C. LIN; J. MORGAN; F. S. HALL; G. G. GOULD; B. S. BASAVARAJAPPA; G. R. UHL; S. F. ALI; H. ISHIGURO; Q. LIU. *William Paterson Univ., Federal Univ. of Sao-Paulo, Brazil, Harvard Med. Sch., Univ. of Toledo, Univ. of Texas Hlth. Sci. Ctr., Nathan S. Kline Inst. for Psychiatric Res., New Mexico VA Healthcare Syst., Natl. Ctr. for Toxicology Research/FDA, Univ. of Yamanashi.*
- 9:00 K28 **318.02** Mechanisms and signaling downstream the cannabinoid receptor 1/beta-arrestin. F. DELGADO-PERAZA\*; K. H. AHN; K. MACKIE; D. A. KENDALL; G. A. YUDOWSKI. *Inst. of Neurobio., Univ. of Connecticut, Gill Ctr. for Biomed. Sciences, Indiana Univ.*
- 10:00 K29 **318.03** Elucidating cannabinoid biology in zebrafish. R. G. KRUG\*; M. O. PETERSEN; K. J. CLARK. *Mayo Clin.*
- 11:00 K30 **318.04** Cannabinoid cb1 and cb2 receptors mediate the classical tetrad effects of delta9-tetrahydrocannabinol in mice. Z. XI\*; X. WANG; Y. HE; G. BI; E. GARDNER. *NIDA, IRP, NIDA.*
- 8:00 K31 **318.05** Differential tolerance produced by daily administration of Δ<sup>9</sup>-THC and JWH-018 in rhesus monkeys. M. L. COCKE\*; L. R. MCMAHON. *Univ. of Texas Hlth. Sci. Ctr. At San A.*
- 9:00 K32 **318.06** Increased cortical inhibition in autism-linked neurologin 3 r451c mice is due to loss of tonic endocannabinoid signaling. H. E. SPEED\*; I. MASIULIS; J. GIBSON; C. POWELL. *UT Southwestern Med. Ctr., Univ. of Texas Southwestern Med. Ctr., Univ. of Texas Southwestern Med. Ctr.*
- 10:00 K33 **318.07** Morphine and ethanol reward, tolerance, and dependence in mice expressing a desensitization-resistant form of the cannabinoid receptor 1 (CB1). M. L. ZEE; D. J. MARCUS; M. GONEK; A. H. REDMOND; D. J. MORGAN\*. *Penn State Col. of Med., Vanderbilt Univ., Virginia Commonwealth Univ.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 11:00 K34 **318.08** Antinociceptive effects of synthetic tetracycline compound and influence of Cx3cr1 in inflammatory pain. J. GUINDON\*; B. SEEGMILLER; C. BEZBORUAH; P. C. MARQUADT; J. M. MARTINEZ; S. E. BERGESON. *Texas Tech. Univ. Hlth. Sci. Ctr.*
- 8:00 K35 **318.09** Tolerance to the antinociceptive effects of Δ9-THC in the formalin model of inflammatory pain. M. B. YUILL\*; D. J. MORGAN; J. GUINDON. *Penn State Hershey Col. of Med., Penn State Hershey Col. of Med., Texas Tech. Univ. Hlth. Sci. Ctr. Sch. of Med., Texas Tech. Univ. Hlth. Sci. Ctr. Sch. of Med.*
- 9:00 K36 **318.10** Development of a novel rodent model of THC self-administration. S. M. SPENCER\*; C. GARCIA-KELLER; M. D. SCOFIELD; N. ALLEN; D. SCHWARTZ; P. W. KALIVAS. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*
- 10:00 K37 **318.11** Cannabinoid withdrawal-induced adaptations in the habenulomesencephalic pathway. A. MUNTONI\*; S. ARONI; C. SAGHEDDU; M. PISTIS. *CNR Neurosci. Institute-Cagliari, Univ. of Cagliari.*
- 11:00 K38 **318.12** Modulation of CB1 cannabinoid receptor signaling and adaptation by D2 dopamine receptors. D. E. SELLEY; L. S. MIDDLETON; J. J. BURSTON; D. K. GRANDY; L. J. SIM-SELLEY\*. *Virginia Commonwealth Univ., The Univ. of Nottingham, Oregon Hlth. & Sci. Univ.*
- 8:00 K39 **318.13** Involvement of endocannabinoid system on cognitive dysfunction during withdrawal of repeated methamphetamine administration in mice. R. FUKUMORI; S. YAMADA; T. YAMAGUCHI\*; T. YAMAMOTO. *Nagasaki Intl. Univ.*
- 9:00 K40 **318.14** Cocaine self-administration up-regulates cannabinoid CB<sub>2</sub> gene expression in mouse brain. H. ZHANG\*; Q. LIU; G. BI; R. CHANDRA; M. LOBO; E. GARDNER; Z. XI. *NIDA/IRP, Univ. of Maryland Sch. of Med.*
- 10:00 K41 **318.15** Elevation of kynurenic acid levels suppresses Δ9-tetrahydrocannabinol-induced excitation of mesolimbic dopamine and prefrontal cortex pyramidal neurons. M. PISTIS\*; M. MELIS; A. MUNTONI; C. SAGHEDDU. *Univ. of Cagliari, C.N.R. Neurosci. Inst.*
- 11:00 L3 **319.04** Attenuating reinstatement of drug-seeking using selective kappa opioid receptor antagonists. E. R. DUNN-SIMS\*; C. TYSZKIEWICZ; A. SAWANT-BASAK; J. HEDDE; Z. HUGHES; A. N. MEAD. *Pfizer Inc, Pfizer Inc.*
- 8:00 L4 **319.05** ● The neurobiological effects of acute oxycodone exposure: Data from BOLD, diffusion tensor, and manganese imaging in rats. C. F. FERRIS\*; K. MOORE; W. KENKEL; D. MARINI; P. KULKARNI. *Northeastern University, Ctr. for Translational NeuroImaging.*
- 9:00 L5 **319.06** Comparison of the psychostimulatory effect induced by methadone, buprenorphine and morphine. J. M. ANDERSEN\*; S. KABASHI; I. BERGSETEREN; J. MØRLAND. *Norwegian Inst. of Publ. Hlth.*
- 10:00 L6 **319.07** Activation of calmodulin-dependent kinase II protein in the hippocampus of oxycodone self-administered adult C57Bl/6 mice. D. P. SIMON\*; Y. ZHANG; M. KREEK. *Rockefeller Univ.*
- 11:00 L7 **319.08** Use of functional near-infrared spectroscopy to identify resting-state functional connectivity in heroin addicts. H. IEONG\*; F. LU; X. LIN; Z. YUAN. *Univ. of Macau, Univ. of Macau.*
- 8:00 L8 **319.09** ● Differential effects of oxycodone, hydrocodone, and morphine on gene expression. M. A. EMERY\*; M. BATES; P. J. WELLMAN; S. EITAN. *Texas A&M Univ.*
- 9:00 L9 **319.10** Long term opioid use induces systemic inflammation and down regulation of TGF-β1 and BDNF. S. CHEN\*; R. LU; L. YU. *Kaohsiung Med. Univ., Col. of Med. & Hospital, Natl. Cheng-Kung Univ.*
- 10:00 L10 **319.11** ● Morphine modulates mouse hippocampal progenitor cell lineages via PKCε-dependent ERK activation and TRBP phosphorylation. C. XU; H. ZHENG; H. H. LOH; P. LAW\*. *Univ. of Minnesota, South China Inst. for Stem Cell Biol. and Regenerative Med.*
- 11:00 L11 **319.12** Individual differences in morphine-induced antinociception and intravenous morphine self-administration in rats. K. CHOI\*; K. NISHIDA; R. J. URSANO. *Uniformed Services Univ. of the Hlth. Sci., Uniformed Services Univ.*

**POSTER**

**319. Opioids**

**Theme C: Disorders of the Nervous System**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 K42 **319.01** The novel dopamine D3 receptor antagonists CAB02-015 and BAK4-54 inhibit oxycodone self-administration and reinstatement of drug-seeking behavior in rats. Z. YOU\*; G. BI; C. BOATENG; A. BANALA; E. E. GARDNER; Z. XI; A. H. NEWMAN. *NIDA-IRP/NIH/DHHS.*
- 9:00 L1 **319.02** Effects of the non-opioid (+)-naltrexone and the peripherally active (+)-N-methylnaltrexone in rats self-administering the mu agonist remifentanyl. C. ZANETTINI; T. HIRANITA; L. R. WATKINS\*; B. R. SELFRIDGE; K. C. RICE; J. L. KATZ. *Univ. Colorado At Boulder, NIDA Intramural Res. Program, NIDA Intramural Res. Program.*
- 10:00 L2 **319.03** Reversal of the sleep/wake cycle in heroin self-administering rats. A. A. COFFEY\*; Z. GUAN; P. S. GRIGSON; J. FANG. *Penn State Col. of Med.*
- 8:00 L12 **319.13** Altered nociception and morphine tolerance in neuropeptide FF receptor type 2 over-expressing mice. Y. LIN\*; S. KAO; Y. DAY; C. CHANG; J. CHEN. *Chang Gung Univ., Chang Gung Mem. Hosp., Fu Jen Catholic Univ., Chang Gung Univ., Chang Gung Mem. Hosp.*
- 9:00 L13 **319.14** Modeling prenatal and postnatal oxycodone exposure using self-administration. F. M. VASSOLER; A. KUBEREK; C. WYSE; E. M. BYRNES\*. *Tufts Univ. Cummings Sch. Vet Med.*
- 10:00 L14 **319.15** ● A wireless electrophysiology system designed for the preclinical development of translatable biomarkers for treatment of substance use disorders. J. K. DASILVA\*; S. KREUSER; T. CHAPPIE; P. TRAPA; A. N. MEAD; D. P. NGUYEN. *Pfizer, Inc., Pfizer, Inc, Pfizer, Inc., Pfizer, Inc.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 11:00 L15 **319.16** Stress-induced activation of amygdalar corticotropin releasing factor neurons projecting to the locus coeruleus in morphine dependent rats. B. A. REYES\*; N. HELDT; M. HENRY; G. DROLET; E. J. VAN BOCKSTAELE. *Drexel Univ., Univ. Laval, Ctr. de Recherche du CHU de Quebec.*
- 8:00 L16 **319.17** Acute combined low/high burst stimulation of the lateral habenula attenuates cue-induced heroin seeking in rats. F. ZHANG\*. *Ningbo Addiction Res. and Treatment Ctr.*
- 9:00 L17 **319.18** Role of projections from ventral subiculum to nucleus accumbens shell and ventral medial prefrontal cortex in context-induced reinstatement of heroin seeking. J. M. BOSSERT\*; S. ADHIKARY; R. M. ST. LAURENT; N. J. MARCHANT; H. L. WANG; M. MORALES; Y. SHAHAM. *NIH, NIDA, IRP, Florey Inst. of Neurosci. & Mental Health, Univ. of Melbourne, NIH, NIDA, IRP.*
- 10:00 L18 **319.19** Machine learning identifies distinct behavioral markers for opiate and stimulant addiction. J. L. VASSILEVA\*; W. AHN; F. G. MOELLER. *Virginia Commonwealth Univ., Virginia Commonwealth Univ.*
- 10:00 L25 **320.07** Synaptic depotentiation via mGluR5 activation and AMPAR internalization in the nucleus accumbens shell drives cocaine reinstatement. M. A. BENNEYWORTH\*; M. C. HEARING; A. J. ASP; A. E. INGEBRETSON; C. E. SCHMIDT; S. R. EBNER; M. ESGUERRA; M. J. THOMAS. *Univ. of Minnesota.*
- 11:00 L26 **320.08** Bidirectional ethanol-induced synaptic plasticity and reinstatement of place preference following a history of combined ethanol and cocaine exposure. M. ESGUERRA\*; M. C. HEARING; C. E. SCHMIDT; A. E. INGEBRETSON; T. MACHEDA; M. A. BENNEYWORTH; M. J. THOMAS. *Univ. Minnesota, Univ. of Minnesota.*
- 8:00 L27 **320.09** Cellular mechanisms and timing of cocaine-induced synaptic depotentiation in the nucleus accumbens. A. E. INGEBRETSON\*; M. C. HEARING; S. R. EBNER; M. J. THOMAS. *Univ. of Minnesota, Univ. of Minnesota.*
- 9:00 L28 **320.10** NMDA receptor subtypes control maturation of cocaine-generated silent synapse in nucleus accumbens. Y. WANG\*; M. OTAKA; P. MU; M. ISHIKAWA; J. WANG; O. M. SCHLÜTER; Y. DONG; Y. H. HUANG. *Univ. of Pittsburgh, Univ. of Pittsburgh, European Neurosci. Inst., Univ. of Pittsburgh.*
- 10:00 L29 **320.11** Cocaine self-administration generates silent synapses in thalamus to nucleus accumbens projection. P. A. NEUMANN\*; N. GRAZIANE; Y. H. HUANG; W. XU; S. R. SESACK; E. J. NESTLER; O. M. SCHLÜTER; Y. DONG. *Univ. of Pittsburgh, Stanford Univ., Univ. of Pittsburgh, Mount Sinai Sch. of Med., European Neurosci. Inst.*
- 11:00 L30 **320.12** Cocaine exposure alters thalamo-accumbens synapses. M. E. JOFFE\*; B. A. GRUETER. *Vanderbilt Univ. Sch. of Med., Vanderbilt Univ. Sch. of Med.*
- 8:00 L31 **320.13** Corticostriatal LTP is modulated by direct pathway co-release of dynorphin. S. L. HAWES\*; K. T. BLACKWELL. *George Mason Univ.*
- 9:00 L32 **320.14** Incubation of methamphetamine craving is associated with selective increases in expression of BDNF and TrkB, glutamate receptors, and epigenetic enzymes in cue-activated Fos-expressing dorsal striatal neurons. X. LI\*; F. RUBIO; T. ZERIC; J. M. BOSSERT; S. KAMBHAMPATI; H. M. CATES; P. J. KENNEDY; Q. LIU; R. CIMBRO; B. T. HOPE; E. J. NESTLER; Y. SHAHAM. *Natl. Inst. On Drug Abuse, Icahn Sch. of Med. at Mount Sinai, Univ. of California Los Angeles, John Hopkins Univ.*
- 10:00 L33 **320.15** Distinct glutamatergic inputs to nucleus accumbens medium spiny neurons control synaptic plasticity and its modulation by alcohol. X. JI\*; S. SAHA; G. E. MARTIN. *Univ. of Massachusetts Med. Sch.*
- 11:00 L34 **320.16** Cognitive behavioral therapy rectified the altered functional connectivity of ventral striatum in Internet gaming disorder group. S. MA\*; J. ZHANG; C. R. LI; L. LIU; L. WANG; B. LIU; Y. YAO; X. FANG. *Beijing Normal Univ., Yale University, School of Med., Inst. of Developmental Psychology, Beijing Normal Univ.*
- 8:00 L35 **320.17** Neuroplasticity associated with individual sensitivity to a natural reward following cocaine exposure. B. O'DONOVAN\*; P. I. ORTINSKI. *Univ. of South Carolina.*

## POSTER

### 320. Striatal Plasticity in Addiction

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 L19 **320.01** Examining protein synthesis in the nucleus accumbens after withdrawal from extended-access cocaine self-administration. M. T. STEFANIK\*; M. MILOVANOVIC; M. E. WOLF. *Rosalind Franklin Univ. of Sci. and Medici.*
- 9:00 L20 **320.02** Cocaine self-administration alters calcium signaling mediated by NMDA and AMPA receptors in dendritic spines of rat nucleus accumbens neurons. D. T. CHRISTIAN\*; C. A. BRIGGS; M. E. WOLF; G. E. STUTZMANN. *Rosalind Franklin Univ. of Med. and Sci.*
- 10:00 L21 **320.03** Comparison of trafficking mechanisms of calcium-impermeable and calcium-permeable AMPA receptors in rat nucleus accumbens neurons co-cultured with prefrontal cortex neurons. N. M. CHAUHAN\*; C. T. WERNER; C. H. MURRAY; J. M. REIMERS; J. A. LOWETH; M. E. WOLF. *Rosalind Franklin Univ. of Med. and Sci., Tacoma Community Col.*
- 11:00 L22 **320.04** Regulation of protein translation following prolonged withdrawal from extended-access cocaine self-administration with or without cocaine memory retrieval. C. T. WERNER\*; M. T. STEFANIK; M. MILOVANOVIC; M. E. WOLF. *Rosalind Franklin Univ. of Med. and Sci.*
- 8:00 L23 **320.05** Reinstatement to drug-seeking behavior following cocaine, cues, and stress results in synaptic depotentiation of glutamatergic synapses in the nucleus accumbens. S. R. EBNER\*; M. C. HEARING; E. B. LARSON; M. J. THOMAS. *Univ. of Minnesota.*
- 9:00 L24 **320.06** Optogenetic self-stimulation of the infralimbic-accumbens pathway: Opposing effects of abstinence from repeated cocaine and cocaine re-exposure. E. B. LARSON\*; A. J. ASP; M. ESGUERRA; M. C. HEARING; K. A. SILVIS; M. J. THOMAS. *Univ. of Minnesota.*

- 9:00 L36 **320.18** Reversal of morphine-induced cell-type specific synaptic plasticity in the nucleus accumbens shell blocks reinstatement. M. C. HEARING\*; A. INGEBRETSON; S. EBNER; C. SCHMIDT; R. FISCHER; A. ASP; M. THOMAS. *Univ. of Minnesota*.
- 10:00 L37 **320.19** Drebrin signaling mediates opiate-induced plasticity in the nucleus accumbens. J. A. MARTIN\*; Z. WANG; M. HUMBY; A. CACCAMISE; L. E. MUELLER; R. NEVE; A. M. GANCARZ; D. M. DIETZ. *State Univ. of New York At Buffalo, MIT*.
- 11:00 L38 **320.20** Dopamine D1 agonist treatment alters opiate reward extinction and accumbal dendritic complexity. G. B. KAPLAN\*; K. L. KOBRIN; D. ARENA; S. C. HEINRICHS. *Boston Univ. Sch. Med/VA Boston Healthcare, Boston Univ. Sch. Med/VA Boston Healthcare, VA Boston Healthcare Syst.*
- 8:00 L39 **320.21** Effects of chronic forced exercise on the mesolimbic dopamine pathway: Implications for addiction. L. S. ROBISON\*; A. TUCCI; J. STAMOS; M. ANANTH; P. K. THANOS. *Stony Brook Univ., Rutgers Univ., Stony Brook Univ.*
- 9:00 L40 **320.22** Dopamine-acetylcholine interplay in the basal ganglia modulates AMPA glutamate receptors and behavior. B. XUE\*; D. JIN; L. MAO; J. WANG. *UMKC Sch. of Med.*
- 10:00 L41 **320.23** Dopamine release and cocaine sensitivity differ between striosome and matrix compartments of the striatum. A. G. SALINAS\*; M. I. DAVIS; D. M. LOVINGER; Y. MATEO. *Natl. Inst. On Alcohol Abuse and Alcoholism, George Mason Univ.*
- 11:00 L42 **320.24** Sleep disturbances predict reductions in striatal D2R availability in cocaine abusers. C. E. WIERS\*; E. SHUMAY; E. CABRERA; E. SKARDA; E. SHOKRI-KOJORI; S. CUNNINGHAM; C. WONG; D. TOMASI; G. WANG; N. D. VOLKOW. *Natl. Inst. on Alcohol Abuse and Alcoholism, NIAAA, NIAAA*.
- 11:00 M2 **321.04** Epigenetic alterations in medial prefrontal cortex and testis after chronic caffeine and cocaine administration in mice. B. GONZALEZ\*; C. R. GONZALEZ; J. A. MUÑIZ; J. CADET; E. GARCIA-RILL; F. URBANO; A. VITULLO; V. BISAGNO. *ININFA - Pharmacol. Res. Inst., Univ. Maimónides, Natl. Inst. on Drug Abuse, Univ. of Arkansas for Med. Sci., IFIBYNE-CONICET*.
- 8:00 M3 **321.05** Monoamines alter neuronal excitability of lateral orbitofrontal cortex neurons: Role of G protein-coupled inwardly-rectifying potassium channels. S. NIMITVILAI\*; M. F. LOPEZ; P. J. MULHOLLAND; J. J. WOODWARD. *Med. Univ. of South Carolina*.
- 9:00 M4 **321.06** Pharmacological inhibition of monoacylglycerol lipase systemically and centrally in the amygdala and visceral insular cortex prevents establishment of a naloxone-precipitated morphine induced conditioned place aversion in rats. K. L. WILLS\*; C. L. LIMEBEER; E. M. ROCK; M. J. NIPHAKIS; B. F. CRAVATT; L. A. PARKER. *Univ. of Guelph, The Scripps Res. Inst.*
- 10:00 M5 **321.07** ▲ Alterations in sleep architecture of older people users of psychoactive substances. M. M. MELENDEZ\*; N. HERNANDEZ; A. GALLEGOS-CARI; S. MUÑOZ-SANCHEZ; R. CAMACHO-SOLÍS; F. AYALAGUERRERO; U. JIMENEZ-CORREA; A. JIMENEZ-ANGUIANO. *IAPA-DF, Área de Neurociencias, Dept. de Biología de la Reproducción, Univ. Autónoma Metropolitana-Iztapalapa, México DF, Univ. Nacional Autónoma de México, Facultad de Psicología. Área de Neurociencias, Univ. Nacional Autónoma de México, Facultad de Medicina, Clínica de Trastornos de Sueño*.
- 11:00 M6 **321.08** Distinct neuronal ensembles in rat infralimbic cortex control food reward memories and extinction memories. B. L. WARREN\*; M. P. MENDOZA; F. C. CRUZ; R. M. LEAO; D. CAPRIOLI; K. B. MCPHERSON; Y. SHAHAM; B. T. HOPE. *NIDA IRP/NIH*.
- 8:00 M7 **321.09** Fos-expressing neuronal ensembles in learned behaviors using the Fos-Tet-Cre transgenic rat system. R. MADANGOPAL\*; B. L. WARREN; D. CAPRIOLI; B. LIANG; L. R. WHITAKER; R. M. LEAO; F. CRUZ; F. J. RUBIO; Y. ZHANG; C. T. RICHIE; D. LIN; Y. SHAHAM; B. K. HARVEY; B. T. HOPE. *Natl. Inst. On Drug Abuse IRP*.
- 9:00 M8 **321.10** ● The neural substrates underlying ketamine addiction. I. LIAO\*; J. CHEN. *Grad. Inst. of Biomed. Sciences, Chang Gung Univ., Grad. Inst. of Biomed. Sciences, Chang Gung Univ.*
- 10:00 M9 **321.11** ▲ Expression of Perineuronal Nets in the cerebellum after Prelimbic lesions in rats trained to acquire conditioned preference towards cocaine-related cues. I. GIL MIRAVET\*; M. CARBO-GAS; C. SANCHIS-SEGURA; D. CARULLI; M. MIQUEL. *Univ. Jaume I, Universiti of Turin*.
- 11:00 M10 **321.12** The effects of chronic adolescent toluene on behavioral flexibility and intrinsic excitability of mPFC neurons. K. M. BRAUNSCHEIDEL\*; B. H. EATON; P. A. ZAMUDIO-BULCOCK; J. T. GASS; J. J. WOODWARD. *Med. Univ. of South Carolina, Med. Univ. of South Carolina*.
- 8:00 M11 **321.13** Neuronal activity in the orbitofrontal cortex predicts cocaine choices and preferences in addicted rats. K. GUILLEM\*; S. H. AHMED. *Univ. De Bordeaux, CNRS*.

**POSTER**

**321. Cortical Plasticity in Addiction**

**Theme C: Disorders of the Nervous System**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 L43 **321.01** Optogenetic activation of anterior cingulate cortex inhibits the heroin seeking behavior in rats. W. ZHOU\*; M. LAI; H. ZHU; W. CHEN; H. LIU; F. ZHANG. *Ningbo Addiction Res. and Treat. Cent. Med. Sch. of Ningbo Univ.*
- 9:00 L44 **321.02** Role of deep brain stimulation of medial prefrontal cortex on heroin seeking behavior in rats. H. LIU\*. *Ningbo Inst. of Microcirculation and Henbane, Ningbo Addiction Res. and T, Lab. of Behavioral Neuroscience, Sch. of Medicine, Ningbo Univ.*
- 10:00 M1 **321.03** AMPA/Kainate receptor modulation of glutamate transporters in the prefrontal-accumbens circuitry: Impact of adolescent ethanol drinking. G. E. SEALE\*; T. MERCED; E. P. RODRIGUEZ; L. ACOSTA; R. I. MELENDEZ. *Univ. of Puerto Rico, Univ. of Puerto Rico*.

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

9:00 M12 **321.14** New street drugs block NMDA receptor mediated synaptic excitation. H. KANG\*; Z. A. BORTOLOTTI; S. LIGHTMAN; G. L. COLLINGRIDGE; J. WALLACH; S. D. BRANDT; D. LODGE. *Univ. of Bristol, Univ. of Bristol, Liverpool John Moores Univ.*

## POSTER

### 322. Behavioral Pharmacology and Modeling in Addiction

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, Hall A

8:00 M13 **322.01** ● Menthol attenuates respiratory irritation responses to cigarette smoke and oral nicotine aversion in C57BL/6 mice: Role of TRPM8. S. E. JORDT\*; S. BALAKRISHNA; L. FAN; A. I. CACERES; Y. LIU; M. A. HA; G. J. SMITH; J. A. CICHOCKI; M. R. PICCIOTTO; J. B. MORRIS. *Duke Univ., Yale Univ., Yale Univ., Univ. of Connecticut.*

9:00 M14 **322.02** ● Protein Kinase C epsilon inhibitors as potential new therapeutics for alcohol use disorder. A. BLASIO\*; D. WANG; R. O. MESSING. *Univ. of Texas At Austin Col. of Pharm., Univ. of California.*

10:00 M15 **322.03** Combined use of acamprosate and escitalopram reduces ethanol consumption in chronically stressed mice. M. HO\*; D. J. HINTON; J. R. AYERS-RINGLER; A. OLIVEROS; V. M. KARPAYAK; D. CHOI. *Mayo Clin., Mayo Clin.*

11:00 M16 **322.04** Ceftriaxone attenuates ethanol drinking and restores extracellular glutamate level through normalization of GLT-1 in nucleus accumbens of male alcohol-preferring rats. S. DAS\*. *The Univ. of Toledo.*

8:00 M17 **322.05** Effect of acute injection of methylphenidate (Ritalin) and its combination with morphine on behavior of male rats prenatally exposed to methamphetamine. K. NOHEJLOVA\*; A. YAMAMOTOVA; R. SLAMBEROVA. *Charles Univ. in Prague/ Third Fac. of Med.*

9:00 M18 **322.06** Acute treatment with methylphenidate (Ritalin) modulates morphine antinociception in rats depending on the dose and tested body site. A. YAMAMOTOVA\*; K. NOHEJLOVA; R. SLAMBEROVA. *Charles Univ, 3rd Fac Med.*

10:00 M19 **322.07** Morphine decreases social interaction of adult male rats, while THC does not affect it. R. SLAMBEROVA\*; A. MIKULECKA; E. MACUCHOVA; I. HREBICKOVA; M. SEVCIKOVA; K. NOHEJLOVA; M. POMETLOVA. *Charles Univ., Third Fac. Med., Acad. of Sci. of the Czech Republic, Inst. of Physiol.*

11:00 M20 **322.08** Sex differences in morphine tolerance and reward in "humanized" A118G mice. A. HENDERSON REDMOND\*; M. B. YUILL; T. E. LOWE; M. L. ZEE; J. GUINDON; D. J. MORGAN. *Pennsylvania State Univ. Col. of Med., Pennsylvania State Univ. Col. of Med., Texas Tech. Univ. Hlth. Sci. Ctr.*

8:00 M21 **322.09** Differential effects of positive nAChR modulators and AChE inhibitors in rhesus monkeys discriminating nicotine. M. J. MOERKE\*; L. R. MCMAHON. *Univ. of Texas Hlth. Sci. Ctr.*

9:00 M22 **322.10** Reward-based network plasticity as Bayesian inference. W. MAASS\*; D. KAPPEL; S. HABENSCHUSS; R. LEGENSTEIN. *Graz Univ. of Technol.*

10:00 M23 **322.11** Modelling methamphetamine psychosis in mice: Role of BDNF and reelin. M. VAN DEN BUUSE\*; E. E. MANNING. *La Trobe Univ., Florey Inst. of Neurosci. and Mental Hlth.*

11:00 M24 **322.12** ▲ Modelling the consequences of recreational use of MDMA or 5-MeO-DIPT in humans using a weekend 'rave' exposures. F. LUETZENBERG\*; E. WATKINS; D. M. COMPTON. *Palm Beach Atlantic Univ.*

8:00 M25 **322.13** Methoxetamine conditioned place preference and self-administration in rats: Evidence of its abuse potential. C. D. BOTANAS\*; J. DE LA PEÑA; I. DELA PENA; R. TAMPUS; H. KIM; Y. LEE; J. CHEONG. *Uimyung Res. Inst. For Neurosci., Lab. of Medicinal Chem.*

9:00 M26 **322.14** Opposing effects of group I mGluRs on dendritic spine density in the rat nucleus accumbens. K. GROSS\*; R. L. MEISEL; P. G. MERMELSTEIN. *Univ. of Minnesota.*

10:00 M27 **322.15** Estradiol facilitation of extended access cocaine self administration in female rats requires activation of mGluR5. L. A. MARTINEZ\*; B. M. PETERSON; P. G. MERMELSTEIN. *Univ. of Minnesota.*

11:00 M28 **322.16** In female rat nucleus accumbens, the endocannabinoid system mediates the effects of estradiol on psychostimulant responses and structural plasticity. B. PETERSON\*; L. A. MARTINEZ; E. LEISHMAN; H. B. BRADSHAW; R. L. MEISEL; P. G. MERMELSTEIN. *Univ. of Minnesota, Indiana Univ.*

## POSTER

### 323. Neuropeptides and Behavior

#### Theme C: Disorders of the Nervous System

Mon. 8:00 AM – McCormick Place, Hall A

8:00 M29 **323.01** VTA kappa opioid receptor modulation of aversion-induced reductions in dopamine and punishment. M. A. ROBBLE\*; D. S. WHEELER; R. A. WHEELER. *Marquette Univ.*

9:00 M30 **323.02** Extended Amygdala PACAP in the behavioral stress response. M. SEIGLIE\*; A. IEMOLO; P. COTTONE; V. SABINO. *Boston Univ. Sch. of Med.*

10:00 M31 **323.03** Enhanced motor learning by injecting corticotrophin releasing factor to the cerebellum. E. TAKEUCHI\*; M. HIRAIISHI; A. KATOH. *Inst. of Innovative Science, Tokai Univ., Tokai Univ.*

11:00 M32 **323.04** Dose-dependent reduction of palatable food consumption in binge prone versus binge resistant rats after orexin receptor-1 antagonism. K. A. RICHARDSON\*; S. UTHAYATHAS. *Howard Univ. Col. of Med., Natl. Inst. on Drug Abuse, IRP.*

8:00 M33 **323.05** Pituitary adenylate cyclase-activating polypeptide (PACAP) dysregulates social interaction behavior in rats. R. J. DONAHUE\*; A. VENKATARAMAN; E. G. MELONI; W. A. CARLEZON, Jr. *Harvard Med. School, McLean Hosp.*

- 9:00 M34 **323.06** An neuropeptide Y Y2 receptor antagonist reverses Corticosterone-induced angiogenic-related behavior and neuronal hypertrophy. J. C. MORALES-MEDINA\*; I. JUAREZ; S. DOMINGUEZ-LOPEZ; R. KANDIMALLA; G. GOBBI; G. FLORES; R. QUIRION. *Ctr. for Res. and Advanced Studies, McGill Univ., Univ. Autónoma de Puebla, McGill Univ., McGill Univ., Univ. Autónoma de Puebla.*
- 10:00 M35 **323.07** Developmental fluoxetine exposure alters affiliative and anxiety-like behavior and oxytocin receptor binding in the prairie vole (*Microtus ochrogaster*). R. H. LARKE\*; M. C. PALUMBO; S. M. FREEMAN; K. L. BALES. *Univ. of California, Davis, Univ. of California, Davis.*
- 11:00 M36 **323.08** Rats with antipsychotic-induced dopamine supersensitivity have blunted neurotensin function in the nucleus accumbens. A. SERVONNET\*; A. BÉDARD; D. LÉVESQUE; P. ROMPRÉ; A. SAMAHA. *Univ. De Montréal, Univ. De Montréal, Univ. De Montréal.*
- 8:00 M37 **323.09**▲ Signaling at Orexin 1 receptors in prelimbic cortex is necessary for Conditioned Saccharin Seeking. K. ROACH\*; A. M. CASON; G. ASTON-JONES. *Allegheny Col., Med. Univ. of South Carolina, Rutgers Univ.*
- 9:00 M38 **323.10** The effect of orexin receptor blockade on open field behaviors are both sex and age dependent. S. R. BLUME\*; S. LUZ; D. M. EACRET; N. SOTUYO; R. J. VALENTINO; S. BHATNAGAR. *Children's Hosp. of Philadelphia, Univ. of Pennsylvania.*
- 10:00 M39 **323.11** Reduction of vasopressinergic system following amphetamine sensitization in male and female rats. G. M. RENARD\*; C. AHUMADA; C. BAHAMONDES; R. A. SILVA; G. CRUZ; R. SOTOMAYOR-ZÁRATE. *Univ. de Valparaíso.*
- 11:00 M40 **323.12**● Peripheral vasopressin type 1a receptors mediate locomotor inhibition following systemic oxytocin administration in rats. M. WOLFE; H. WISNIEWSKI; G. IBANEZ; H. TARIGA; D. HARGROVE; B. F. LINDSTROM\*. *Ferring Res. Inst.*
- 8:00 M41 **323.13**●▲ Defense against social isolation: The study of hormones in an animal model. T. WISNIEWSKI; N. MCNEAL; W. COLBURN; A. DAGNER; A. TOGHRAEE; M. L. SCOTTI; A. J. GRIPPO\*. *Northern Illinois Univ.*
- 11:00 M45 **324.04**● Alogliptazar therapy decreases microglia activation and leads to neuroprotective effects after focal brain ischemia in mice. V. BOUJON; G. KRONENBERG; R. UHLEMANN; M. ENDRES; U. K. DIRNAGL\*; K. GERTZ. *Charite Universitätsmedizin Berlin.*
- 8:00 M46 **324.05** The multi-herbal mixture HT047 promotes motor recovery in a rat model of chronic stroke. J. SONG\*; D. LEE; Y. KIM; S. LEE; H. KIM; H. LEE; H. GUO; H. KIM. *Kyunghee Univ.*
- 9:00 M47 **324.06** Effectiveness of targeting P2X7 receptor for the treatment of central post-stroke pain in rat model. Y. KUAN\*; H. SHIH; S. TANG; J. JENG; B. SHYU. *IBMS, Natl. Taiwan Univ. Hosp. and Natl. Taiwan Univ. Col. of Med.*
- 10:00 M48 **324.07** The arginine-vasopressin receptor blocker Conivaptan reduces stroke-evoked brain edema and blood-brain-barrier disruption. S. M. JONES\*; E. ZEYNALOV; J. SEO; L. SNELL; J. ELLIOTT. *Swedish Med. Ctr., Colorado Neurolog. Inst., Colorado Brain and Spine Inst.*
- 11:00 N1 **324.08** Changed profile of glutamate receptors by constraint-induced movement therapy links to functional recovery of the forelimb in capsular hemorrhage rats. A. ISHIDA\*; Y. UEDA; C. JUNG; K. ISHIDA; H. HIDA. *Nagoya City Univ. Grad. Sch. of Med. Sci.*
- 8:00 N2 **324.09** Effect of sensorimotor intervention on norepinephrine levels in the hippocampal dentate gyrus and in the pons in adult rats with cortical ablation induced damage. G. A. GARCÍA-DÍAZ; L. E. RAMOS-LANGUREN; A. GONZÁLEZ-MACIEL; A. BUENO-NAVA; A. ÁVILA-LUNA; N. CHAVEZ-GARCÍA; S. MONTES\*; R. GONZALEZ-PIÑA. *Inst. Politécnico Nacional. Mexico, Univ. Autónoma Metropolitana Unidad Xochimilco, Inst. Nacional de Pediatría. Mexico, Inst. Nacional de Rehabilitación. Mexico, Natl. Inst. Neurol. Neurosurg.*
- 9:00 N3 **324.10**● A specific multi-nutrient intervention as therapeutic approach for stroke. L. M. BROERSEN; M. WIESMANN; B. ZINNHARDT; M. HELLWICH; S. ELIGEHAUSEN; D. REINHARDT; A. HEERSCHAP; P. KAMPHUIS\*; J. C. CLAASSEN; A. J. KILIAAN. *Nutricia Res., Utrecht Inst. for Pharmaceut. Sci., RadboudUMC, Donders Inst. for Neurosci., European Inst. for Mol. Imaging.*
- 10:00 N4 **324.11**▲ Shiatsu improves functional motor capacity in post-stroke patients. H. C. MARCUSSO\*; S. M. TAGAMI; D. PARIZOTTO; D. M. DOS SANTOS; R. N. ISAYAMA. *UNICASTELO, UNASP-SP, UNICASTELO.*
- 11:00 N5 **324.12** *In vivo* inhibition of mir-155 recovery following experimental mouse stroke. E. CABALLERO-GARRIDO\*; J. PENA-PHILIPPIDES; T. LORDKIPANIDZE; D. BRAGIN; Y. YANG; T. ROITBAK. *Univ. of New Mexico, Iliia State Univ., Univ. of New Mexico.*
- 8:00 N6 **324.13** Lifting brakes on stroke recovery: Motor plasticity in *Lynx1* knockout mice. N. W. HODGSON\*; E. NEWPORT; A. DROMERICK; T. K. HENSCH. *Boston Children's Hosp., Harvard Med. Sch., Georgetown Univ. Ctr. for Brain Plasticity & Recovery.*
- 9:00 N7 **324.14** Training of the non-paretic arm in unilateral stroke improves arm function and performance. C. CHOPICK\*; D. C. GOOD; C. WINSTEIN; R. L. SAINBURG. *Penn State Col. of Med., Penn State Univ., USC.*

**POSTER**

**324. Stroke Recovery**

**Theme C: Disorders of the Nervous System**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 M42 **324.01** Investigation of Nogo-A neutralizing antibody treatment and neurogenesis after cortical stroke in adult rats. D. SHEPHERD; S. TSAI; S. P. CAPPUCCI; I. VAAGENES; V. HUSAK; A. MARINOPOULOS; R. FARRER; G. KARTJE\*. *Loyola Univ. Chicago, Hines VA Hosp.*
- 9:00 M43 **324.02** Acute effects of  $\beta$ -hydroxybutyrate (BHB) in CD-1 mice after experimental stroke. K. A. KOCH\*; A. THINNES; D. BERRESSEM; J. BARNSTORF-BRANDES; G. ECKERT; J. KLEIN. *Goethe Univ. Frankfurt Am Main, Goethe Univ., Goethe Univ.*
- 10:00 M44 **324.03** Mechanisms of dopaminergic drug treatment on motor recovery in ischemic stroke injury. L. YAN\*; L. H. XU; Y. H. LIU; Q. LI; W. H. YUNG; Y. KE. *The Chinese Univ. of Hong Kong.*

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

- 10:00 N8 **324.15** Reactive and voluntary stepping in individuals with stroke: A comparison between paretic and nonparetic leg responses. C. YANG; V. GRAY; M. FUJIMOTO; S. MCCOMBE WALLER\*; M. W. ROGERS. *Univ. of Maryland, Sch. of Med., Ritsumeikan Univ.*
- 11:00 N9 **324.16** Asymmetrical corticomotor input to the plantarflexors influences the biomechanical strategy of speed modulation in individuals post-stroke. J. A. PALMER\*; H. HSIAO; L. N. AWAD; S. A. BINDER-MACLEOD. *Univ. of Delaware, Univ. of Delaware, Harvard Univ., Univ. of Delaware.*
- 8:00 N10 **324.17** Astrocyte-derived exosomes reduce infarct volume and reduce neurological alterations in a rat model of ischemic stroke. B. BERNAL-VICENTE; E. HERNÁNDEZ-PONCE; A. RAMOS-MORALES; L. B. TOVAR Y ROMO\*. *Univ. Nacional Autonoma de Mexico.*
- 9:00 N11 **324.18** Virtual reality based upper limb neurorehabilitation in acute stroke: A single-case study. H. KINZNER; G. GARIPPELLI\*; D. PEREZ-MARCOS; T. TADI; K. DISERENS. *Ctr. Hospitalier Universitaire Vaudois, MindMaze SA.*
- 10:00 N12 **324.19** Impact of a Conductive Education intervention on supraspinal structures in adults with chronic stroke. R. D. THEISS\*; T. B. PARRISH; R. K. O'SHEA. *Governors State Univ., Northwestern Univ.*
- 11:00 N13 **324.20** Changes in motor unit firing behavior following maximal efforts post stroke. K. BATHON\*; T. ONUSHKO; J. NGUYEN; E. MCGONIGLE; N. GEOFFROY; N. KETCHUM; F. NEGRO; D. FARINA; S. HUNTER; B. SCHMIT; A. HYGSTROM. *Marquette Univ., Marquette Univ., Med. Col. of Wisconsin, Goettingen Georg-Augst Univ.*
- 8:00 N14 **324.21** Brain reorganisation following robot-assisted therapy in stroke patients. N. ESTÉVEZ\*; V. KLAMROTH-MARGANSKA; B. HARTOG-KEISKER; L. MICHELIS; M. HEPP-REYMOND; R. RIENER; S. KOLLIAS. *Dept. of Neuroradiology, Univ. Hosp., Sensory-Motor Systems Lab., Univ. Hosp. Balgrist, Inst. of Neuroinformatics.*
- 9:00 N15 **324.22** Assessing cognitive function following medial prefrontal stroke in the rat. J. LIVINGSTON-THOMAS\*; M. JEFFERS; C. NGUEMENI; M. SHOICHET; C. MORSHEAD; D. CORBETT. *Univ. of Ottawa, Canadian Partnership for Stroke Recovery, Univ. of Toronto, Mem. Univ.*
- 10:00 N16 **324.23** Electrically preconditioned neural progenitor cells on a conductive polymer scaffold enhance stroke recovery. P. GEORGE\*; T. M. BLISS; T. HUA; A. LEE; S. MEHTA; G. SUN; G. K. STEINBERG. *Stanford Univ.*
- 11:00 N17 **324.24** ▲ Whisker stimulation enhances oligodendrogenesis and axonal/dendritic repair in the barrel cortex following focal ischemia in mice. J. SUN\*; J. LEE; X. GU; Z. Z. WEI; Y. ZHANG; J. LI; S. YU; L. WEI. *Labs of Stem Cell Biol and Regenerative Med., Emory Univ. Sch. of Med., Beijing Friendship Hosp. Capital Med. Univ.*
- 8:00 N18 **324.25** CREB/DREADD system: Switching on/off recovery of motor function after stroke. L. CARACCILO\*; A. HAMADE; T. BULFONE; A. GUZNER; Y. SANO; A. J. SILVA; S. T. CARMICHAEL. *David Geffen Sch. of Med. At UCLA, David Geffen Sch. of Med. at UCLA, David Geffen Sch. of Med. at UCLA.*
- 9:00 N19 **324.26** Investigating vagus nerve stimulation paired with motor rehabilitation to enhance recovery on a novel task measuring supination and the generalization of recovery across different motor tasks in a rat model of ischemic stroke. E. MEYERS\*; S. HAYS; R. SOLORZANO; R. CHOI; M. KILGARD; R. RENNAKER. *Univ. of Texas At Dallas, Univ. of Texas At Dallas.*
- 10:00 N20 **324.27** Enhancement of motor recovery using dual-mode noninvasive brain stimulation over the bilateral primary motor cortices in stroke patients. E. PARK\*; J. CHO; W. CHANG; A. LEE; Y. KIM. *Samsung Med. Ctr.*
- 11:00 N21 **324.28** ● Vagus nerve stimulation paired with rehabilitative training improves recovery of forelimb function in an aged model of ischemic stroke. A. D. RUIZ\*; S. A. HAYS; D. R. HULSEY; N. KHODAPARAST; R. L. RENNAKER, II; M. P. KILGARD. *Univ. of Texas At Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas at Dallas.*
- 8:00 N22 **324.29** ▲ Overexpression of soluble hemopexin as a therapeutic tool for intracerebral hemorrhage. A. LAMPERT\*; J. L. LECLERC; J. SANTIAGO-MORENO; A. DANG; S. DORE. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*
- 9:00 N23 **324.30** Haptoglobin improves intracerebral hemorrhage outcomes by modulating angiogenesis. J. L. LECLERC\*; T. ESFANDIARY; S. DORE. *Univ. of Florida, Univ. of Florida, Univ. of Florida.*

## POSTER

### 325. Olfactory Receptors and Sensory Detection

#### Theme D: Sensory and Motor Systems

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 N24 **325.01** Asymmetrical transport of food volatiles during retronasal smell. R. NI; M. H. MICHALSKI; E. BROWN; N. T. T. DOAN; J. P. ZINTER, III; N. T. OUELLETTE; G. M. SHEPHERD\*. *Yale Univ., Yale Univ. Sch. of Med., Yale Univ., Yale Univ. Sch. of Med.*
- 9:00 N25 **325.02** Chemosensory cilia of olfactory sensory neurons may use glucose from surrounding mucus to satisfy energy demands of odor transduction. J. BACIGALUPO\*; P. VILLAR; K. BLANCHARD; D. VILLALOBOS; R. DELGADO; C. VERGARA; J. G. REYES. *Univ. of Chile, Univ. of Chile, P. Univ. Católica de Valparaiso.*
- 10:00 N26 **325.03** Epigenetic regulation of olfactory receptor expression during differentiation of single sensory neurons. L. TAN\*; X. S. XIE. *Harvard Univ.*
- 11:00 N27 **325.04** Odor discrimination and detection threshold in mousensor transgenics. R. MINA\*; P. FEINSTEIN; C. D'HULST. *CUNY Grad. Center/Hunter Col.*
- 8:00 N28 **325.05** Comparison of olfactory sensitivity in sensory neurons and behaving animals. A. CICHY\*; A. K. DEWAN; J. ZHANG; D. RINBERG; T. BOZZA. *Northwestern Univ., NYU Neurosci. Inst.*
- 9:00 N29 **325.07** Switching of pup-directed behaviors by vomeronasal receptor inputs. Y. ISOGAI\*; H. AHN; M. I. LOVE; Z. WU; V. HUA; D. BAMBAH-MUKKU; R. IRIZARRY; C. DULAC. *Harvard Univ., Dana Farber Cancer Institute, Harvard Med. Sch., HHMI, Harvard Univ.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author



- 10:00 N30 **325.08** Functional clustering of mouse vomeronasal sensory neurons through exhaustive calcium imaging. D. LEE\*; T. E. HOLY. *Washington Univ. In St. Louis.*
- 11:00 N31 **325.09** Identification of new ligands and analysis of the signal processing in the mouse olfactory Grueneberg ganglion. F. MOINE\*; J. BRECHBÜHL; V. FRANZEN; M. NENNIGER TOSATO; M. BROILLET. *Univ. of Lausanne.*
- 8:00 N32 **325.10** Spatial patterns of receptor neuron input to the olfactory bulb are correlated with odor-evoked fMRI maps of glomerular activity. B. G. SANGANAHALLI\*; M. R. REBELLO; P. HERMAN; G. M. SHEPHERD; J. V. VERHAGEN; F. HYDER. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Yale Univ. Sch. of Med.*
- 9:00 N33 **325.11** Use of the medicinal chemistry rules in olfactory detection as a new point of view in odorant classification. E. POIVET\*; N. TAHIROVA; L. XU; S. FIRESTEIN. *Columbia Univ.*
- 10:00 N34 **325.12** Role of sensory neurons in intensity dependent behavioral response switch in *Drosophila*. H. RONG; P. DAS; A. LUBE; Y. BEN-SHAHAR; B. RAMAN\*. *Washington Univ., Washington Univ. In St. Louis, Washington Univ.*
- 11:00 N35 **325.13** Differential effects of adaptation on odor discrimination. S. HANEY\*; D. SAHA; B. RAMAN; M. BAZHENOV. *Univ. of California, Riverside, Washington Univ.*
- 8:00 N36 **325.14** A functional role for off-transients in olfactory coding. D. SAHA\*; C. LI; W. PADOVANO; B. RAMAN. *Washington Univ. In St. Louis.*
- 9:00 N37 **325.15** Spontaneous firing of sensory neurons modulates the gain in the downstream circuit of a simple olfactory system. N. KATTA\*; M. O'NEILL; D. SAHA; B. RAMAN. *Washington Univ. In St. Louis.*

**POSTER**

**326. Olfaction: Behavior, Perception, and Neurophysiology**

**Theme D: Sensory and Motor Systems**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 N38 **326.01** Food deprivation inhibits mitral cell firing in the mouse main olfactory bulb. K. O'CONNELL\*; J. W. GAMMONS; W. WEI. *Univ. of Tennessee Hlth. Sci. Ctr.*
- 9:00 N39 **326.02** Odor processing dynamics in the olfactory system: What is the impact of obesity? C. MARTIN\*; Y. CHELMINSKI; H. GURDEN; N. MEUNIER. *CNRS, IMNC, Univ. Paris-Sud, INRA Univ. Versailles St-Quentin.*
- 10:00 N40 **326.03** Optogenetic activation of olfactory sensory neurons in the nose drives rhythmic activity in widespread brain areas. A. H. MOBERLY\*; M. MA. *Univ. of Pennsylvania.*
- 11:00 N41 **326.04** Plasticity in Arc-transcribing accessory olfactory bulb internal granule cells following intermale aggression. H. L. CANSLER\*; J. P. MEEKS. *UT Southwestern.*

- 8:00 N42 **326.05** Synaptic plasticity in the olfactory bulb underlying aversive olfactory learning is inhibited by ER stress. F. OKUTANI\*; J. TONG; H. KABA. *Kochi Med. Sch., Kochi Med. Sch.*
- 9:00 N43 **326.06** ▲ Impact of olfactory fear conditioning on olfactory tuning in cortical and medial amygdaloid nuclei. V. SAVAGE; G. MINOGUE; T. REDMOND; A. ROCHA-CARTAGENA; G. A. COUSENS\*. *Drew Univ.*
- 10:00 N44 **326.07** Dynamics of activity in main olfactory bulb granule cells during associative odor learning. B. N. CAZAKOFF\*; S. D. SHEA. *Cold Spring Harbor Lab.*
- 11:00 N45 **326.08** Noradrenergic blockage in the olfactory bulb during similar odor discrimination learning leads to impaired odor discrimination and pattern separation in rats. A. M. SHAKHAWAT\*; A. GHEIDI; I. T. K. MACINTYRE; Q. YUAN. *Mem. Univ.*
- 8:00 N46 **326.09** Transient asymmetry in primary and higher order olfactory cortex during odor learning. Y. COHEN\*; D. PUTRINO; D. A. WILSON. *Nathan Kline Institute, Weill Med. Col. of Cornell Univ.*
- 9:00 N47 **326.10** Investigating attentional modulation of odor coding in the olfactory tubercle. K. S. CARLSON\*; E. S. DAUSTER; M. A. GADZIOLA; D. W. WESSON. *Case Western Reserve Univ.*
- 10:00 N48 **326.11** Role of basal forebrain cholinergic neurons in olfactory learning. A. F. NUNEZ-PARRA\*; D. RESTREPO. *Univ. of Colorado Anschutz Med. Campus.*
- 11:00 O1 **326.12** Odor-driven oscillations in human olfactory cortex. H. JIANG\*; S. LEVINE; S. SCHUELE; J. ROSENOW; J. PARVIZI; J. TAO; J. GOTTFRIED. *Northwestern Univ., Stanford Univ., The Univ. of Chicago.*
- 8:00 O2 **326.13** Odor source localization in a single sniff. S. HAESLER\*; J. ESQUIVELZETA-RABELL; K. MUTLU; J. NOUTEL. *Neuroelectronics Res. Flanders.*
- 9:00 O3 **326.14** Experimental platform for dissecting olfactory system in *C. elegans*. K. ASHIDA\*; H. SHIDARA; K. HOTTA; K. OKA. *Keio Univ.*
- 10:00 O4 **326.15** Unraveling the dual role of the Dopaminergic system underlying locomotor behavior and the innate value of an aversive olfactory stimulus in *Drosophila*. N. FUENZALIDA-URIBE; J. M. CAMPUSANO\*. *P. Univ. Catolica Chile.*
- 11:00 O5 **326.16** Alterations in brain-derived leptin-homolog lead to obesity phenotypes in *Drosophila* through regulation of food odor value signaling. J. BESHSEL\*; Y. ZHONG. *Cold Spring Harbor Lab.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

## POSTER

### 327. Taste System

#### Theme D: Sensory and Motor Systems

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 O6 **327.01** Changes in taste and odor preference following bariatric surgery in humans. H. KITRELL; W. GRABER; J. D. SAMMONS\*; K. CZAJA; A. HAJNAL; P. M. DI LORENZO. *Binghamton Univ., St. Joseph's Hosp. Hlth. Ctr., Univ. of Georgia, Athens, Penn State Univ., Binghamton Univ.*
- 9:00 O7 **327.02** Mice selected for high and low saccharin intake differ in consumption of appetitive taste solutions regardless of their taste quality. R. POOLE\*; M. INOUE; N. BOSAK; A. BACHMANOV. *Monell Chem. Senses Ctr., Tokyo Univ. of Pharm. and Life Sci.*
- 10:00 O8 **327.03** Generalization of conditioned taste aversion of dashi to salts is modified by lactic acid in mice. E. R. DELAY\*; B. M. WEAVER; D. R. LANE; T. KONDOH. *Univ. of Vermont, Univ. of Vermont, Ajinomoto Co., Inc.*
- 11:00 O9 **327.04** Multiple glutamate receptors detect L-amino acid taste in mice. S. PAL CHOUDHURI\*; R. J. DELAY; E. R. DELAY. *The Univ. of Vermont.*
- 8:00 O10 **327.05** Receptive field size, chemical and thermal responses and fiber conduction velocity of rat chorda tympani geniculate ganglion neurons. Y. YOKOTA; R. M. BRADLEY\*. *Univ. Michigan Sch. Dent.*
- 9:00 O11 **327.06** Sex differences in rat glossopharyngeal nerve taste responses. L. J. MARTIN; S. I. SOLLARS\*. *Univ. of Nebraska at Omaha, Univ. of Nebraska at Omaha.*
- 10:00 O12 **327.07** Perinatal undernutrition alters feeding behavior and fat c-Fos expression in the solitary tract neurons of adult male Wistar rats. L. RUBIO NAVARRO; M. A. SALAS\*; M. REGALADO; C. TORRERO. *Natl. Univ. of México, UNAM, Natl. Univ. of México.*
- 11:00 O13 **327.08** Organization inhibitory circuitry connected to projection neuron populations in the mouse rostral nucleus of the solitary tract. J. A. CORSON\*; R. M. BRADLEY. *Univ. of Michigan.*
- 8:00 O14 **327.09** Optogenetic manipulation of lateral hypothalamic input to the nucleus of the solitary tract modulates licking behavior in the awake rat. J. D. SAMMONS; C. E. BASS; J. D. VICTOR; P. M. DI LORENZO\*. *Binghamton Univ., Univ. of Buffalo SUNY Sch. of Med. and Biomed. Sci., Weill Cornell Med. Sch.*
- 9:00 O15 **327.10** Transfer of chemosensory information between the NTS and PbN in the awake-behaving rats. O. D. ESCANILLA\*; P. M. DI LORENZO. *Binghamton Univ.*
- 10:00 O16 **327.11** A lick-related circuit in the parabrachial nucleus of the pons in the awake, freely licking rat. M. S. WEISS\*; P. M. DI LORENZO; J. D. SAMMONS; J. D. VICTOR. *Binghamton Univ., Weill Cornell Med. Col.*
- 11:00 O17 **327.12** ▲ CCK and calbindin in the primate parabrachial nucleus. B. GEHRING\*; S. DE LACALLE. *Ohio Univ., Ohio Univ.*
- 8:00 O18 **327.13** Representation of multisensory signals in the gustatory cortex of rats before and after associative learning. R. VINCIS\*; A. FONTANINI. *SUNY at Stony Brook Univ.*
- 9:00 O19 **327.14** Dynamic modulation of gustatory thalamocortical synaptic inputs by basolateral amygdala. M. E. STONE\*; A. MAFFEI; A. FONTANINI. *SUNY Stony Brook.*
- 10:00 O20 **327.15** Amygdalo-cortical synaptic plasticity in primary gustatory cortex. M. HALEY\*; A. FONTANINI; A. MAFFEI. *SUNY At Stony Brook.*
- 11:00 O21 **327.16** Sucrose promotes quinine and capsaicin consumption in rats. M. A. VILLAVICENCIO CAMARILLO\*; E. G. FONSECA DE LA CRUZ; S. A. SIMON; R. GUTIERREZ. *Ctr. De Investigación Y Estudios Avanzados, Inst. de Fisiología Celular, UNAM, Duke Univ. Med. Ctr.*
- 8:00 O22 **327.17** ● Orbitofrontal cortex neuron responses during a sweet intensity discrimination task in rats. E. G. FONSECA DE LA CRUZ\*; A. MATSUMOTO TAKANE; M. VILLAVICENCIO; R. GUTIERREZ. *Inst. De Fisiología Celular, UNAM, CINVESTAV, UNAM.*
- 9:00 O23 **327.18** Optogenetic induced inactivation of the lateral orbitofrontal cortex during a sucrose freely licking task. D. A. GARCÍA\*; L. PRADO; R. GUTIERREZ. *UNAM, CINVESTAV.*
- 10:00 O24 **327.19** Anandamide-induced network oscillation in the insular cortex implicated in taste-driven feeding. Y. KANG\*. *Osaka Univ. Grad. Sch. Dent.*

## POSTER

### 328. Auditory Processing: Mechanoreceptors and Cochlea

#### Theme D: Sensory and Motor Systems

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 O25 **328.01** Exocytosis and energy metabolism from mitochondria at hair cell ribbon synapses. K. LEAL\*; H. VON GERSDORFF. *Oregon Hlth. and Sci. Univ., Vollum Inst.*
- 9:00 O26 **328.02** Latency and efficiency of multivesicular release at hair cell ribbon synapses. O. GROSS\*; H. VON GERSDORFF. *Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ.*
- 10:00 O27 **328.03** Use of an *in vitro* screening platform to identify compounds that regenerate hair cells in the inner ear. K. I. LORRAIN\*; A. DEARIE; M. POON; J. SEIDERS; J. ROPPE; P. PRASIT; D. LORRAIN. *Inception Sciences, Inc.*
- 11:00 O28 **328.04** Inhibition of protein nitration attenuates cisplatin-induced modulation of LMO4 and mitigates the ototoxic effects. S. JAMESDANIEL\*; R. RATHINAM; W. NEUMANN. *Wayne State Univ., Southern Illinois Univ. Edwardsville.*
- 8:00 O29 **328.05** Damage to sensory hair cells occurs via excessive activation of ionotropic glutamate receptors that is independent of afferent and efferent innervation. L. SHEETS\*. *Mass Eye & Ear Infirmary/ Harvard Med. Sch.*
- 9:00 O30 **328.06** Targeted deletion of oncomodulin leads to changes in auditory thresholds independent of outer hair cell loss. D. D. SIMMONS\*; A. AZGHADI; M. KAZANTSEV; A. J. HORNAK. *UCLA.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

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\* Indicates abstract's submitting author

- 10:00 O31 **328.07** The effects of the somatostatin analogue pasireotide and role of NFAT in protection of auditory hair cells after aminoglycoside exposure. V. RADOJEVIC\*; A. PERKOVIC; D. BODMER. *Univ. Hospital, Clin. For Otorhinolaryngolog.*
- 11:00 O32 **328.08** A stereological investigation of the parvalbumin positive neurons in the adult human spiral ganglion. C. KAUR; T. C. NAG; A. THAKAR; D. N. BHARDWAJ; T. G. JACOB; T. ROY\*. *All India Inst. Med. Sci., All India Inst. Med. Sci., All India Inst. Med. Sci.*
- 8:00 O33 **328.09** ● Effective protection against severe noise-induced hearing loss by a small molecule clinical drug candidate following daily, post-trauma systemic administration. J. DYHRFJELD-JOHNSEN\*; M. PETREMANN; V. BRIEUC; A. BROUSSY. *Sensorion.*
- 9:00 O34 **328.10** The upregulation of Nrf2/HO-1 pathway restores cochlear redox homeostasis after noise exposure. D. TROIANI\*; F. PACIELLO; R. ROLES; S. L. M. ERAMO; A. R. FETONI. *Inst. Physiol. Univ. Cattolica Sch. of Med., Otolaryngology, Univ. Cattolica Sch. of Med.*
- 10:00 O35 **328.11** Differential influences of visual-task performance on cochlear responses in musicians and non-musicians. S. BOOTHALINGAM\*; M. HALINSKI; C. E. MURRAY; J. LEE; B. A. WRIGHT; S. DHAR. *Northwestern Univ., Univ. of Wisconsin.*
- 11:00 O36 **328.12** The use of electrocochleography in the diagnosis endolymphatic hydrops without vertigo. M. MAHEU\*; S. ALHABIB; F. CHAMPOUX; I. SALIBA. *Univ. of Montreal, Ctr. for Interdisciplinary Res. in Rehabil. of Greater Montreal, Raymond-Dewar Inst., Univ. of Montreal.*
- 9:00 O42 **329.06** Haptic feedback of rebound improves predictive gaze tracking. F. SALMEN\*; F. CREVECOEUR; J. THONNARD; P. LEFEVRE. *Univ. catholique de Louvain, Univ. catholique de Louvain, Cliniques Universitaires Saint-Luc.*
- 10:00 O43 **329.07** Tool use and near-tool effects: Exploring the influence of training demands. G. E. TRACEY\*; L. E. BROWN. *Trent Univ.*
- 11:00 O44 **329.08** Large-scale cortical synchronization promotes multisensory processing. F. GÖSCHL\*; P. WANG; U. FRIESE; P. KÖNIG; A. K. ENGEL. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. of Osnabrück.*
- 8:00 O45 **329.09** Structural correlates of visual cortex plasticity in sighted braille learners. L. BOLA\*; K. SIUDA-KRZYWICKA; M. PAPLINSKA; E. SUMERA; K. JEDNOROG; A. MARCHEWKA; M. ZIMMERMANN; M. SZWED. *Jagiellonian Univ., Nencki Inst. of Exptl. Biol., École des Neurosciences Paris Île-de-France, Acad. of Special Educ. in Warsaw, Sch. for the Blind and Partially Sighted Children in Krakow, Nencki Inst. of Exptl. Biol., Univ. of Warsaw.*
- 9:00 O46 **329.10** Inducing sense of finger extension or retraction based on self-touch illusion and proprioception-vision correlation. K. MORI; Y. ISHIIHARA; K. KODAKA\*. *Grad. Sch. of Design & Architecture, Nagoya City Univ.*
- 10:00 O47 **329.11** Categorizing individuals by tactile, kinesthetic and visual impairments for individualized treatment for upper limb recovery post stroke. D. GELLER\*; V. ALURU; S. BILALOGLU; Y. LU; P. RAGHAVAN. *Rusk Rehabil. NYU Langone Med. Ctr., New York Univ., New York Univ. Sch. of Med.*
- 11:00 O48 **329.12** Probing the neuroanatomy of olfactory processing in the human orbitofrontal cortex with electrical brain stimulation. S. GATTAS\*; J. YIH; J. PARVIZI. *Stanford Univ.*

**POSTER**

**329. Cross-Modal Processing in Humans**

**Theme D: Sensory and Motor Systems**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 O37 **329.01** Anatomical similarity is mandatory to provide body ownership toward body-shadow. A. KANAZAWA\*; K. KODAKA. *Grad. Sch. of Design & Architecture, Nagoya Ci.*
- 9:00 O38 **329.02** Axonal density in the ipsilesional and contralesional corticospinal tracts post stroke and relationship to corpus callosum microstructure. M. LAZAR; A. GEORGE; Y. LUI; V. ALURU; S. BILALOGLU; D. GELLER; P. RAGHAVAN\*. *New York Univ. Sch. of Med., New York Univ. Langone Med. Ctr.*
- 10:00 O39 **329.03** Neurodynamics of letter perception in blind and sighted readers. S. TENG\*; R. CICHY; D. PANTAZIS; V. SOMMER; A. OLIVA. *MIT, MIT, Univ. of Amsterdam.*
- 11:00 O40 **329.04** Causal inference in self-motion estimation. A. TER HORST\*; M. KOPPEN; L. P. J. SELEN; W. P. MEDENDORP. *Radboud Univ. Nijmegen, Donders Ctr. For Cognition.*
- 8:00 O41 **329.05** Eye-hand coordination for adaptation of hand posture to object shape. A. YOUSEFI\*; S. BILALOGLU; P. THAI; V. ALURU; Y. LU; J. RIZZO; P. RAGHAVAN. *New York Univ. Sch. of Med.*
- 8:00 P1 **329.13** ● Coupled bimanual arm training for individuals with severe hemiparesis. P. THAI\*; V. ALURU; S. MILANI; A. JOHNSON; A. TANG; D. GELLER; S. BILALOGLU; D. WEISZ; Y. LU; P. RAGHAVAN. *New York Univ. Langone Med. Ctr., New York Univ. Sch. of Med., Richmond Univ. Med. Ctr., Yale Sch. of Med., Mount Sinai, New York Univ.*
- 9:00 P2 **329.14** Mental transformation of body parts in manipulating the somatotopic representation. T. SUDO\*; Y. OOUCHIDA; S. IZUMI; K. MOGI. *Tohoku Univ., Sony Computer Sci. Laboratories, Inc.*
- 10:00 P3 **329.15** The magnetic touch illusion: A proposed perceptual correlate of peripersonal space. A. GUTERSTAM\*; H. ZEBERG; V. MENDERES OZCIFTCI; H. EHRSSON. *Karolinska Institutet.*
- 11:00 P4 **329.16** A rubber hand experiment using an EMG controlled robotic arm in amputee participants. Y. SATO\*; T. KAWASE; K. TAKANO; K. KANSAKU. *Res. Inst. of Natl. Rehabil. Ctr., The Univ. of Electro-Communications.*
- 8:00 P5 **329.17** Interactions between agency and ownership by moving virtual hand illusion. S. UNENAKA\*; S. SHIBUYA; Y. OHKI. *Kyorin Univ. Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 9:00 P6 **329.18** ● Functional mapping of High-Density Diffuse Optical Tomography using movie viewing. A. K. FISHELL\*; A. T. EGGBRECHT; S. E. PETERSEN; J. P. CULVER. *Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ.*
- 10:00 P7 **329.19** ▲ Multisensory integration varies with target and environment complexity in a virtual environment: Towards a naturalistic model of multisensory integration. H. D. BAILEY; A. B. MULLANEY; K. D. GIBNEY; L. D. KWAKYE\*. *Oberlin Col., Great Sci. Acad., Vanderbilt Univ.*
- 11:00 P8 **329.20** Adaptation of grip forces to tactile surfaces is based on categorization of frictional surfaces rather than on coefficient of friction. S. BILALOGU\*; Y. LU; V. ALURU; D. GELLER; P. RAGHAVAN. *NYU Langone Med. Ctr., New York Univ., New York Univ. Sch. of Med.*
- 8:00 P9 **329.21** Shared neural representation for visual and tactile material property. H. YAMASHIRO\*; H. YAMAMOTO; C. ISAMI; S. SUKIGARA; T. MURASE; M. UMEDA; T. HIGUCHI. *Aino Univ., Kyoto Univ., Kyoto Inst. of Technol., Meiji Univ. of Integrative Med.*
- 9:00 P10 **329.22** Interactions between posterior parietal and primary motor cortices are differentially modulated after the rubber hand illusion with ageing. R. ISAYAMA\*; M. VESIA; G. JEGATHEESWARAN; B. ELAHI; C. GUNRAJ; L. CARDINALI; A. FÁRNE; R. CHEN. *Toronto Western Res. Inst., Univ. of Toronto, Univ. of Western Ontario, Lyon Neurosci. Res. Ctr.*

## POSTER

### 330. Visual Signals in Retinal Circuits

#### Theme D: Sensory and Motor Systems

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 P11 **330.01** Mechanisms underlying orientation selectivity in the mouse retina. A. NATH\*; G. W. SCHWARTZ. *Northwestern Univ.*
- 9:00 P12 **330.02** Control of excitation-inhibition balance in the directionally selective circuit in mouse retina by nicotinic acetylcholine receptors. A. HOGGARTH\*; S. SETHURAMANUJAM; V. JAIN; A. MCLAUGHLIN; G. B. AWATRAMANI. *Univ. of Victoria.*
- 10:00 P13 **330.03** Spatiotemporal receptive field properties of starburst amacrine cell dendrites. H. DING\*; J. DIAMOND. *NIH.*
- 11:00 P14 **330.04** Distinct inhibitory spatial scales improve information transmission in the retina. L. T. MCINTOSH\*; M. MANU; D. B. KASTNER; B. NAECKER; S. A. BACCUS. *Stanford Univ., Med. Sch. Hannover, UCSF Sch. of Med., Stanford Univ.*
- 8:00 P15 **330.05** An excitatory amacrine cell detecting object motion provides its feature-selective input to ganglion cells. T. KIM\*; F. SOTO; D. KERSCHENSTEINER. *Washington Univ. In St.Louis.*
- 9:00 P16 **330.06** The development and function of direction selective circuits in the mouse retina. R. BOS; K. ZHOU; C. GAINER; M. B. FELLER\*. *Univ. California, Berkeley.*
- 10:00 P17 **330.07** Does the mouse retina contain 'mini-foveas' for region-specific analysis of the visual field? R. N. EL DANAF\*; A. D. HUBERMAN. *Univ. of California San Diego, Univ. of California San Diego, Salk Inst. for Biol. studies.*
- 11:00 P18 **330.08** A novel amacrine cell circuit for signaling steady illumination in the retina. J. JACOBY\*; Y. ZHU; S. H. DEVRIES; G. SCHWARTZ. *Northwestern Univ.*
- 8:00 P19 **330.09** Psychophysical measurement of marmoset visual acuity as a function of eccentricity. S. U. NUMMELA\*; C. T. MILLER; J. F. MITCHELL. *UCSD, Univ. of Rochester.*
- 9:00 P20 **330.10** Summation and division by retinal cholinergic/GABAergic starburst amacrine cells. A. J. MCLAUGHLIN\*; G. AWATRAMANI. *Univ. of Victoria.*
- 10:00 P21 **330.11** In which the eyes of the beholder are a worm's: Mapping of multiplexed visual cues across the array of cephalic eyes in a leech. J. A. JELLIES\*; T. GROVES. *Western Michigan Univ., Western Michigan Univ.*
- 11:00 P22 **330.12** Quantitative evaluation of perceptual and neuronal brightness vision of retinitis pigmentosa model rat. N. SUEMATSU\*; A. SATO; A. KIMURA; S. SHIMEGI; S. SOMA. *Osaka Univ., Osaka Univ., Osaka Univ., Osaka Hlth. Sci. Univ., Tamagawa Univ.*
- 8:00 P23 **330.13** Predictive information in the retina depends on stimulus statistics. J. M. SALISBURY\*; S. DENY; T. MORA; O. MARRE; S. PALMER. *Univ. of Chicago, Inst. de la Vision, École Normale Supérieure, Univ. of Chicago.*
- 9:00 P24 **330.14** What the mouse's eye tells the mouse's brain: Novel retinal ganglion cell types. K. FRANKE\*; T. BADEN; P. BERENS; M. ROMÁN ROSÓN; M. BETHGE; T. EULER. *Werner Reichardt Ctr. For Integrative Neuroscien, Inst. for Ophthalmic Res., Grad. Sch. for Neural & Behavioural Sci., Bernstein Ctr. for Computat. Neurosci.*
- 10:00 P25 **330.15** Specificity and intermixing in the retinogeniculate pathway of the adult mouse: A connectomic study. J. L. MORGAN\*; A. WETZEL; J. W. LICHTMAN. *Harvard Univ., Pittsburg Supercomputing Ctr., Harvard Univ.*
- 11:00 P26 **330.16** ▲ Pharmacologic dissection of neurovascular coupling pathways underlying functional retinal imaging. M. BEGUM\*; D. TSO. *SUNY Upstate Med. Univ.*
- 8:00 P27 **330.17** Differential transmission of GABA and ACh underlies directional selectivity in the mouse retina. S. SETHURAMANUJAM\*; G. AWATRAMANI. *Univ. of Victoria.*
- 9:00 P28 **330.18** Contributions of multiple synaptic mechanisms underlying direction selectivity in the retina. W. WEI\*; Z. PEI; Q. CHEN; D. KOREN; B. GIAMMARINARO. *Univ. of Chicago, Univ. of Chicago.*
- 10:00 P29 **330.19** Characterization of medullary neuron properties in response to on and off stimuli in a locust looming detection circuit. H. WANG\*; R. B. DEWELL; M. U. EHRENGRUBER; F. GABBIANI. *Baylor Col. of Med., Kantonsschule Hohe Promenade, Rice Univ.*
- 11:00 P30 **330.20** Morphology and function of three VIP expressing amacrine cell types in the mouse retina. A. AKROUH\*; D. KERSCHENSTEINER. *Washington Univ. Sch. of Med.*

- 8:00 P31 **330.21** GPR55 is involved in scotopic vision in primates. J. M. BOUSKILA\*; V. HARRAR; C. CASANOVA; J. BOUCHARD; M. PTITO. *Univ. of Montreal.*
- 9:00 P32 **330.22** Functional recovery in retinas of mice rescued from rod photoreceptor degeneration. J. P. CAFARO\*; T. WANG; J. PAHLBERG; A. P. SAMPATH; J. CHEN; G. D. FIELD. *Duke Univ., Zilkha Neurogenetic Institute, Univ. of Southern California, Jules Stein Eye Inst.*
- 10:00 P33 **330.23** Synaptic signaling to rod bipolar cells in mouse retina with channelrhodopsin2-expressing horizontal cells. S. A. BARNES\*; X. LIU; A. A. HIRANO; N. C. BRECHA. *Dalhousie Univ., Chongqing Univ. of Sci. and Technol., UCLA.*
- 11:00 P34 **330.24** ● Class-specific coupling patterns among ON cone bipolar cells in the mammalian retina. C. L. SIGULINSKY\*; J. S. LAURITZEN; D. P. EMRICH; C. N. RAPP; A. M. SESSIONS; R. L. PFEIFFER; K. D. RAPP; J. R. ANDERSON; R. E. MARC. *Moran Eye Center, Univ. of Utah.*
- 8:00 P35 **330.25** Information transmission at the mammalian cone to Off bipolar cell synapse. S. DENIZ\*; C. P. RATLIFF; S. H. DEVRIES. *Northwestern Univ., Stein Eye Institute, UCLA.*
- 9:00 P36 **330.26** Contribution of presynaptic active zone proteins CAST/ELKS in the formation of retinal ribbon synapse. A. HAGIWARA\*; Y. KITAHARA; C. VOGL; M. ABE; K. OHTA; K. NAKAMURA; K. SAKIMURA; T. MOSER; A. NISHI; T. FURUKAWA; T. OHTSUKA. *Univ. of Yamanashi, Kurume Univ. Sch. of Med., Uni. Med. Ctr. Goettingen, Niigata Univ., Kurume Univ. Sch. of Med., Osaka Univ.*
- 10:00 P37 **330.27** Characterization of a voltage-gated conductance and its modulation by extracellular signaling molecules in Müller cells acutely isolated from the tiger salamander retina. B. K. TCHERNOOKOVA\*; R. P. MALCHOW. *Univ. Of Illinois At Chicago, Univ. of Illinois at Chicago.*
- 11:00 P38 **330.28** Regulation of extracellular pH by isolated Muller cells of the tiger salamander: HCO<sub>3</sub>-dependent and HCO<sub>3</sub>-independent mechanisms. M. A. KREITZER\*; D. SWYGART; C. HEER; R. KAUFMAN; B. WILLIAMS; B. K. TCHERNOOKOVA; R. P. MALCHOW. *Indiana Wesleyan Univ., Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*
- 10:00 P41 **331.03** The psychophysicist's microelectrode: Weak visual stimuli reveal neuron-like response properties. A. W. FREEMAN\*; G. LUO-LI; D. ALAIS. *Univ. of Sydney, Univ. of Sydney.*
- 11:00 P42 **331.04** Spatio-temporal synergy requirements for binding feedforward and horizontal waves in V1. X. G. TRONCOSO\*; M. PANANCEAU; B. LE BEC; C. DESBOIS; F. GERARD-MERCIER; Y. FREGNAC. *UNIC-CNRS.*
- 8:00 Q1 **331.05** The Helmholtz size illusion is processed by extrastriate visual cortex, evidence from TMS. B. D. KEEFE\*; K. MIKELLIDOU; H. CLAWSON; A. D. GOUWS; P. G. THOMPSON; A. B. MORLAND. *Univ. of York, Univ. of Pisa, Univ. of York.*
- 9:00 Q2 **331.06** Neural sensitivity in primate V1 is inconsistent with behavioral sensitivity in a fine orientation discrimination task. Y. Y. CHEN\*; Y. BAI; W. S. GEISLER; E. SEIDEMANN. *Univ. of Texas at Austin.*
- 10:00 Q3 **331.07** Characterizing population-level interactions between v1 and v2. J. D. SEMEDO\*; B. R. COWLEY; A. ZANDVAKILI; C. K. MACHENS; B. M. YU; A. KOHN. *Carnegie Mellon Univ., Albert Einstein Col. of Med., Champalimaud Ctr. for the Unknown.*
- 11:00 Q4 **331.08** Long-term widefield imaging of genetically encoded calcium indicator signals in the primate visual cortex. E. SEIDEMANN\*; Y. CHEN; Y. BAI; W. S. GEISLER; B. V. ZEMELMAN. *Univ. Texas At Austin, Univ. of Texas at Austin.*
- 8:00 Q5 **331.09** Neural consequences of transcranial direct current stimulation in the primary visual cortex of awake, behaving macaques. K. KAR\*; B. KREKELBERG. *Ctr. For Mol. and Behav. Neuroscience, Rutgers Univ., Rutgers, The State Univ. of New Jersey.*
- 9:00 Q6 **331.10** Response properties and rate code of information about stimulus orientation in cat's primary visual cortex. S. A. KOZHUKHOV\*; N. A. LAZAREVA. *The Inst. For Higher Nervous Activity.*
- 10:00 Q7 **331.11** Effects of contrast polarity on flicker perception and primary visual cortex (V1) activity in the tree shrew. A. KHANI\*; M. MOHAMED MUSTAFAR; G. RAINER. *Univ. of Fribourg.*
- 11:00 Q8 **331.12** Two-photon imaging of neuronal avalanches during visual stimulation in awake mice. T. L. RIBEIRO\*; S. SESHADRI; D. WINKOWSKI; P. KANOLD; D. PLENZ. *NIH, Univ. of Maryland.*
- 8:00 Q9 **331.13** Distinct resting-state dynamics revealed by local inhibition of primary visual cortex and frontal eye fields in humans. L. COCCHI\*; M. V. SALE; P. T. BELL; A. ZALESKY; L. L. GOLLO; M. BREAKSPEAR; J. B. MATTINGLEY. *Queensland Brain Inst., The Univ. of Melbourne, QIMR Berghofer Med. Res. Inst.*
- 9:00 Q10 **331.14** Decoding behavioral state from local field potential recordings in basal forebrain and visual cortex. J. NAIR\*; A. KLAASSEN; J. POIROT; A. VYSSOTSKI; B. RASCH; G. RAINER. *Univ. of Fribourg, Univ. of Fribourg, Univ. of Zurich.*

**POSTER**

**331. Striate Cortex: Population Dynamics and Behavior.**

**Theme D: Sensory and Motor Systems**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 P39 **331.01** Scaling of information in large sensory neuronal populations. R. J. COTTON\*; A. S. ECKER; E. FROUDARAKIS; P. BERENS; M. BETHGE; P. SAGGAU; A. S. TOLIAS. *Baylor Col. of Med., Univ. of Tuebingen, Allen Inst. for Brain Sci.*
- 9:00 P40 **331.02** Characteristic temporal scales of v1 horizontal interactions. G. BLAND\*; W. SINGER. *Ernst Strüngmann Inst. (ESI), Max Planck Inst. for Brain Res., Frankfurt Inst. for Advanced Studies.*

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

- 10:00 Q11 **331.15** Spike and gamma band responses in macaque V1 and V4 to contrast modulated gratings and natural images. M. J. ROBERTS\*; E. LOWET; P. DE WEERD. *Univ. of Maastricht, The Donders Inst. for Brain, Cognition and Behaviour, Dept. of Neurocognition, Fac. of Psychology and Neurosci.*
- 11:00 Q12 **331.16** Amplitude and frequency of visually-induced gamma-band activity are determined by age, gender and stimulus properties across a cohort of 160 human subjects. S. VAN PELT\*; P. FRIES. *Radboud Univ. Nijmegen, Ernst Strüngmann Inst. (ESI) for Neurosci. in Cooperation with Max Planck Society, Ernst Strüngmann Inst. for Neurosci. in coop. with Max Planck Society.*
- 8:00 Q13 **331.17** Neural synchrony and the relationship between the BOLD response and the Local Field Potential. D. HERMES\*; M. L. NGUYEN; J. WINAWER. *Stanford Univ., Princeton Univ., New York Univ.*
- 9:00 Q14 **331.18** Stimulus selectivity of gamma oscillations in human visual cortex measured with magnetoencephalography. J. WINAWER\*; E. R. KUPERS; N. CHUA; D. HERMES; K. AMANO. *New York Univ., New York Univ., Stanford Univ., Ctr. for Information and Neural Networks (CiNet).*
- 10:00 Q15 **331.19** Probing communication through coherence via phase-dependent analysis. D. LISITSYN; D. HARNACK; U. A. ERNST\*. *Univ. Bremen.*
- 11:00 Q16 **331.20** Multiscale study of reliability and correlation of evoked cortical dynamics during natural scene processing in cat primary visual cortex. Y. PASSARELLI\*; L. FOUBERT; Y. FRÉGNAC; C. MONIER. *UNIC-CNRS.*

## POSTER

### 332. Extrastriate Cortex: Representing Objects and Texture

#### Theme D: Sensory and Motor Systems

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 Q17 **332.01** Visual features driving electrophysiological responses to naturalistic movies in the marmoset ventral pathway. J. DAY-COONEY\*; C. HUNG; B. E. RUSS; L. NOTARDONATO; A. C. SILVA; D. A. LEOPOLD. *Natl. Inst. of Mental Hlth., Natl. Inst. of Neurolog. Disorders and Stroke.*
- 9:00 Q18 **332.02** Putting the pieces together - the role of parieto-occipital cortex in perceptual grouping. K. KUTSCHEIDT\*; E. HEIN; M. ROTH; A. LINDNER. *Univ. Hosp. Tübingen, Hertie Inst. for Clin. Brain Res., Grad. Sch. of Neural & Behavioural Sci., Univ. Tübingen/ Dept. of Psychology.*
- 10:00 Q19 **332.03** Visual cortical representation of word identity, font. and gender? L. STROTHER\*; A. M. COROS; Z. ZHOU; T. VILIS. *Univ. of Nevada, Reno, Univ. of Western Ontario.*
- 11:00 Q20 **332.04** Variability of spiking responses varies with perceptual visibility in V4, but not in pulvinar. E. POLAND; T. DONNER; D. A. LEOPOLD; K. MÜLLER; M. WILKE\*. *Univ. Med. Goettingen (UMG), Univ. of Amsterdam, Natl. Inst. of Mental Health/Laboratory of Neuropsychology, The Neuromarketing Labs, Univ. Med. Goettingen.*
- 8:00 R1 **332.05** Neuronal signals supporting naturalistic texture discrimination. C. M. ZIEMBA\*; R. L. T. GORIS; E. P. SIMONCELLI; J. A. MOVSHON. *New York Univ., New York Univ.*
- 9:00 R2 **332.06** Interaction between macaque face patches and border-ownership cells in response to natural face stimuli and ambiguous contours. J. K. HESSE\*; P. BAO; D. Y. TSAO. *Caltech.*
- 10:00 R3 **332.07** Combinatorial shape logic in ventral pathway visual cortex. S. H. SOKOL\*; C. E. CONNOR. *Johns Hopkins Univ.*
- 11:00 R4 **332.08** Information-facilitating noise correlation in area V4 for natural images. S. GUAN\*; R. XIA; D. SHEINBERG. *Brown Univ.*
- 8:00 R5 **332.09** Contrasting 3D shape coding strategies for objects and environments. C. E. CONNOR\*; S. VAZIRI. *Johns Hopkins Univ., Krieger Mind/Brain Inst., Johns Hopkins Univ.*
- 9:00 R6 **332.10** Hierarchical sparse coding model and shape representation in V4. H. HOSOYA\*; A. HYVÄRINEN. *ATR Inst., Helsinki Univ.*
- 10:00 R7 **332.11** The tuning of human visual cortex to variations in the 1/f amplitude spectra of synthetic noise images. Z. J. ISHERWOOD\*; M. M. SCHIRA; B. SPEHAR. *Univ. of New South Wales, Neurosci. Res. Australia, Univ. of Wollongong.*
- 11:00 R8 **332.12** Spatial frequency selectivity in macaque V1, V2 and V4 revealed by intrinsic optical imaging. Y. LU\*; H. GONG; J. YIN; Z. CHEN; I. M. ANDOLINA; W. WANG. *Inst. of Neuroscience, CAS.*
- 8:00 R9 **332.13** Responses of V4 neurons to stimuli defined by inhomogeneous luminance contrast. M. MOSHTAGH KHORASANI\*; W. BAIR; A. PASUPATHY. *Univ. of Washington.*
- 9:00 R10 **332.14** Convergent integration of various local orientations to form a global orientation from V1 and V2 to V4 in macaque. J. YIN\*; Y. LU; Z. CHEN; H. GONG; Y. LIU; I. M. ANDOLINA; X. LI; W. WANG. *Inst. of Neuroscience, CAS.*
- 10:00 R11 **332.15** How do neurons in macaque visual cortex represent a high-dimensional perceptual space? J. D. VICTOR\*; Y. YU; D. J. THENGONE; J. WITZTUM; E. I. NITZANY; K. P. PURPURA. *Weill Cornell Med. Col., Cornell Univ.*
- 11:00 R12 **332.16** Neural response variability in rat visual cortex. A. I. JASPER\*; D. SUCHANEK; C. BOUCSEIN; A. AERTSEN; A. KUMAR. *Fac. of Biology, Univ. of Freiburg, Bernstein Ctr. Freiburg, Multi Channel Systems MCS GmbH, Royal Inst. of Technol.*
- 8:00 R13 **332.17** Divisive normalization in monkey inferotemporal cortex is biased in favor of familiar images. T. MEYER\*; S. RAMACHANDRAN; C. R. OLSON. *Carnegie Mellon Univ.*
- 9:00 R14 **332.18** An approach to the study of mid-level vision in the alert macaque monkey. K. P. PURPURA\*; J. L. BAKER; J. RYOU; J. D. VICTOR. *Weill Cornell Med. Col.*
- 10:00 R15 **332.19** Spatially extended models of visual cortical networks with balanced excitation and inhibition. C. EBSCH\*. *Univ. of Notre Dame.*

- 11:00 R16 **332.20** Common modules of visual responses to naturalistic movies across macaque and marmoset an fmri study. C. HUNG\*; B. E. RUSS; J. R. DAY-COONEY; C. C. YEN; R. A. BERMAN; L. NOTARDONATO; A. C. SILVA; D. A. LEOPOLD. *NINDS, NIH, NIH, NIH.*
- 8:00 R17 **332.21** Spatiotemporal properties of neurons in the ventral stream of the cat visual cortex. B. O. SOUZA\*; C. CASANOVA. *École D'Optométrie, Univ. De Montréal, Ecole D'Optometrie, Univ. De Montreal.*
- 9:00 R18 **332.22** Bottom-up and top-down priorities modulate responses in macaque visual cortex. P. C. KLINK\*; J. A. M. LORTEIJE; B. VAN VUGT; P. R. ROELFSEMA. *Netherlands Inst. For Neurosci., Univ. of Amsterdam.*

## POSTER

### 333. Visual Processing: Object and Scene Representation

#### Theme D: Sensory and Motor Systems

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 R19 **333.01** V2 neurons during free-viewing of static figure arrays: Surge of contour grouping at target of impending saccade. L. A. ZHANG\*; R. VON DER HEYDT. *Johns Hopkins Univ., Johns Hopkins Univ.*
- 9:00 R20 **333.02** Border ownership tuning predicts effective connectivity between V4 and V1 in macaque visual cortex. M. W. SELF\*; D. JEURISSEN; A. F. VAN HAM; M. SENDEN; P. R. ROELFSEMA. *NIN, Maastricht Univ.*
- 10:00 S1 **333.03** The development of figure-ground segregation across time and space in the visual cortex of the macaque monkey. D. JEURISSEN\*; A. F. VAN HAM; M. W. SELF; P. R. ROELFSEMA. *Netherlands Inst. For Neurosci.*
- 11:00 S2 **333.04** Global scene-interpretation affects figure-ground modulation and contrast perception. A. F. VAN HAM\*; M. W. SELF; D. JEURISSEN; P. R. ROELFSEMA. *Netherlands Inst. For Neurosci.*
- 8:00 S3 **333.05** Distinct computational modules for forming central and peripheral parts of a receptive field in monkey anterior inferior temporal cortex. K. OBARA; K. O'HASHI\*; M. TANIFUJI. *Brain Sci. Institute, RIKEN, Dept. Life Sci. Med. Biosci., Waseda Univ., Dept. Complexity Sci. and Eng., Grad. Sch. of Frontier Sciences, Univ. of Tokyo.*
- 9:00 S4 **333.06** Temporal dynamics of visual category representation in the macaque inferior temporal cortex. M. ABOLGHASEMI-DEHAQANI\*; A. VAHABIE; R. KIANI; M. NILI AHMADABADI; B. NADJAR ARAABI; H. ESTEKY. *IPM, NewYork Univ., Univ. of Tehran, Shaheed Beheshti Univ. of Med. Sci.*
- 10:00 S5 **333.07** Recurrent processing of object category and identity in human visual cortex. R. XU\*; X. YU; H. ZUO; H. LIU; B. HONG. *Tsinghua Univ., McGovern Inst. for Brain Res. at MIT, Chinese PLA Gen. Hosp., Yuquan Hospital, Tsinghua Univ., Massachusetts Gen. Hosp. & Harvard Med. Sch.*
- 11:00 S6 **333.08** Information flow dynamics in inferior temporal cortex involving visual object processing. K. KAWASAKI\*; T. HARUNA; H. SAWAHATA; H. TANIGAWA; A. IJIMA; T. SUZUKI; I. HASEGAWA. *Niigata Univ. Sch. of Med., Kobe Univ., Toyohashi Univ. of Technol., Natl. Inst. of Information and Communications Technol.*
- 8:00 S7 **333.09** Hierarchical feed-forward visual models and recurrent semantic models predict fMRI pattern-information in the ventral object processing stream. B. J. DEVEREUX\*; A. CLARKE; L. K. TYLER. *Univ. of Cambridge, Univ. of California, Davis.*
- 9:00 S8 **333.10** The role of action information in thematic relations between objects. R. E. WITTENBERG; C. E. WATSON; L. J. BUXBAUM; S. L. THOMPSON-SCHILL\*. *Univ. Pennsylvania, Moss Rehabil. Res. Inst.*
- 10:00 S9 **333.11** fMRI reveals representational similarity for objects that are used on the body vs. other objects. S. D. SQUIRES\*; J. C. SNOW; K. M. STUBBS; J. C. CULHAM. *Univ. of Western Ontario, Univ. of Nevada.*
- 11:00 S10 **333.12** Localizing tool- and hand-selective areas with fMRI: Comparing video and picture stimuli. S. N. MACDONALD\*; F. M. Z. HEILIGENBERG; T. R. MAKIN; J. C. CULHAM. *Western Univ., Univ. of Oxford, FMRI.*
- 8:00 S11 **333.13** Word statistics in larger-scale texts explain the human cortical semantic representation of objects, actions, and impressions. S. NISHIDA\*; A. G. HUTH; J. L. GALLANT; S. NISHIMOTO. *Natl. Inst. of Info. and Comm. Technol., Osaka Univ., Univ. of California, Berkeley.*
- 9:00 S12 **333.14** Object-to-spatial property "crosstalk" improves scene recognition: A modeling study. D. LINSLEY\*; S. MACEVOY. *Boston Col.*
- 10:00 S13 **333.15** Differential representation of man-made and natural scenes in scene-selective cortex. I. I. GROEN\*; E. H. SILSON; C. I. BAKER. *Natl. Inst. for Hlth.*
- 11:00 S14 **333.16** In search of categorical object representation in the pigeon's nidopallium frontolaterale. C. KOENEN\*; R. PUSCH; F. BROKER; S. THIELE; O. GUNTURKUN. *Ruhr-University Bochum.*

## POSTER

### 334. Eye Movements: Neurophysiology of Saccades

#### Theme D: Sensory and Motor Systems

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 S15 **334.01** Role of superior colliculus in microsaccade generation as examined with electrical microstimulation. M. C. DORRIS; P. BAO; M. YANG; G. YU\*. *Inst. of Neuroscience, Shanghai.*
- 9:00 S16 **334.02** Visual error signal in the superior colliculus reflects the speed of saccade adaptation. Y. KOJIMA\*. *Univ. of Washington.*
- 10:00 S17 **334.03** Local field potential signals related to saccade target selection in the superior colliculus. B. COOPER; R. M. MCPEEK\*. *SUNY Optometry, SUNY Optometry.*
- 11:00 S18 **334.04** The motor burst of saccade-related neurons in the deep superior colliculus during interceptive saccades. L. GOFFART\*; A. L. CECALA; N. J. GANDHI. *CNRS, Elizabethtown Col., Univ. of Pittsburgh.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 8:00 S19 **334.05** Selective optogenetic activation of output pathways from mouse superior colliculus. K. ISA\*; T. SOOKSAWATE; K. KOBAYASHI; T. ISA. *Natl. Inst. Physiol. Sci., Chulalongkorn Univ., Natl. Inst. Physiol. Sci., Grad. Univ. of Advanced Studies (SOKENDAI)*.
- 9:00 S20 **334.06** Resting-state functional connectivity changes following an ischemic frontal cortex stroke in a macaque. R. ADAM\*; K. JOHNSTON; R. HUTCHISON; S. EVERLING. *The Univ. of Western Ontario, Harvard Univ.*
- 10:00 T1 **334.07** A premotor eye field in the arcuate sulcus of macaque monkeys - comparison with FEF. W. ZINKE\*; J. D. COSMAN; G. F. WOODMAN; J. D. SCHALL. *Vanderbilt Univ.*
- 11:00 T2 **334.08** Comparison of saccade target selection in frontal and premotor eye fields of macaques. J. D. COSMAN\*; W. ZINKE; G. WOODMAN; J. SCHALL. *Vanderbilt Univ., Vanderbilt Univ.*
- 8:00 T3 **334.09** Role of macaque dorsolateral prefrontal cortex in flexible and mnemonic attentional allocation during visual search. B. BELBECK; S. EVERLING; S. G. LOMBER; K. D. JOHNSTON\*. *Univ. of Western Ontario.*
- 9:00 T4 **334.10** Effects of iontophoretic application of muscarinic agonists on mnemonic rule representation of monkey prefrontal neurons engaged in a rule-contingent saccadic task. A. J. MAJOR\*; S. VIJAYRAGHAVAN; S. EVERLING. *Western Univ.*
- 10:00 T5 **334.11** Analysis of eye movements after repetitive transcranial magnetic stimulation on behaving monkeys. K. OKADA\*; Y. KOBAYASHI. *Osaka Univ., Ctr. for Information and Neural Networks (CiNet), Natl. Inst. of Information and Communications Technology, and Osaka Univ., Osaka Univ. Res. Ctr. for Behavioral Econ., PRESTO, Japan Sci. and Technol. Agency (JST)*.
- 11:00 T6 **334.12** Neural activation and saccadic eye movements involved during letter and object naming speed tasks. N. Z. AL DAHHAN\*; D. C. BRIEN; J. R. KIRBY; D. P. MUNOZ. *Queen's Univ. Ctr. for Neurosci. Studies.*
- 8:00 T7 **334.13** Concurrent and directionally-compatible hand movements reduce fixation durations and increase peak velocity of sequential saccades. B. PARSONS\*; R. IVRY. *UC Berkeley.*
- 9:00 T8 **334.14** Refuting the hypothesis that a unilateral human parietal lesion impairs saccade corollary discharge. K. RATH-WILSON\*; D. GUITTON. *Montreal Neurolog. Inst.*
- 10:00 T9 **334.15** A six-month exercise-training program improves cognitive-motor control in persons with an identified cognitive complaint: Evidence from the antisaccade task. M. D. HEATH\*; C. GILLEN; J. WEILER; M. GREGORY; D. GILL; R. PETRELLA. *Univ. of Western Ontario.*
- 11:00 T10 **334.16** Effects of flight duration, expertise, and arousal on eye movements in aviators. A. M. MELCHIADES NOZIMA\*; L. L. DI STASI; S. MARTINEZ-CONDE; M. MCCAMY; E. GAYLES; A. G. COLE; M. J. FORSTER; B. HOARE; F. TENORE; M. JESSEE; E. POHLMAYER; M. CHEVILLET; A. CATENA; W. C. DE SOUZA; S. L. MACKNIK. *Adriana Nozima, Mind, Brain, and Behavior Res. Ctr. Univ. of Granada, State Univ. of New York, Barrow Neurolog. Inst., Third Marine Aircraft Wing Marine Corps Air Station Miramar, 3D Marine Air Wing (MAW), Marine Aviation Training Syst. Site (MATSS), Johns Hopkins Univ. Applied Physics Lab., Univ. de Brasilia.*
- 8:00 T11 **334.17** Modulation of eye movements by down syndrome cell adhesion molecule-like 1. M. M. MA\*; Y. A. PAN. *Georgia Regents Univ.*

## POSTER

### 335. Vestibular Perception, Posture, and Spatial Orientation

#### Theme D: Sensory and Motor Systems

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 T12 **335.01** Compensatory changes of theta oscillations in hippocampus after vestibular sensory loss in rats. J. N. ERON\*; N. A. LOGINOVA; V. A. KORSHUNOV. *Inst. of Higher Nervous Activity and Neurophysiol.*
- 9:00 T13 **335.02** Effects of vestibular loss and parabolic flight on cell proliferation in the rat dentate gyrus. C. M. GLIDDON\*; Y. ZHENG; P. AITKEN; L. STILES; M. HITIER; M. MACHADO; B. PHILOXENE; P. DENISE; P. SMITH; C. DARLINGTON; S. BESNARD. *Univ. of Otago, Brain Hlth. Res. Centre, Pharmacol. and Toxicology Dept., Dept. of Otolaryngology Head and Neck Surgery, Normandie Univ.*
- 10:00 T14 **335.03** ▲ Otolithic involvement in the organization of exploratory movements. L. A. CHEREP; P. A. BLANKENSHIP; S. N. BROCKMAN; A. D. TRAINER; J. D. BENSON; R. M. YODER\*; D. G. WALLACE. *Northern Illinois Univ., Indiana Purdue Fort Wayne, Northern Illinois Univ.*
- 11:00 T15 **335.04** Galvanic vestibular stimulation in primates: Recording vestibular afferents during transmastoid stimulation. A. KWAN\*; D. E. MITCHELL; P. A. FORBES; J. BLOUIN; K. E. CULLEN. *McGill Univ., McGill Univ., Delft Univ. of Technol., Univ. of British Columbia.*
- 8:00 T16 **335.05** Effects of galvanic vestibular stimulation on vestibular cortex activity. F. NOOHIBEZANJANI\*; C. KINNAIRD; S. WOOD; J. BLOOMBERG; A. MULAVARA; R. SEIDLER. *Univ. of Michigan, Azusa Pacific Univ., NASA Johnson Space Ctr., Universities Space Res. Assn.*
- 9:00 T17 **335.06** EEG spectral signatures of spatial updating processes during whole-body motion. T. P. GUTTELLING\*; W. P. MEDENDORP. *Radboud Univ. Nijmegen.*
- 10:00 T18 **335.07** Robotic assessment of wrist position sense in a 3d workspace. F. MARINI\*; V. SQUERI; P. MORASSO; L. MASIA. *Inst. Italiano Di Tecnologia, nanyang technological university.*
- 11:00 T19 **335.08** Multiple spatial representations are updated in parallel during self-motion. J. J. TRAMPER\*; P. MEDENDORP. *Radboud University, Donders Inst.*
- 8:00 T20 **335.09** Spatial transformation of the vestibular control of standing in humans. P. FORBES; B. L. LUU; M. VAN DER LOOS; E. A. CROFT; J. INGLIS; J. BLOUIN\*. *Univ. of British Columbia, Neurosci. Australia.*
- 9:00 U1 **335.10** Single motor unit recordings reveal vestibular projections to the splenius capitis neck muscles in humans. S. M. ROSENGREN\*; K. P. WEBER; D. L. DENNIS; S. GOVENDER; M. S. WELGAMPOLA; J. G. COLEBATCH. *Royal Prince Alfred Hosp., Univ. of Sydney, Univ. Hosp. Zurich, Univ. of New South Wales, Royal Prince Alfred Hosp.*



- 10:00 U2 **335.11** ● (Unable to attend) Our internal model of head and neck control incorporates electrical vestibular stimulation as a self-generated sensory signal. P. A. FORBES\*; J. C. FICE; A. C. SCHOUTEN; G. P. SIEGMUND; J. BLOUIN. *Delft Univ. of Technol., Univ. of British Columbia, Univ. of Twente, MEA.*
- 11:00 U3 **335.12** Developmental and circadian regulation of the locomotor contribution to balance in zebrafish. D. E. EHRlich\*; D. SCHOPPIK. *NYU Langone Med. Ctr., NYU Sch. of Med.*
- 8:00 U4 **335.13** Swimming blindly: A role for vision in postural maintenance of larval zebrafish. S. D. SUN\*; D. E. EHRlich; D. SCHOPPIK. *New York Univ., NYU Sch. of Med.*
- 9:00 U5 **335.14** ▲ Feline head movement during walking. H. N. ZUBAIR; M. Y. IZADY; H. SUN; V. MARLINSKI; I. N. BELOOZEROVA\*. *Barrow Neurolog. Inst., Barrow Neurolog. Inst.*
- 10:00 U6 **335.15** Evidence for sensory signal filtering for perceptual decision-making. D. M. MERFELD\*; F. KARMALI. *Harvard Med. Schl.*
- 11:00 U7 **335.16** Can vision be used to recalibrate vestibular feedback for perturbation recovery? A. J. TOTH\*; L. R. HARRIS; L. R. BENT. *Univ. of Guelph, York Univ.*
- 8:00 U8 **335.17** Human spatial orientation is distinctly task-dependent. N. BURY\*; O. BOCK. *German Sport Univ. Cologne.*
- 9:00 U9 **335.18** The influence that modulation of subjective postural vertical decrease awareness of body orientation. T. SHIOZAKI\*; Y. OKADA; S. MORIOKA. *Kio Univ.*
- 10:00 U10 **335.19** Drift of torsional eye movements and perception of upright during prolonged head tilts. J. OTERO-MILLAN\*; A. KHERADMAMAND. *JOHNS HOPKINS UNVIVERSITY, Johns Hopkins University.*
- 11:00 U11 **335.20** Bayesian analysis of perceived eye level. E. E. ORENDORFF\*; R. T. PALUMBO; M. V. ALBERT. *Loyola Univ. Chicago, Loyola Univ. Chicago, Loyola Univ. Chicago.*
- 8:00 U12 **335.21** Aging and the vestibular system. C. DE WAELE\*; E. CHIAROVANO; G. LAMAS; P. VIDAL. *Cognac G, CNRS UMR 8257, Pitie Salpetriere Hosp., Cognac G, Univ. Paris Descartes.*
- 9:00 U13 **335.22** Sensory and reflexive hypersensitivity in mal de débarquement syndrome. R. C. FITZPATRICK\*; S. R. D. WATSON. *Univ. of New South Wales.*
- 9:00 U15 **336.02** Electrophysiological characterization of trigeminal neurons innervating the anterior structures of the eye. B. SANTIAGO\*; M. C. ACOSTA; J. GALLAR; C. BELMONTE. *Inst. De Neurociencias UMH-CSIC.*
- 10:00 U16 **336.03** Satellite glial cell activation via extracellular signal-regulated kinase phosphorylation, associated with phenotypic change in trigeminal ganglion neurons, is involved in lingual neuropathic pain. A. KATAGIRI\*; H. SAITO; K. OHARA; M. SHINODA; A. TOYOFUKU; K. IWATA. *Nihon Univ., Nihon Univ. Sch. of Dent., Nihon Univ., Nihon Univ., Tokyo Med. and Dent. Univ. Grad. Sch.*
- 11:00 U17 **336.04** ▲ Mental nerve constriction alters the motivation for self-administration of a sucrose solution, study in rats. N. E. GUTIÉRREZ\*; D. QUIÑONEZ; A. GARCÍA URBINA; R. MORALES; I. O. PEREZ MARTINEZ. *Univ. Nacional Autónoma De Mexico, Univ. Nacional Autónoma De Mexico.*
- 8:00 U18 **336.05** Imaging of the excitatory transmission in the trigeminal subnucleus caudalis within the sliced medulla oblongatae of mice. M. HIRAHARA\*; N. FUJIWARA; K. SEO. *Niigata Univ.*
- 9:00 U19 **336.06** Temporal alterations of morphological and physiological features in experimental tooth movement model rats. N. HASEGAWA\*; A. SASAKI; K. TAKAHASHI; G. YU; N. SUDA; H. SAKAGAMI; K. ADACHI. *Meikai Univ. Sch. of Dent., Meikai Univ. Sch. of Dent.*
- 10:00 U20 **336.07** TRPV1 and TRPA1 contribute to mechanical hyperalgesia and spontaneous pain in craniofacial muscle inflammation. S. WANG; Y. ZHANG; J. RO; M. CHUNG\*. *Univ. Maryland Dent. Sch.*
- 11:00 U21 **336.08** Neuropathic pain in a mouse model of chronic constriction nerve injury does not correlate with changes in chloride reversal potential in trigeminal nucleus caudalis neurons. A. M. CASTRO\*; W. GUO; C. RAVER; F. WEI; R. DUBNER; A. KELLER. *Univ. of Maryland Sch. of Med., Univ. of Maryland Dent. Sch. & Program in Neurosci.*
- 8:00 U22 **336.09** ● Central role of calcitonin gene-related peptide in promoting peripheral sensitization of trigeminal nociceptive neurons. L. CORNELISON\*; J. L. HAWKINS; C. HYDE; P. L. DURHAM. *Missouri State Univ.*
- 9:00 U23 **336.10** Corneal reflexes in dry eye: Evidence for altered amino acid transmission in trigeminal brainstem. K. SHIOZAKI; M. RAHMAN; K. OKAMOTO; R. THOMPSON; D. A. BEREITER\*. *Tsurumi U Sch. of Dent. Med., U of Minnesota Sch. of Dent.*
- 10:00 U24 **336.11** Innervation of the external nares: Implications for initiation of the mammalian diving response. K. A. LAHRMAN; K. M. DINOVO; P. F. MCCULLOCH\*. *Midwestern Univ.*
- 11:00 U25 **336.12** ● Ginger-contained shogaol and gingerol inhibit oral ulcer-induced pain through sodium channel blockage. S. HITOMI\*; K. ONO; K. YAMAGUCHI; K. TERAWAKI; Y. OMIYA; K. INENAGA. *Kyushu Dent. Univ., Tsumura & Co.*
- 8:00 U26 **336.13** ▲ Changes on the preference test for ethanol after mental nerve constriction in rats. A. GARCIA URBINA\*; R. OCHOA MARTINEZ; R. MORALES DE LA LUZ; I. O. PEREZ-MARTINEZ. *Univ. Nacional Autónoma De México, FES Iztacala.*

**POSTER**

**336. Trigeminal Processing**

**Theme D: Sensory and Motor Systems**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 U14 **336.01** Local field potential changes in the lateral thalamic nuclei of behaving rats using modified Gi protein coupled receptor. J. N. STRAND\*; C. STINSON; Y. B. PENG; L. L. BELLINGER; P. KRAMER. *Univ. of Texas At Arlington, Baylor Col. of Dentistry, Texas A&M Univ.*

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

- 9:00 U27 **336.14** Sensitization of the trigeminovascular system following environmental irritant exposure in rodents: Characterization of a novel model of chronic headache. P. E. KUNKLER; L. ZHANG; G. S. OXFORD\*; J. H. HURLEY. *Indiana Univ. Sch. of Med., Indiana Univ. Sch. Med.*
- 10:00 U28 **336.15** ● Chicken broth aac1 as a dietary supplement represses nocifensive behaviors and pka expression caused by prolonged jaw opening. J. L. HAWKINS\*; P. L. DURHAM. *Missouri State Univ.*
- 11:00 U29 **336.16** ● A three dimensional assessment of 7T tractography of the trigeminal nerve through anatomical dissection. A. M. EL-NASHAR\*; J. SEIN; J. TOKAREV; B. JAGADEESAN; P. VAN DE MOORTELE; A. W. GRANDE; C. LENGLET. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Aix-Marseille, Univ. of Minnesota, Univ. of Minnesota.*
- 8:00 U30 **336.17** Local KOR agonist reduces TMJ-evoked activity of trigeminal subnucleus caudalis neurons in an estrogen-dependent manner. A. TASHIRO\*; Y. NISHIDA. *Natl. Def. Med. Col.*
- 9:00 U31 **336.18** ● Persistent sensitization of trigeminal neurons promotes gut dysbiosis. P. L. DURHAM\*; J. L. HAWKINS; R. NORTON. *Missouri State Univ.*
- 10:00 U32 **336.19** The dry eye sensitizes cold cell sensitivity to capsaicin mediated by TRPV1. M. KUROSE\*; A. HATTA; K. YAMAMURA; I. D. MENG. *Niigata Univ. Grad. Sch. of Dent., Col. of Osteo. Medicine, Univ. of New England.*

## POSTER

### 337. Spinal Cord Injury I

#### Theme D: Sensory and Motor Systems

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 U33 **337.01** Somatosensory and motor corticospinal projections respond differently to peripheral and central spinal injuries in monkeys. C. J. DARIAN-SMITH\*; K. M. FISHER; A. L. LILAK; K. IRVINE; J. GARNER. *Stanford Univ. Sch. of Med., UCSF and SFVAMC.*
- 9:00 U34 **337.02** ▲ Effect of trasplant of pedegenerated peripheral nerve and bone marrow stromal cells over axonal regeneration and remyelination in a rat model of transection spinal cord injury. V. BUZOIANU ANGUIANO\*; S. OROZCO-SUAREZ; S. CABALLERO-CHACÓN; I. GRIJALVA. *HOME, INSTITUTO MEXICANO DEL SEGURO SOCIAL, UNIVERSIDAD NACIONAL AUTÓNOMA DE MEXICO.*
- 10:00 U35 **337.03** Use of peripheral nerve stimulation to locate interneurons associated with group i and group ii afferents in intact mouse spinal cords. B. N. PHAM, Jr.; H. ZHONG; R. ROY; N. J. TILLAKARATNE\*; V. EDGERTON. *UCLA, UCLA, UCLA, Neurobio., UCLA.*
- 11:00 U36 **337.04** Activity-dependent improvement of full weight-bearing standing with epidural stimulation in chronic complete paraplegics. E. REJC\*; C. ANGELI; S. HARKEMA. *Univ. of Louisville, Univ. of Louisville.*
- 8:00 U37 **337.05** Multi muscle neuromuscular electrical simulation of the lower limbs: Effect on intra and inter limb motor pools. G. F. FORREST\*; M. BUGRAHAN BAYRAM; R. PILKAR; A. RAMANUJAM; M. MITCHELL; E. GARBARINI. *Kessler Fndn. Res. Ctr., Kessler Fndn.*
- 9:00 U38 **337.06** Impact of BDNF/TrkB signaling on functional recovery across motor behaviors after cervical spinal cord injury. H. M. GRANSEE\*; C. B. MANTILLA; Y. WANG; V. HERNANDEZ-TORRES; W. ZHAN; G. C. SIECK. *Mayo Clin., Mayo Clin.*
- 10:00 U39 **337.07** Electromyographic patterns in the contralateral limb in response to muscle stretch in rats with moderate spinal cord injuries. A. KELLER\*; K. NORD; A. WADE; A. SHUM-SIU; D. S. K. MAGNUSON. *Univ. of Louisville, Univ. of Louisville, Univ. of Louisville.*
- 11:00 U40 **337.08** Sympathetic-somatomotor coupling is disrupted in spinal cord injury. T. ONUSHKO\*; T. G. HORNBY; B. D. SCHMIT. *Marquette Univ., Rehabil. Inst. of Chicago.*
- 8:00 U41 **337.09** Histological and functional characterization of a mid-cervical contusion injury in rats. S. RANA\*; H. M. GRANSEE; S. CORREA-CARDONA; M. PAREJA-CAJIAO; W. Z. ZHAN; G. C. SIECK; C. B. MANTILLA. *Mayo Clin., Mayo Clin., Mayo Clin.*
- 9:00 U42 **337.10** Assessment of diaphragm EMG activity recovery following upper cervical spinal cord injury. O. U. KHURRAM\*; Y. B. SEVEN; R. M. S. VASDEV; G. C. SIECK; C. B. MANTILLA. *Mayo Clin. Col. of Med., Mayo Clin. Col. of Med., Mayo Clin. Col. of Med.*
- 10:00 V1 **337.11** Minimally invasive approach to medular hemisection in rats. Technical advance. F. A. ROCHA\*; R. RAMOS ZUÑIGA; G. GUDIÑO CABRERA. *U De G.*
- 11:00 V2 **337.12** ▲ The effect of combination therapy in the regeneration and locomotor recovery in rats with chronic spinal cord injury. F. R. ADRIÁN\*, ESQ. *Proyecto Camina AC.*
- 8:00 V3 **337.13** Kinematic analysis of disordered locomotion in common marmosets with spinal cord hemisection. A. UCHIDA\*; T. KONDO; K. YOSHINO-SAITO; H. J. OKANO; M. NAKAMURA; H. OKANO; J. USHIBA. *Keio Univ., Keio Univ., Jikei Univ., Keio Univ., Keio Univ.*
- 9:00 V4 **337.14** Comparison of cervical cerebrospinal fluid flow between healthy participants and persons with spinal cord injury using cine velocity-mapping MRI. A. M. WILLHITE\*; K. JUNG; N. SETTIPALLE; B. WELLMAN; D. LORENZ; M. BOAKYE; S. J. HARKEMA. *Univ. of Louisville, Univ. of Louisville Hosp., Univ. of Louisville.*
- 10:00 V5 **337.15** Intravenous taxol therapy promotes breathing after cervical spinal cord injury. K. C. HOY\*; F. J. JACONO; F. BRADKE; W. J. ALILAIN. *Metrohealth Med. Ctr., Louis Stokes Cleveland VA Med. Ctr., Univ. Hosp. Case Med. Ctr., German Ctr. for Neurodegenerative Dis., MetroHealth Med. Ctr., Case Western Reserve Med. Sch.*
- 11:00 V6 **337.16** ▲ Inoculation of neural antigens into the anterior chamber of the eye as a neuroprotective strategy after spinal cord injury in rats. D. TOSCANO\*; B. PINEDA; A. IBARRA. *Univ. Anahuac, Univ. Anahuac.*
- 8:00 V7 **337.17** Trans-spinal direct current stimulation changes the number and migration pattern of spinal cord adult-born cells. Z. AHMED\*; S. SAMADDAR. *The Col. of Staten Island.*

9:00 V8 **337.18** The effects of hindlimb stretching and positioning exercise on locomotor function after spinal cord injury in rats. E. SONG\*; H. JEON; S. HAM; Y. KIM; Y. YOON; J. KIM. *Korea Univ. Col. Hlth. Sci., Rehabil. Sci. Program, Dept. of Publ. Hlth. Science, Grad. School., Korea Univ. Col. Med.*

10:00 V9 **337.19** ▲ Mesenchymal stem cells that are genetically altered to overexpress SDF-1 increase growth of neural stem cell derived neurons and neural stem cell migration. E. D. PETERSEN\*; A. N. STEWART; J. ROSSIGNOL; U. HOCHGESCHWENDER; G. DUNBAR. *Central Michigan Univ., Field Neurosciences Inst. Lab. for Restorative Neurol., Program in Neurosci., Col. of Medicine, Central Michigan Univ., Dept. of Psychology, Field Neurosciences Institute, 4677 Towne Ctr. rd. suite 101 Saginaw, MI.*

11:00 V10 **337.20** ▲ Combination therapy promotes neuroregeneration in rats after chronic spinal cord injury. R. H. RODRIGUEZ BARRERA\*; A. IBARRA; A. FLORES-ROMERO; L. BLANCAS-ESPINOZA; K. SORIA-ZAVALA; E. GARCIA; Y. CRUZ; R. SILVA-GARCIA; V. BUZIOIANU; A. FERNÁNDEZ-PRESAS; E. MENDIETA; M. KONIGSBERG; P. SUÁREZ-MEADE. *Univ. Autónoma Metropolitana Iztapalapa, Universidad Anahuac Mexico Norte, Proyecto Camina A.C, Hospital De Pediatría Cmn Siglo XXI, Universidad Anáhuac México Norte, Hospital De Pediatría CMN Siglo XXI, Hospital De Especialidades, CMN Siglo XXI, Universidad Nacional Autonoma De Mexico, Proyecto Camina A.C, Universidad Autonoma Metropolitana Unidad Iztapalapa.*

8:00 V11 **337.21** Hand-related cortical sensorimotor activity after chronic tetraplegia. D. A. ROYSTON\*; S. T. FOLDES; M. RANDAZZO; J. L. COLLINGER. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, VA Pittsburgh Healthcare Syst., Univ. of Pittsburgh.*

9:00 V12 **337.22** Effect of cerium nanoparticles on the neuronal regeneration following spinal cord injury. J. HONG\*; J. KIM; M. KIM; H. KIM; J. HYUN. *Dankook Univ., Dept. of Nanobiomedical Sci. and BK21 PLUS NBM Global Res. Ctr. for Regenerative Medicine, Dankook Univ., Inst. of Tissue Regeneration Engin. (ITREN), Dankook Univ., Dept. of Biomaterials Science, Col. of Dentistry, Dankook Univ., Dept. of Rehabil. Medicine, Col. of Medicine, Dankook Univ.*

10:00 V13 **337.23** ● Electrophysiological mapping of rat sensorimotor lumbosacral spinal networks after complete paralysis. H. ZHONG\*; P. GAD; R. ROY; J. CHOE; M. NANDRA; Y. TAI; Y. GERASIMENKO; V. EDGERTON. *UCLA, Univ. Of California Los Angeles, Caltech.*

11:00 V14 **337.24** Characteristics of responses based on electrode and frequency selection during epidural stimulation in humans following SCI. C. A. ANGELI\*; E. REJC; Y. CHEN; S. J. HARKEMA. *Frazier Rehab Inst., Univ. of Louisville.*

8:00 V15 **337.25** Recovery of locomotion is paralleled by time-dependent cortical plasticity after incomplete spinal cord injury. A. R. BROWN\*; M. MARTINEZ. *Hotchkiss Brain Institute, Univ. of Calgary.*

9:00 V16 **337.26** Physiological correlates of depression in a rodent model of spinal cord injury. M. HOOK\*; A. ACEVES; M. ACEVES. *Texas A&M Hlth. Sci. Ctr., Texas A&M Inst. for Neurosci.*

10:00 V17 **337.27** Computerized 3D gait analysis as a quantitative functional endpoint of spinal cord injury in African green monkeys. S. A. LIDDIE; R. J. GOODY; A. A. LEWIS; X. G. MORTON; D. FRANK; V. WOODS; M. STRUHARIK; D. E. REDMOND\*, Jr; M. S. LAWRENCE. *RxGen, Inc., Yale Univ.*

## POSTER

### 338. Spinal Cord Injury II

#### Theme D: Sensory and Motor Systems

Mon. 8:00 AM – McCormick Place, Hall A

8:00 V18 **338.01** Optogenetic and pharmacogenetic dissection of motor cortical plasticity following spinal cord injury in mouse. B. J. HILTON\*; E. ANENBERG; T. C. HARRISON; J. D. BOYD; V. OHRI; T. H. MURPHY; W. TETZLAFF. *Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia, Univ. of California Berkeley.*

9:00 V19 **338.02** ▲ Nociceptive stimulation increases blood brain barrier permeability following spinal cord injury. M. K. BRUMLEY; J. A. REYNOLDS; J. D. TURTLE; Y. HUANG; S. M. GARRAWAY; J. W. GRAU\*. *Texas A&M Univ., Emory Univ., Texas A&M Univ.*

10:00 V20 **338.03** PDGFR $\alpha$ -positive progenitor cells form myelinating oligodendrocytes and Schwann cells following contusion spinal cord injury. P. L. ASSINCK\*; G. DUNCAN; J. PLEMEL; M. LEE; J. LIU; D. BERGLES; W. TETZLAFF. *ICORD/University of British Columbia, Univ. of Calgary, Johns Hopkins Univ. of Med.*

11:00 V21 **338.04** Significant gene expression and localization of fatty acid binding protein 4 following spinal cord injury in rats. J. C. LICERO CAMPBELL\*; M. SERRANO ILLÁN; K. CORDERO CABAN; A. DURAN; J. FIGUEROA; M. DE LEON. *Loma Linda Univ.*

8:00 V22 **338.05** Influence of cervical propriospinal interneurons in recovery of forelimb function after spinal cord injury. I. S. SHEIKH\*; Y. LIU; K. KEEFE; X. TANG; G. SMITH. *Temple Univ. Sch. of Med.*

9:00 V23 **338.06** Assessing the functional relevance of compensatory vs. regenerative sprouting of reticulospinal fibers after incomplete spinal cord injury using DREADD. A. ENGMANN\*; M. SCHNEIDER; A. JESKE; N. RAPPO; R. SCHNEIDER; O. WEINMANN; H. KASPER; M. WIECKHORST; M. E. SCHWAB. *Univ. Zürich, Brain Res. Inst., ETH Zurich, Hlth. Sci. and Technol.*

10:00 V24 **338.07** Olfactory ensheathing cells reduce inhibitory factors at the astroglial scar-border after a complete mid-thoracic spinal cord transection. R. R. KHANKAN; K. L. INGRAHAM; J. R. HAGGERTY-SKEANS; K. G. GRIFFIS; P. K. MANN; H. ZHONG; R. R. ROY; V. R. EDGERTON; P. E. PHELPS\*. *UCLA, Terasaki Life Sci. Building, UCLA, Terasaki Life Sci. Building, UCLA.*

11:00 V25 **338.08** Systemic LPS increase rehabilitative training efficacy after cervical chronic spinal cord injury in rats. A. TORRES ESPÍN\*; A. LING; J. FORERO; K. K. FENRICH; K. FOUAD. *Univ. of Alberta.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 8:00 V26 **338.09** ● Kinematics analysis by the Frechet dissimilarity method in intact and spinal cord injury rats treated with tamoxifen and exercise. L. P. OSUNA CARRASCO\*; J. R. LÓPEZ RUIZ; G. MENDIZABAL RUIZ; I. JIMÉNEZ ESTRADA; J. BAÑUELOS PINEDA; S. H. DUEÑAS JIMÉNEZ. *Univ. of Guadalajara, CINVESTAV-IPN.*
- 9:00 V27 **338.10** Sprouting and 'side-switch' of contralateral corticospinal fibers in the spinal cord after large unilateral cortical stroke. J. KAISER\*; A. WAHL; M. SCHWAB. *Brain Res. Inst., ETH.*
- 10:00 V28 **338.11** Treadmill training reduces mechanical allodynia and thermal hyperalgesia after chronic mouse spinal cord contusion injury. C. SLIWINSKI\*; T. NEES; M. MOTSCH; N. WEIDNER; A. BLESCH. *Heidelberg Univ.*
- 11:00 V29 **338.12** Kinematics analysis of locomotor function following treatment with epidural stimulation, locomotor training and intraspinal chondroitinase-ABC in a severe contusion injury. R. M. ICHIYAMA\*; Y. D. AL'JOBOORI; C. C. SMITH; K. O. CHEN; S. CHAKRABARTY; J. W. FAWCETT; E. M. MUIR. *Univ. Leeds, Univ. of Cambridge, Univ. of Cambridge.*
- 8:00 V30 **338.13** Combined effects of anti-Nogo-A antibody treatment and delayed locomotor training in rats with spinal cord injury. K. CHEN\*; M. COWAN; B. C. MARSH; C. C. SMITH; Y. AL' JOBOORI; S. GIGOUT; N. GAMPER; N. MESSENGER; M. E. SCHWAB; R. M. ICHIYAMA. *Univ. of Leeds, Beihang Univ., Univ. of Leeds, Univ. of Zurich.*
- 9:00 V31 **338.14** Remodelling of spinal circuits following intraspinal chondroitinase-abc and locomotor training under epidural stimulation following severe contusion injury. Y. D. AL'JOBOORI\*; C. C. SMITH; K. O. CHEN; S. CHAKRABARTY; J. W. FAWCETT; E. MUIR; R. M. ICHIYAMA. *Univ. of Leeds, Univ. of Cambridge, Univ. of Cambridge.*
- 10:00 V32 **338.15** The effect of neonatal spinal cord transection on modulation of the monosynaptic reflex during postnatal development. C. C. SMITH\*; S. CHAKRABARTY; J. F. R. PATON; R. M. ICHIYAMA. *Univ. of Leeds, Univ. of Bristol.*
- 11:00 V33 **338.16** The pattern of reinnervation of sprouting corticospinal tract fibers after spinal cord injury in macaques. H. NAKAGAWA\*; T. NINOMIYA; T. YAMASHITA; M. TAKADA. *Primate Res. Institute, Kyoto Univ., Osaka Univ.*
- 8:00 V34 **338.17** Glial activation is necessary for the morphine-induced attenuation of locomotor recovery after SCI. M. ACEVES\*; A. R. ACEVES; S. GONG; M. A. HOOK. *Texas A&M Hlth. Sci. Ctr., Texas A&M Inst. for Neurosci.*
- 9:00 V35 **338.18** Reawakening trunk motor function with optogenetics in adult spinal transected rats. K. A. SCHMIDT\*; S. F. GISZTER. *Drexel Univ.*
- 10:00 V36 **338.19** Human lumbar cord reflex activity to sustained epidural electrical posterior roots stimulation motor behavior during absence and partial presence of brain motor control. M. R. DIMITRIJEVIC\*; W. MAYR; M. KRENN. *Baylor Col. Med., Univ. of Vienna.*
- 11:00 V37 **338.20** Skin-derived precursor schwann cell grafts after complete spinal cord injury in rats. Z. MAY\*; R. KUMAR; T. FUEHRMANN; J. FORERO; M. SHOICHET; J. BIERNASKIE; K. FOUAD. *Univ. of Alberta, Univ. of Calgary, Univ. of Toronto.*
- 8:00 V38 **338.21** Locomotor stability adaptations in individuals with incomplete spinal cord injury. K. E. GORDON\*; M. WU; G. BROWN. *Northwestern Univ. Physical Therapy and Human, Edward Hines Jr. VA Hosp.*
- 9:00 V39 **338.22** The efficacy of functional neuromuscular stimulation using kHz to stimulate gait rhythm in rats following spinal cord injury. T. KANCHIKU\*; H. SUZUKI; Y. IMAJO; Y. YOSHIDA; N. NISHIDA; T. TAGUCHI. *Yamaguchi Univ. Grad. Sch. of Med.*
- 10:00 V40 **338.23** Spinal electromagnetic stimulation following spinal cord injury: Safety of titanium implants used for spinal stabilization. H. A. PETROSYAN\*; V. ALESSI; J. SNIFFEN; S. A. SISTO; R. DAVIS; M. KAUFMAN; V. L. ARVANIAN. *Stony Brook Univ., Northport VA Med. Ctr., Stony Brook Univ., Stony Brook Univ. Med. Ctr.*
- 11:00 V41 **338.24** Defining a novel model of sensorimotor impairment after spinal cord injury. T. D. FAW\*; J. K. LERCH; S. D. KERR; R. J. DEIBERT; L. C. FISHER; D. M. BASSO. *The Ohio State Univ., The Ohio State Univ., The Ohio State Univ., The Ohio State Univ., The Ohio State Univ.*
- 8:00 V42 **338.25** Improving walking and inducing neuroplasticity after chronic SCI by training in the ReWalk exoskeleton. A. KHAN\*; D. LIVINGSTONE; J. MISIASZEK; R. STEIN; M. GORASSINI; P. MANNS; J. YANG. *Univ. of Alberta, Univ. of Alberta, Univ. of Alberta, Univ. of Alberta, Univ. of Alberta.*
- 9:00 V43 **338.26** Investigating combination therapies of robot-driven epidural stimulation, robot rehabilitation, and viral delivery of Brain-derived neurotrophic factor (BDNF) in treating adult spinal cord injury (SCI). J. LEE\*; S. F. GISZTER. *Drexel Univ.*
- 10:00 V44 **338.27** Responses of CSF-contacting cells in the spinal cord to activation of purinergic receptors. C. MACLEAN\*; J. DEUCHARS; L. PEERS; S. LARRINGTON; N. COHEN; S. A. DEUCHARS. *Univ. of Leeds, Univ. of Leeds.*

## POSTER

### 339. Neuromuscular Disorders

#### Theme D: Sensory and Motor Systems

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 V45 **339.01** Hemispheric stroke induces major structural changes in paretic muscles. M. K. CHARDON\*; Y. DHAHER; N. SURESH; W. Z. RYMER. *Rehabil. Inst. of Chicago.*
- 9:00 V46 **339.02** The impact of altering cholinergic activity on nmjs in normal and stress conditions. S. SUGITA\*; L. FLEMING; G. VALDEZ. *Virginia Tech., Virginia Tech., Virginia Tech.*
- 10:00 V47 **339.03** Muscle fiber length-dependent, intramuscular variation in damage-induced remodeling of neuromuscular junctions in a mouse model of muscular dystrophy. Y. LEE\*; R. MASSOPUST; W. J. THOMPSON. *Texas A&M Univ., Texas A&M Univ.*
- 11:00 V48 **339.04** Pre- and postsynaptic changes at the neuromuscular junction in two models of duchenne muscular dystrophy. S. HADDIX\*; Y. LEE; J. N. KORNEGAY; W. THOMPSON. *Texas A&M Univ., Texas A&M Univ., Texas A&M Univ.*

- 8:00 W1 **339.05** ● Spinal muscular atrophy amelioration by genetic inhibition of the JNK pathway. L. D. GANGWANI\*; N. K. GENABAI; Z. ZHANG; X. JIANG. *Texas Tech. Univ. Hlth. Sci. Ctr.*
- 9:00 W2 **339.06** Changes in polyglutamine repeat length alter disease progression in a mouse model of Kennedy's Disease. J. ZENCHAK; M. ALTEMUS; J. A. JOHANSEN\*. *Central Michigan Univ., Central Michigan Univ.*
- 10:00 W3 **339.07** Decreased activity and increased ubiquitin-mediated degradation of human choline acetyltransferase by mutation of an N-terminal proline-rich motif. T. M. MOREY\*; S. ALBERS; B. SHILTON; R. J. RYLETT. *Western Univ., Western Univ.*
- 11:00 W4 **339.08** A novel cell-based serological assay for myasthenia gravis using *Xenopus* tissue cultures. C. LEE\*; H. L. YEO; J. Y. LIM. *Natl. Univ. of Singapore.*
- 8:00 W5 **339.09** Early detection and characterization of neurological function in SOD1 G93A mice. I. MORGANSTERN; B. FERETIC; K. HOMA; S. A. MALEKIANI; M. NILGES; N. E. PATERSON; N. ROBERTS; E. SABATH; G. SARDARYAN; L. THIEDE; T. HANANIA\*. *PsychoGenics Inc.*
- 9:00 W6 **339.10** Unable to Attend Reactivation of lysosomal calcium efflux rescues abnormal lysosomal storage in *fig4* deficiency. J. LI\*; J. ZOU; B. HU; S. ARPAG; Q. YANG; A. HAMILTON; Y. ZENG; C. VANOYE. *Vanderbilt Univ., Sun Yat-sen Univ., Northwestern Univ.*
- 10:00 W7 **339.11** Drug discovery using a transgenic model of the slow channel syndrome. C. M. GOMEZ\*; C. WEI; K. ROBINSON; B. J. BHATTACHARYYA. *Univ. Chicago, Northwestern Univ.*
- 11:00 W8 **339.12** ▲ Mutations that suppress structural and functional decline of muscle in a *C. elegans* model of Duchenne muscular dystrophy. C. BERON; A. VIDAL-GADEA; J. COHN; J. T. PIERCE-SHIMOMURA\*. *Univ. of Texas at Austin, Univ. Texas, Austin.*
- 8:00 W9 **339.13** Muscle specific kinase autoantibodies: Their impact upon the postsynaptic membrane scaffold at the neuromuscular junction. W. D. PHILLIPS\*; N. GHAZANFARI; E. L. T. B. LINSO; S. TRAJANOVSKA; S. W. REDDEL. *Physiology, Bosch Institute, Univ. of Sydney, Univ. of Sydney.*
- 9:00 W10 **339.14** Deficient RNA metabolism as a novel target in neuromuscular disease. R. HORVATH\*. *Newcastle Univ.*
- 10:00 W11 **339.15** Functional and structural evidence of central motor pathway involvement in genetic subtypes of Charcot-Marie-Tooth disease. H. W. LEE\*; M. LEE; C. PARK; H. CHUNG; Y. CHOI; J. YOO; B. CHOI. *Ewha Womans Univ. Sch. Med., Ewha Womans Univ. Sch. Med., Samsung Med. Center, Sungkyunkwan Univ. Sch. of Med.*
- 11:00 W12 **339.16** Severity of both demyelinating and axonal neuropathy mouse models are modified by genes affecting sodium channels at nodes of Ranvier. R. W. BURGESS\*; K. L. SEBURN; K. H. MORELLI; E. L. SPAULDING; D. G. SCHROEDER; G. A. COX. *The Jackson Lab., The Jackson Lab., The Univ. of Maine.*
- 8:00 W13 **339.17** Recessive and null GDAP1 mutations associated with Charcot-Marie-Tooth disease reduce Store-operated Ca<sup>2+</sup> entry (SOCE) and ER Calcium and result in a lower SOCE-stimulation of respiration in intact neural cells. P. GONZALEZ-SANCHEZ; D. PLA-MARTÍN; C. B. RUEDA; P. MARTINEZ-VALERO; F. PALAU; J. SATRUSTEGUI\*. *Univ. Autonoma Madrid Ctr. Biol Mol Severo Ochoa (CBMSO), Inst. de Investigación Sanitaria Fundación Jiménez Díaz (IIS-FJD), Ctr. de Investigación Biomédica en Red de Enfermedades Raras (CIBERER), Ctr. de Investigación Príncipe Felipe, Inst. for Genetics, CEDAD Res. Center, Univ. of Cologne, ; Inst. de Investigación Sanitaria Fundación Jiménez Díaz (IIS-FJD), Ctr. de Investigación Biomédica en Red de Enfermedades Raras (CIBERER), Hosp. Sant Joan de Déu.*
- 9:00 W14 **339.18** Electrophysiological and morphological properties of motoneurons in mild and severe mouse models of SMA. E. REEDICH\*; K. QUINLAN; C. J. HECKMAN; C. DIDONATO. *Stanley Manne Children's Res. Inst., Northwestern Univ.*
- 10:00 W15 **339.19** Age-related changes at NMJs and spinal cord synapses of rhesus monkeys. N. D. MAXWELL\*; K. VAUGHAN; M. SZAROWICZ; R. DE CABO; J. A. MATTISON; G. VALDEZ. *Virginia Tech., Natl. Inst. on Aging, NIH, SoBran, Inc., Virginia Tech.*
- 11:00 W16 **339.20** Accelerated motor endplate degeneration in agrin deficient mice after traumatic nerve injury. D. ZHU; J. SU; J. JUNG; T. ONISHI; W. WANG; T. MOZAFFAR\*; R. GUPTA. *Univ. of California, Irvine, Univ. of California, Irvine.*
- 8:00 W17 **339.21** ▲ Functional evaluation of the effects of aging and genetic manipulations on motor behavior. B. MAREIN\*; N. LOZIER; S. DE LACALLE. *Col. of Arts & Sci., Ohio Univ.*
- 9:00 W18 **339.22** Identifying new targets to promote muscle regeneration. J. T. EHMSSEN\*; R. MI; G. COPPOLA; A. HOKE. *Johns Hopkins, UCLA.*
- 10:00 W19 **339.23** Mutant FUS mediated impairments in mRNA trafficking and protein translation at NMJ. K. KRISHNAMURTHY\*; N. ALAMI; J. P. TAYLOR; D. TROTTI; P. PASINELLI. *Thomas Jefferson Univ., Stanford Univ., St. Jude Children's Res. Hosp., Thomas Jefferson Univ.*
- 11:00 W20 **339.24** Persistent motor-unit specific synaptic alterations at the neuromuscular junction in the SOD1G37R mice. E. TREMBLAY\*; É. MARTINEAU; R. ROBITAILLE. *Univ. De Montréal.*
- 8:00 W21 **339.25** Muscle dysfunction occurs prior to symptom onset and motor neuron degeneration in a mouse model of Spinal Bulbar Muscular Atrophy. L. V. ANNAN\*; A. L. GRAY; B. MALIK; L. GREENSMITH. *UCL Inst. of Neurol.*
- 9:00 W22 **339.26** Fine motor kinematic analysis in the MDX mouse model of Duchenne muscular dystrophy a study of chronically exercised versus non-exercised MDX mice. P. J. SWEENEY; T. BRAGGE; T. STENIUS\*; A. NURMI; T. HEIKKINEN; T. AHTONIEMI; D. WELLS. *Charles River Discovery Services, Royal Vet. Col.*
- 10:00 W23 **339.27** Comparison of longitudinal (12 month) profile of chronically exercised vs unexercised MDX mouse model of Duchenne muscular dystrophy (DMD) using high field (11.7 Tesla) MRI & 1H-MRS. P. J. SWEENEY\*; T. AHTONIEMI; J. PUOLIVÄLI; K. LEHTIMÄKI; P. KARHUNEN; T. HEIKKINEN; A. NURMI; D. WELLS. *Charles River Discovery Services, Royal Vet. Col.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

11:00 W24 **339.28** Evaluation of supplementation of DHA (docosahexaenoic acid) in the electromyographic activity of mandibular tremors in Parkinson rat model. G. HERRERA MEZA\*; R. OLIART ROS; L. I. GARCÍA; A. MARTÍNEZ-CHACÓN; S. HERRERA MEZA. *Unidad De Investigaciones Alimentarias (UNIDA) Ins, Inst. Tecnológico de Veracruz, Univ. Veracruzana, Univ. Veracruzana, Univ. Veracruzana.*

8:00 W25 **339.29** Correlation of neuromotor apparatus disruption and required dosage of neuromuscular blocking agent during anesthesia in children with cerebral palsy. S. K. YEAGER\*; K. G. ROBINSON; R. E. AKINS, Jr. *Nemours Alfred I. Dupont Hosp. For Children.*

## POSTER

### 340. Basal Ganglia output

#### **Theme D: Sensory and Motor Systems**

Mon. 8:00 AM – McCormick Place, Hall A

8:00 W26 **340.01** Quantitative study of pallidotegmental projections contacting cholinergic, calbindin-, and calretinin-immunoreactive neurons in the rat pedunculopontine and laterodorsal tegmental nuclei. S. MONGIA; E. LUQUIN; E. MENGUAL\*. *Fac Med, Univ. de Navarra, Depto. Anatomía, Fac Med, Univ. De Navarra.*

9:00 W27 **340.02** Direct dopaminergic projections from the SNc modulate tectal motor responses. J. PÉREZ-FERNANDEZ\*; A. KARDAMAKIS; B. ROBERTSON; S. GRILLNER. *Karolinska Inst.*

10:00 W28 **340.03** Optogenetic interrogation of the parkinsonian subthalamic nucleus-external globus pallidus network during cortical slow-wave activity. R. F. KOVALESKI\*; J. W. CALLAHAN; M. D. BEVAN. *Northwestern Univ., Northwestern Univ.*

11:00 W29 **340.04** The dopamine innervation of the primate pallidum: A comparison between the internal and external segments. L. EID\*; M. PARENT. *Univ. Laval.*

8:00 W30 **340.05** Distribution of GABA-A receptor alpha 1 subunit and GABA-B receptor R2 subunit immunoreactivities in the pedunculopontine and laterodorsal tegmental nuclei in the rat. E. LUQUIN\*; B. PATERNAIN; E. MENGUAL. *Dpto. Anatomía, Fac. De Medicina, Univ. De Navarra.*

9:00 W31 **340.06** Direct dopaminergic regulation of autonomous and cortically patterned activity in the subthalamic nucleus. A. LAHIRI\*; H. CHU; M. D. BEVAN. *Northwestern Univ.*

10:00 W32 **340.07** Specialized populations of substantia nigra neurons mediate basal ganglia output signaling to brainstem and thalamus. L. E. MCELVAIN\*; R. M. COSTA. *Champalimaud Ctr.*

11:00 W33 **340.08** Characteristics of neurones in the globus pallidus of the cat during visually-guided locomotion. Y. MULLIE\*; I. ARTO; J. LEONARD; T. DREW. *Dépt De Neurosciences, Univ. De Montréal.*

8:00 W34 **340.09** superior colliculus activation has opposing influence on parafascicular and medial posterior thalamic nuclei. G. D. WATSON\*; K. D. ALLOWAY. *Penn State Univ.*

9:00 W35 **340.10** Basal ganglia output is not the determinant of movement-related activity in the pallidal-recipient thalamus. A. ZIMNIK\*; R. S. TURNER. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

## POSTER

### 341. Gait and Posture: Higher Order Control, Multi-Task Integration and Theory

#### **Theme D: Sensory and Motor Systems**

Mon. 8:00 AM – McCormick Place, Hall A

8:00 W36 **341.01** Learning or not? Mechanisms underlying error correction in locomotion. R. T. ROEMMICH\*; A. W. LONG; A. J. BASTIAN. *Kennedy Krieger Inst., Johns Hopkins Univ. Sch. of Med., Kennedy Krieger Inst., Johns Hopkins Univ.*

9:00 W37 **341.02** Variations in sensorimotor recalibration suggest multiple components of locomotor learning. M. STATTON\*; A. VAZQUEZ; A. J. BASTIAN. *Johns Hopkins Univ., Kennedy Krieger Inst., Johns Hopkins Univ., Johns Hopkins Univ.*

10:00 W38 **341.03** Dynamic postural control and associated attentional demands in contemporary dancers. G. SIROIS-LECLERC; A. REMAUD; M. BILODEAU\*. *Univ. of Ottawa, Bruyère Res. Inst., Univ. of Ottawa.*

11:00 W39 **341.04** Effects of auditory cues on sway during postural tasks of varying difficulty in young adults. A. REMAUD\*; C. ALLARY; C. DESGAGNÉ; D. MURPHY; F. THIFFEAULT-GAGNÉ; V. VAILLANCOURT; C. GIGUÈRE; M. BILODEAU. *Bruyère Res. Inst., Univ. of Ottawa.*

8:00 W40 **341.05** The effect of cognitive manipulation and gender on the Timed Up and Go (TUG) test. R. ALMAJID; E. A. KESHNER\*. *Temple Univ.*

9:00 W41 **341.06** Neural correlates of attentional demands associated with dual-task walking. S. SANGANI\*; T. KURAYAMA; J. FUNG. *Jewish Rehabil. Hosp., Chiba Univ., McGill Univ.*

10:00 W42 **341.07** Effects of partially removed visual feedback on gait symmetry. S. KIM\*; K. GRAHAM. *California Baptist Univ., California Baptist Univ.*

11:00 W43 **341.08** Cognitive factors influence postural alignment. J. L. BAER\*; A. Q. JOHNSON; R. G. COHEN. *Univ. of Idaho.*

8:00 W44 **341.09** Effects of attentional dispersion on event-related brain potentials and postural muscle activities during unilateral arm abduction with neck flexion. C. YAGUCHI\*; K. FUJIWARA. *Hokkaido Bunkyo Univ., Kanazawa Gakuin Univ.*

9:00 W45 **341.10** Coherence of center-of-mass and center-of-pressure velocities may reveal influence of increased attentional demand on postural control. K. TERRY\*; J. TO-ALEMANJI; P. JO. *George Mason Univ.*

10:00 W46 **341.11** Dissociation of parietal cortex contributions to obstacle memory in walking cats. C. WONG\*; K. G. PEARSON; S. G. LOMBER. *The Univ. of Western Ontario, Univ. of Alberta, The Univ. of Western Ontario.*

- 11:00 W47 **341.12** Effects of light-induced modulation of the neuronal activity in the lateral cerebellar nucleus on locomotor-related discharges of motor cortex neurons in the cat. V. MARLINSKI\*; I. N. BELOOZEROVA. *Barrow Neurolog. Institute. Div. of Neurobio.*
- 8:00 W48 **341.13** Using reward to access the limits of locomotion in a rodent-robot interaction paradigm. D. LOGAN\*; J. VANLOOZEN; R. ESPAÑA; S. F. GISZTER. *Drexel Univ. Col. of Med.*
- 9:00 X1 **341.14** Goal-directed locomotion in post-stroke unilateral spatial neglect. T. OGOURTSOVA\*; P. ARCHAMBAULT; A. LAMONTAGNE. *McGill University, Sch. of Physical and Occupati, McGill Univ.*
- 10:00 X2 **341.15** ▲ Does awareness of split-belt perturbation reduces the generalization of treadmill-learning to over ground walking? D. M. MARISCAL; P. A. ITURRALDE; G. TORRES-OVIEDO\*. *Univ. of Pittsburgh.*
- 11:00 X3 **341.16** Dynamic entrainment of human walking to external mechanical perturbations. J. OCHOA\*; D. STERNAD; N. HOGAN. *MIT, Northeastern Univ., Northeastern Univ., Northeastern Univ., MIT.*
- 8:00 X4 **341.17** Computer simulation of a brain-musculoskeletal dynamical model for bipedal walking towards personalized rehabilitation. D. ICHIMURA\*; S. YANO; T. YAMAZAKI. *The Univ. of Electro-Communications, Tamagawa hospital.*
- 9:00 X5 **341.18** Keeping in step: Entrainment of theta and low-gamma activity in the brain with gait rhythm. J. WAGNER\*; S. MAKEIG; C. NEUPER; G. MUELLER-PUTZ. *Graz Univ. of Technol., Univ. of California San Diego.*
- 10:00 X6 **341.19** Destabilization of postural stability in young adults with minimal added load. N. R. BIRCHFIELD\*; N. DOUNSKAIA. *Arizona State Univ.*
- 11:00 X7 **341.20** The integration of haptic information for balance support: Effects of contact duration and hand dominance. L. JOHANNSEN\*; D. KAULMANN. *Technische Univ. München.*
- 8:00 X8 **341.21** Locomotor adaptation by visual feedback distortion among healthy adults and subjects with stroke. J. SHIN\*; W. SONG; J. CHUNG; S. KIM; S. KIM. *Natl. Rehabil. Ctr., Hanyang Univ., California Baptist Univ.*
- 9:00 X9 **341.22** Human walking entrained by brain alternating current stimulation. S. KOGANEMARU; Y. MIKAMI; M. MATSUHASHI; H. FUKUYAMA; T. MIMA\*. *Kyoto Univ., Human Brain Res. Cntr.*
- 10:00 X10 **341.23** ● Different effect of attentional focus conditions on postural sway parameters during quiet standing. K. HAGIO\*; H. OBATA; S. SASAGAWA; M. SHINYA; A. YAMAMOTO; K. NAKAZAWA. *The Univ. of Tokyo, The Univ. of Tokyo, Kanagawa Univ., Kobe Univ.*
- 11:00 X11 **341.24** Effect of time pressure on attentional shift and anticipatory postural control during unilateral shoulder abduction reactions in an oddball-like paradigm. K. ANAN\*; K. FUJIWARA; C. YAGUCHI; N. KIYOTA. *Sapporo Intl. Univ., Kanazawa Gakuin Univ., Hokkaido Bunkyo Univ., Japan Hlth. Care Col.*
- 8:00 X12 **341.25** Neuromechanics and neurogenetics: Old questions and new tools targeted at the control of legged locomotion. A. SPENCE\*. *Temple Univ.*
- 9:00 X13 **341.26** Execution of reactionary control of posture during an ongoing volitional upper and lower limb task. A. H. HUNTLEY\*; K. A. INKOL; L. VALLIS. *Univ. of Guelph, Schlegel-UW Res. Inst. of Aging.*
- 10:00 X14 **341.27** Head movement predictability explains suppression of vestibular input during locomotion. P. R. MACNEILAGE\*; S. GLASAUER. *Univ. Hosp. of Munich.*
- 11:00 X15 **341.28** Neural mechanisms involved in mental imagery of slipping while walking: A preliminary fMRI study. T. S. BHATT\*; P. PATEL; S. LANGENECKER; S. DELDONNO; K. SHARMA; L. JENKINS. *Univ. Illinois, Univ. Illinois, Univ. Illinois.*
- 8:00 X16 **341.29** Avoidance strategies in response to animate and inanimate obstacles in young healthy individuals walking in a virtual reality environment. W. H. DE SOUZA SILVA\*; G. ARAVIND; S. SANGAN; A. LAMONTAGNE. *McGill Univ., Integrated Program in Neurosciences, McGill Univ., Jewish Rehabil. Hosp.*
- 9:00 X17 **341.30** Movement-related cortical activities during self-paced and externally-cued gait initiation. K. CHA\*; J. CHOI; J. SONG; J. PARK; H. JEON; K. KIM. *Yonsei Univ., Yonsei Univ.*

**POSTER**

**342. Reach Control: Selection Mechanisms**

**Theme D: Sensory and Motor Systems**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 X18 **342.01** ▲ Behavioral effects of transcranial direct current stimulation to the supplementary motor area during motor tasks. K. E. HUPFELD; C. J. KETCHAM\*; H. D. SCHNIEDER. *Elon Univ., Yale Med. Ctr.*
- 9:00 X19 **342.02** Vestibular modulation of hand choice. R. S. BAKKER\*; R. H. A. WEIJER; L. P. J. SELEN; W. P. MEDENDORP. *Radboud Univ. Nijmegen.*
- 10:00 X20 **342.03** Stroke individuals have preserved multi-joint coordination during arm reaching movements in upright position. S. M. FREITAS\*; C. A. LIMA; A. M. S. BALDAN; S. R. ALOUCHE. *Univ. Cidade De Sao Paulo.*
- 11:00 X21 **342.04** Muscle synergies and kinematic measures in subjects with multiple sclerosis during reaching and manipulation tasks. L. PELLEGRINO\*; M. MARGIT; C. SOLARO; M. COSCIA; M. CASADIO. *Univ. of Genoa, Dept. Informatics, Bioengineering, Robotics and Systems Engin., Univ. of Genoa, ASL3 Genoa, Ecole Polytechnique Fédérale de Lausanne.*
- 8:00 X22 **342.05** Neurocomputational cost minimization accounts for the leading joint hypothesis. N. DOUNSKAIA\*; Y. SHIMANSKY; W. WANG. *Arizona State Univ.*
- 9:00 X23 **342.06** A test of dual drift-diffusion and independent-race models of reach target selection. S. DUROCHER\*; J. BEAULAC; L. AIT ALI; J. F. KALASKA. *Univ. De Montréal.*
- 10:00 X24 **342.07** Effects of movement duration on use of the affected limb in individuals post-stroke. S. KIM\*; H. PARK; C. E. HAN; C. J. WINSTEIN; N. SCHWEIGHOFER. *USC, Korea Univ.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 11:00 X25 **342.08** Challenging the modular control hypothesis: Evidence for a functional space-by-time decomposition underlying the muscle activity of whole-body movements. P. HILT\*; I. DELIS; T. POZZO; B. BERRET. *INSERMU1093, Inst. of Neurosci. and Psychology, Istituto Italiano Di Tecnologia, CIAMS.*
- 8:00 X26 **342.09** Influence of chronic stroke on functional arm reaching: Quantifying deficits in the ipsilesional arm. R. VARGHESE\*; S. SUBRAMANIAM; T. BHATT. *Univ. of Illinois At Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*
- 9:00 X27 **342.10** Cortical representation of bimanual movements: Patterns of interference. P. THOMPSON\*; M. LEBEDEV; M. A. L. NICOLELIS. *Duke Univ.*
- 10:00 X28 **342.11** Characterizing movement initiation in primate motor cortex. M. BEST\*; A. J. SUMINSKI; K. TAKAHASHI; N. G. HATSOPOULOS. *Univ. of Chicago, Milwaukee Sch. of Engin.*
- 11:00 X29 **342.12** The pre-dorsal premotor cortex (pre-PMd), dorsal premotor cortex (PMd), and primary motor cortex (M1) are differently involved in goal-directed behavior based on conditional visuomotor association. Y. NAKAYAMA\*; T. YAMAGATA; J. TANJI; E. HOSHI. *Tokyo Metropolitan Inst. of Med. Sci., Tamagawa Univ. Brain Sci. Inst., Tohoku Univ. Brain Sci. Ctr., CREST, JST.*
- 8:00 X30 **342.13** Deficits in visual search following stroke contribute to impaired visuomotor processing and executive function. T. SINGH\*; C. PERRY; A. ROSS; J. FRIDRIKSSON; S. FRITZ; T. M. HERTER. *Univ. of South Carolina, Univ. of South Carolina.*
- 9:00 X31 **342.14** Reversible deactivation of motor cortex reveals functional connectivity with anterior and posterior parietal cortex in Old World monkeys (Macaca mulatta). D. F. COOKE\*; A. B. GOLDRING; M. K. L. BALDWIN; M. S. DONALDSON; L. KRUBITZER. *UC Davis, UC Davis.*
- 10:00 X32 **342.15** Defining the contribution of the rubrospinal tract to forelimb behavior in rats. K. M. KEEFFE\*; I. SHEIKH; C. ENEANYA; G. SMITH. *Temple Univ., Temple Univ.*
- 11:00 X33 **342.16** Relationships between high-density EEG and arm EMG dynamics. S. MAKEIG\*; L. PION-TONACHINI. *UCSD/INC/SCCN.*
- 10:00 X36 **343.03** Investigation of head and eye movements using the Oculus Rift and electrooculography. B. QUINLIVAN\*; J. BUTLER; I. BIESER; N. FOLEY; M. HUTCHINSON; R. REILLY. *Trinity Col. Dublin, St. Vincent's Univ. Hosp.*
- 11:00 X37 **343.04** Design of an experimental platform for voluntary behavioral training and neurophysiological study of the common marmoset. J. WALKER\*; N. HATSOPOULOS. *Univ. of Chicago.*
- 8:00 X38 **343.05** ▲ Evaluating motor and cognitive performances of elderly people using their handwriting features. M. TABATA\*, IV; M. MATSUBARA; K. WATANABE; T. WATANABE; E. TANAKA; T. ANME; H. KAWAGUCHI. *Toyo Univ., Univ. of Tsukuba.*
- 9:00 X39 **343.06** ▲ Description of sensitive tactile and motor pattern in infants with down syndrome. D. HERRERO\*. *Case Western Reserve Univ. Sch. of Med.*
- 10:00 X40 **343.07** Memory-guided force output is associated with ADHD symptomatology in young adults. K. A. NEELY\*; A. YODER; A. CHENNAVASIN; G. K. R. WILLIAMS; C. L. HUANG-POLLOCK. *Pennsylvania State Univ., Anglia Ruskin Univ., Pennsylvania State Univ.*
- 11:00 X41 **343.08** Transferring experience of agency from voluntary to involuntary movement. N. KHALIGHINEJAD\*; P. HAGGARD. *Univ. Col. London.*
- 8:00 X42 **343.09** Capacity of motor representation through the task of implicit motor imagery in patient with mild cognitive impairments. J. BOURRELIER\*; A. KUBICKI; O. ROUAUD; F. MOUREY. *INSERM U1093 Cognition Action Sensorimotor Plastic, Univ. of Burgundy, Univ. health Ctr.*
- 9:00 X43 **343.10** Immature motor control contributes to deficient reactive driving performance in adolescents. C. KIM\*; H. MOON; N. LODHA; E. CHRISTOU. *Univ. of Florida.*
- 10:00 X44 **343.11** ● The effect of coordinate frame on motor learning in Alzheimer's disease and Parkinson's disease. K. A. CAULFIELD; Y. R. MIYAMOTO; J. M. BRETON; J. B. BRAYANOV; M. A. SMITH; D. PRESS\*. *Beth Israel Deaconess Med. Ctr., Harvard Univ., Univ. of Calif., Berkeley.*
- 11:00 X45 **343.12** Inter-subject coherence in frontal pole increases during better group walking. S. IKEDA\*; T. NOZAWA; R. YOKOYAMA; A. MIYAZAKI; Y. SASAKI; K. SAKAKI; R. KAWASHIMA. *SAIRC, IDAC, Tohoku Univ., DUS, IDAC, Tohoku Univ., Sch. of Medicine, Kobe Univ., DFBI, IDAC, Tohoku Univ., DDCN, IDAC, Tohoku Univ.*

## POSTER

### 343. Cortical Planning and Execution: Behaviour

#### Theme D: Sensory and Motor Systems

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 X34 **343.01** Shared neural sensory signals for eye-hand coordination in humans. L. LI\*; D. NIEHORSTER; L. NI; D. LISTON; L. STONE. *The Univ. of Hong Kong, NASA Ames Res. Ctr., San Jose State Univ.*
- 9:00 X35 **343.02** Outcome prediction of observed actions affects one's own outcome estimation but not action correction. T. IKEGAMI\*; G. GANESH. *Natl. Inst. of Information and Communications Technol., Natl. Inst. of Advanced Industrial Sci. and Technology(AIST).*
- 8:00 X46 **343.13** Hand Blink Reflex modulation during a voluntary movement. M. BOVE\*; M. BIGGIO; E. FALSINI; C. FOSSATARO; F. GARBARINI; A. BISIO. *Univ. of Genoa, Univ. of Turin.*
- 9:00 X47 **343.14** Kinematic description of handwriting movements during fMRI examination. A. BISIO\*; L. BONZANO; L. PEDULLÀ; C. BRUNO; A. TACCHINO; G. BRICHETTO; M. BOVE. *Univ. of Genoa, Fondazione Italiana Sclerosi Multipla.*
- 10:00 X48 **343.15** Electric and acoustic stimulation during movement preparation can facilitate movement execution in healthy participants and stroke survivors. W. MARINOVIC\*; S. BRAUER; K. S. HAYWARD; T. CARROLL; S. RIEK. *The Univ. of Queensland.*



- 11:00 Y1 **343.16** Investigating the role of mIPS in movement planning using HD-tDCS. S. XU\*; J. P. GALLIVAN; G. BLOHM. *Queen's Univ., Canadian Action and Perception Network (CAPnet), Assn. for Canadian Neuroinformatics and Computat. Neurosci. (CNCN).*
- 8:00 Y2 **343.17** Neuroanatomical basis of the intentional response deficits associated with unilateral neglect: An rTMS study in healthy subjects. M. GUTIERREZ-HERRERA; S. SAEVARSSON; T. HUBER; J. HERMSDORFER\*; W. STADLER. *Technische Univ. München, Klinikum Bogenhausen, Klinikum rechts der Isar.*
- 9:00 Y3 **343.18** Associative sensorimotor learning of manipulation in humans: Role of premotor dorsal area. P. J. PARIKH\*; M. SANTELLO. *Arizona State Univ.*
- 10:00 Y4 **343.19** Sparse encoding of natural "in-the-wild" hand movements. A. A. FAISAL\*; A. THOMIK. *Imperial Col. London, Imperial Col. London.*

- 8:00 Y13 **344.09** Different effects on calcium signaling during and following acute estrogen application in F344 rat basal forebrain neurons and involvement of L-type calcium channels. D. A. MURCHISON\*; D. W. DUBOIS; A. S. FINCHER; W. H. GRIFFITH. *Texas A&M Hlth. Sci. Ctr.*
- 9:00 Y14 **344.10** A Golgi study of the plasticity of dendritic spines in the hypothalamic ventromedial nucleus during the estrous cycle of female rats. M. CERVANTES\*; D. A. VELÁZQUEZ-ZAMORA; D. GONZÁLEZ-TAPIA; I. GONZÁLEZ-BURGOS. *Fac. C. Medicas y Biologicas, Univ. Politécnica de la Zona Metropolitana de Guadalajara, Inst. Mexicano del Seguro Social.*

- 10:00 Y15 **344.11** Glucocorticoids desensitize neurons to norepinephrine by enhancing ligand-dependent adrenergic receptor internalization. G. L. WEISS\*; Z. JIANG; J. G. TASKER. *Tulane Univ.*
- 11:00 Y16 **344.12** Estrogen and age interact to differentially regulate the hippocampal transcriptome in female rats. E. M. WATERS\*; J. D. GRAY; W. YIN; B. S. MCEWEN; A. C. GORE. *Rockefeller Univ., Rockefeller Univ., UT-Austin.*

**POSTER**

**344. Steroids and Plasticity**

**Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 Y5 **344.01** Effects of androgen on GnRH3 neurons in slice culture of the tilapia brain. Y. NARITA\*; A. TSUTIYA; T. KANEKO; R. OHTANI-KANEKO. *Toyo Univ., Tokyo Univ., Toyo Univ.*
- 9:00 Y6 **344.02 ▲** The effect of steroid hormones on neurogenesis in the green anole lizard brain. N. A. BOOKER; J. SON; N. D. HART; Y. LEE; R. E. COHEN\*. *Minnesota State Univ. Mankato, Minnesota State University, Mankato.*
- 10:00 Y7 **344.03** The last hours before singing... short-term dynamic transcriptomes after testosterone treatment in female canaries. M. KO\*; C. FRANKL-VILCHES; A. BAKKER; M. GAHR. *Max Planck Inst. For Ornithology, IMPRS for Organismal Biol.*
- 11:00 Y8 **344.04** Intraspecific variation in hormone modulated neuroplasticity in canaries. F. N. MADISON\*; G. F. BALL. *Johns Hopkins Univ., Univ. of Maryland.*
- 8:00 Y9 **344.05** Effects of testosterone on microglia in song control nucleus HVC in female canaries. G. F. BALL\*; F. N. MADISON. *Univ. of Maryland, Johns Hopkins Univ.*
- 9:00 Y10 **344.06** Female rats liberated for inclusion in neuroscience research. J. B. BECKER\*; J. W. LIANG; B. J. PRENDERGAST. *Univ. Michigan, Hunter College, City Univ. of New York, Univ. of Chicago.*
- 10:00 Y11 **344.07** Selective activation of estradiol receptors differentially modulates motivation for food in female rats. K. YOEST\*; J. A. CUMMINGS; J. B. BECKER. *Univ. of Michigan, Univ. of Michigan.*
- 11:00 Y12 **344.08** Estrogen-mediated signaling regulates synaptic proteins in the arcuate nucleus of the hypothalamus. A. M. WONG\*; L. M. RUDOLPH; P. E. MICEVYCH. *UCLA.*

- 8:00 Y17 **344.13** Estradiol robustly regulates the hippocampal transcriptome in middle-aged, ovariectomized female rats. Z. LIPOSITS\*; I. KALLÓ; E. HRABOVSKY; N. SOLYMOSI; A. RODOLOSSE; C. VASTAGH; H. AUER; M. SÁRVÁRI. *Inst. of Exptl. Medicine, Hungarian Acad., Szent István Univ., Inst. for Res. in Biomedicine, Functional Genomics Consulting.*
- 9:00 Y18 **344.14 ▲** An Apiarian Mixture achieves to balance the neuron density in CA3 layer, Serum Estradiol Levels and improves the memory in ovariectomized rats. D. A. VÁZQUEZ MATÍAS\*; R. MAYEN DIAZ; M. RAMIREZ ESCOTO; I. SÁNCHEZ CERVANTES; I. LOPEZ MARTINEZ; K. PINEDA ROMERO; R. GONZALEZ TREJO; A. SOLANA ROJAS; M. VELAZQUEZ PANIAGUA; P. VERGARA ARAGÓN. *UNAM, UNAM, UNAM.*
- 10:00 Y19 **344.15** Sex-specific role of PKA in acute estradiol-induced potentiation of excitatory synaptic transmission in the rat hippocampus. A. JAIN\*; C. S. WOOLLEY. *Northwestern Univ.*
- 11:00 Y20 **344.16** Hippocampal excitatory synapses are acutely modulated by estradiol through distinct mechanisms in males and females. J. G. OBERLANDER\*; C. S. WOOLLEY. *Northwestern Univ.*
- 8:00 Y21 **344.17** Progranulin deficiency attenuates estrogen-induced increase of adult neurogenesis in the hippocampus. M. DOKE\*; T. MATSUWAKI; K. YAMANOUCHI; M. NISHIHARA. *Vet. Physiology, the Univ. of Tokyo.*
- 9:00 Y22 **344.18** Role of estrogen and tamoxifen in regulation of immune system and neuroprotection in female rat hippocampus. P. KUMAR\*; P. DHAR; R. MEHRA. *AIIMS, HIMSIR.*

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

## POSTER

### 345. Neuroimmunology: Regulatory Systems

#### **Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 Y23 **345.01** Ethanol modulates CNS and systemic immune responses through HMGB1, IL-1 $\beta$  and HMGB1-containing microparticles. L. G. COLEMAN\*, JR; J. ZHOU; C. LONERGAN; F. CREWS. *Univ. of NC- Chapel Hill, UNC-Chapel Hill, UNC-Chapel Hill.*
- 9:00 Y24 **345.02** Activation of the suprachiasmatic nucleus following salmonella infection. R. MÉNDEZ-HERNÁNDEZ\*; G. SUÁREZ-PÉREZ; R. M. BUIJS. *Inst. De Investigaciones Biomédicas, UNAM.*
- 10:00 Y25 **345.03** ▲ Interleukin-17A varies according to treatment, age, and time of disease evolution in patients with relapsing-remitting multiple sclerosis. J. J. GUERRERO-GARCÍA; V. A. CASTAÑEDA-MORENO; N. TORRES-CARRILLO; J. F. MUÑOZ-VALLE; O. K. BITZER-QUINTERO; D. M. PONCE-REGALADO; M. A. MIRELES-RAMÍREZ; Y. VALLE-DELGADILLO; D. ORTUNO\*. *Univ. de Guadalajara, Inst. Mexicano del Seguro Social, Inst. Mexicano del Seguro Social, Univ. de Guadalajara.*
- 11:00 Y26 **345.04** Reelin expression in endothelial cells: An electron microscopy study. H. J. CARUNCHO\*; E. Y. FENTON; R. ROMAY-TALLON; L. E. KALYNCHUK; E. PEREZ-COSTAS. *Univ. of Saskatchewan, Univ. of Saskatchewan, Univ. of Alabama at Birmingham.*
- 8:00 Y27 **345.05** Role of toll-like receptor 4 in mediating oxidative stress-induced proinflammatory state in macrophages. Y. ZHANG\*; O. J. IGWE. *Univ. of Missouri-Kansas City.*
- 9:00 Y28 **345.06** Microglia regulate cell proliferation in the neonatal hippocampus in a sex-dependent manner. L. H. NELSON\*; A. GALAN; K. M. LENZ. *Ohio State Univ., Ohio State Univ., Ohio State Univ.*
- 10:00 Y29 **345.07** Actin dynamics shape microglia effector functions. R. UHLEMANN\*; K. GERTZ; W. BOEHMERLE; T. SCHWARZ; C. NOLTE; D. FREYER; H. KETTENMANN; M. ENDRES; G. KRONENBERG. *Charité, Charité, Max Delbrueck Ctr. for Mol. Med.*
- 11:00 Y30 **345.08** Contraction regulates CCL5 secretion in C2C12 myotubes -Potential roles of myokines on peripheral nervous system-. H. SATO\*; T. SHIBAGAKI; K. SATO; T. NEDACHI. *Toyo Univ.*
- 8:00 Y31 **345.09** NLRP3 inflammasome activity demonstrates a diurnal pattern within the somatosensory cortex. M. R. ZIELINSKI\*; D. GERASHCHENKO; S. A. KARPOVA; R. W. MCCARLEY; R. BASHEER. *Harvard Univ. and Veterans Affairs Boston Healthcare Syst., Harvard Med. Sch. and VA Boston Healthcare Syst., Harvard Med. Sch. and VA Boston Healthcare Syst.*
- 9:00 Y32 **345.10** IFN-beta is a master regulator of microglial phenotype in aging. A. DECZKOWSKA\*; O. MATCOVITCH; K. BARUCH; I. AMIT; M. SCHWARTZ. *Weizmann Inst. of Sci., Weizmann Inst. of Sci.*
- 10:00 Y33 **345.11** Sex differences in the microglial responses to cerebral ischemia. M. M. GAUDIER-DIAZ\*; N. ZHANG; A. DEVRIES. *The Ohio State Univ.*
- 11:00 Y34 **345.12** Development of microglia in germ free and conventionally colonized mice. M. K. HOLDER\*; N. V. PETERS; A. CASTILLO-RUIZ; M. D. MOSLEY; B. CHASSAING; A. T. GEWIRTZ; N. G. FORGER; G. J. DEVRIES. *Georgia State Univ.*
- 8:00 Y35 **345.13** Altered brain perfusion and structure accompany experimental sepsis-associated encephalopathy: A combined magnetic resonance imaging and histology study. J. KONSMAN\*; I. DHAYA; M. GRITON; G. RAFFARD; B. HIBA. *CNRS UMR 5536 RMSB / Univ. Bordeaux.*
- 9:00 Y36 **345.14** TLX, a regulator of neural stem cell self-renewal, is required for microglial integrity in the adult mouse dentate gyrus. D. A. KOZAREVA; C. M. HUESTON; C. S. ÓLÉIME; J. F. CRYAN; Y. M. NOLAN\*. *Univ. Col. Cork, Univ. Col. Cork.*
- 10:00 Y37 **345.15** The role of estradiol in microglial phagocytosis in the developing rat cerebellum. M. PEREZ-POUCHOULEN\*; M. M. MCCARTHY. *Univ. of Maryland, SOM.*
- 11:00 Y38 **345.16** Lithium stimulates complement component C3 production via GSK-3 inhibition in monocytic cells. Z. YU\*; C. ONO; S. AIBA; Y. KIKUCHI; I. SORA; H. MATSUOKA; H. TOMITA. *Tohoku Univ., Tohoku university, Tohoku university, Tohoku university.*
- 8:00 Y39 **345.17** The effects of voluntary exercise on neuroinflammatory status: Role of monocyte chemoattractant protein 1. A. KLEGERIS\*; L. J. SPIELMAN; M. ESTAKI; C. B. POINTER; S. GHOSH; D. L. GIBSON. *Univ. of British Columbia Okanagan Campus.*
- 9:00 Y40 **345.18** Expression and lipopolysaccharide-induced shedding of polysialylated proteins by NCAM-negative microglia and human THP-1 cell-derived macrophages. S. WERNEBURG\*; F. BUETTNER; H. NEUMANN; M. MÜHLENHOFF; H. HILDEBRANDT. *Hannover Med. Sch., Univ. of Bonn.*
- 10:00 Y41 **345.19** Identification of macrophage projections in the organ of Corti of the cochlea. B. HU\*; W. YANG; R. R. VETHANAYAGAM. *State Univ. Buffalo.*
- 11:00 Y42 **345.20** Protection of acute kidney injury by electrical vagal nerve stimulation: Pathways and potential mechanisms. C. ABE\*; T. INOUE; D. L. ROSIN; M. D. OKUSA; P. G. GUYENET. *Univ. of Virginia, Univ. of Virginia.*

## POSTER

### 346. Neuroimmunology: Regulating Systems

#### **Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 Y43 **346.01** Microglia polarization: A common paradigm spanning from neuro-oncology to infectious diseases. L. LISI\*; E. LAUDATI; C. DELLO RUSSO; P. NAVARRA. *Catholic Univ. Med. Sch., Catholic Univ. Med. Sch., catholic Univ. Med. Sch.*
- 9:00 Y44 **346.02** CCL2-CCR2 mediated monocyte trafficking into the VSV-infected brain is under circadian control. K. GAGNIDZE\*; K. H. HAJDAROVIC; K. BULLOCH. *Rockefeller Univ.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 10:00 Z1 **346.03** ▲ Chronic unpredictable mild stress alters the metabolism of carbohydrates and lipids in rats by oxidative stress and systemic inflammation. A. L. LÓPEZ-LÓPEZ; M. ARTEAGA-SILVA\*; F. J. ALARCÓN-AGUILAR; M. C. ESCOBAR-VILLANUEVA; H. BONILLA-JAIME. *Univ. Autónoma Metropolitana, Univ. Autónoma Metropolitana-Iztapalapa*.
- 11:00 Z2 **346.04** Apobec1 ko mice manifest neuropsychological defects. D. C. COLE\*; K. H. HAJDAROVIC; F. PAPAVALIOU; K. BULLOCH. *The Rockefeller Univ., The Rockefeller Univ., The Rockefeller Univ.*
- 8:00 Z3 **346.05** Sphingosine 1-phosphate (S1P) dependent c-IAP2 mediated ubiquitination of IRF-1 is essential for IL-1 induced CCL5 and IP-10 production. K. HARIKUMAR\*; J. YESTER; M. SURACE; C. OYENIRAN; M. PRICE; W. HUANG; N. HAIT; J. C. ALLEGOOD; A. YAMADA; R. BHARDWAJ; K. TAKABE; S. MILSTIEN; S. SPIEGEL; T. KORDULA. *Rajiv Gandhi Ctr. For Biotech., Virginia commonwealth Univ.*
- 9:00 Z4 **346.06** ● Chondroitin sulfate proteoglycans in multiple sclerosis. E. STEPHENSON\*; J. A. ROGERS; M. B. KEOUGH; M. MISHRA; V. W. YONG. *Univ. of Calgary*.
- 10:00 Z5 **346.07** Strategic utilization of SGs by VSV for replication and survival in cultured microglia but not neurons. Y. CHUNG\*; D. C. COLE; N. F. PAPAVALIOU; K. BULLOCH. *Rockefeller Univ., The Rockefeller Univ.*
- 11:00 Z6 **346.08** Cytochrome P450 2J3 and 2C11 regulation in a LPS-induced model of neuroinflammation in astrocytes. C. NAVARRO-MABARAK\*; R. CAMACHO-CARRANZA; J. J. ESPINOSA-AGUIRRE. *Inst. de Investigaciones Biomédicas, UNAM*.
- 8:00 Z7 **346.09** Withdrawn.
- 9:00 Z8 **346.10** Neurotoxic kynurenine metabolism modulates microglial activity following lipopolysaccharide challenge. A. M. DUGAN\*; J. M. PARROTT; J. N. DELGADO; J. C. O'CONNOR. *Univ. of Texas Hlth. Sci. Ctr. At San A, Ctr. for Biomed. Neurosci., Audie L. Murphy VA Hosp.*
- 10:00 Z9 **346.11** Characterization of the role of the cannabinoid receptors on dendritic cell antigen presenting function. J. SUAREZ MARTINEZ\*; R. B. CRAWFORD; N. E. KAMISNKI. *Michigan State University, Michigan State Univ.*
- 11:00 Z10 **346.12** Pathologic T cell cytokines have both beneficial and deleterious effects on oligodendrocyte lineage cells. A. P. ROBINSON\*; K. LYMAN; Y. HWANG; W. LINDSTROM; J. RODGERS; S. D. MILLER. *Northwestern Univ., Northwestern Univ.*
- 8:00 Z11 **346.13** RNA editing enzyme Complex APOBEC1 and its cofactor in monocytes/microglia linked to the sexually dimorphic response to VSV encephalitis. K. HAJDAROVIC\*; K. GAGNIDZE; D. C. COLE; K. BULLOCH. *The Rockefeller Univ., The Rockefeller Univ.*
- 9:00 Z12 **346.14** Gestational bisphenol-A exposure increases susceptibility of adult mice to development of EAE through the innate immune system. J. ROGERS\*; M. MISHRA; C. SILVA; O. KOVALCUK; L. METZ; V. YONG. *Univ. of Calgary - Hotchkiss Brain Inst., Univ. of Lethbridge*.
- 10:00 Z13 **346.15** 17Beta-estradiol (E2) suppresses neuronal cyclooxygenase 2 gene expression. W. STACEY\*; R. M. UHT. *Univ. of North Texas Hlth. Sci. Ctr., Univ. of North Texas Hlth. Sci. Ctr.*
- 11:00 Z14 **346.16** ▲ Acute onset inflammatory demyelinating polyradiculoneuritis in an infant affected by severe combined immunodeficiency (SCID) due to RAG-1 hypomorphic mutation. A. LOGOTETA\*; S. GALASSI; S. PRO; M. DI CAPUA; R. GRADINI; B. BERNARDI; D. LONGO. *Azienda Ospedaliera Sant'Andrea, U.O.C. Neurologia, Ospedale Pediatrico Bambino Gesù, IRCCS, U.O. Neuroradiologia, Ospedale Pediatrico Bambino Gesù, IRCCS, Univ. di Roma "La Sapienza"*.
- 8:00 Z15 **346.17** Brain region specificity of inflammation-associated kynurenine metabolism. J. M. PARROTT\*; L. REDUS; A. M. DUGAN; J. C. O'CONNOR. *Univ. of Texas Hlth. Sci. Ctr. At San Antonio*.
- 9:00 Z16 **346.18** Subdiaphragmatic vagotomy does not protect against the increase of cerebral noradrenergic response in rat. M. WIECZOREK\*; A. KOBRZYCKA; A. H. SWIERGIEL; E. OCLON; J. ZUBEL; M. HUBNER; M. SIUDAK. *Univ. of Lodz, Fac. of Biology and Environm, Univ. of Lodz, Univ. of Lodz, Fac. of Biol. and Envrn. Protection, Univ. of Gdansk, Agr. Univ.*
- 10:00 Z17 **346.19** *In vivo* measurement of retinal ganglion cell health following optic nerve injury or demyelination in preclinical models of multiple sclerosis. K. MIRCHIA\*; C. HOWE. *Mayo Clin., Mayo Clin.*
- 11:00 Z18 **346.20** Arsenic exposure downregulates LPS or IL-4/IL-13 induced M1/M2 immune factors. G. J. HARRY\*; R. ORIHUELA; C. A. MCPHERSON. *Natl. Inst. Enviro Hlth. Sci.*
- 8:00 Z19 **346.21** Corticosteroids promote indoleamine/tryptophan-2,3-dioxygenase expression concomitantly with suppressing pro-inflammatory cytokines in the mouse brain. A. KELLY; M. A. LAWSON; K. W. KELLEY; R. H. MCCUSKER\*. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign*.
- 9:00 Z20 **346.22** ▲ Participation of the inflammatory process in the treatment of patients with extraparenchymal neurocysticercosis. Y. MARTINEZ LOPEZ\*; O. HERRERA VAZQUEZ; H. JUNG; R. CARRILLO; E. GARCÍA; L. ADALID; A. TOLEDO; À. FLEURY. *Inst. Nacional De Neurología Y Neurocirugía*.
- 10:00 Z21 **346.23** Primary and BV-2 murine microglia can be pharmacologically manipulated by epigenetic modifiers to mimic microglial senescence. S. MATT\*; R. W. JOHNSON. *Univ. of Illinois At Urbana-Champaign*.

**POSTER**

**347. Neuroinflammation: Multiple Sclerosis and Related Models**

**Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 Z22 **347.01** ▲ Dynamic changes in dendritic spine numbers in an animal model of Multiple Sclerosis. K. MILLOY\*; M. VERBEEK; S. ACHARJEE; Q. J. PITTMAN; A. BENEDIKTSSON. *Mount Royal Univ., Univ. of Calgary*.

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

- 9:00 Z23 **347.02** Suppression of microglial activation with PPAR-gamma agonists and anti-histamines: Relevance to multiple sclerosis. P. D. STORER\*; K. E. ROHR; C. S. MILLER; B. L. WADSWORTH. *Coe Col.*
- 10:00 Z24 **347.03** Homeostatic role of neuronal L1 cell adhesion molecule during inflammatory processes in the central nervous system. L. MENZEL\*; M. PATERKA; R. WHITE; M. SCHACHNER; F. ZIPP; M. SCHÄFER. *Univ. Med. Ctr. Mainz, Univ. Med. Ctr. Mainz, Univ. Med. Ctr. Mainz, Ctr. for Mol. Neurobio., Univ. Med. Ctr. Mainz.*
- 11:00 Z25 **347.04** Early biomarkers for demyelination and neuroinflammation in the Experimental Allergic Encephalomyelitis (EAE), an animal model for Multiple Sclerosis. N. BORJINI\*; M. FERNANDEZ; S. SIVILIA; L. GIARDINO; L. CALZÀ. *Chiesi Farmaceutici Spa, Univ. of Bologna, IRET Fndn., Univ. of Bologna.*
- 8:00 Z26 **347.05** Role of miR-142-3p in inflammation-dependent synaptic dysfunctions affecting a mouse model of multiple sclerosis. F. DE VITO; G. MANDOLESI\*; A. MUSELLA; A. GENTILE; D. FRESEGNA; S. BULLITTA; H. SEPMAN; N. HAJI; C. DI SANZA; E. HORNSTEIN; I. BOZZONI; C. PRESUTTI; D. CENTONZE. *IRCCS-Santa Lucia Fdtn, Tor Vergata Univ. of Rome, Weizmann Inst. of Sci., Sapienza Univ. of Rome.*
- 9:00 Z27 **347.06** ▲ Recurrent herpes simplex virus-1 (HSV1) infections in mice cause signs of neurodegeneration and cognitive deficits. G. DE CHIARA\*; M. FABIANI; D. LIMONGI; A. MASTRODONATO; R. PIACENTINI; M. E. MARCOCCI; P. COLUCCIO; C. GRASSI; A. T. PALAMARA. *Natl. Res. Council, Sapienza Univ. of Rome, Telematic Univ. San Raffaele, IRCCS San Raffaele Pisana, Univ. Cattolica del Sacro Cuore, Pasteur Institute-Fondazione Cenci-Bolognetti-Sapienza Univ. of Rome.*
- 10:00 Z28 **347.07** Herpes simplex virus type-1 infection promotes inflammation in mouse derived DRG explants and primary neuronal cell culture model. H. SHARTHIYA\*; C. SENG; V. TIWARI; M. FORNARO. *Midwestern Univ., Midwestern Univ., Midwestern Univ.*
- 11:00 Z29 **347.08** Neurotrophins affect the number and distribution of two macrophage subtypes after optic nerve injury. G. S. VEGA MELÉNDEZ\*; M. V. DUPREY-DIAZ; J. M. BLAGBURN; R. E. BLANCO. *Inst. of Neurobio., Univ. of Puerto Rico, Sch. of Med.*
- 8:00 Z30 **347.09** Brimonidine suppresses loss of retinal neurons and visual function in a murine model of optic neuritis. X. GUO\*; K. NAMEKATA; A. KIMURA; T. NORO; C. HARADA; T. HARADA. *Tokyo Metropolitan Inst. of Med. Sci.*
- 9:00 Z31 **347.10** An application of a novel method to study cerebrospinal fluid dynamics in rats. J. K. KARIMY\*; K. T. KAHLE; D. B. KURLAND; V. GERZANICH; J. M. SIMARD. *Univ. of Maryland, Baltimore, Boston's Children's Hosp.*

## POSTER

### 348. Gastrointestinal, Renal/Urinary, and Reproductive Regulation

#### Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 Z32 **348.01** Anatomic relationship between the ovaries and the autonomic and sensory ganglia during the estrous cycle in rats. P. A. CRUZ MARTÍNEZ\*; Y. CRUZ GOMEZ; C. PASTELIN; A. HANDAL; C. MORAN. *Univ. Autonoma De Tlaxcala, Univ. Autonoma de Tlaxcala, Benemerita Univ. Autonoma de Puebla.*
- 9:00 Z33 **348.02** Changes in bladder and urethral function: A model of bulbospongiosus nerve crush in female rabbit. D. L. CORONA QUINTANILLA\*; C. ACOSTA-ORTEGA; N. RODRÍGUEZ; O. SÁNCHEZ-ZAYAS; R. LÓPEZ-JUÁREZ; F. CASTELÁN; M. MARTÍNEZ-GÓMEZ. *Univ. Autónoma de, Univ. Autónoma de Tlaxcala, Univ. Autónoma de, Univ. Autónoma de Tlaxcala, Univ. Autónoma de Tlaxcala, Dept. de Biología Celular y Fisiología.*
- 10:00 Z34 **348.03** Modeling the spinal pudendo-vesical reflex for bladder control by pudendal afferent stimulation. M. J. MCGEE\*; W. M. GRILL. *Duke Univ., Duke Univ., Duke Univ. Med. Ctr., Duke Univ. Med. Ctr.*
- 11:00 Z35 **348.04** ● Pelvic nerve stimulation restores bladder capacity and voiding efficiency in rat prostaglandin E2 overactive bladder model. C. L. LANGDALE\*; J. A. HOKANSON; A. SRIDHAR; W. M. GRILL. *Duke Univ., GlaxoSmithKline, Duke Univ., Duke Univ., Duke Univ.*
- 8:00 Z36 **348.05** Contributions of pituitary adenylate cyclase-activating polypeptide (PACAP)/receptor signaling to increased voiding frequency and somatic sensitivity in mice with urothelium-specific overexpression (OE) of nerve growth factor (NGF) in the urinary bladder. B. M. GIRARD\*; S. MALLEY; M. E. MATHEWS; M. A. VIZZARD. *Univ. Vermont col Med.*
- 9:00 Z37 **348.06** ● Pituitary adenylate cyclase-activating polypeptide (PACAP) expression in lower urinary tract pathways (LUT) with cyclophosphamide (CYP)-induced cystitis in PACAP promoter-dependent EGFP BAC transgenic mice. M. A. VIZZARD\*; M. E. MATHEWS; S. MALLEY; B. M. GIRARD; K. M. BRAAS; J. A. WASCHEK; V. MAY. *Univ. Vermont Col. Med., David Geffen Sch. of Med.*
- 10:00 Z38 **348.07** Cell therapy for neurogenic detrusor overactivity: Proof of concept using intramural implantation of adrenal medullary chromaffin cells following chronic suprasacral spinal cord injury. M. O. FRASER\*; J. M. BROOKS; D. J. DEGOSKI; P. C. DOLBER. *Duke Univ. and Durham VA Med. Centers, Inst. for Med. Res., Univ. of Texas Med. Br.*
- 11:00 Z39 **348.08** Early-life dysbiosis and its effects on anxiety-like behaviors in the infant rat. J. A. BRAVO\*; E. PONCE-GUEQUEN; C. BARRERA-BUGEÑO; J. ESCOBAR-LUNA; M. GOTTELAND; M. JULIO-PIEPER. *Pontificia Univ. Católica de Valparaíso, Pontificia Univ. Católica de Valparaíso, Univ. de Chile.*
- 8:00 Z40 **348.09** Ex vivo effects of fluoxetine on the rat intestinal barrier: Relevance to disorders of the brain-gut axis. M. JULIO-PIEPER\*; C. GONZALEZ-ARANCIBIA; M. P. GONZALEZ-TORO; J. A. BRAVO. *PONTIFICIA UNIVERSIDAD CATOLICA DE VALPARAISO.*

- 9:00 Z41 **348.10** Serial Cystometry Measurements- a novel method for evaluation of lower urinary tract function in adult female sprague-dawley rats. F. QURESHI; P. KUNG; S. A. SISTO\*; W. F. COLLINS, III. *Stony Brook Univ., Stony Brook Univ., Stony Brook Univ.*
- 10:00 Z42 **348.11** Urethral sensory neuron activation by flow: Electrophysiological quantification and modeling. Z. C. DANZIGER\*; W. M. GRILL. *Duke Univ.*
- 11:00 Z43 **348.12** Chronic monitoring of lower urinary tract neurophysiology via sacral dorsal root ganglia. A. KHURRAM; S. E. ROSS; A. A. A. JIMAN; Z. J. SPERRY; C. M. MAHAR; T. M. BRUNS\*. *Univ. of Michigan.*
- 8:00 Z44 **348.13** ● Assessing gastrointestinal actions of commonly prescribed pharmacologic compounds using the gastrointestinal motility monitor (gimm) *in vitro* assay. M. KLINGER\*; M. M. MCGILL; N. M. WIGHTON; S. R. BRUNO; G. M. HERRERA. *Catamount Res. and Development, Inc.*
- 9:00 AA1 **348.14** ● A functional analysis of the influence of pelvic nerve on the micturition reflex in rats with acetic acid induced cystitis. X. SU\*; J. E. AGRAN; D. E. NELSON. *Medtronic.*
- 10:00 AA2 **348.15** "Evaluation of the mechanism involved in the gastro protective effect of DHA (docosahexaenoic acid) in the indomethacin-induced gastric injury model in mice". E. A. PINEDA\*; A. E. CHÁVEZ-PIÑA. *Escuela Nacional De Medicina Y Homeopatía Del Inst., Natl. Polytechnic Inst. (IPN).*
- 11:00 AA3 **348.16** Anti-inflammatory effects of acupuncture stimulation via the vagus nerve. H. LIM\*; I. CHANG; J. LEE; K. KIM; C. LEE; U. NAMGUNG. *Daejeon Univ., Daejeon Univ., Daejeon Univ.*
- 8:00 AA4 **348.17** Quantification of hysteresis in bladder afferent neurons in response to changes in bladder pressure. S. E. ROSS\*; Z. J. SPERRY; C. M. MAHAR; T. M. BRUNS. *Univ. of Michigan, Univ. of Michigan.*
- 9:00 AA5 **348.18** Developmental analysis of MET-EGFP transgene cell phenotypes and projection targets in the brainstem Vagal Motor Complex. A. K. KAMITAKAHARA\*; H. WU; P. LEVITT. *Children's Hosp. Los Angeles.*
- 10:00 AA6 **348.19** "Fast and slow": Bowel dysfunction in spinal cord injured animals. B. FRIAS\*; S. GOLBIDI; I. LAHER; A. KRASSIOUKOV. *ICORD, Univ. of British Columbia.*
- 11:00 AA7 **348.20** Characterization of cholinergic neurotransmission of bladder-innervating postganglionic neurons in mouse major pelvic ganglia through molecular, pharmacological and physiological measures. C. KYI\*; D. J. SCHULZ. *Univ. of Missouri-Columbia, Univ. of Missouri.*
- 8:00 AA8 **348.21** ▲ Characterization of neuroendocrine cell subpopulations in the digestive tract of the echinoderm *Holothuria glaberrima*. M. A. LEFEBRE\*; J. E. GARCIA-ARRARAS. *Inter American Univ. of Puerto Rico - Bayamon, Univ. of Puerto Rico - Rio Piedras Campus.*
- 9:00 AA9 **348.22** Spinal transection alters dependence of void size on intra-burst EMG timing during spontaneous voiding in unanesthetized freely-moving rats. J. S. CARP\*; B. K. LAPALLO; X. CHEN; J. R. WOLPAW. *Wadsworth Ctr, NY State Dept Hlth., Natl. Ctr. for Adaptive Neurotechnologies, Stratton VA Med. Ctr.*
- 10:00 AA10 **348.23** ● Pudendal nerve stimulation restores bladder capacity in rat prostaglandin E2 overactive bladder model. J. A. HOKANSON\*; C. LANGDALE; A. SRIDHAR; W. GRILL. *Duke University, Dept Biomed. Engin., Duke Univ., GlaxoSmithKline.*
- 11:00 AA11 **348.24** Mechanism(s) of transforming growth factor-beta (TGF-β) mediated bladder afferent nerve hyperexcitability. E. J. GONZALEZ\*; M. A. VIZZARD. *Univ. of Vermont.*

## POSTER

### 349. Developmental Regulators of Stressful Experiences

#### Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 AA12 **349.01** Differences in the mechanisms of extinction and medial prefrontal cortex plasticity in the adult and post-weanling animals. M. MAROUN\*; R. SCHAYEK. *Univ. of Haifa, Univ. of Haifa.*
- 9:00 AA13 **349.02** Autobiographical memory functioning in maltreated children and the theory of Latent Vulnerability. V. PUETZ\*; E. VIDING; A. PALMER; P. KELLY; E. A. MAGUIRE; A. MECHELLI; E. MCCRORY. *Univ. Col. London, Wellcome Trust Ctr. for Neuroimaging, Univ. Col. London, Inst. of Psychiatry, Psychology & Neuroscience, King's Col. London.*
- 10:00 AA14 **349.03** Implications of maternal stress during pregnancy for neonatal amygdala connectivity and development of fear. A. GRAHAM\*; D. A. FAIR; J. RASMUSSEN; M. RUDOLPH; J. H. GILMORE; M. A. STYNER; S. ENTRINGER; P. WADHWA; C. BUSS. *Oregon Hlth. & Sci. Univ., Univ. of California, Irvine, UNC, Charité Univ. of Med.*
- 11:00 AA15 **349.04** Early life stress is associated with decreased reward-related activity and intrinsic functional connectivity of the ventral striatum as well as symptoms of depression in adulthood. J. L. HANSON\*; A. KNODT; K. A. DODGE; A. R. HARIRI. *Duke Univ., Univ. of North Carolina at Chapel Hill, Duke Univ.*
- 8:00 AA16 **349.05** Development of dopamine functional pathways during infancy: Normal trajectory and disruptions due to genetic and environmental risks. A. SALZWEDEL; W. LIN; K. GREWEN; J. GILMORE; W. GAO\*. *Univ. of North Carolina At Chapel Hill.*
- 9:00 AA17 **349.07** Effects of early life stress on amygdala, prefrontal cortex, and raphe GABA levels and its relation to depressive-like behavior. S. L. ANDERSEN\*; J. L. LUKKES; S. MEDA; B. THOMPSON; N. FREUND. *McLean Hosp, McLean Hosp., Univ. of Tubingen.*
- 10:00 AA18 **349.08** Impact of preterm birth on structural and functional connectivity in neonates. C. ROGERS\*; C. HERZMANN; T. SMYSER; J. SHIMONY; J. ACKERMAN, Jr.; J. NEIL; C. SMYSER. *Washington Univ. Sch. of Med., Boston Children's Hosp.*

Mon. AM

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 11:00 AA19 **349.09** Frontal EEG asymmetry and childhood maltreatment history predict systemic inflammation in middle-aged adults. C. E. HOSTINAR\*; R. J. DAVIDSON; T. E. SEEMAN; D. K. MROCZEK; M. E. LACHMAN; G. E. MILLER. *Northwestern Univ., Univ. of Wisconsin, UCLA, Brandeis Univ.*
- 8:00 AA20 **349.10** Infant maltreatment alters limbic white matter tracts: Support for the match/mismatch hypothesis? B. R. HOWELL\*; M. AHN; J. R. GODFREY; Y. SHI; G. NAIR; X. HU; M. A. STYNER; M. M. SANCHEZ. *Univ. of Minnesota, Univ. of Nevada, Emory Univ., Univ. of North Carolina, NIH, Emory Univ. and Georgia Inst. of Technol., Univ. of North Carolina, Emory Univ.*
- 9:00 AA21 **349.11** Corticolimbic activation and functional connectivity in adults who experienced child maltreatment. K. JEDD\*; R. H. HUNT; D. CICCETTI; E. HUNT; F. ROGOSCH; S. TOTH; R. A. COWELL; K. M. THOMAS. *Univ. of Minnesota, Univ. of Rochester, St. Norbert Col.*
- 10:00 AA22 **349.12** Rescue of neurobehavioral deficits following infant abuse: The role of maternal odor. R. E. PERRY\*; R. M. SULLIVAN. *Nathan Kline Inst.*
- 11:00 AA23 **349.13** Experimental manipulation of prefrontal cortex differentially affects amygdala reactivity and connectivity following early-life stress. D. G. GEE\*; B. GOFF; L. GABARD-DURNAM; C. CALDERA; D. FARERI; D. LUMIAN; J. FLANNERY; N. TOTTENHAM. *Weill Cornell Med. Col., UCLA, Columbia Univ., Univ. of Denver, Univ. of Oregon.*
- 8:00 AA24 **349.14** Exercise induces age-dependent neuroplastic changes in limbic regions responsible for learning, memory and emotional behavior. K. HULEN\*; A. MIKA; N. L. RUMIAN; A. K. HILLS; S. O. MCCONNELL; A. L. INGALLS-WILLIAMS; M. R. FLESHNER. *Univ. of Colorado Boulder, Univ. of Colorado, Univ. of Colorado.*
- 9:00 AA25 **349.15** Early life exercise produces persistent alterations in serotonergic circuits and long-lasting stress resistance. A. MIKA\*; N. L. RUMIAN; A. K. HILLS; S. O. MCCONNELL; C. A. BOUCHET; B. N. GREENWOOD; M. R. FLESHNER. *Univ. of Colorado, Boulder, Univ. of Colorado, Univ. of Colorado.*
- 10:00 AA26 **349.16** Early life stress alters the development of the fear circuit and fear learning in mice. G. MANZANO-NIEVES\*; K. G. BATH. *Dept. of Neuroscience, Brown Univ., Brown Univ.*
- 11:00 AA27 **349.17** Predictable chronic mild stress during adolescence promotes fear memory erasure in adulthood. J. DENG\*; C. CHEN; S. MENG; C. SUN; L. XU; Y. XUE; X. GAO; W. YAN; N. CHEN; J. SHI; L. LU. *Sixth Hosp. of Peking Univ., Natl. Inst. on Drug Dependence, Peking Univ., Peking-Tsinghua Ctr. for Life Sci. and PKU-IDG/McGovern Inst. for Brain Research, Peking Univ.*
- 8:00 AA28 **349.18** Hyper-excitability and epilepsy generated by chronic early-life stress. A. SINGH\*; C. M. DUBÉ; J. MOLET; A. IVY; P. M. MARAS; T. Z. BARAM. *Univ. of California-Irvine, Univ. of California-Irvine, Univ. of California-Irvine.*
- 9:00 AA29 **349.19** Stress during a critical postnatal period induces region-specific structural abnormalities and dysfunction of the prefrontal cortex via CRF1. X. YANG; X. LIAO; A. URIBE-MARIÑO; R. LIU; X. XIE; Y. SU; J. LI; M. V. SCHMIDT; T. SI; X. WANG\*. *Inst. of Mental Health, Peking Univ., Max Planck Inst. of Psychiatry, Inst. of Neuroscience, Zhejiang Univ.*
- 10:00 AA30 **349.20** Early life stress impairs Parvalbumin networks in mouse prefrontal cortex. Z. YE\*; K. SCHAEFER; H. S. KNOBLOCH-BOLLMANN; T. K. HENSCH. *Harvard Univ., Harvard Col., Harvard Univ., Boston Children's Hospital, Harvard Med. Sch.*
- 11:00 AA31 **349.21** Chronic stress enhances the hyperthermia in response to acute restraint stress. T. MIYAMOTO\*; Y. FUNAKAMI; E. KAWASHITA; A. NOMURA; N. SUGIMOTO; S. ICHIDA; A. KAWABATA. *Kinki Univ. Sch. Pharm., Seichokai Fuchu Hosp.*
- 8:00 AA32 **349.22** Early life stress induces rapid and persistent alterations in limbic endocannabinoid system. P. ATSAK\*; M. MORENA; C. A. OOMEN; M. N. HILL; B. ROOZENDAAL. *Radboud Univ. Med. Ctr., Donders Inst. for Brain, Cognition and Behavior, Hotchkiss Brain Inst.*
- 9:00 AA33 **349.23** Early life stress accelerates behavioral and neural maturation of the hippocampus. K. G. BATH\*; G. MANZANO-NIEVES; H. GOODWILL. *Brown Univ., Brown Univ.*
- 10:00 AA34 **349.24** ▲ Hippocampal cytogenesis on stress-exposed senile rats: Effects of previous early-life exposure to environmental stress. T. P. MARTÍNEZ\*; D. RUESGA-BARCNAS; J. GARCÍA-ESTRADA; S. LUQUÍN; Y. RUVALCABA-DELGADILLO. *Univ. De Guadalajara, Univ. de Guadalajara, Ctr. de Investigación Biomédica de Occidente.*
- 11:00 AA35 **349.25** Sex-dependent effects of early life inflammatory pain on energy homeostasis in adult rats. M. B. PARENT\*; Y. O. HENDERSON; R. NALLOOR; A. VAZDARJANOVA; A. Z. MURPHY. *Georgia State Univ., Georgia State Univ., Charlie Norwood VA Med. Ctr., Georgia Regents Univ., Charlie Norwood VA Med. Ctr.*

## POSTER

### 350. Food Intake and Energy Balance: Neuropeptide Regulators

#### Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 AA36 **350.01** Elucidating central mechanisms of the anorexigenic effect of neuropeptide K in broilers (*Gallus gallus*). J. YI\*; E. R. GILBERT; M. A. CLINE. *Virginia Tech.*
- 9:00 AA37 **350.02** Elucidating the anorexigenic mechanism of central oxytocin in birds. B. MCCONN\*; E. R. GILBERT; P. B. SIEGEL; M. A. CLINE. *Virginia Tech.*
- 10:00 AA38 **350.03** Expression patterns of BDNF with central anorexigenic signaling pathways involving PACAP in the hypothalamic ventromedial nuclei. B. MAUNZE\*; M. HURLEY; J. M. RESCH; M. J. REILLEY; E. M. WASSMANN; S. CHOI. *Marquette Univ.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 11:00 AA39 **350.04** Peripheral administration of glucagon-like peptide-1 and cholecystokinin-8 activates nesfatin-1-containing neurons in the hypothalamus and brainstem of rats. Y. YAMAMOTO\*; R. SAITO; M. SO; Y. MOTOJIMA; T. MATSUURA; M. YOSHIMURA; H. HASHIMOTO; K. KUSUHARA; Y. UETA. *Univ. Occupat & Environ Hlth., Univ. of Occup. and Environ. Hlth.*
- 8:00 AA40 **350.05** Deletion of melanin-concentrating hormone receptor 1 from GABAergic neurons increases locomotor activity. M. J. CHEE\*; S. E. FLAHERTY, III; N. BRIANCON; J. S. FLIER; E. MARATOS-FLIER. *BIDMC, Harvard Med. Sch.*
- 9:00 AA41 **350.06** MANF is a neurotrophic factor involved in the regulation of feeding behavior and energy homeostasis. S. YANG\*; S. LI; X. LI. *Emory Univ.*
- 10:00 AA42 **350.07** ● Energy homeostasis and food intake alterations in mice lacking central serotonin. M. ANGO-PEREZ\*; J. G. GRANNEMAN; R. G. MACKENZIE; D. M. KUHN. *Dept. of Psychiatry and Behavioral Neuroscienc, Res. & Develop. Service (11R), John D. Dingell VA Med. Ctr., Wayne State Univ.*
- 11:00 AA43 **350.08** Changes in the immunoreactivity of c-Fos and  $\alpha$ -MSH in the arcuate nucleus by activation of MC3 receptors. D. DIAZ-URBINA\*; F. CORTES-SALAZAR; J. O. SUAREZ-ORTIZ; R. E. ESCARTÍN-PEREZ; V. E. LOPÉZ-ALONSO; J. M. MANCILLA-DÍAZ. *Facultad De Estudios Superiores Iztacala- UNAM.*
- 8:00 AA44 **350.09** Ghrelin receptors in the VTA mediate stress induced changes in caloric intake during chronic social defeat. S. PARK\*; T. RODRIGUES; C. WALLACE; K. MEZHER; L. HYLAND; M. KLEIN; A. EDWARDS; Z. R. PATTERSON; H. MACKAY; A. ABIZAID. *Carleton Univ., Carleton Univ., Biomed. Sci. Institute, Univ. of São Paulo.*
- 9:00 AA45 **350.10** Emesis elicited by thapsigargin administration in the least shrew is due to activation of ERK1/2 signaling and Substance P release in the brainstem. W. ZHONG; S. CHEBOLU; N. A. DARMANI\*. *Coll Osteo. Med. Pacific, Western Univ. Hlth. Sci.*
- 10:00 AA46 **350.11** Impact of cafeteria diet and voluntary exercise on behavioural effects of dynorphin and orexin peptides in the PVN. C. E. PEREZ-LEIGHTON\*; L. GAC. *Univ. Andres Bello.*
- 11:00 AA47 **350.12** A new obesity model reveals the hypophagic properties of PACAP involve the regulation of homeostatic feeding in the ventromedial hypothalamic nucleus and hedonic feeding in the nucleus accumbens. M. M. HURLEY\*; B. MAUNZE; J. M. RESCH; M. M. FRENKEL; M. J. REILLY; M. BLOCK; D. A. BAKER; S. CHOI. *Marquette Univ.*
- 8:00 AA48 **350.13** Synergistic interaction between cholecystokinin agonist, (pGlu-Gln)-CCK-8 and urocotin-1 injected intraperitoneally on feeding in rats. L. WANG\*; Y. TACHÉ; J. R. REEVE, Jr. *UCLA.*
- 9:00 BB1 **350.14** The opioid beta-endorphin in the arcuate nucleus is involved in food intake. Q. WEI\*; S. MOORE; S. WATSON; G. MURPHY; H. AKIL. *Mol. Behav. Neurosci. Inst.*
- 10:00 BB2 **350.15** ▲ Neurotensin receptor 1-expressing neurons in the ventral tegmental area modify energy balance. H. M. BATCHELOR\*; H. WOODWORTH; J. BROWN; R. BUGESCU; P. FULLER; G. LEINNINGER. *Michigan State Univ., Harvard Med. Sch.*
- 11:00 BB3 **350.16** PTP1B deficiency attenuates hypothalamic inflammation through the activation of Jak2-Stat3 signaling pathway downstream of TNF $\alpha$  receptor under high fat diet conditions. T. TSUNEKAWA\*; R. BANNO; M. SUGIYAMA; T. TOMINAGA; T. ONOUE; M. GOTO; H. ARIMA. *Nagoya Univ. Grad. Sch. of Med.*
- 8:00 BB4 **350.17** Comparison between water and stevia intake. Expression of IGF-II and its receptor IGF-IIR in Central Nervous System from BALB/c mice. E. MORALES\*; I. CONTRERAS; J. A. ESTRADA. *Univ. Autonoma Del Estado De México.*
- 9:00 BB5 **350.18** Brain-derived insulin is induced by Wnt signaling and secreted in the hypothalamic cells. J. LEE\*; K. KIM; S. YU; E. KIM. *Daegu Gyeongbuk Institue of Sci. and Technol, Daegu Gyeongbuk Inst. of Sci. and Technol.*
- 10:00 BB6 **350.19** Lateral hypothalamic neurotensin neurons engage the mesolimbic dopamine system to regulate water intake and locomotor activity. H. WOODWORTH\*; H. BATCHELOR; J. BROWN; R. BUGESCU; G. LEINNINGER. *Michigan State Univ.*
- 11:00 BB7 **350.20** Galanin neurons in the lateral hypothalamus modulate locomotor activity. E. QUALLS-CREEKMORE\*; S. YU; C. MORRISON; H. MUNZBERG. *Pennington Biomed. Res. Ctr.*
- 8:00 BB8 **350.21** Prepro-orexin gene promoter is regulated *in vitro* by the transcription factor ebf2 in glial and neural cells. R. VIDALTAMAYO\*; A. SÁNCHEZ-GARCÍA; R. ORTIZ-LÓPEZ; V. ZOMOSA-SIGNORET. *Univ. of Monterrey, Univ. Autónoma de Nuevo León.*
- 9:00 BB9 **350.22** Effects of oral and intragastric glucose delivery on insulin receptor phosphorylation in nucleus accumbens. C. WOODS\*; Z. GUTTMAN; A. RABINOWITSCH; R. KOLARIC; K. JONES; S. CABEZA DE VACA; A. SCLAFANI; K. CARR. *New York Univ., New York Univ., New York Univ., Brooklyn Col. CUNY.*
- 10:00 BB10 **350.23** Orexin A administration by lactoferrin- and antitransferrin-modified liposomes potentiate the nucleus accumbens shell dopamine responsiveness to food. V. BASSAREO\*; F. CUCCA; R. FRAU; F. LAI; F. CORRIAS; A. M. FADDA; G. DI CHIARA. *Univ. of Cagliari, Univ. of Cagliari, Univ. of Cagliari.*

## POSTER

### 351. Perceptual and Spatial Learning

#### Theme F: Cognition and Behavior

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 BB11 **351.01** Hippocampus and cortical plasticity following a virtual spatial memory intervention program promote spontaneous hippocampus-dependent navigation strategies in healthy older adults. D. DUCHARME\*; D. SODUMS; K. KONISHI; L. DAHMANI; L. BHERER; V. D. BOHBOT. *Douglas Mental Hlth. Univ. Inst., CRIUGM, Dept. of Psychology, Univ. of Montreal.*
- 9:00 BB12 **351.02** Landmark use during navigation is associated with increased visual attention to peripheral targets. B. DRISDELLE; K. KONISHI; P. JOLICOEUR; V. BOHBOT; G. WEST\*. *Univ. of Montreal, McGill Univ., Univ. of Montreal.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 10:00 BB13 **351.03** Selective increase in hippocampus grey matter following a virtual spatial memory intervention program is associated with corresponding memory gains in healthy older adults. D. SODUMS\*; K. KONISHI; L. DAHMANI; L. BHERER; V. BOHBOT. *Douglas Mental Hlth. Univ. Inst., CRIUGM, Dept. of Psychology, Univ. of Montreal.*
- 11:00 BB14 **351.04** Multivariate pattern analysis of human intracranial electrocorticography predicts location in a virtual spatial navigation task. A. A. ROBBINS\*; P. HORAK; A. CONNOLLY; B. JOBST. *Dartmouth Neurol., Geisel Sch. of Med.*
- 8:00 BB15 **351.05** The neural correlates of arithmetic learning in children: A fNIRS study. M. SOLTANLOU\*; C. ARTEMENKO; T. DRESLER; F. HAEUSSINGER; S. HUBER; A. J. FALLGATTER; A. EHLIS; H. NUERK. *Dept. of Psychology, Eberhard Karls Univ., Grad. Training Ctr. of Neuroscience/ IMPRS for Cognitive and Systems Neurosci., Knowledge Media Res. Ctr., LEAD Grad. School, Eberhard Karls Univ., Univ. Clin. of Psychiatry and Psychotherapy, Dept. of Gen. Psychiatry, Eberhard Karls Univ.*
- 9:00 BB16 **351.06** Brief episodes of memory reactivation enable perceptual learning. R. AMAR\*; S. NEMNI; N. CENSOR. *Tel Aviv Univ., Tel Aviv Univ., Tel Aviv Univ.*
- 10:00 BB17 **351.07** ▲ Women and men use different default spatial strategies to solve a real world navigation task. M. FIDA\*; E. L. ZELINSKI; R. J. SUTHERLAND. *CCBN.*
- 11:00 BB18 **351.08** Behavioural and electrophysiological characteristics of virtual navigation task performance in men and women. E. L. ZELINSKI\*; M. FIDA; R. J. SUTHERLAND. *Canadian Ctr. For Behavioural Neurosci.*
- 8:00 BB19 **351.09** Transcranial alternating current stimulation strengthens learning of color-orientation associations. Y. LIU\*; K. KAR; B. KREKELBERG. *Rutgers, The State Univ. of New Jersey, Rutgers, The State Univ. of New Jersey.*
- 9:00 BB20 **351.10** Learning on a musical-interval discrimination task through a combination of task practice and stimulus exposure alone. D. F. LITTLE\*; H. CHENG; B. A. WRIGHT. *Northwestern Univ.*
- 10:00 BB21 **351.11** The impact of olfactory stressors on perceptual recall and timing behavior. J. E. WILLIAMS\*; M. A. WILLIAMS. *Eastern Illinois Univ.*
- 11:00 BB22 **351.12** Perceptual learning for detection of multiple features produces non-independent processing: Behavioral and neurophysiological evidence. M. J. WENGER\*; S. E. RHOTEN. *The Univ. of Oklahoma, Cornell Univ.*
- 8:00 BB23 **351.13** Long-term high-variability training for new adult cochlear implant users. J. L. LOEBACH\*. *St. Olaf Col.*
- 9:00 BB24 **351.14** Grounding symbolic fractions in the ratio processing system: A developmental fMRI-A study. E. Y. TOOMARIAN\*; M. R. LEWIS; J. V. BINZAK; E. M. HUBBARD. *Univ. of Wisconsin-Madison.*
- 10:00 BB25 **351.15** Orientation discrimination performance improves after "LTP-like" visual stimulation applied via Oculus Rift video device. A. MARZOLL\*; E. KEßEL; H. R. DINSE. *Ruhr-Universität Bochum, Neurologische Klinik am Berufsgenossenschaftlichen Universitätsklinikum Bergmannsheil, Ruhr-Universität Bochum.*
- 11:00 BB26 **351.16** Contingency awareness as a prerequisite for contextual fear conditioning. P. MEYER\*; C. BAEUHL; M. HOPPSTAEDTER; H. FLOR. *CIMH, Heidelberg Univ.*
- 8:00 BB27 **351.17** Survival of the fittest gamer or: How video games improve probabilistic learning. S. SCHENK\*; R. K. LECH; B. SUCHAN. *Ruhr Univ. Bochum.*
- 9:00 BB28 **351.18** Successive training of two tasks in three-week periods still leads to behavioral interference. M. SENDEN\*; G. LANGE; A. RADERMACHER; R. GOEBEL; P. DE WEERD. *Maastricht Univ.*
- 10:00 BB29 **351.19** Examining changes in functional connectivity during human perceptual learning with population receptive fields. V. R. BEJJANKI\*; N. B. TURK-BROWNE. *Princeton Univ.*
- 11:00 BB30 **351.20** Subjective symptoms in MRI operators. S. ZAFFINA\*, JR; V. CAMISA; A. SANTORO; M. VINCI; A. ANTICO; V. CANNATA; P. DERRICO. *Children's Hosp. bambino Gesù.*
- 8:00 BB31 **351.21** Aberrant precision in autism: Behaviour, computational modelling and noradrenergic function. R. P. LAWSON\*; C. MATHYS; G. REES. *Univ. Col. London, Univ. Col. London.*
- 9:00 BB32 **351.22** The amount of practice and the acquisition of the internal model in visuomotor learning. C. YAMADA\*; Y. ITAGUCHI; K. FUKUZAWA. *Waseda Univ., Sapporo Med. Univ., Waseda Univ.*
- 10:00 BB33 **351.23** Dissociable roles for the inferior longitudinal fasciculus and the fornix in perception for faces and scenes. M. A. POSTANS\*; B. COAD; M. ALY; C. J. HODGETTS; D. E. J. LINDEN; A. D. LAWRENCE; K. S. GRAHAM. *Cardiff Univ., Princeton Neurosci. Inst.*
- 11:00 BB34 **351.24** Repetition priming in object naming is associated with repetition suppression, earlier termination of activity, and changes in task-engaged neural synchrony. S. J. GOTTS\*; A. OSSOWSKI; S. C. MILLEVILLE; A. MARTIN. *Lab. of Brain and Cognition, NIMH/NIH.*
- 8:00 BB35 **351.25** Virtual environmental enrichment through video games. G. D. CLEMENSON\*; C. E. STARK. *UC Irvine.*
- 9:00 BB36 **351.26** Fast knowledge-mediated visual disambiguation process in humans: A magnetoencephalographic study. T. URAKAWA\*; K. OGATA; T. KIMURA; Y. KUME; S. TOBIMATSU. *Dept. of Applied Physics, Kyushu Univ.*
- 10:00 BB37 **351.27** The human retrosplenial cortex and thalamus code head direction in a global reference frame. J. SHINE\*; J. P. VALDÉS-HERRERA; M. HEGARTY; T. WOLBERS. *DZNE, Univ. of California, Ctr. for Behavioral Brain Sci.*
- 11:00 BB38 **351.28** Distraction suppression and video game training: Far transfer effects to fluid intelligence. A. E. HARWOOD\*; D. CISLER; R. PARASURAMAN; P. GREENWOOD. *George Mason Univ., George Mason Univ.*
- 8:00 BB39 **351.29** Differential contributions of positive and negative reinforcement in temporal order visual processing. K. HU\*; A. K. ANDERSON; W. LUH; E. D. ROSA. *Cornell University, Ithaca, NY, Cornell Univ., Cornell MRI Facility, Cornell Univ.*



9:00 BB40 **351.30** Resting-state fMRI correlates of rapid brain plasticity following brief auditory exposure. M. S. KOYAMA\*; S. ORTIZ-MANTILLA; L. HELFERSTAY; J. PARASCANDO; C. ROESLER; J. MORGANBYRNE; M. P. MILHAM; A. A. BENASICH. *Child Mind Inst., Rutgers Univ.*

## POSTER

### 352. Reinforcement and Feedback Learning in Humans

#### Theme F: Cognition and Behavior

Mon. 8:00 AM – McCormick Place, Hall A

8:00 BB41 **352.01** The utility of reinforcement learning for EEG based passive auditory-neurofeedback. M. DINOVA\*; A. GUNASEKARA; R. LEECH. *Imperial Col. London.*

9:00 BB42 **352.02** Nobody expects the Spanish Inquisition: Expectations about the source of surprise dictate the relationship between feedback-related EEG signals and learning. M. R. NASSAR\*; R. BRUCKNER; M. J. FRANK. *Brown Univ., Freie Univ. Berlin.*

10:00 BB43 **352.03** A human single-neuron correlate of error monitoring in anterior cingulate cortex and pre-supplementary motor area neurons. Z. FU\*; A. N. MAMELAK; I. B. ROSS; J. M. CHUNG; R. ADOLPHS; U. RUTISHAUSER. *Caltech, Cedars-Sinai Med. Ctr., Huntington Mem. Hosp., Caltech, Cedars-Sinai Med. Ctr.*

11:00 BB44 **352.04** Agency, learning and reward: A study using temporal binding. S. DI COSTA; H. THÉRO; P. HAGGARD\*. *Univ. Col. London, École normale supérieure.*

8:00 BB45 **352.05** Positive reinforcement enhances encoding of upcoming information. D. G. DILLON\*; M. FRANK; D. BADRE; D. A. PIZZAGALLI. *McLean Hospital/Harvard Med. Sch., Brown Univ.*

9:00 BB46 **352.06** ▲ Dissociable effects of reinforcement valence and learning rate on incidental encoding and consolidation of episodic memory. A. I. JANG\*; M. NASSAR; D. DILLON; M. FRANK. *Brown Univ., McLean Hospital/Harvard Med. Sch.*

10:00 BB47 **352.07** Reinforcement mechanisms underlie use-dependent plasticity in human motor behaviors. F. MAWASE\*; S. UEHARA; A. BASTIAN; P. CELNIK. *Johns Hopkins Univ., Johns Hopkins Univ., Kennedy Krieger Inst., Johns Hopkins Univ.*

11:00 BB48 **352.08** Behavioral studies with the cue-approach task show it can enhance preferences towards faces and fractals. T. SALOMON\*; R. BOTVINIK; S. ISRAEL; T. SCHONBERG. *Tel Aviv Univ., Tel Aviv Univ., Tel Aviv Univ.*

8:00 BB49 **352.09** Modulating EEG source activities in the frontal cortex by using tEIC increases learning rate during decision making. M. WATANABE\*; A. HOTTA; A. MATANI. *The Univ. of Tokyo, The Univ. of Tokyo, RIKEN Brain Sci. Inst.*

9:00 BB50 **352.10** Neural networks underlying aversive context conditioning in humans. L. MARSTALLER\*; H. BURIANOVÁ; D. REUTENS. *Univ. of Queensland.*

10:00 BB51 **352.11** Up and down: Punishment, relief and emotional instability. E. ELДАР\*; P. DAYAN; R. J. DOLAN. *UCL, Max Planck Univ. Col. London Ctr. for Computat. Psychiatry and Ageing Res., Univ. Col. London.*

11:00 BB52 **352.12** Adaptive prediction error coding in the human midbrain and striatum correlates with behavioral adaptation and learning efficiency. K. M. DIEDEREN\*; T. SPENCER; P. FLETCHER; W. SCHULTZ. *Univ. of Cambridge.*

8:00 BB53 **352.13** ▲ Spontaneous eyeblink rate predicts increased recruitment of a model-based learning strategy. T. C. SHI\*; L. E. HUNTER; Y. L. SOUFIAN; J. H. DECKER; C. A. HARTLEY. *Weill Cornell Med. Col.*

9:00 BB54 **352.14** Cardiac concomitants of decreased reinforcement learning in individuals with obesity. J. KUBE; D. MATHAR; L. KASTNER; A. HORSTMANN; A. VILLRINGER; J. NEUMANN\*. *MPI For Human Cognitive and Brain Sci., IFB Adiposity Diseases, Univ. Med. Ctr., Clin. of Cognitive Neurology, Univ. Hosp., Mind & Brain Institute, Berlin Sch. of Mind and Brain, Humboldt-University.*

10:00 BB55 **352.15** Neural oscillatory patterns during associative learning. B. M. ROBERTS\*; A. CLARKE; C. RANGANATH. *Univ. of California, Davis.*

11:00 BB56 **352.16** The effect of economic competition on the neural mechanisms of decision-making. M. MARTINEZ-SAITO\*; B. GUTKIN; A. SHESTAKOVA; V. KLUCHAREV. *Higher Sch. of Econ., Ecole Normale Supérieure.*

8:00 BB57 **352.17** Effects of dopamine on the consolidation of incremental learning: Implications for Parkinson's disease. M. SHARP\*; K. FOERDE; K. DUNCAN; D. SHOHAMY. *Columbia Univ., New York Univ.*

9:00 BB58 **352.18** Decision-making in Parkinson's patients during a strategic game. A. C. PARR\*; B. C. COE; G. PARI; D. P. MUNOZ. *Queen's Univ.*

10:00 BB59 **352.19** Is dopamine necessary for reward-related incidental learning improvements? Evidence from patients with Parkinson's disease. M. V. FREEDBERG\*; J. SCHACHERER; K. CHEN; K. NARYANAN; E. UC; E. HAZELTINE. *The Univ. of Iowa, The Univ. of Iowa, The Univ. of Iowa.*

11:00 BB60 **352.20** Perceptual learning affects post-sensory processing on a visual decision making task. J. DIAZ\*; M. PHILIASTIDES. *Univ. of Glasgow.*

8:00 BB61 **352.21** Spatiotemporal characteristic of reward-based learning in humans. E. FOURAGNAN\*; C. RETZLER; K. MULLINGER; M. PHILIASTIDES. *Univ. of Glasgow, Dept. of Behavioural & Social Sci., Sir Peter Mansfield Magnetic Resonance Ctr.*

9:00 BB62 **352.22** Spatiotemporal characterization of value-based decision making in humans using simultaneous EEG/fMRI. M. PISAURO\*; E. FOURAGNAN; C. RETZLER; K. MULLINGER; M. PHILIASTIDES. *Univ. of Glasgow, Univ. of Huddersfield, Univ. of Nottingham, Univ. of Birmingham.*

10:00 BB63 **352.23** Working memory contributions to reinforcement learning: An fMRI study. A. G. COLLINS\*; B. A. CIULLO; M. J. FRANK; D. BADRE. *Brown University, CLPS, Brown Inst. for Brain Sci.*

11:00 BB64 **352.24** Frontal beta oscillations reflect encoding of information related to desired task performance irrespective of feedback valence. A. HAJIHOSSEINI\*; C. B. HOLROYD. *Univ. of Victoria.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 8:00 BB65 **352.25** Different momentums: Lifespan age differences in the adaptive regulation of learning rates. B. EPPINGER\*; R. BRUCKNER; M. R. NASSAR; S. LI. *TU Dresden, Max Planck Inst. for Human Develop., Brown Univ.*
- 9:00 BB66 **352.26** Effects of affective arousal on choice behavior, reward prediction errors, and feedback-related negativities in human reward-based decision making. H. LIU\*; M. HSIEH; Y. HSU; W. LAI. *Natl. Taiwan Univ., Natl. Taiwan Univ. Hosp., Natl. Taiwan Univ., Natl. Taiwan Univ.*

## POSTER

### 353. Human Memory: Episodic and Semantic Memory Processes

#### Theme F: Cognition and Behavior

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 BB67 **353.01** The relationships between age, associative memory performance and the neural correlates of successful associative memory encoding. M. A. DE CHASTELAINE\*; J. T. MATTSON; T. H. WANG; B. E. DONLEY; M. D. RUGG. *Univ. of Texas At Dallas, Univ. of Texas At Dallas, The Univ. of Texas, Univ. of Texas at Austin.*
- 9:00 BB68 **353.02** ● Scanpath entropy during study predicts subsequent spatial reconstruction accuracy. H. D. LUCAS\*; P. D. WATSON; J. M. MONTI; E. MCAULEY; A. F. KRAMER; N. J. COHEN. *Univ. of Illinois at Urbana-Champaign.*
- 10:00 BB69 **353.03** Familiarity-novelty detection is an intrinsic property of cortical microcircuits with NMDA receptor-dependent synaptic plasticity. X. ZHANG\*; H. JU; T. B. PENNEY; A. M. VANDONGEN. *Natl. Univ. of Singapore, Duke-NUS Grad. Med. Sch., Natl. Univ. of Singapore.*
- 11:00 BB70 **353.04** Episodic memory is affected by emotional valence, not just arousal: Evidence from behaviour and Event-Related Potentials. G. MACKENZIE\*; D. I. DONALDSON. *Univ. of Stirling.*
- 8:00 BB71 **353.05** Prestimulus parahippocampal/hippocampal activity predicts associative retrieval success. K. L. VILBERG\*; M. D. RUGG. *Univ. of Texas, Dallas.*
- 9:00 BB72 **353.06** Associative activation and its relation to exploration in the brain. S. BAROR\*; M. BAR. *Bar-Ilan Univ.*
- 10:00 BB73 **353.07** An optimal slow-wave phase for learning-related auditory cues during sleep to improve subsequent memory performance. L. BATTERINK\*; J. CREERY; K. A. PALLER. *Northwestern Univ.*
- 11:00 BB74 **353.08** Meta-analysis specifying the core-network supporting episodic memory and episodic simulation. R. G. BENOIT\*; D. L. SCHACTER. *Harvard Univ.*
- 8:00 BB75 **353.09** The influence of mental countermeasures on memory detection using an fMRI-based Concealed Information Test. J. PETH\*; T. I. BROWN; A. D. WAGNER; M. GAMER. *Univ. Med. Ctr. Hamburg-Eppendorf, Dept. of Psychology and Neurosciences Program.*
- 9:00 BB76 **353.10** Spatial cueing biases recognition memory judgments. K. MIYOSHI\*; H. ASHIDA. *Kyoto Univ.*
- 10:00 BB77 **353.11** Practice makes perfect in memory recall. M. KATKOV\*; S. ROMANI; M. TSODYKS. *Weizmann Inst. of Sci., Janelia Res. Campus, Howard Hughes Med. Inst.*
- 11:00 BB78 **353.12** Competitive effects of pre-existing and new memory traces during reconsolidation of stimulus-response associations. A. RICHTER\*; M. GUITART-MASIP; A. BARMAN; C. SEIDENBECHER; B. SCHOTT. *Leibniz Inst. For Neurobio., Aging Res. Center, Karolinska Inst.*
- 8:00 BB79 **353.13** ▲ An individualized approach to treatment of prospective memory in people with brain injury. E. AIKEN\*; Z. BITAN; S. RASKIN. *Trinity Col.*
- 9:00 BB80 **353.14** Stable representations of lifelike events over the course of one week. C. OEDEKOVEN\*; J. KEIDEL; S. BERENS; C. M. BIRD. *Univ. of Sussex.*
- 10:00 BB81 **353.15** Post-encoding theta-burst TMS to lateral occipital cortex impairs associative memory retention. A. TAMBINI\*; M. D'ESPOSITO. *UC Berkeley.*
- 11:00 BB82 **353.16** How is conceptual knowledge represented in the temporal pole? A cross-modal perspective and familiarity effects. L. T. LIKOVA\*; C. W. TYLER; K. MINEFF; S. NICHOLAS. *Smith-Kettlewell Eye Res., Smith-Kettlewell Eye Res. Inst.*
- 8:00 BB83 **353.17** Simulations on the effect of external semantic interference in lexical retrieval and priming in memory. R. CHANDRAMOULI\*; K. HATALIS. *Temple/ St. Luke's Med. Sch., Lehigh Univ.*
- 9:00 BB84 **353.18** Configural learning engages the semantic memory system but generalisation involves the hippocampus. S. C. BERENS\*; C. M. BIRD. *Univ. of Sussex.*
- 10:00 BB85 **353.19** Relationship between clinical and electrophysiological measures of prospective memory in individuals with brain injury. S. A. RASKIN\*; C. PEDRO; E. AISENBERG; T. BLOOMQUIST; M. RACE; N. KAUR. *Trinity Col.*

## POSTER

### 354. Human Executive Function: Clinical and Translational

#### Theme F: Cognition and Behavior

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 BB86 **354.01** Neuroanatomical evidence for a multidimensional representation of impulsivity: A voxel-based lesion symptom mapping approach. V. MANDOSKE\*; A. CHAU; K. K. HAUNER; F. KRUEGER; J. GRAFMAN. *Rehabil. Inst. of Chicago, Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ. Feinberg Sch. of Med., George Mason Univ., George Mason Univ.*
- 9:00 BB87 **354.02** ● Event-related potential assessment of cognitive tasks in post traumatic stress disorder. V. TAN\*; K. CORREA; A. ANKROM; C. BERKA; R. JOHNSON. *Advanced Brain Monitoring, Inc.*
- 10:00 BB88 **354.03** Power spectrum scale invariance as a neural marker of age, cocaine misuse and cognitive control. J. S. IDE\*; S. HU; S. ZHANG; L. MUJICA-PARODI; C. LI. *UNIFESP, Stony Brook Univ., Yale Univ.*
- 11:00 BB89 **354.04** Safety and feasibility of using low frequency deep brain stimulation of the subthalamic nucleus to improve cognitive performance in patients with Parkinson's disease. K. W. SCANGOS\*; K. SHAHLAIE. *Univ. of California, Davis.*

- 8:00 BB90 **354.05** The test-retest reliability of a computerized neuropsychological cognitive test battery in chronic stroke survivors: Application for dual-task paradigms. J. P. VORA\*; R. VARGHESE; T. BHATT. *Univ. of Illinois At Chicago, Univ. of Illinois At Chicago, Univ. of Illinois at Chicago.*
- 9:00 BB91 **354.06** The effects of acute psychosocial stress on higher cognitive functions: False memory formation and anchoring and adjustment. E. PARDILLA-DELGADO\*; E. W. ASP; T. J. CUNNINGHAM; K. A. WARNER; J. D. PAYNE. *Univ. of Notre Dame, Univ. of Iowa, Univ. of Notre Dame, Univ. of Iowa.*
- 10:00 BB92 **354.07** The role of executive function on the reading ability of Chinese adolescents: An fMRI study. S. W. WONG\*; J. C. M. LO; H. K. F. MAK; K. K. H. CHUNG. *The Hong Kong Inst. of Educ., The Hong Kong Inst. of Educ., The Univ. of Hong Kong, The Hong Kong Inst. of Educ.*
- 11:00 BB93 **354.08** Evidence for a neural-vascular coupling mechanism for individual differences in processing speed: A model-free analysis of BOLD signal in healthy and white-matter disease populations. M. P. TURNER; N. A. HUBBARD; J. L. HUTCHISON; H. LU; J. HART, Jr.; G. REMINGTON; S. L. DAVIS; T. FROHMAN; E. FROHMAN; B. P. RYPMA\*. *Univ. of Texas at Dallas, Johns Hopkins Univ., Univ. of Texas Southwestern Med. Ctr., Southern Methodist Univ.*
- 8:00 CC1 **354.09** Acute mild exercise boosts executive performance in older adults by eliciting positive-arousal-related prefrontal activations: An fNIRS study. K. BYUN\*; K. HYODO; K. SUWABE; G. OCHI; H. SOYA. *Univ. of Tsukuba.*
- 9:00 CC2 **354.10** Ventral striatum dysfunction in cocaine dependence - a framework for resting state functional connectivity mapping analysis. S. ZHANG\*; S. HU; C. LI. *Yale Univ. Sch. of Med.*
- 10:00 CC3 **354.11** Synchronizing brain rhythms with electrical stimulation improves adaptive control in healthy people and those with schizophrenia. R. M. REINHART\*; J. ZHU; S. PARK; G. F. WOODMAN. *Vanderbilt Univ.*
- 11:00 CC4 **354.12** ▲ Prevalence of cognitive dysfunction apart from memory loss following traumatic brain injury from blast versus non-blast exposure in a veteran population. A. PAPAZYAN\*; K. L. PANIZZON; J. RAMOS; W. STEFANOS; J. WATSON; E. A. LICHT; R. A. WALLIS. *VA Greater Los Angeles Healthcare Syst., VA Greater Los Angeles Healthcare Syst., VA Greater Los Angeles, David Geffen Sch. of Med. UCLA.*
- 8:00 CC5 **354.13** Increased dual-task cost during 70-day 6° head-down bed rest (HDBR): A functional magnetic resonance imaging (fMRI) study. P. YUAN\*; V. KOPPELMANS; P. REUTER-LORENZ; Y. DE DIOS; D. SZECSY; N. GADD; S. WOOD; R. RIASCOS; I. KOFMAN; J. BLOOMBERG; A. MULAVARA; R. SEIDLER. *Univ. of Michigan, Univ. of Michigan, Wyle Sci., Bastion Technologies, Azusa Pacific Univ., The Univ. of Texas Hlth. Sci. Ctr., NASA Johnson Space Ctr., Universities Space Res. Assn., Univ. of Michigan.*
- 9:00 CC6 **354.14** Functional activities and resting state connectivity of the thalamus in non-dependent alcohol drinkers. S. HU\*; S. ZHANG; J. IDE; J. KRISTAL; C. R. LI. *Yale Univ., Stony Brook Univ.*
- 10:00 CC7 **354.15** A multimodal meta-analysis of VBM and fMRI studies in obsessive-compulsive disorder and autism spectrum disorders. C. O. CARLISI\*; L. NORMAN; S. LUKITO; J. RADUA; D. MATAIX-COLS; K. RUBIA. *Inst. of Psychiatry, King's Col. London, Inst. of Psychiatry, King's Col. London, Inst. of Psychiatry, King's Col. London, Karolinska Institutet.*
- 11:00 CC8 **354.16** Changes in executive function associated with tobacco cessation therapy. A. G. STIVER; W. M. MEIL\*; A. SESTI; L. M. HAMMER; J. A. MILLS; D. J. LAPORTE. *Indiana Univ. Pennsylvania, Indiana Univ. Pennsylvania.*
- 8:00 CC9 **354.17** Resting state functional connectivity of the ventral striatum: Hemispheric laterality, gender difference and cocaine addiction. C. R. LI\*; S. ZHANG; S. HU. *Yale Univ.*
- 9:00 CC10 **354.18** The influence of a single session of aerobic exercise on error processing and subsequent executive control during a flanker task. K. B. BEYER\*; M. D. SAGE; W. E. MCILROY. *Univ. of Waterloo, Univ. of Waterloo.*
- 10:00 CC11 **354.19** Effect of an acute bout of soccer heading on executive function in soccer players. C. WALLACE\*; K. BRYK; A. D. WRIGHT; M. KENNEFICK; P. VAN DONKELAAR. *UBC Okanagan, UBC Okanagan.*
- 11:00 CC12 **354.20** Effect of yoga practice on cognitive-motor interference of dynamic balance control. S. SUBRAMANIAM\*; S. NADIMPALLI; T. BHATT. *2680 Dunrobin CirIce.*
- 8:00 CC13 **354.21** Influence of selective attention on brain network reconfiguration during working memory. C. L. GALLEN\*; K. HWANG; T. G. LEE; M. D'ESPOSITO. *UC Berkeley, UC Santa Barbara.*
- 9:00 CC14 **354.22** Dopamine-dependent functional network reorganization in Parkinson's disease and its relationship to working memory. R. L. WHITE\*; M. D'ESPOSITO. *Univ. of California San Francisco, Univ. of California Berkeley.*
- 10:00 CC15 **354.23** Brain network predictors of cognitive training-related gains in young adults. P. L. BANIQUED\*; C. L. GALLEN; M. B. KRANZ; A. F. KRAMER; M. D'ESPOSITO. *Univ. of California, Berkeley, Univ. of Illinois at Urbana-Champaign.*
- 11:00 CC16 **354.24** Decreasing the amplitude of contingent negative variation through long-term consecutive visual search. K. OKI\*; R. KOSHIZAWA; M. TAKAYOSE. *Nihon Univ., Nihon Univ., Nihon Univ.*
- 8:00 CC17 **354.25** The relationship between prefrontal cortex activity during preparatory period and inhibition task performance. M. TAKAYOSE\*; R. KOSHIZAWA; K. OKI. *Nihon Univ. Col. of Industrial Technol., Nihon Univ. Col. of Commerce, Nihon Univ. Col. of Sci. and Technol.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

POSTER

355. Hippocampal Circuits in Fear and Anxiety

**Theme F: Cognition and Behavior**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 CC18 **355.01** Hippocampal and cortical M1 and M3 in cognitive and affective behaviors. K. LEADERBRAND\*; H. J. CHEN; K. A. CORCORAN; S. TONEGAWA; J. WESS; J. RADULOVIC. *Northwestern Univ., MIT, Natl. Inst. of Diabetes and Digestive and Kidney Dis.*
- 9:00 CC19 **355.02** Altered states: Amnesic treatments alter coherent activity between retrosplenial cortex and associated structures during memory retrieval. K. A. CORCORAN\*; B. J. FRICK; L. M. KAY; J. RADULOVIC. *Northwestern Univ., Univ. of Chicago.*
- 10:00 CC20 **355.03** Nitric oxide in the extinction memory formation of lithium-induced conditioned taste aversion learning. J. JAHNG\*; V. RYU; J. Y. KIM; J. -. LEE. *Seoul Natl. Univ. Sch. Dent., Georgia State Univ.*
- 11:00 CC21 **355.04** PHLPP1 knockout promotes spine actin polymerization, long-term potentiation, and learning in male but not female calpain-1 knockout mice. Y. LIU\*; Y. WANG; J. SUN; D. LOPEZ; X. BI; M. BAUDRY. *Western Univ. of Hlth. Sci.*
- 8:00 CC22 **355.05** Modelling a relationship between hippocampal theta frequency and long-term potentiation in anxiety tests. G. CASTEGNETTI\*; D. BUSH; D. R. BACH. *Univ. of Zurich, Univ. Col. London, Univ. Col. London.*
- 9:00 CC23 **355.06** Habenular spike-tiggered analysis of spike firing in hippocampal neurons. N. SHAFEGHAT\*; H. AIZAWA; H. OKAMOTO; T. FUKAI. *Riken, Med. Res. Institute, Tokyo Med. and Dent. Univ.*
- 10:00 CC24 **355.07** Dendritic reorganization in medial prefrontal cortex of male and female rats following recovery from chronic stress. K. M. MOENCH\*; C. L. WELLMAN. *Indiana Univ.*
- 11:00 CC25 **355.08** Arginine vasopressin at nanomolar concentrations blocks bumetanide-sensitive GDPs in the perinatal rodent hippocampus. P. SEJA\*; J. LINDFORS; A. SPOLJARIC; E. RUUSUVUORI; J. VOIPIO; K. KAILA. *Univ. of Helsinki.*
- 8:00 CC26 **355.09** Deconstructing ventral hippocampal control of innate and learned fear behavior. J. C. JIMENEZ\*; A. GOLDBERG; G. ORDEK; L. DREW; V. LUNA; M. WRIGHT; R. HEN; M. A. KHEIRBEK. *Columbia Univ., Wolfson Inst. for Biomed. Res., Stanford.*
- 9:00 CC27 **355.10** (Unable to attend) alphabeta-GABA-A receptors at excitatory axo-spinous synapses of the dorsal hippocampal CA1 of adolescent female rats contributes towards suppression of food restriction-evoked excessive wheel running, an animal model of anorexia nervosa, but is not affected by food restriction alone or rearing in isolation and is up-regulated by exercise. C. J. AOKI\*; T. G. CHOWDHURY; W. PIPER; Y. CHEN. *New York Univ., New York Univ.*
- 10:00 CC28 **355.11** ▲ Immunoreactivity for the NR2A and NR2B subunits of NMDA receptors is increased at axo-spinous synapses of hippocampal CA1 of adolescent female rats exhibiting food restriction-evoked hyperactivity, an animal model of anorexia nervosa. L. KLINGENSMITH\*; H. ACTOR-ENGEL; Y. CHEN; T. G. CHOWDHURY; C. AOKI. *New York Univ.*
- 11:00 CC29 **355.12** Habituation and fear conditioning in neonatal ventral hippocampal lesioned rats. W. P. JORDAN\*; C. DI LEO. *St Mary's Col. of MD, St Mary's Col. of MD.*
- 8:00 CC30 **355.13** ▲ Astroglial changes in the hippocampus of aged rats exposed to chronic variable stress. D. L. MORAN TORRES\*; D. RUESGA-BARCENAS; S. LUQUIN; J. GARCÍA-ESTRADA; R. RAMOS-ZUÑIGA; F. JAUREGUI-HUERTA. *Univ. De Guadalajara, Ctr. de Investigación Biomédica de Occidente. IMSS.*
- 9:00 CC31 **355.14** The effect of the swearing on hippocampal subregions in adolescence. D. KIM\*; J. YOO; S. LEE; B. JEONG. *KAIST.*
- 10:00 CC32 **355.15** A role for endogenous CRH in the hippocampus? B. G. GUNN\*; Y. CHEN; G. LYNCH; T. Z. BARAM. *Univ. of California Irvine.*
- 11:00 CC33 **355.16** Interleukin-1  $\alpha$  in the ventral hippocampus mediates aspects of stress vulnerability. J. PEARSON-LEARY\*; D. EACRET; R. CHEN; L. WILSON; S. BHATNAGAR. *Children's Hosp. of Philadelphia, Univ. of Pennsylvania.*
- 8:00 CC34 **355.17** The hippocampus is not required for context discrimination in a pavlovian fear conditioning task. J. Q. LEE\*; R. J. SUTHERLAND; R. J. MCDONALD. *Univ. of Lethbridge.*
- 9:00 CC35 **355.18** Characterization of the lipidome along the rat hippocampal longitudinal axis. A. M. MIRANDA\*; R. B. CHAN; F. V. BRAVO; B. ZHOU; V. PINTO; G. DI PAOLO; N. SOUSA; T. G. OLIVEIRA. *Life and Hlth. Sci. Res. Inst., Sch. of Heath Sciences, Univ. of Minho, Columbia Univ. Med. Ctr., Columbia Univ. Med. Ctr.*
- 10:00 CC36 **355.19** Unpaired fear conditioning yields hippocampus-dependent responding. M. R. HERBST; A. F. POSTLE; M. S. FANSELOW; J. J. QUINN\*. *Miami Univ., UCLA.*
- 11:00 CC37 **355.20** Digital fear conditioning in rats: Utilizing LCD-based visual context manipulations during conditioning. N. J. MURAWSKI\*; A. ASOK. *Ctr. For Behavioral Teratology, Univ. of Delaware.*
- 8:00 CC38 **355.21** Differential myelination in individual responses to stress and stress-induced anxiety. K. LONG\*; D. KAUFER. *UC Berkeley, Univ. of California, Berkeley.*
- 9:00 CC39 **355.22** Contextual representations along the proximodistal axis of CA1. Y. NAKAZAWA; K. TANAKA; A. PEVZNER; B. J. WILTGEN\*. *UC Davis.*
- 10:00 CC40 **355.23** The influence of environmental parameters on hippocampal reactivation. A. HAMIDI\*; B. J. WILTGEN; A. PEVZNER. *Univ. of California At Davis, Univ. of California At Davis, Univ. of California At Davis.*
- 11:00 CC41 **355.24** Direct hippocampal-prefrontal input is required for anxiety-related neural synchrony and behavior. N. PADILLA\*; S. S. BOLKAN; G. M. PIERCE; D. R. BLACKMAN; T. SPELLMAN; J. A. GORDON. *Columbia Univ., Barnard Col., Columbia Univ.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

8:00 CC42 **355.25** ▲ Immunohistological quantification of parvalbumin- and somatostatin-expressing interneuron activity during fear expression and extinction. S. GOLDBERG; J. M. STUJENSKE; J. A. GORDON\*. *Barnard Col., Columbia Univ., Columbia Univ/NYSPI.*

9:00 CC43 **355.26** ● Attenuating the mania-like hyperactive, risk-preferring, and high motivation behavioral profile of mice with low dopamine transporter levels using a dopamine D1 receptor antagonist. M. B. MILIENNE-PETIOT\*; M. A. GEYER; J. W. YOUNG. *UCSD, Utrecht Univ., VA San Diego Healthcare Syst.*

10:00 CC44 **355.27** Non-hippocampal memory systems contributing to overtrained context fear memory. E. H. SHEPHERD\*; C. CARTER; H. LEHMANN. *Trent Univ.*

## POSTER

### 356. Learning and Memory: Prefrontal and Retrosplenial Cortex

#### Theme F: Cognition and Behavior

Mon. 8:00 AM – McCormick Place, Hall A

8:00 CC45 **356.01** ● Hippocampal-prefrontal theta-gamma coupling increases with difficulty in a spatial working memory task. M. TAMURA\*; T. J. SPELLMAN; A. M. ROSEN; J. A. GOGOS; J. A. GORDON. *Columbia Univ., Mitsubishi Tanabe Pharma Corp., Columbia Univ.*

9:00 CC46 **356.02** Reciprocal thalamo-prefrontal and prefronto-thalamic projections support overlapping and dissociable spatial working memory processes. S. S. BOLKAN\*; S. PARNAUDEAU; T. SPELLMAN; A. CLARK; J. A. GORDON; C. KELLENDONK. *Columbia Univ., Columbia Univ., Columbia Univ.*

10:00 CC47 **356.03** Contribution of nucleus reuniens of the thalamus to associative recognition memory. G. R. BARKER\*; E. C. WARBURTON. *Univ. of Bristol, Univ. of Bristol.*

11:00 CC48 **356.04** The influence of decision-making in conditional responding. M. J. FRANCOEUR\*; B. A. WORMWOOD; R. L. A. MILLER; D. C. CHASE; H. D. ROBERTSON; A. G. DRAKE; K. C. ERICKSON; E. S. JALBERT; C. E. WANTE; B. M. GIBSON; R. G. MAIR. *Univ. of New Hampshire.*

8:00 CC49 **356.05** More than just a relay: The role of medial thalamus in flexible, goal-directed behavior. R. L. A. MILLER; E. B. SMEDLEY; M. J. FRANCOEUR; B. A. WORMWOOD; D. C. CHASE; D. MINUKHIN; C. J. THERIAULT; T. N. KAZAN; B. M. GIBSON; R. G. MAIR\*. *Univ. of New Hampshire, Univ. New Hampshire.*

9:00 CC50 **356.06** Medial thalamic modulation of prefrontal cortex: Effects of temporary inactivation. B. A. WORMWOOD\*; M. J. FRANCOEUR; R. L. A. MILLER; D. C. CHASE; E. K. BRASLEY; C. R. LEHET; J. C. MCKEE; A. C. AASEN; B. M. GIBSON; R. G. MAIR. *Univ. of New Hampshire.*

10:00 CC51 **356.07** Signatures of inference-by-sampling in the prefrontal cortex of rule-learning rats. A. SINGH; A. PEYRACHE; M. D. HUMPHRIES\*. *Univ. of Manchester, New York Univ.*

11:00 CC52 **356.08** Prefrontal cortex afferents to the anterior temporal lobe in the Macaca fascicularis monkey. R. INSAUSTI\*; A. MOHEDANO-MORIANO; M. MARCOS; E. ARTACHO; M. ARROYO; M. MUNOZ-LOPEZ. *Univ. of Castilla-La Mancha, Univ. of Castilla-La Mancha.*

8:00 CC53 **356.09** The effect of rhinal cortex-orbitofrontal disconnection on recognition memory in monkeys: Comparison of aspiration lesions and reversible silencing with DREADDs. M. A. ELDRIDGE\*; E. C. MASSEAU; W. LERCHNER; J. M. FREDERICKS; R. C. SAUNDERS; B. J. RICHMOND. *NIMH.*

9:00 CC54 **356.10** Neural correlates of odor span capacity in the medial prefrontal cortex of rats. L. AN\*; J. K. CATTON; Q. GREBA; J. G. HOWLAND. *Univ. of Saskatchewan.*

10:00 CC55 **356.11** Chemogenetic suppression of neural activity in dorsolateral prefrontal cortex impairs spatial working memory in rhesus monkeys. W. SCHNEBELEN; P. G. F. BROWNING; P. L. CROXSON; P. H. RUDEBECK; S. W. BROOKSHIRE; M. G. BAXTER\*. *Mount Sinai Sch. Med.*

11:00 CC56 **356.12** Functional specialization of areas along the anterior-posterior axis of the primate prefrontal cortex prior to training in a task. M. RILEY\*; X. QI; C. CONSTANTINIDIS. *Wake Forest Sch. of Med.*

8:00 CC57 **356.13** Physiological differences between the primary visual cortex and dorsolateral prefrontal cortex in primate. S. YANG\*; M. WANG; C. D. PASPALAS; M. ALTMAN; L. E. JIN; V. GALVIN; A. F. T. ARNSTEN; J. A. MAZER. *Yale Univ.*

9:00 CC58 **356.14** Single unit and network dynamics within prefrontal cortex and the basal ganglia during working memory maintenance and updating. D. HUIE\*; K. GHOSE; C. MARTINEZ-RUBIO; A. PAULK; T. M. HERRINGTON; E. N. ESKANDAR. *Massachusetts Gen. Hosp.*

10:00 CC59 **356.15** Early phases of learning and novelty encoding by basal forebrain activity correlated with network connectivity to the dorsolateral prefrontal cortex. C. MARTINEZ-RUBIO\*; A. PAULK; D. SIERRA-MERCADO; E. MCDONALD; E. ESKANDAR. *Massachusetts Gen. Hosp., Univ. of Puerto Rico, Med. Sci.*

11:00 CC60 **356.16** Effect of medial prefrontal, anterior cingulate, and retrosplenial cortex lesion on cognitive coordination and flexibility using Carousel maze in rats. J. SVOBODA\*; I. VOJTECHOVA; A. STANKOVA; A. STUCHLIK. *Inst. of Physiol. CAS, Natl. Inst. of Mental Hlth.*

8:00 CC61 **356.17** State-dependent network response to optogenetic stimulation in prefrontal cortex. Z. NAVRATILOVA\*; H. O. CABRAL; F. P. BATTAGLIA. *Radboud Univ.*

9:00 CC62 **356.18** Physiological characteristics of anterior insular and orbitofrontal cortices in representing uncertain reward. S. JO\*; M. W. JUNG. *Inst. For Basic Sci., Ajou Univ. Sch. of Med., Korea Advanced Inst. of Sci. and Technol.*

10:00 CC63 **356.19** Distinct roles of parvalbumin- and somatostatin-positive interneurons in working memory. D. KIM\*; H. JEONG; J. GHIM; S. LEE; M. JUNG. *Korea Advanced Inst. of Sci. and Technol., Korea Advanced Inst. of Sci. and Technol., Inst. for Basic Sci.*

11:00 CC64 **356.20** Inactivation of CA1, but not CA3, impairs retrieval of spatial memory. J. LEE\*; J. LEE; Y. JEONG; M. JUNG. *KAI/ST, IBS.*

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\* Indicates abstract's submitting author

- 8:00 CC65 **356.21** Task-modulated activity in the infralimbic PFC and accumbens shell during goal-directed vs habitual behavior. W. B. GLEN\*, JR; J. M. BARKER; L. J. CHANDLER. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*
- 9:00 CC66 **356.22** Identifying functional alterations in neuronal ensembles activated during acquisition of operant learning in rats. L. R. WHITAKER\*; K. B. MCPHERSON; B. L. WARREN; J. M. BOSSERT; Y. SHAHAM; B. T. HOPE. *Natl. Inst. On Drug Abuse.*
- 10:00 CC67 **356.23** Correlates of inferred associations in orbitofrontal neurons observed during sensory preconditioning. B. F. SADACCA\*; H. WIED; G. SAINI; D. NEMIROVSKY; G. SCHOENBAUM. *Natl. Inst. On Drug Abuse, Univ. of Maryland Sch. of Med., Natl. Inst. on Drug Abuse.*
- 11:00 CC68 **356.24** Lesions of the retrosplenial cortex attenuate context fear conditioning, but not incidental context learning. T. P. TODD\*; N. E. DEANGELI; M. Y. JIANG; D. J. BUCCI. *Dartmouth Col.*
- 8:00 CC69 **356.25** Chemogenetic silencing of the retrosplenial cortex disrupts retrieval of remote trace fear. N. DEANGELI\*; T. P. TODD; D. J. BUCCI. *Dartmouth Col.*
- 9:00 CC70 **356.26** ▲ Lesions of retrosplenial cortex have no impact on renewal of extinguished fear, but attenuate context fear conditioning. M. JIANG\*; N. E. DEANGELI; D. J. BUCCI; T. P. TODD. *Dartmouth Col.*

## POSTER

### 357. Learning and Memory: Cortical Circuits

#### Theme F: Cognition and Behavior

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 CC71 **357.01** Gamma neurofeedback training in monkey's primary visual cortex. L. A. CHAUVIERE\*; W. SINGER. *Max Planck Inst. For Brain Res., Max Planck Inst. for Brain Res.*
- 9:00 CC72 **357.02** Visual-cued fear conditioning of mice and the change in the neuronal firing property in the visual cortex. M. K. YAMADA\*; T. EBINA; Y. WADA. *The Univ. of Tokyo, RIKEN, BSI, Isotope Sci. Ctr., The Res. Ctr. for Advanced Sci. and Technology, The Univ. of Tokyo.*
- 10:00 CC73 **357.03** Coherence of thalamocortical oscillations during sleep is required for consolidation of cortical plasticity in the visual system. J. M. DURKIN\*; A. SURESH; J. COLBATH; S. J. ATON. *Univ. of Michigan, Univ. of Chicago.*
- 11:00 CC74 **357.04** Hardware and software platform for spatial sequential learning in rodents. D. R. EUSTON\*; H. W. STEENLAND. *Univ. Lethbridge, Neurotek innovative technology.*
- 8:00 CC75 **357.05** Neuronal ensemble dynamics in layer 5b of primary motor cortex during motor learning. Q. LI\*; H. KO; D. CHAN; G. ARBUTHNOTT; Y. KE; W. YUNG. *The Chinese Univ. of Hong Kong, The Chinese Univ. of Hong Kong, The Chinese Univ. of Hong Kong, Okinawa Inst. of Sci. and Technol. Grad. Univ.*
- 9:00 CC76 **357.06** Effects of single prolonged stress: A ptsd validated animal model, on pre- and post-synaptic marker expressions in fear-processing neurocircuitry. E. RODRIGUEZ\*; I. LIBERZON. *Univ. of Michigan, Univ. of Michigan.*
- 10:00 CC77 **357.07** Microcircuitry and physiology of the lateral pallium of a weakly electric fish. A. TRINH\*; E. HARVEY-GIRARD; L. MALER. *Univ. of Ottawa.*
- 11:00 CC78 **357.08** Performance of common marmosets in a delayed positional matching-to-sample task. Y. YAMAZAKI\*; M. SAIKI; M. INADA; S. WATANABE; A. IRIKI. *Keio Univ., RIKEN BSI, Keio Univ.*
- 8:00 DD1 **357.09** Associative memory storage and synaptic connectivity in homeostatically constrained networks of excitatory and inhibitory neurons. A. B. STEPANYANTS\*; J. CHAPETON; R. GALA. *Northeastern Univ., NIH.*
- 9:00 DD2 **357.10** Somatostatin interneurons exhibit diverse activities during motor learning. A. ADLER\*; W. GAN. *New York Univ.*
- 10:00 DD3 **357.11** Membrane potential dynamics of specific cortico-cortical projection neurons correlated with goal-directed behaviour. T. YAMASHITA\*; C. C. H. PETERSEN. *Nagoya Univ., EPFL.*
- 11:00 DD4 **357.12** Sensitive method to follow dynamics of remote memory in mice using social transfer of food preference. A. SINGH\*; S. KUMAR; V. SINGH; S. SHRIDHAR; J. BALAJI. *Indian Inst. of Sci.*
- 8:00 DD5 **357.13** ▲ Excitability-dependent memory allocation and manipulation in feedforward neural network model. P. KANCHANAKANOK\*; W. CHOI; S. PAIK. *Korea Advanced Inst. of Sci. and Technol.*
- 9:00 DD6 **357.14** Neural computation with assemblies and assembly sequences. C. POKORNY\*; R. LEGENSTEIN; W. MAASS. *Graz Univ. of Technol.*
- 10:00 DD7 **357.15** Differential influence of neocortical networks (mental schema) in relational and abrupt learning. V. SINGH\*; S. SHRIDHAR; S. KUNDU; R. BHATT; S. SAM; A. SINGH; S. KUMAR; J. BALAJI. *Indian Inst. of Sci., Indian Inst. of Sci.*
- 11:00 DD8 **357.16** Tracking changes in spikes rates as a function of task covariates within a single session. F. A. MUNOZ\*; G. JENSEN; B. KENNEDY; V. P. FERRERA; H. TERRACE. *Columbia Univ., Columbia Univ., Columbia Univ., Columbia Univ.*
- 8:00 DD9 **357.17** Comparison of classical and operant conditioning using behavior and electrophysiology during auditory learning tasks. M. GOLDSCHMIDT\*; A. KOLODZIEJ; A. SCHULZ; F. OHL. *Leibniz Inst. For Neurobio., Otto von Guericke Univ., Ctr. for Behavioral Brain Sci.*
- 9:00 DD10 **357.18** Cortical learning and modulation of mesoscopic cortical activity patterns in the Mongolian gerbil. K. TAKAGAKI\*; G. ARIAS-GIL; M. T. LIPPERT; F. W. OHL. *Leibniz Inst. for Neurobio., Leibniz Inst. for Neurobiology, Magdeburg.*
- 10:00 DD11 **357.19** A head-fixed behavioral paradigm for studying whisker-mediated object recognition in mice. C. RODGERS\*; A. KHANNA; P. CALAFATI; R. M. BRUNO. *Columbia Univ. Med. Ctr.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

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\* Indicates abstract's submitting author

- 11:00 DD12 **357.20** Neuron-specific mechanisms for unilateral learning and bilateral memory recalls. J. H. WANG\*; R. FAN; L. CHEN; Z. GAO. *The Inst. Biophysics, Bengbu Med. Col.*
- 8:00 DD13 **357.21** Regulation of goal-directed behavior by nucleus accumbens glutamate signaling. J. M. BARKER\*; J. CHANDLER. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*
- 9:00 DD14 **357.22** Ontogenetic changes in anterior cingulate cortical activity during trace eyeblink conditioning. M. E. ELKIN\*; J. H. FREEMAN. *Univ. of Iowa.*
- 10:00 DD15 **357.23** Anterior cingulate cortical control in visual attention. J. KIM\*; E. A. WASSERMAN; L. CASTRO; J. H. FREEMAN. *Univ. of Iowa.*
- 11:00 DD16 **357.24** Ontogeny of hippocampal CA1 activity during somatosensory trace eyeblink conditioning. M. E. GOLDSBERRY\*; J. KIM; J. H. FREEMAN. *Univ. Iowa.*
- 8:00 DD17 **357.25** Amygdala and prelimbic neuronal activity during retention of fear conditioning in developing rats. K. L. BROWN\*; J. H. FREEMAN. *The Univ. of Iowa.*
- 9:00 DD18 **357.26** Amygdala modulation of cerebellar learning. S. J. FARLEY\*; J. H. FREEMAN. *The Univ. of Iowa.*

- 10:00 DD25 **358.07** Effects of prior stress exposure on motivation for sucrose rewards: Possible sex differences. E. M. ANDERSON\*; M. MCWATERS; Z. BOND; N. MULLEN; Z. AHMAD; L. MATUSZEWICH. *Northern Illinois Univ.*
- 11:00 DD26 **358.08** Reward variety effects on instrumental actions in rats. B. HALVERSTADT\*; H. C. CROMWELL. *Bowling Green State Univ.*
- 8:00 DD27 **358.09** Chromatin remodeling and gene induction in sign and goal-tracking rats. E. HARVEY\*; K. GUARDADO; J. OCHOA; P. KENNEDY. *Univ. of California Los Angeles.*
- 9:00 DD28 **358.10** Age-related differences in licking microstructural indices of incentive motivation and hedonic impact in rats. I. A. MENDEZ\*; N. P. MURPHY; S. B. OSTLUND; N. T. MAIDMENT. *UCLA, UCI.*
- 10:00 DD29 **358.11** Bidirectional value coding in the habenula projecting pallidum is essential for optimal decision-making. M. STEPHENSON-JONES\*; S. AHRENS; M. PENZO; A. VAN HUIJSTEE; K. YU; B. LI. *Cold Spring Harbor Lab.*
- 11:00 DD30 **358.12** Examining the involvement of the serotonin 2c receptor in goal-directed motivation. M. BAILEY\*; V. WINIGER; C. MEZIAS; C. WILLIAMSON; P. BALSAM; E. SIMPSON. *Columbia Univ., New York State Psychiatric Inst., Barnard Col., Columbia Univ., Columbia Univ.*
- 8:00 DD31 **358.13** Optogenetic dissection of neuroanatomical and psychological components underlying amygdala-mediated incentive motivation. S. M. WARLOW\*; M. J. F. ROBINSON; K. C. BERRIDGE. *Univ. of Michigan, Wesleyan Univ.*

- 9:00 DD32 **358.14** Optogenetic manipulation of posterior paraventricular thalamic circuits alters chocolate intake. K. URSTADT\*; D. A. ALI; E. R. GRANT; N. M. RABAH; K. C. BERRIDGE. *Univ. of Michigan, Univ. of Michigan.*
- 10:00 DD33 **358.15** Junk-food enhances calcium-permeable AMPAR transmission in the nucleus accumbens and cue-induced motivation. M. F. OGINSKY\*; R. C. DERMAN; C. W. NOBILE; C. R. FERRARIO. *Univ. of Michigan.*
- 11:00 DD34 **358.16** Optogenetic activation of the central amygdala generates addiction-like preference for reward despite adverse consequences. M. J. ROBINSON\*; R. L. TOM; A. AHUJA; H. MANIATES. *Wesleyan Univ., Wesleyan Univ.*
- 8:00 DD35 **358.17** ▲ 'Liking' and 'wanting' for a sweet reward in rodents maintained on a prenatal and lifetime junk food diet. E. N. LESSER\*; S. J. MI; A. ARROYO-RAMIREZ; M. J. F. ROBINSON. *Wesleyan Univ., Wesleyan Univ.*
- 9:00 DD36 **358.18** Optogenetic stimulation versus inhibition of orbitofrontal and insular cortical hotspots on hedonic and motivated behaviors. D. C. CASTRO\*; K. C. BERRIDGE. *Univ. of Michigan.*
- 10:00 DD37 **358.19** Counteracting hyperpolarization mediated motivation with optogenetic depolarization in the nucleus accumbens shell. S. L. COLE\*; C. I. COLMENERO; N. A. MOSTOVOI; K. C. BERRIDGE. *Univ. of Michigan.*

**POSTER**

**358. Reward: Motivational Mechanisms II**

**Theme F: Cognition and Behavior**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 DD19 **358.01** The role of prefrontal cortex and accumbens in the ethanol context-induced relapse to alcohol seeking. R. M. LEÃO\*; P. C. BIANCHI; P. E. CARNEIRO-DE-OLIVEIRA; P. PALOMBO; C. S. PLANETA; F. C. CRUZ. *Sao Paulo State Univ. - UNESP, Univ. of São Paulo - USP.*
- 9:00 DD20 **358.02** ● ▲ Cellular consequences of extracellular signal-regulated kinase signaling in the nucleus accumbens evoked by reward-predictive cues. M. R. MARKS; J. C. MAUNA; A. E. ANDERSON; E. THIELS\*. *Univ. of Pittsburgh, Baylor Col. of Med., Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 10:00 DD21 **358.03** Rapid sucrose sensing in food-restricted mice. M. JIN\*; R. FROUSIOS; H. LU; A. KUO; G. SUH; R. FROEMKE. *NYU Sch. of Med., NYU Sch. of Med.*
- 11:00 DD22 **358.04** Accumbens cue reactivity and affective state in a rat model of binge eating. J. STAMOS\*; N. BELLO; A. PAWLAK; A. TYLOR; D. QUINTIN; K. COFFEY; J. KULIK; M. WEST. *Rutgers, Rutgers.*
- 8:00 DD23 **358.05** Performance of a cue-triggered conditioned response elicits greater neural activity in the ventral pallidum when the cue is attributed with incentive salience. A. M. AHRENS\*; T. E. ROBINSON; J. W. ALDRIDGE. *Univ. of Michigan.*
- 9:00 DD24 **358.06** ● Motivational activation of dopamine neurons is greater in sign-trackers compared to goal-trackers. L. FERGUSON; A. M. AHRENS; L. G. LONG; J. W. ALDRIDGE\*. *Univ. of Michigan, Univ. of Michigan.*

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**POSTER**

**359. Structural and Functional Neurocircuitry of Motivation and Emotions**

**Theme F: Cognition and Behavior**

Mon. 8:00 AM – McCormick Place, Hall A

- 8:00 DD38 **359.01** Functional connectivity of a brain network is disrupted in children with obesity while viewing high-calorie foods. B. A. CHODKOWSKI\*; K. D. NISWENDER; R. L. COWAN. *Vanderbilt Univ. Sch. of Med., Vanderbilt Univ. Sch. of Med., Tennessee Valley Healthcare Syst.*
- 9:00 DD39 **359.02** Examining the reliability of frontal alpha asymmetry both within a day and between consecutive days. R. A. HICKS\*; W. E. MCILROY. *Univ. of Waterloo.*
- 10:00 DD40 **359.03** The role of the mirror system in the audio and visual perception of emotional hand actions. L. MCGARRY\*; R. RAMSAY; F. A. RUSSO; E. S. CROSS. *Brain and Mind Institute, Univ. of Western On, Bangor Univ., Ryerson Univ.*
- 11:00 DD41 **359.04** Early reward-related activity depends on cue salience in LIP but not in the amygdala. M. L. LEATHERS\*; C. OLSON. *Carnegie Mellon Univ., Univ. of Pittsburgh.*
- 8:00 DD42 **359.05** Neural responses to emotionally expressive faces are modulated by attention in amnesic mild cognitive impairment. L. MAH\*; A. TANG; N. D. ANDERSON; N. P. L. G. VERHOEFF; B. G. POLLOCK. *Rotman Res. Institute, Baycrest, Univ. of Toronto, Dept. of Psychiatry, Univ. of Toronto, Dept. of Psychology, McMaster Univ., Dept. of Psychology, Univ. of Toronto, Ctr. for Addiction and Mental Hlth.*
- 9:00 DD43 **359.06** Deep brain stimulation of the mesolimbic system induces cortical responses in limbic and sensorimotor areas in monkeys. M. SUZUKI\*; T. ISA; Y. NISHIMURA. *Natl. Inst. for Physiological Sci., Grad. Univ. Advanced Studies (SOKENDAI), Natl. Inst. For Physiological Sci., JST-PRESTO.*
- 10:00 DD44 **359.07** Psychostimulant drug administration markedly increases visual stimulus seeking behavior in calorie-restricted rats; underlying neural mechanisms. A. TALISHINSKY\*; S. IKEMOTO. *Natl. Inst. On Drug Abuse.*
- 11:00 DD45 **359.08** Adiponectin in the prefrontal cortex regulates depression-related behaviors through AdipoR1. J. LIU\*; M. GUO; H. LI; D. ZHAO; J. LIU; X. LU. *Univ. of Texas Hlth. Sci. Ctr.*
- 8:00 DD46 **359.09** PVN magnocellular AVP system signals motivation through suppressing LHb functional output during multifaceted stress coping. L. ZHANG\*; V. S. HERNANDEZ. *Physiology, Medicine, Natl. Autonomous Univ. of Mexico.*
- 9:00 DD47 **359.10** Contribution of the medial thalamus to social and non-social behavior. E. BONNEMA\*; Y. CHUDASAMA. *McGill Univ.*
- 10:00 DD48 **359.11** Social facilitation of foraging effort in domestic chicks: Functional contribution of the descending pathway from arcopallium to midbrain tegmentum. X. QIUHONG\*; T. MATSUSHIMA. *Hokkaido Univ., Hokkaido Univ.*
- 11:00 DD49 **359.12** Prosubiculum rather than subiculum heavily projects to medial prefrontal cortex, amygdala, ventral striatum, bed nucleus of the stria terminalis and hypothalamus in mouse. S. DING\*; J. W. PHILLIPS. *Allen Inst. For Brain Sci.*
- 8:00 DD50 **359.13** ▲ The hippocampus projects to bed nucleus of the stria terminalis but not the central amygdala nucleus in primate. J. IOURINETS; J. L. FUDGE\*. *Univ. of Rochester, Univ. of Rochester Med. Ctr.*
- 9:00 DD51 **359.14** Subgenual anterior cingulate area 25 corticocortical connections and their interface with distinct classes of inhibitory neurons. M. JOYCE\*; H. BARBAS. *Boston Univ.*
- 10:00 DD52 **359.15** Consumption of food calorically high in fat alters reward circuitry and increases “craving-like” behaviors over periods of abstinence. R. A. DARLING\*; T. BROWN; P. DINGESS. *Univ. of Wyoming, University of Wyoming, University of Wyoming.*
- 11:00 DD53 **359.16** Mapping of monosynaptic cannabinoid type 1 receptor inputs into dopamine neurons of the ventral tegmental area. V. KASHTELYAN\*; C. A. MEJIAS-APONTE; M. MORALES; J. F. CHEER. *Univ. of Maryland Sch. of Med., Natl. Inst. on Drug Abuse, Univ. of Maryland Sch. of Med.*
- 8:00 DD54 **359.17** Intra-Accumbens blockade of tyrosine-related kinase B (TrkB) receptors using ANA-12 modulates emotional behaviors and biochemical signaling following a repeated stress regimen in male Wistar rats. H. PLAMONDON\*; I. AZOGU. *Univ. Ottawa.*
- 9:00 DD55 **359.18** Grey matter differences are predicted by variation in the ADRA2b gene. M. R. EHLERS\*; D. J. PALOMBO; D. J. MUELLER; A. K. ANDERSON; R. M. TODD. *Univ. of British Columbia, Boston Univ., Ctr. for Addiction and Mental Hlth., Cornell Univ.*
- 10:00 DD56 **359.19** Caudal nucleus accumbens core inactivation results in decreased appetitive motivation and increased aversive motivation in response to conditioned cues. L. M. HAMEL\*; T. THANGARASA; R. ITO. *Univ. of Toronto.*
- 11:00 DD57 **359.20** The role of lateral habenula orexin signaling in aggressive behavior. M. FLANIGAN\*; H. ALEYASIN; S. GOLDEN; M. HESHMATI; M. PFAU; G. HODES; S. RUSSO. *Icahn Sch. of Med. At Mount Sinai, Natl. Inst. of Drug Abuse.*
- 8:00 DD58 **359.21** Differences in regulation of medial vs. lateral dopamine neurons in rodents by lateral habenula and infralimbic prefrontal cortex: Relevance to the chronic mild stress model of depression. J. L. MOREINES\*; Z. OWRUTSKY; A. A. GRACE. *Univ. of Pittsburgh, Univ. of Pittsburgh Sch. of Med.*
- 9:00 DD59 **359.22** Rewarding effects of pain relief require endogenous opioid activity in anterior cingulate cortex. E. NAVRATILOVA\*; C. QU; N. LAUDE; C. KRAMER; D. MESKE; E. LEMISTER; J. Y. XIE; X. YUE; M. HEIEN; F. PORRECA. *Univ. of Arizona.*
- 10:00 DD60 **359.23** Impulsive action and impulsive choice are distinct behavioral components with different underlying neural substrates. K. M. NAUTIYAL\*; S. WANG; M. M. WALL; P. D. BALSAM; C. BLANCO; R. HEN. *Columbia Univ., Columbia Univ. and New York State Psychiatric Inst., Barnard Col.*

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\* Indicates abstract's submitting author



- 11:00 DD61 **359.24** What is novel about the “deep frontal nucleus”? D. ROBY\*; K. P. PARSLEY; D. S. ZAHM. *St. Louis Univ.*
- 8:00 DD62 **359.25** Evidence of functional connectivity between the nucleus accumbens and ventral pallidum in hedonic processing. C. CHAN\*; D. S. WHEELER; R. A. WHEELER. *Marquette Univ., Marquette Univ.*
- 9:00 DD63 **359.26** A rabies virus based approach to map serotonergic neurons innervating different brain structures. M. PASQUALETTI\*; A. BERTERO; A. BIFONE. *Univ. of Pisa, Ctr. for Neurosci. and Cognitive Systems, Inst. Italiano di Tecnologia.*
- 10:00 DD64 **359.27** Anatomical characterization of GABAergic projections to the mouse rostromedial tegmental nucleus. J. L. THOMPSON; T. C. JHOU\*. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*
- 11:00 DD65 **359.28** *In vivo* recording, identification and reconstruction of adult mouse ventral tegmental area (VTA) GABAergic neurons. C. A. GONZALEZ-CABRERA\*; T. MONTERO; P. HENNY. *Facultad De Medicina Univ. Católica De Chile, Pontificia Univ. Católica de Chile.*

# Monday PM

## SYMPOSIUM *McCormick Place*

### 360. Understanding Neural Circuits through Dendrite Development and Function — CME

Mon. 1:30 PM - 4:00 PM — S100A

*Chair:* K. SHEN

*Co-Chair:* J. R. SANES

The complex and diverse dendritic arbors have long been recognized as a critical feature of distinct neuronal cell types. The molecular knowledge on dendrite development and cell biology is critical for our understanding of neural circuit assembly and function. In this symposium, speakers will feature several major experimental systems for dendrite research and discuss key results on development, unique cell biology, and how dendrites shape intact neural circuits.

1:30 **360.01** Introduction.

1:35 **360.02** Control of dendrite morphogenesis: From form to function. Y. JAN. *Univ. California.*

2:10 **360.03** Morphogenesis of retinal dendrites: Function follows form. J. R. SANES. *Harvard Univ.*

2:45 **360.04** The central dogma de-centralized: Local translation in dendrites. E. M. SCHUMAN. *Max Planck Inst. for Brain Res.*

3:20 **360.05** Cell Recognition and the Assembly of Neural Circuits. S. L. ZIPURSKY. *HHMI/UCLA.*

3:55 **360.06** Closing Remarks.

## SYMPOSIUM *McCormick Place*

### 361. Rethinking Dogma in Thalamocortical Epilepsies — CME

Mon. 1:30 PM - 4:00 PM — S100B

*Chair:* J. R. HUGUENARD

*Co-Chair:* H. SHIN

Generalized absence epilepsy has a unique EEG expression and behavioral correlate characterized by 3 Hz spike and wave discharge and a behavioral absence. The thalamocortical circuit is implicated in absence epilepsy, yet roles for thalamus vs neocortex remain controversial, as do roles of different regulators of thalamocortical activity such as calcium channels and GABA receptors. This symposium will present several unexpected findings that challenge existing dogma and provide a state of the art update.

1:30 **361.01** Introduction.

1:35 **361.02** Interneuronopathy: Alterations in cortical fast-spiking basket cells in genetic generalized epilepsy in humans and rodents. E. ROSSIGNOL. *Univ. of Montreal.*

2:10 **361.03** Burst firing in thalamic reticular neurons is NOT required for absence seizures. H. SHIN. *Korea Inst. Scii & Tech.*

2:45 **361.04** GABAergic synaptic mechanisms regulating output of thalamic inhibitory neurons. A. LUTHI. *Biozentrum, Univ. of Basel.*

3:20 **361.05** Novel roles for thalamus in seizures subsequent to cortical injuries: Comparison to genetic epilepsies. J. R. HUGUENARD. *Stanford Univ. Sch. Med.*

3:55 **361.06** Closing Remarks.

## SYMPOSIUM *McCormick Place*

### 362. Advanced Molecular Imaging of Synapses in Health and Disease — CME

Mon. 1:30 PM - 4:00 PM — S406A

*Chair:* T. A. BLANPIED

*Co-Chair:* S. OKABE

This symposium will present new developments in imaging and proteomic technology and discuss how they are changing the way researchers characterize synaptic function and dysfunction. Presentations will reveal new insights from multiple scales of synaptic observation including nanoscale super-resolution imaging, time lapse *in vivo* imaging, and proximity tagging of endogenous proteins for mass spectrometric identification. From molecular screening to disease risk genes, speakers will propose new ways to understand disorders that alter neural circuit performance by disrupting synapses.

1:30 **362.01** Introduction.

1:35 **362.02** Spatially-resolved proteomic mapping of synaptic subdomains in living neurons. A. Y. TING. *MIT.*

2:10 **362.03** Nanoscale functional organization and transcellular alignment of single synapses. T. A. BLANPIED. *Univ. of Maryland Sch. of Med.*

2:45 **362.04** Subspine organization of mental disorder risk genes. P. PENZES. *Nothwestern Univ. Feinberg Sch. Med.*

3:20 **362.05** *In vivo* imaging of synapse dynamics applied to psychiatric disorders. S. OKABE. *The Univ. of Tokyo.*

3:55 **362.06** Closing Remarks.

## MINISYMPOSIUM *McCormick Place*

### 363. New Perspectives for the Rescue of Cognitive Disability in Down Syndrome — CME

Mon. 1:30 PM - 4:00 PM — S105

*Chair:* R. BARTESAGHI

*Co-Chair:* D. BIANCHI

Down syndrome is a relatively high-incidence genetic condition caused by the triplication of human chromosome 21. No therapies currently exist for the rescue of cognitive impairment in Down syndrome. This minisymposium will present exciting findings showing that it is possible to restore brain development and cognitive performance in mouse models of Down syndrome with therapies usable in humans. This knowledge provides a breakthrough for the cure and prevention of intellectual disability in Down syndrome.

1:30 **363.01** Introduction.

1:35 **363.02** Cellular and molecular processes affecting development and function of the CNS in Down syndrome. T. F. HAYDAR. *Boston Univ. Sch. of Med.*

1:55 **363.03** Preventive therapies for cognitive disability in Down syndrome: The sooner the better. R. BARTESAGHI. *Univ. of Bologna.*

2:15 **363.04** A genomic approach to the identification of novel therapies for prenatal treatment of Down syndrome. D. BIANCHI. *Tufts Univ. Sch. of Med.*

2:35 **363.05** Targeting the excitation inhibition balance in Down syndrome. J. DELABAR. *CNRS-University Paris Diderot.*

- 2:55 **363.06** Multicomponent non-pharmacological approaches in combination with drug treatments. M. DIERSSEN. *CRG-Center for Genomic Regulation*.
- 3:15 **363.07** Therapeutic approaches to delay the cognitive decline and degenerative processes in older mouse models of Down syndrome. C. MARTINEZ-CUÉ. *Fac. of Med. Univ. of Cantabria*.
- 3:35 **363.08** Closing Remarks.

**MINISYMPOSIUM** *McCormick Place*

**364. Disrupted Sleep: From Molecules to Cognition — CME**

Mon. 1:30 PM - 4:00 PM — S103

*Chair:* E. J. W. VAN SOMEREN

*Co-Chair:* C. CIRELLI

Whereas it remains enigmatic whether neuroscience can ultimately define a single key function of sleep for all organisms, it is becoming clear that disruption of sleep interferes profoundly with their normal functioning. This minisymposium will present an integrated overview of compelling new evidence showing that sleep disruption leads to significant negative consequences for brain function across many different levels, ranging from molecules to cognition, with broad health implications.

- 1:30 **364.01** Introduction.
- 1:35 **364.02** The effect of disrupted sleep on ultrastructure of brain cells and synaptic homeostasis. C. CIRELLI. *Univ. Wisconsin/Madison*.
- 1:55 **364.03** The effect of disrupted sleep on circadian rhythmicity in human gene expression. D. DIJK. *Univ. of Surrey*.
- 2:15 **364.04** ● The effect of disrupted sleep on hormones and metabolism. E. VAN CAUTER. *Univ. of Chicago*.
- 2:35 **364.05** Sleep benefits reward brain functions. S. SCHWARTZ. *Geneva Univ. Med. Center, CMU*.
- 2:55 **364.06** Predicting vigilance failure caused by sleep deprivation. M. W. CHEE. *SingHealth*.
- 3:15 **364.07** Brain imaging and psychometric risk profiles for disrupted sleep. E. J. W. VAN SOMEREN. *Netherlands Inst. for Neurosci*.
- 3:35 **364.08** Closing Remarks.

**MINISYMPOSIUM** *McCormick Place*

**365. The Medial Prefrontal Cortex: Emotional Regulation Across Species — CME**

Mon. 1:30 PM - 4:00 PM — S406B

*Chair:* H. F. CLARKE

The medial prefrontal cortex (mPFC) consists of multiple subregions that contribute differentially to emotional regulation and exhibit selective dysfunction in psychiatric disorders. However, uncertainty over functional homology across species hinders the translation of animal studies to those of humans. The presenters will highlight new insights into how mPFC subregions regulate emotion across three species: rodents, monkeys, and humans, and their relevance for our understanding of disease.

- 1:30 **365.01** Introduction.

- 1:35 **365.02** Dorsal medial prefrontal - amygdala interactions in anxious humans: From adaptive to pathological anxiety. O. J. ROBINSON. *Univ. Col. London*.
- 1:55 **365.03** The medial prefrontal cortex and the generation of negative affect in humans: Implications for mental health and disease. C. L. PHILIPPI. *Univ. of Missouri-St. Louis*.
- 2:15 **365.04** Prefrontal control of resilience to adverse events. M. V. BARATTA. *Univ. of Colorado*.
- 2:35 **365.05** The mPFC differentiates threatening from neutral stimuli via dynamic engagement of the amygdala. E. LIKHNIK. *Columbia Univ*.
- 2:55 **365.06** The role of the macaque subcallosal ACC in regulating emotional responses. P. H. RUDEBECK. *Mt Sinai Hosp*.
- 3:15 **365.07** Opposing roles of the marmoset subgenual and perigenual ACC in positive and negative emotion regulation. H. F. CLARKE. *Univ. of Cambridge*.
- 3:35 **365.08** Closing Remarks.

**ALBERT AND ELLEN GRASS LECTURE** *McCormick Place*

**366. ● Receptors, Neurons, and Circuits: The Biology of Mammalian Taste — CME**

Mon. 3:15 PM - 4:25 PM — Hall B1

*Speaker:* C. ZUKER, *Howard Hughes Med. Institute, Columbia Univ*.

*Support contributed by: The Grass Foundation*

The taste system is one of our fundamental senses, responsible for detecting and responding to sweet, bitter, umami, salty, and sour stimuli. Zuker's laboratory studies the logic of taste coding as a platform to understand how our brain creates an internal representation of the outside world and transforms sensory signals at the periphery into percepts, actions, and behaviors.

**PRESIDENTIAL SPECIAL LECTURE** *McCormick Place*

**367. ● Immune Mechanisms of Synapse Loss in Health and Disease — CME**

Mon. 5:15 PM - 6:25 PM — Hall B1

*Speaker:* B. A. STEVENS, *Boston Children's Hospital, Harvard Med. Sch*.

*Support contributed by: MedImmune, LLC*

How synapses are eliminated in the developing and diseased brain remains a mystery. During development, synaptic pruning is required for precise wiring and emerging evidence implicates immune-related molecules and immune cells called microglia. This talk will review research on how these pathways regulate the formation, refinement, and elimination of specific axons and synapses during development. The discoveries suggest ways of protecting synapses in neurodegenerative and psychiatric disorders involving synapse loss.

Mon. PM

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

## NANOSYMPOSIUM

**368. New Progresses in Nerve Regeneration and Transplantation****Theme A: Development**

Mon. 1:00 PM – McCormick Place, S102

- 1:00 **368.01** Evolutionarily conserved regulation of axon regeneration by the RNA repair/splicing pathway. Y. SONG<sup>\*</sup>; D. SRETAVAN; L. JAN; Y. JAN. *Univ. of California, San Francisco, Univ. of California, San Francisco.*
- 1:15 **368.02** PARG and PARP genes are novel regulators of axon regeneration. A. B. BYRNE<sup>\*</sup>; R. MCWHIRTER; D. M. MILLER; M. HAMMARLUND. *Yale Univ. Sch. of Med., Vanderbilt Univ., Yale Univ.*
- 1:30 **368.03** Toward *in vivo* retinal stem cell activation: Inhibition of BMP and sFRP2 proteins in the adult mouse eye induces ciliary body-specific proliferation and expands the retinal stem cell population. K. N. GRISE<sup>\*</sup>; L. BALENCI; C. WONDERS; B. L. K. COLES; D. VAN DER KOOY. *Univ. of Toronto.*
- 1:45 **368.04** ● The loss of intrinsic regeneration ability in neurons maturing *in vitro* and the role of Rab11 in this decline. H. KOSEKI<sup>\*</sup>; R. EVA; B. Y. H. LAM; M. DONEGÁ; M. K. L. MA; G. S. H. YEO; J. W. FAWCETT. *John Van Geest Ctr. For Brain Repair, John Van Geest Ctr. For Brain Repair, Dept. of Clin. Neurosciences, MRC Metabolic Dis. Unit.*
- 2:00 **368.05** Restoration of visual function by enhancing conductance in regenerated axons. F. BEI<sup>\*</sup>; H. H. C. LEE; X. LIU; C. WANG; E. FRANK; C. CHEN; M. FAGIOLINI; Z. HE. *Harvard Med. Sch., Tufts Univ.*
- 2:15 **368.06** Using extracellular matrix technology to promote retinal ganglion cell survival and axon regeneration. Y. VAN DER MERWE<sup>\*</sup>; I. P. CONNER; A. E. FAUST; X. GU; A. NAQVI; T. REN; A. KANDAKATLA; V. REDDY; B. WANG; K. LUCY; F. MEHDI; L. R. LEWIS; H. SONG; K. C. CHAN; G. WOLLSTEIN; K. M. WASHINGTON; W. R. WAGNER; S. F. BADYLAK; M. STEKETEE. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 2:30 **368.07** Neuregulin1/ErbB expression regulation in the injured rat peripheral nerve during degeneration and regeneration. G. GAMBAROTTA<sup>\*</sup>; G. RONCHI; K. HAASSTERT-TALINI; B. E. FORNASARI; A. CROSIO; I. PERROTEAU; S. GEUNA. *Univ. of Torino, Univ. of Torino, Hannover Med. Sch. and Ctr. for Systems Neurosci. (ZSN), Univ. of Torino.*
- 2:45 **368.08** Targeted ablation and regeneration of amacrine cells and horizontal cells in the zebrafish retina. E. A. MCMAINS<sup>\*</sup>; J. M. GROSS. *Univ. of Texas At Austin.*
- 3:00 **368.09** Regeneration of the adult axolotl brain rebuilds neuronal diversity within different tissue architecture. R. AMAMOTO<sup>\*</sup>; E. TAKAHASHI; G. DAI; A. K. GRANT; P. ARLOTTA. *Harvard Univ., Boston Children's Hosp., Massachusetts Gen. Hosp., Harvard Med. Sch.*

## NANOSYMPOSIUM

**369. Presynaptic Structure and Neurotransmitter Release III****Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms**

Mon. 1:00 PM – McCormick Place, S405

- 1:00 **369.01** Optical quantal analysis of diversity in glutamatergic synaptic transmission and plasticity at the *Drosophila* neuromuscular junction. Z. L. NEWMAN<sup>\*</sup>; S. L. LEVY; E. Y. ISACOFF. *Univ. of California, Berkeley.*
- 1:15 **369.02** A fluorescent ratiometric genetically-encoded pH-indicator reveals activity-induced acid efflux from *Drosophila* motor nerve terminals mediated by plasma membrane and vesicular acid transporters. A. J. ROSSANO<sup>\*</sup>; A. KATO; K. I. MINARD; M. F. ROMERO; G. T. MACLEOD. *Univ. of Texas HSC At San Antonio, Tokyo Inst. of Technol., Mayo Clin. Col. of Med., Florida Atlantic Univ.*
- 1:30 **369.03** Locating synaptic calcium channels. S. A. MERRILL<sup>\*</sup>; A. CHERRY; S. WATANABE; E. JORGENSEN. *Univ. of Utah, Howard Hughes Med. Inst.*
- 1:45 **369.04** Fife, a *Drosophila* Piccolo ortholog, regulates synaptic structure and function. J. J. BRUCKNER<sup>\*</sup>; X. RAO; H. ZHAN; S. J. GRATZ; F. E. UKKEN; K. M. O'CONNOR-GILES. *Univ. of Wisconsin, Univ. of Wisconsin-Madison.*
- 2:00 **369.05** Synaptotagmin1 to -2 isoform switch during the development of a large hindbrain synapse. O. KOCHUBEY<sup>\*</sup>; N. BABAI; R. SCHNEGGENBURGER. *Brain Mind Institute, EPFL.*
- 2:15 **369.06** Kinetic dissection of recycling vesicle pool at the Calyx of Held synapse. J. SUN<sup>\*</sup>; X. QIU; Q. ZHU. *Chinese Acad. of Sci.*
- 2:30 **369.07** Measurements of the fusion pore formed during synaptic vesicle exocytosis in rod and cone photoreceptors. X. WEN<sup>\*</sup>; W. B. THORESON. *Univ. of Nebraska Med. Ctr., Univ. of Nebraska Med. Ctr.*
- 2:45 **369.08** Single vesicle characterization of inter-synaptic trafficking of recycling vesicles. N. CHENOUDAR<sup>\*</sup>; R. W. TSIEN. *NYU Med. Ctr.*
- 3:00 **369.09** Clathrin is required for regeneration but not endocytosis of synaptic vesicles. S. WATANABE<sup>\*</sup>; T. TRIMBUCH; M. CAMACHO-PÉREZ; B. ROST; C. ROSENMUND; E. M. JORGENSEN. *Univ. of Utah, Charite Universitätsmedizin, Univ. of Utah.*
- 3:15 **369.10** Engineering the presynaptic metal sensor to tune the kinetics of synaptic transmission and network behavior. D. A. RUHL<sup>\*</sup>; C. S. EVANS; E. R. CHAPMAN. *Univ. of Wisconsin - Madison, UW-Madison.*

## NANOSYMPOSIUM

**370. Structural and Signaling Changes in Aging and Alzheimer's Disease****Theme C: Disorders of the Nervous System**

Mon. 1:00 PM – McCormick Place, N426A

- 1:00 **370.01** Structural trajectories of healthy aging in cortical thickness and subcortical morphometry. G. A. DEVENYI<sup>\*</sup>; R. PATEL; J. GERMANN; M. M. CHAKRAVARTY. *Douglas Univ. Mental Hlth. Institute, McGill, McGill Univ., McGill Univ.*

## NANOSYMPOSIUM

### 371. Alpha-Synuclein, LRRK2, and Other Molecular Mechanisms in Parkinson's Disease

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, N230

- 1:00 **371.01** Pathophysiological relevance of PINK1-dependent ubiquitin phosphorylation. W. SPRINGER\*; F. C. FIESEL; M. ANDO; R. HUDEC; A. R. HILL; M. CASTANEDES-CASEY; T. R. CAULFIELD; E. L. MOUSSAUD-LAMODIÈRE; J. N. STANKOWSKI; P. O. BAUER; O. LORENZO-BETANCOR; I. FERRER; J. M. ARBELO; J. SIUDA; L. CHEN; V. L. DAWSON; T. M. DAWSON; Z. K. WSZOLEK; O. A. ROSS; D. W. DICKSON. *Mayo Clin., Mayo Grad. Sch., Mayo Clin., Hosp. Universitari de Bellvitge, CIBERNED, Ctr. de Investigación Biomédica en Red sobre Enfermedades Neurodegenerativas, Inst. de Salud Carlos III, Hosp. Universitario Insular de Gran Canaria, Med. Univ. of Silesia, Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Adrienne Helis Malvin Med. Res. Fndn., Diana Helis Henry Med. Res. Fndn., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Mayo Clin.*
- 1:15 **371.02** LRRK2 based striatal dysfunction as a Parkinson's disease pathogenic mechanism. L. PARISIADOU\*; J. YU; C. SGOBIO; C. XIE; G. LIU; L. SUN; X. GU; X. LIN; N. A. CROWLEY; D. LOVINGER; H. CAI. *Feinberg Sch. of Med., LNG, Natl. Inst. on Aging, LIN, NIAAA.*
- 1:30 **371.03** Identification of phosphatases regulating LRRK2 phosphorylation by RNAi screening. J. TAYMANS\*; E. LOBBESTAELE; M. BÖLLIGER; V. BAEKELANDT; J. NICHOLS. *Jean-Pierre Aubert Res. Center, Inserm/UI2 UMR, KU Leuven, The Parkinson's Inst.*
- 1:45 **371.04** Pathogenic mutations in LRRK2 cause alterations in centrosome cohesion and cell cycle progression. J. MADERO-PÉREZ\*; E. FDEZ; A. C. NAIRN; A. AIASTUI; A. LÓPEZ DE MUNAÍN; S. HILFIKER. *Inst. of Parasitology and Biomedicine López-Neyra, Dept. of Psychiatry, Yale Univ. Sch. of Med., Neurosci. Area, Biodonostia Inst.*
- 2:00 **371.05** Distinct Rab proteins modulate the LRRK2-mediated deficits in endolysosomal membrane trafficking. P. RIVERO-RÍOS\*; P. GÓMEZ-SUAGA; S. HILFIKER. *IPBLN-CSIC.*
- 2:15 **371.06** Dissecting the determinants required for the association of LRRK2 with microtubules towards establishing assays for identifying novel LRRK2-modifying compounds. M. BLANCA RAMÍREZ\*; E. FDEZ; A. GONNELLI; L. BUBACCO; E. GREGGIO; S. HILFIKER. *IPBLN CSIC, Univ. of Padova.*
- 2:30 **371.07** ● Parkinson's disease-linked G2019S LRRK2 mutation alters mRNA translation in human dopamine neurons and LRRK2 transgenic mice. J. W. KIM\*; I. MARTIN; Y. XIONG; S. M. EACKER; N. T. INGOLIA; T. M. DAWSON; V. L. DAWSON. *Johns Hopkins Univ. Sch. of Med., Univ. of California.*
- 2:45 **371.08** Parkinson's disease gene Leucine-rich repeat kinase 2 (LRRK2) regulates autophagosome formation and interacts with the retromer-associated Wiskott-Aldrich syndrome protein and SCAR homologue (WASH) complex. K. VENDEROVA\*; R. LINHART; D. KAING; R. FEDRIZZI; J. ROSALES; R. EISMATI; Y. HO. *Keck Grad. Inst., Univ. of the Pacific.*
- 3:00 **371.09** ▲ Defining the  $\alpha$ -synuclein interactome *in situ*. X. CAO\*; K. J. VARGAS; S. S. CHANDRA. *Yale Univ., CNRR Program.*

- 1:15 **370.02** ● Acetylcholinesterase-positive cortical pyramidal neurons: Emergence in adult human life and down-regulation in cognitively average elderly and elderly with superior memory capacity. M. JANECEK; M. SAMIMI-GHARAI; S. WEINTRAUB; E. ROGALSKI; E. BIGIO; M. MESULAM\*; C. GEULA. *Cognitive Neurol. and Alzheimer's Dis. Ctr., Cognitive Neurol. and Alzheimer's Dis. Ctr.*
- 1:30 **370.03** Hematopoietic cell rejuvenation delays age-related cognitive decline. M. DAS\*; S. CHEN; H. GOODRIDGE; C. N. SVENDSEN. *Cedars Sinai Med. Ctr., Cedars-Sinai Med. Ctr., Cedars-Sinai Med. Ctr.*
- 1:45 **370.04** CRTC1 nuclear translocation is critical for hippocampal-dependent memory. C. A. SAURA\*; A. J. PARRA-DAMAS; M. CHEN; S. ACOSTA; L. ENRÍQUEZ-BARRETO. *Univ. Autònoma de Barcelona.*
- 2:00 **370.05** ● The Alzheimer's disease risk gene BIN1 regulates neuronal excitability. E. D. ROBERSON\*; J. N. COCHRAN; T. J. RUSH; B. A. WARMUS; A. V. FRANKLIN; L. L. MCMAHON. *UAB, UAB.*
- 2:15 **370.06** APOE as a therapeutic target for reducing oligomeric A $\beta$  levels. M. LADU\*; C. SMITH; N. C. COLLINS; S. GHURA; K. P. KOSTER; K. YOUNG; L. M. TAI. *Univ. of Illinois, Chicago, Boston Univ. Sch. of Med.*
- 2:30 **370.07** Risk of aggravation of neuronal dysfunction by passive immunotherapy with anti-A $\beta$  antibodies. M. A. BUSCHE\*; A. KESKIN; C. GRIENBERGER; U. NEUMANN; M. STAUFENBIEL; H. FÖRSTL; A. KONNERTH. *Inst. of Neuroscience, Tech. Univ. Munich, Dept. of Psychiatry and Psychotherapy, Janelia Farm Res. Campus, Novartis Pharma AG.*
- 2:45 **370.08** APP synaptic function involves trans-dimerization and Fe65/Fe65L1 signaling. S. KINS\*; P. STRECKER; S. EGGERT; S. SCHILLING; M. KORTE; M. RUST; S. GUÉNETTE. *Univ. of Kaiserslautern, Tech. Univ. of Braunschweig, Massachusetts Gen. Hospital, Harvard Med. Sch.*
- 3:00 **370.09** Determining the mechanism of beta amyloid-induced NMDA receptor dysfunction. B. L. SINNEN\*; M. J. KENNEDY. *Univ. of Colorado, Linda Crnic Inst.*
- 3:15 **370.10** Soluble amyloid- $\beta$ 42 activates  $\alpha$ 7nAChR *in vivo* and alters glutamatergic neurotransmission in A $\beta$ PP/PS1 mice. E. R. HASCUP\*; S. O. BRODERICK; K. N. HASCUP. *SIU Sch. of Med., SIU Sch. of Med.*
- 3:30 **370.11** ● A first-in-class oligomer binding displacement approach to Alzheimer's disease modification. S. M. CATALANO\*; N. IZZO; C. REHAK; R. YURKO; K. MOZZONI; C. SILKY; G. LOOK; G. RISHTON; H. SAFFERSTEIN. *Cognition Therapeut. Inc.*

\* Indicates a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 3:15 **371.10** Systemic inhibition of Polo-like Kinases modulates alpha-synuclein *in vivo* in mouse cortex. K. SPINELLI\*; V. R. OSTERBERG; L. J. WESTON; V. K. UNNI. *Oregon Hlth. & Sci. Univ.*
- 3:30 **371.11** ● Impact of O-GlcNAc protein modification on alpha-synuclein degradation. T. WU\*; M. MATTSO. *Natl. Inst. On Aging.*
- 3:45 **371.12** Potential role of exosomal tau and alpha-synuclein oligomers in cell toxicity and spreading pathology in PD and DLB. D. L. CASTILLO\*; M. J. GUERRERO-MUÑOZ; U. SENGUPTA; S. SHAFIEI; J. GERSON; B. E. HAWKINS; R. KAYED. *UTMB, UTMB, UTMB.*
- 4:00 **371.13** Alpha synuclein aggregation causes toxicity by decreasing functional forms of the protein. M. J. BENSKEY\*; N. C. KUHN; F. P. MANFREDSSON. *Michigan State Univ.*
- 4:15 **371.14** Autophagic-lysosomal dysfunction promotes exosomal release of pathological proteins in Parkinson's and Alzheimer's disease. W. YU\*; N. HERNANDEZ. *Columbia Univ., Columbia Univ.*

## NANOSYMPOSIUM

### 372. The Nature and Significance of Neuronal Variation

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, S401

- 1:00 **372.01** Human and monkey detection performance in natural images compared with V1 population responses. Y. BAI\*; Y. CHEN; W. GEISLER; E. SEIDEMANN. *Univ. of Texas-Austin, Ctr. for Perceptual Systems.*
- 1:15 **372.02** Stimulus driven decline in neuronal variability, a general phenomenon, not a consequence of efficient encoding. A. E. LAZAR\*; W. SINGER; D. NIKOLIC. *Ernst Strüngmann Inst.*
- 1:30 **372.03** The neural basis of fine orientation discrimination in macaque monkeys. R. L. GORIS\*; C. M. ZIEMBA; G. M. STINE; E. P. SIMONCELLI; J. A. MOVSHON. *New York Univ., HHMI.*
- 1:45 **372.04** Changes in inhibition explain variability in cortical activity and its role in sensory representations. C. STRINGER\*; M. PACHITARIU; K. J. HILDEBRANDT; P. BARTHO; K. D. HARRIS; J. F. LINDEN; P. LATHAM; N. LESICA; M. SAHANI. *Univ. Col. London, Univ. of Oldenburg, Hungarian Acad. of Sci.*
- 2:00 **372.05** Correlated variability in population activity: Noise or signature of internal computations? G. DENFIELD\*; A. ECKER; A. TOLIAS. *BAYLOR COLLEGE OF MEDICINE, Max Planck Inst. for Biol. Cybernetics.*
- 2:15 **372.06** Modeling the neural mechanics of attention-mediated suppression of noise correlations. T. KANASHIRO\*; G. K. OCKER; M. R. COHEN; B. DOIRON. *Carnegie Mellon Univ., Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 2:30 **372.07** Attentional modulation of cortical state dynamics and its contribution to spiking variability in area V4. T. A. ENGEL\*; N. A. STEINMETZ; T. MOORE; K. BOAHEN. *Stanford Univ., Howard Hughes Med. Inst., Univ. Col. London, Stanford Univ.*
- 2:45 **372.08** Differential effects of attention on correlated variability of inhibitory and excitatory populations in V4. A. C. SNYDER\*; M. J. MORAIS; M. A. SMITH. *Univ. of Pittsburgh.*

- 3:00 **372.09** Bottom-up and top-down inputs drive the variability of cortical neurons. C. GOMEZ-LABERGE\*; A. SMOLYANSKAYA; J. J. NASSI; G. KREIMAN; R. T. BORN. *Harvard Med. Sch., Children's Hosp. Boston.*
- 3:15 **372.10** Optogenetically induced low-frequency correlations impair perception. A. S. NANDY\*; J. J. NASSI; J. H. REYNOLDS. *Salk Inst.*
- 3:30 **372.11** A normalization model accounts for stimulus and attention-related changes in correlated variability across cortical areas. D. A. RUFF\*; M. R. COHEN. *Univ. of Pittsburgh.*

## NANOSYMPOSIUM

### 373. Visual Processing: Object Representation

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, S402

- 1:00 **373.01** Population tuning, sampling, and granularity: A computational investigation of the influence of pattern contrast and noise structure on MVPA. F. M. RAMIREZ\*; C. ALLEFELD; J. HAYNES. *Bernstein Ctr. for Computat. Neurosci., Berlin Sch. of Mind and Brain, Humboldt Univ. zu Berlin, Dept. of Psychology, Humboldt Univ. zu Berlin, Berlin Ctr. for Advanced Neuroimaging, Charité-Universitätsmedizin.*
- 1:15 **373.02** Not all that glitters is gold: Predicting behavior from brain representations suggests that only a subset of decodable information is used by the brain. T. GROOTSWAGERS\*; D. B. T. MCMAHON; D. A. LEOPOLD; T. A. CARLSON. *Macquarie Univ., Macquarie Univ., NIH, NIH.*
- 1:30 **373.03** Typicality sharpens category representations in object-selective cortex. M. IORDAN\*; M. R. GREENE; D. M. BECK; L. FEI-FEI. *Stanford Univ., Univ. of Illinois.*
- 1:45 **373.04** How inferotemporal cortex neurons depend on extrastriate input networks. C. R. PONCE\*; S. G. LOMBER; M. S. LIVINGSTONE. *Harvard Med. Sch., Western Univ., Harvard Med. Sch.*
- 2:00 **373.05** Illusory figures selectively activate deep layers of the primary visual cortex: A 7T-fMRI study. P. KOK\*; L. J. BAINS; T. VAN MOURIK; D. G. NORRIS; F. P. DE LANGE. *Radboud Univ.*
- 2:15 **373.06** Object representations in human inferior temporal cortex: Categorical or feature-based? K. M. JOZWIK\*; N. KRIEGESKORTE; M. MUR. *Univ. of Cambridge.*
- 2:30 **373.07** Disentangling the effects of shape and category on the representation of animate and inanimate objects in human ventral temporal cortex. D. PROKLOVA\*; D. KAISER; M. PEELEN. *Cimec - Ctr. For Mind/Brain Sci.*
- 2:45 **373.08** Neural representation of contextual consistency and position regularity of objects in a pair. R. WANG\*; Y. XU. *Harvard Univ. Vision Lab.*
- 3:00 **373.09** Attentional modulation of object category decoding in human parietal and occipito-temporal regions. M. VAZIRI PASHKAM\*; Y. XU. *Harvard Univ.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 3:15 **373.10** The neural basis of sustained visual perception. E. M. GERBER; K. G. BUCHANAN; R. A. KUPERMAN; K. I. AUGUSTE; T. GOLAN; J. PARVIZI; R. T. KNIGHT; L. Y. DEQUELL\*. *Hebrew Univ. of Jerusalem, UC Berkeley, Children's Hosp. and Res. Center, Oakland, Univ. of California, San Francisco, Children's Hosp. and Res. Center, Oakland, Stanford Univ., Univ. of California, Berkeley, Univ. of California, Berkeley, The Hebrew Univ. of Jerusalem.*
- 3:30 **373.11** Representational dynamics: Neural population coding of objects in nonhuman primate inferior temporal cortex. M. C. MUR\*; A. H. BELL; N. J. MALECEK; E. L. MORIN; J. DUNCAN; N. KRIEGESKORTE. *MRC Cognition and Brain Sci. Unit, Univ. of Oxford, Lab. of Brain and Cognition, Natl. Inst. of Mental Hlth.*

## NANOSYMPOSIUM

### 374. Posture and Gait: Health and Disease

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, N226

- 1:00 **374.01** Adaptive learning dominates instructive learning in split-belt walking. A. LONG\*; A. BASTIAN. *Johns Hopkins Univ., Johns Hopkins Univ.*
- 1:15 **374.02** Self-recognition of one's own whole-body imbalance evokes the crisis-related cortical and brainstem activity. T. ATOMI\*; M. NORIUCHI; K. OBA; Y. ATOMI; Y. KIKUCHI. *Teikyo Univ. of Sci., Grad. Sch. of Tokyo Metropolitan Univ., Tohoku Med. Megabank Organization, Tohoku Univ., Tokyo Univ. of Agr. and Technol.*
- 1:30 **374.03** Effect of attentional focus on stability and muscular activation of the leg while standing. N. RICHER\*; N. POLSKAIA; A. ATHANATHIOUS; D. SAUNDERS; Y. LAJOIE. *Univ. of Ottawa.*
- 1:45 **374.04** Which regions of the ground surface do humans need to see to control walking over complex terrain? B. R. FAJEN\*; S. L. BARTON; J. S. MATTHIS. *Rensselaer Polytechnic Inst., Univ. of Texas at Austin.*
- 2:00 **374.05** Flexible recruitment of muscle synergies during treadmill walking dependent on speeds. B. KIBUSHI\*; S. HAGIO; T. MORITANI; M. KOUZAKI. *Kyoto Univ., Res. Fellow of the Japan Society for the Promotion of Sci.*
- 2:15 **374.06** Changes in gait dynamics when walking on slippery walkways. M. WHITMORE\*; L. HARGROVE; E. PERREAULT. *Northwestern Univ.*
- 2:30 **374.07** Aerobic and resistance exercise effects on mobility and gray matter changes during 70 days of bed rest. V. KOPPELMANS\*; L. PLOUTZ-SNYDER; Y. E. DE DIOS; D. L. SZESCY; N. E. GADD; S. J. WOOD; P. A. REUTER-LORENZ; I. S. KOFMAN; J. J. BLOOMBERG; A. P. MULAVARA; R. D. SEIDLER. *Univ. of Michigan, Sch. of Kinesiology, Universities Space Res. Assn., Wyle Science, Technol. & Engin. Group, Bastion Technologies, Azusa Pacific Univ., NASA Johnson Space Ctr., Univ. of Michigan, NASA Johnson Space Ctr., Univ. of Michigan, Univ. of Michigan.*
- 2:45 **374.08** Design and evaluation of self-body awareness underwear that applying a slight tactile and compression stimuli to the skin and provide a good posture and enhanced cardiorespiratory function during and after treadmill exercise, and at rest. Y. ATOMI\*; N. HIROSE; T. ATOMI; K. TANAKA; M. SHIMIZU; Y. KOYAMA; H. SUZUKI. *Tokyo Univ. of Agr. and Technol., Teikyo Univ. of Sci., Grad. Sch. of Tokyo Metropolitan Univ., RenYou co.ltd, Toray Industries, Inc.*

- 3:00 **374.09** Identifying cognitive contributions to fall risk in older adults. W. E. HUDDLESTON\*; E. W. CORBIN; B. E. SMITH; N. M. RECKA. *Univ. of Wisconsin - Milwaukee.*
- 3:15 **374.10** Differences in cortical control of gait stability in young and older adults. S. BRUIJN\*; N. KLUFT; J. H. VAN DIEËN; A. DAFFERTSHOFER. *VU Univ. Amsterdam.*
- 3:30 **374.11** ● Lighten Up! Mindfulness-based approach to postural control improves coordination and reduces fall risk in older adults with and without Parkinson's disease. R. G. COHEN\*; F. B. HORAK; V. S. GURFINKEL. *Univ. of Idaho, Oregon Hlth. & Sci. Univ.*
- 3:45 **374.12** ● Relationship between walking speed and kinematic trajectory in people with poststroke hemiparesis. D. D. RUMBLE\*; C. P. HURT; D. A. BROWN. *Univ. of Alabama At Birmingham.*
- 4:00 **374.13** ● fNIRS-mediated Neurofeedback associated with mental practice with motor imagery enhances gait recovery after stroke: Interim analysis of randomized clinical trial. M. MIHARA\*; H. FUJIMOTO; N. HATTORI; Y. WATANABE; T. KAWANO; M. HATAKENAKA; H. YAGURA; I. MIYAI; H. MOCHIZUKI. *Osaka Univ. Grad. Sch. of Med., Morinomiya Hosp., Osaka Univ. Grad. Sch. of Med.*

## NANOSYMPOSIUM

### 375. Persistent Effects of Early Life Adversity

#### Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge

Mon. 1:00 PM – McCormick Place, S404

- 1:00 **375.01** Repeated exposures to social stress during adolescence sensitizes the brain norepinephrine system of female rats. H. M. GUAJARDO\*; A. L. CURTIS; J. R. ARNER; R. J. VALENTINO. *Univ. of Pennsylvania, Children's Hosp. of Philadelphia.*
- 1:15 **375.02** Low maternal care programs dysregulation of the neurosteroid/GABAergic system in female offspring: An animal model for premenstrual dysphoric disorder. A. BORROW\*; S. DONUK; N. M. CAMERON. *Binghamton Univ., Binghamton Univ.*
- 1:30 **375.03** Predator-induced fear alters serotonergic signaling pathways in the adolescent female amygdala; a rodent model to study sex-specific effects of early life stress. S. L. KIGAR\*; L. CHANG; A. CUARENTA; J. R. SEHRING; N. T. KARLS; M. R. HAYNE; V. P. BAKSHI; A. P. AUGER. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*
- 1:45 **375.04** Early life stress enhances susceptibility to depression via long-lasting transcriptional alterations. C. J. PENA\*; I. PURUSHOTHAMAN; H. M. CATES; R. C. BAGOT; D. M. WALKER; L. SHEN; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai.*
- 2:00 **375.05** Multimodal Early-Life Stress paradigm as potential animal model for depressive-like behavior induction in rats. L. D. GODOY\*; E. H. L. UMEOKA; N. GARCIA-CAIRASCO. *Univ. of Sao Paulo, INeC - Neurosci. and Behavioral Inst., Univ. of Sao Paulo.*
- 2:15 **375.06** Post-weaning REM sleep restriction induces anxiety, anhedonia and changes in monoamine levels in the amygdala and hippocampus. D. SUCHECKI\*; R. B. MACHADO; J. S. ROCHA. *Univ. Federal De Sao Paulo, Univ. Federal de Sao Paulo.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 2:30 **375.07** Early life stress alters the gene expression response of CA3 neurons to stress in adulthood. J. D. GRAY\*; J. F. KOGAN; T. G. RUBIN; E. F. SCHMIDT; N. HEINTZ; B. S. MCEWEN. *The Rockefeller Univ., Albert Einstein Col. of Med., The Rockefeller Univ.*
- 2:45 **375.08** Role of serotonin 1A receptor in offspring's susceptibility to maternal stress as measured by behavioural outcomes in adulthood. V. KIRYANOVA\*; V. M. SMITH; V. NAGESH; M. C. ANTLE; R. H. DYCK. *Univ. of Calgary, Univ. of Calgary.*
- 3:00 **375.09** Ontogeny of ultrasonic vocalization and respiratory responses to an aversive event in rats. J. BOULANGER BERTOLUS\*; M. RINCÓN-CORTÉS; R. M. SULLIVAN; A. MOULY. *Lyon Neurosci. Res. Ctr., New York Univ. Sch. of Med.*
- 3:15 **375.10** Effects of early deprivation on functional brain systems supporting executive function in adolescence. K. M. THOMAS\*; R. H. HUNT; R. A. COWELL; A. S. HODEL; S. E. VAN DEN HEUVEL; M. R. GUNNAR. *Univ. Minnesota, St Norbert Col.*
- 3:30 **375.11** Prefrontal white matter organization at adolescence following early life stress. A. S. HODEL\*; R. H. HUNT; K. JEDD; M. R. GUNNAR; K. M. THOMAS. *Univ. of Minnesota.*
- 3:45 **375.12** Adolescent- and sex-related differences in stress-induced HPA and oxytocin hormonal responses in rats. R. D. ROMEO\*; C. LIU; J. FLORES-GALDAMEZ; S. MINHAS. *Barnard Col. of Columbia Univ.*
- 4:00 **375.13** Maternal separation increases cocaine-induced CPP and reduces miRNA-212 expression in the PFC of adolescents. T. W. VIOLA; L. WEARICK-SILVA; L. A. AZEREDO; F. GARCIA; T. W. BREDY; R. GRASSI-OLIVEIRA\*. *PUCRS, UFMG, Univ. of California - Irvine.*
- 4:15 **375.14** Maternal programming of adult behavior and metabolism by prenatal predator odor exposure. S. ST-CYR\*; S. ABUAISH; K. C. WELCH, Jr.; P. O. MCGOWAN. *Univ. of Toronto.*

## NANOSYMPOSIUM

### 376. Neuroimaging of Language

#### Theme F: Cognition and Behavior

Mon. 1:00 PM – McCormick Place, N227

- 1:00 **376.01** Cortical reading and picture comprehension extensively overlaps sensory-motor maps. M. I. SERENO\*; M. SOOD. *Univ. Calif San Diego, Univ. Col. London, Birkbeck Col. Univ. London.*
- 1:15 **376.02** Network dysfunction predicts speech production after left-hemisphere stroke. F. GERANMAYEH\*; R. LEECH; R. J. S. WISE. *Imperial Col. London.*
- 1:30 **376.03** Using lexical semantic ambiguity to distinguish information-specific from domain-general processing. W. W. GRAVES\*; S. R. SMOLIN; E. J. ALEXANDER. *Rutgers Univ.*
- 1:45 **376.04** Assessing the information content of semantic processing areas using sparse canonical correlation analysis. J. S. PHILLIPS\*; J. SEDOC; S. TUBRIDY; A. T. VU; M. E. PHILLIPS; R. BHATTACHARYYA; T. M. GURECKIS; L. UNGAR; M. GROSSMAN; B. B. AVANTS. *Univ. of Pennsylvania, Univ. of Pennsylvania, New York Univ., Univ. of Minnesota, HRL Laboratories, LLC, Univ. of Pennsylvania.*

- 2:00 **376.05** Cross-modal representation of spoken and written word meaning in anterodorsal pars triangularis. A. G. LIUZZI\*; R. BRUFFAERTS; P. DUPONT; K. ADAMCZUK; R. PEETERS; S. DE DEYNE; G. STORMS; R. VANDENBERGHE. *KU Leuven / Lab. For Cognitive Neurol., Univ. Hosp. Leuven, Lab. of Exptl. Psychology, Lab. for Cognitive Neurol., Univ. Hosp. Leuven.*
- 2:15 **376.06** Neural mechanisms for object semantics: Fine-grained feature statistics for object representation. A. R. PRICE\*; M. BONNER; J. PEELLE; M. GROSSMAN. *Univ. of Pennsylvania, Washington Univ. in St. Louis.*
- 2:30 **376.07** Large-scale functional networks connect differently for processing words and symbol strings. M. LILJESTRÖM\*; J. VARTIAINEN; J. KUJALA; R. SALMELIN. *Aalto Univ., Aalto Univ.*
- 2:45 **376.08** The effect of literacy acquisition on cortical and subcortical networks: A longitudinal approach. F. EISNER\*; U. KUMAR; R. K. MISHRA; V. N. TRIPATHI; A. GULERIA; J. P. SINGH; F. HUETTIG. *Radboud Univ., Sanjay Gandhi Postgraduate Inst. of Med. Sci. Campus, Univ. of Hyderabad, Univ. of Allahabad, Univ. of Allahabad, Max Planck Inst. for Psycholinguistics.*
- 3:00 **376.09** Decoding conceptual information from heteromodal cortex. L. FERNANDINO\*; C. J. HUMPHRIES; M. S. SEIDENBERG; W. L. GROSS; L. L. CONANT; J. R. BINDER. *Med. Col. of Wisconsin, Univ. of Wisconsin, Med. Col. of Wisconsin.*
- 3:15 **376.10** An algebraic architecture for semantic composition in left-mid superior temporal cortex: Defining the variables and interpreting the code. S. M. FRANKLAND; J. D. GREENE\*. *Harvard Univ.*
- 3:30 **376.11** Face information is dynamically incorporated into transmission and receptive language processes during interpersonal communication. J. HIRSCH\*; A. NOAH; X. ZHANG; S. YAHIL; J. PARK; D. RODRIGUEZ MORENO. *Yale Sch. of Med., Yale Sch. of Med., Yale Sch. of Med., Univ. Col. London.*

## NANOSYMPOSIUM

### 377. Learning and Memory: Aging and Alzheimer's Disease

#### Theme F: Cognition and Behavior

Mon. 1:00 PM – McCormick Place, N228

- 1:00 **377.01** Over-expression of the L-type voltage-gated calcium channel Ca<sub>v</sub>1.3 mimics age-related changes in cognition and neuronal dysfunction. G. G. MURPHY\*; S. MOORE; J. KRUGER. *Univ. of Michigan, Univ. of Michigan.*
- 1:15 **377.02** Cell-type specific changes in TrpC3 expression are associated with memory decline in a model of Alzheimer's disease. C. C. KACZOROWSKI\*; K. A. HOPE; L. A. WILMOTT; K. M. S. O'CONNELL; S. C. CHAN; S. M. NEUNER. *Univ. of Tennessee Hlth. Sci. Ctr., Univ. of Tennessee Hlth. Sci. Ctr., Northwestern Fienberg Sch. of Med.*
- 1:30 **377.03** Context discrimination in Alzheimer's disease model mice reveals adult-neurogenesis mechanism. D. CORTEZ\*; L. DENNER; K. T. DINELEY. *UTMB, UTMB, UTMB, UTMB, UTMB, UTMB, UTMB, UTMB.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author



- 1:45 **377.04** Improved proteostasis in the secretory pathway rescues Alzheimer's disease but not Huntington's disease or Amyotrophic Lateral Sclerosis. L. PUGLIELLI\*; Y. PENG; M. KIM; R. HULLINGER; K. J. O'RIORDAN; C. BURGER; M. PEHAR. *Univ. Wisconsin-Madison Med. Sch., Med. Univ. of South Carolina.*
- 2:00 **377.05** Interplay between APP, Delta40p53, and tau in the cognitive decline associated with aging and Alzheimer's disease. M. PEHAR\*; M. LI; K. J. O'RIORDAN; C. BURGER; L. PUGLIELLI. *Med. Univ. of South Carolina, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, VA Med. Ctr.*
- 2:15 **377.06** Systems genetics of 'normal' aging identifies novel candidates misregulated in Alzheimer's disease. S. M. NEUNER\*; M. DE BOTH; B. GARFINKEL; J. INGELS; L. LU; L. WILMOTT; T. SHAPAKER; R. WILLIAMS; G. KEMPERMANN; J. ORLY; M. HUENTELMAN; C. KACZOROWSKI. *Univ. of Tennessee Hlth. Sci. Ctr., Translational Genet. Res. Inst., The Hebrew Univ. of Jerusalem, Univ. of Tennessee Hlth. Sci. Ctr., Univ. of Tennessee Hlth. Sci. Ctr., Technische Univ. Dresden.*
- 2:30 **377.07** Presynaptic mitochondria in the monkey PFC: Implications for normal aging, menopause, and working memory. Y. HARA\*; F. YUK; R. PURI; W. G. M. JANSSEN; P. R. RAPP; J. H. MORRISON. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Natl. Inst. on Aging.*
- 2:45 **377.08** Mouse models of Alzheimer's disease: What are they modelling? G. M. ROSE\*; E. HAYASHI; P. R. PATRYLO. *Southern Illinois Univ.*
- 3:00 **377.09** Transcriptional signatures of brain aging and Alzheimer's disease: What are our animal models telling us? E. M. BLALOCK\*. *Univ. Kentucky Coll Med.*
- 3:15 **377.10** Testing the effects of diabetes mellitus on cognitive ability in a mouse model of Alzheimer's disease. E. HAYASHI\*; C. GRIFFITH; H. ZHANG; B. OZMENT; P. PATRYLO; G. ROSE. *Southern Illinois Univ.*
- 3:30 **377.11** Rodent models of synaptic senescence: Relevance to discovery of AD therapies. T. C. FOSTER\*. *Evelyn F. and William L. McKnight Brain Inst. Univ. Florida.*
- 3:45 **377.12** Characterization of GABAergic basal forebrain neurons in young and aged behaviorally characterized rhesus monkeys. C. BANUELOS\*; E. J. PEREZ; J. M. LONG; M. T. ROBERTS; S. FONG; P. R. RAPP. *NIH-NIA, Univ. of California, Davis.*
- 4:00 **377.13** Learning impairments identified early in life are predictive of future impairments associated with aging. C. BURGER\*; R. HULLINGER. *Univ. Wisconsin, Univ. Wisconsin.*
- 1:15 **378.02** Dichotomous behavioral outcomes of egr3 expression in nucleus accumbens medium spiny neuron subtypes. T. C. FRANCIS\*; R. CHANDRA; P. KONKALMATT; A. KLAUSING; M. ENGELN; M. LOBO. *Univ. of Maryland, Baltimore, Univ. of Maryland, Baltimore, Univ. of Maryland SOM, Univ. of Maryland SOM.*
- 1:30 **378.03** Direct and indirect pathway neurons bidirectionally modulate affective state in the dorsal striatum. K. H. LEBLANC\*; D. M. FRIEND; K. P. NGUYEN; A. V. KRAVITZ. *NIH/NIDDK, NIH/NIDA.*
- 1:45 **378.04** Striatal synapses as a central node for ASD pathophysiology. M. V. FUCCILLO\*. *Univ. of Pennsylvania.*
- 2:00 **378.05** Wireless optofluidic systems for programmable *in vivo* pharmacology and optogenetics. J. G. MCCALL\*; J. JEONG; G. SHIN; Y. ZHANG; R. AL-HASANI; M. KIM; S. LI; J. SIM; K. JANG; Y. SHI; D. Y. HONG; Y. LIU; G. P. SCHMITZ; L. XIA; Z. HE; P. GAMBLE; W. Z. RAY; Y. HUANG; J. A. ROGERS; M. R. BRUCHAS. *Washington Univ., Univ. of Colorado, Univ. of Illinois at Urbana-Champaign, Northwestern Univ., Electronics and Telecommunications Res. Inst., Washington Univ.*
- 2:15 **378.06** Mechanisms of synaptic plasticity at excitatory hippocampal inputs to the nucleus accumbens. T. A. LEGATES\*; S. M. THOMPSON. *Univ. of Maryland Sch. of Med.*
- 2:30 **378.07** A novel role for the metabotropic glutamate receptor mGluR5 in regulating striatal synapse maturation. S. BHAGAT\*; Y. WAN; R. HERNANDEZ-MARTINEZ; N. CALAKOS. *Duke Univ.*
- 2:45 **378.08** Neuroligin-2 knockdown in the nucleus accumbens modulates social behavior. M. HESHMATI\*; H. ALEYASIN; C. MENARD; M. E. FLANIGAN; M. L. PFAU; P. H. GOFF; G. E. HODES; A. LEPACK; L. BICKS; I. S. MAZE; S. A. GOLDEN; S. J. RUSSO. *Icahn Sch. of Med. at Mount Sinai, Natl. Inst. of Drug Abuse.*
- 3:00 **378.09** Genetic dissection of striatal neural circuits in a conditional BAC transgenic mouse of VIPR2 CNV: A susceptibility allele of schizophrenia. X. LU\*; A. RICHARD; W. YANG; N. GOEDERS. *LSU Hlth. Sci. Ctr., LSU Hlth. Sci. Ctr., UCLA.*
- 3:15 **378.10** A novel role for E2F3a and E2F3b in cocaine-elicited behavioral and molecular response. H. M. CATES\*; E. A. HELLER; R. C. BAGOT; E. S. CALIPARI; C. J. PEÑA; D. M. WALKER; E. RIBEIRO; E. J. NESTLER. *Icahn Sch. of Med. At Mt. Sinai.*
- 3:30 **378.11** Redefining the direct and indirect pathways of the ventral striatum. Y. M. KUPCHIK\*; R. M. BROWN; J. HEINSBROK; M. LOBO; D. J. SCHWARTZ; P. W. KALIVAS. *The Hebrew Univ., Univ. of Melbourne, Med. Univ. of South Carolina, Univ. of Maryland.*
- 3:45 **378.12** Voltage dependent inhibitory synaptic plasticity in the nucleus accumbens. D. GHOSE\*; E. DELPIRE; B. A. GRUETER. *Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr.*
- 4:00 **378.13** Upregulation of dopamine D2 receptors in the nucleus accumbens indirect pathway enhances motivation by disinhibiting the direct pathway. E. F. GALLO\*; J. JAVITCH; C. KELLENDONK. *Columbia Univ.*

## NANOSYMPOSIUM

### 378. Striatal Circuits in Psychiatric Diseases

#### Theme F: Cognition and Behavior

Mon. 1:00 PM – McCormick Place, S403

- 1:00 **378.01** Cell-type specific epigenetic reprogramming of the Fosb gene controls depression-related behaviors. E. A. HELLER\*; P. J. HAMILTON; D. BUREK; H. M. CATES; C. J. PENA; E. J. NESTLER. *Univ. of Pennsylvania, Perelman Sch. of Med., Icahn Sch. of Med. at Mount Sinai.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

## DYNAMIC POSTERS

### DP05. Dynamic Posters—Monday Afternoon

Mon. 1:00 PM – McCormick Place, Hall A

All dynamic poster presentations will take place during the full four-hour session time. The theme of the dynamic poster being presented is indicated by the letter in the leftmost column.

- A DP01 **DP05.01** Diversity of human neuron profiles *in vitro*: Single-cell transcriptome, electrophysiology and morphology. \*C. BARDY; M. VAN DEN HURK; B. KAKARADOV; J. A. ERWIN; B. JAEGER; R. V. HERNANDEZ; T. EAMES; M. GORRIS; E. SANTO; R. JAPPELLI; J. BARRON; C. MARCHAND; A. BRYANT; M. KELLOGG; R. LASKEN; H. W. M. STEINBUSCH; G. YEO; F. H. GAGE. *Salk Inst., Maastricht Univ., Univ. of California San Diego, J. Craig Venter Inst.*
- A DP02 **DP05.02** Amyloid precursor protein dimerization modulates neurogenesis. \*L. LUU; L. J. VELLA; L. CHENG; A. F. HILL; L. MUNTER; G. MULHAUP; G. D. CICCOTOSTO; R. CAPPAL. *Univ. of Melbourne, Inst. of Neurosci. and Mental Hlth., Bio21, Melbourne, Australia; McGill Univ.*
- D DP03 **DP05.03** Large-scale silicon probe recordings identify new cell types and gamma rhythm properties in the mouse superior colliculus. \*S. ITO; D. A. FELDHEIM; A. M. LITKE. *Santa Cruz Inst. for Particle Physics, Molecular, Cell and Developmental Biol., Univ. of California, Santa Cruz.*
- D DP04 **DP06.04** The Allen Cell Types Database: Interactive multimodal exploration of neurons in the adult mouse brain. D. FENG; \*S. M. SUNKIN; C. LAU; W. WAKEMAN; Y. LI; F. LONG; K. GODFREY; T. FLISS; R. YOUNG; F. LEE; G. GU; T. DOLBEARE; A. SODT; N. SJOQUIST; M. CHAPIN; N. HEJAZINIA; S. SHI; B. YOUNGSTROM; T. GILBERT; A. BERNARD; M. HAWRYLYCZ; H. ZENG; J. PHILLIPS; C. DANG; C. KOCH; L. NG. *Allen Inst. for Brain Sci.*
- D DP05 **DP05.05** Fast 3D imaging of sensory-evoked dendritic activity in visual cortex. \*C. BARAGLI; D. COYLE; M. F. IACARUSO; H. ROS; T. D. MRSIC-FLOGEL; R. A. SILVER. *Neuroscience, Physiol. and Pharmacol., Univ. Col. London, Biozentrum, Univ. of Basel.*
- D DP06 **DP05.06** Different and overlapped neural populations in zebrafish hindbrain for eye position coding and tail motion compensation during optokinetic response. \*Z. LIU; S. SUN. *Inst. Biophysics, CAS.*
- E DP07 **DP05.07** Long lasting calcium elevations in GnRH neuron distal dendron and nerve terminals driven by brief kisspeptin signals. \*K. J. IREMONGER; A. E. HERBISON. *Ctr. for Neuroendocrinology, Univ. of Otago.*
- E DP08 **DP05.08** Hypothalamic estrogen receptor alpha signaling modulates energy expenditure but not food intake in female mice. \*S. CORREA; W. C. KRAUSE; C. E. HERBER; H. A. INGRAHAM. *Cell. & Mol. Pharmacol., Univ. of California San Francisco.*
- F DP09 **DP05.09** Dynamic distribution of a fear memory engram. I. BERTOCCHI; A. GRUART; P. BOTTA; R. MARTICORENA-ALVAREZ; D. ARCOS-DÍAZ; G. DOGBEVIA; M. TREVIÑO; A. LÜTHI; P. H. SEEBURG; V. GRINEVICH; R. SPRENGEL; J.-M. DELGADO-GARCÍA; \*M. T. HASAN. *Max Planck Inst. for Med. Res., Univ. Pablo de Olavide, Friedrich Miescher Inst. for Biomed. Res., Charite-Universitätsmedizin Berlin, Inst. de Neurociencias, Univ. de Guadalajara, Deutsches Krebsforschungszentrum.*

- F DP10 **DP05.10** Engram cells retain memory under retrograde amnesia. \*T. J. RYAN; D. S. ROY; M. PIGNATELLI; A. ARONS; S. TONEGAWA. *Picower Inst. for Learning and Memory, M.I.T.*

## POSTER

### 379. Cell Cycle Control in Neurogenesis

#### Theme A: Development

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 A1 **379.01** Role of (-)-Epigallocatechin-3-gallate (EGCG) on cultured hippocampal cells in *in vitro* hyperglycemic model of diabetes. S. F. ALMOHRI\*. *DEPT OF ANATOMY, FACULTY OF MEDICINE, KUWAIT UNIVE.*
- 2:00 A2 **379.02** Complete cell-cycle dependent roles for nde1 versus ndel1 in radial glia progenitors during brain development. D. DOOBIN\*; S. KEMAL; T. J. DANTAS; R. VALLEE. *Columbia Univ.*
- 3:00 A3 **379.03** Multiple, sequential cell autonomous and non-autonomous roles for Kif1A in brain development. A. CARABALONA\*; D. J. HU; R. B. VALLEE. *Columbia Univ. Med. Ctr.*
- 4:00 A4 **379.04** Mating and neurogenesis in the male mice olfactory bulb. M. A. VELAZCO MENDOZA\*; W. PORTILLO; R. G. PAREDES. *INB UNAM.*
- 1:00 A5 **379.05** Afadin maintains cell polarity and junctions to control progenitor behaviors and cortical architecture. J. M. RAKOTOMAMONJY\*; M. BRUNNER; C. JÜSCHKE; K. ZANG; E. J. HUANG; L. F. REICHARDT. *UIC, UCSF, Inst. of Human Genet., UCSF.*
- 2:00 A6 **379.06** The effect of maternal saccharin consumption on the morphological development of the cerebrum. A. ALHASSAN\*; Z. M. BAUCHI; R. A. KAREEM. *Ahmadu Bello Univ. Zaria.*
- 3:00 A7 **379.07** Effects of phosphatidylserine administration in cell proliferation and neurogenesis in the hippocampus of rats submitted to chronic ethanol consumption. L. F. TAKASE\*; J. T. CASTRO; L. V. V. SALIS; H. MARAGNO; P. RODELLA. *Lab. De Anatomia - DMP - UFSCar, Ctr. Universitário da Fundação Educacional de Barretos, Univ. Estadual Paulista Júlio de Mesquita Filho.*
- 4:00 A8 **379.08** Investigating cell cycle regulation of adult neural stem cells by Hedgehog signaling. M. DAYNAC; L. TIROU; H. FAURE; L. R. GAUTHIER; M. MOUTHON; F. D. BOUSSIN; M. RUAT\*. *CNRS, CEA.*
- 1:00 A9 **379.09** Ethynyldeoxyuridine (edu) exhibits delayed incorporation kinetics and induces cell death in adult neurogenic niches. A. J. ROLFE; P. URBINA; E. D. LAYWELL\*. *Florida State Univ., Florida State Univ.*
- 2:00 A10 **379.10** Control of G1/S transition in multipotent neural progenitors by Brap determines the quantity and quality of cortical neurons. A. A. LANCTOT; Y. LE; B. EDENS; Y. FENG\*. *Northwestern Univ., Illinois Inst. of Technol., Northwestern Univ., Northwestern Univ. Sch. of Med.*

3:00 A11 **379.11** Effects of electromagnetic stimulation on neurogenesis in murine enteric cell cultures. A. CARREON-RODRIGUEZ\*; R. RODRIGUEZ-VALENTIN; I. BARRIOS-JACOBO; L. CAÑEDO-DORANTES. *Inst. Nacional De Salud Publica, Facultad de Medicina, Univ. Autonoma del Estado de Morelos.*

## POSTER

### 380. Induced Pluripotent Stem Cells: Modeling Development and Disease

#### Theme A: Development

Mon. 1:00 PM – McCormick Place, Hall A

1:00 A12 **380.01** The role of Hes1 and Msx1 in the induction of embryonic stem cells in neural crest derivatives. K. MENDEZ-MALDONADO\*; G. VEGA-LÓPEZ; E. SÁNCHEZ-CRUZ; S. CABALLERO-CHACÓN; M. AYBAR; I. VELASCO-VELÁZQUEZ. *Univ. Nacional Autónoma De México/Instituto, Facultad de Bioquímica, Química y Farmacia., Natl. Autonomous Univ. of Mexico/Institute, Facultad de Medicina Veterinaria y Zootecnia, UNAM.*

2:00 A13 **380.02** Cocaine affects neurodevelopmental signaling in neocortical organoids derived from human pluripotent stem cells. C. LEE\*; J. CHEN; A. A. KINDBERG; C. E. SPIVAK; D. C. MASH; W. J. FREED. *Univ. of Miami, NIDA/NIH.*

3:00 A14 **380.03** ● Study human neuronal maturation using human pluripotent stem cells. Y. WANG\*; B. GREGOR; M. FUQUA; Z. YAO; H. MULHOLLAND; R. MARTINEZ; J. TING; A. KROSTAG; J. GRIMLEY; B. LEVI; V. MENON; C. THOMPSON; S. RAMANATHAN. *Allen Inst. For Brain Sci., Harvard Stem Cell Inst.*

4:00 A15 **380.04** Induced neurogenesis of corticofugal projection neurons from endogenous cortical progenitors. A. OZKAN\*; H. PADMANABHAN; S. L. SHIPMAN; A. N. BASAK; J. D. MACKLIS. *Harvard Univ., Bogazici Univ.*

1:00 A16 **380.05** Spinal transplantation of porcine autologous induced pluripotent stem cell-derived neural precursors into naïve and chronic spinal trauma-injured minipigs: Long-term survival, differentiation and safety study. J. STRNADEL\*; C. CARROMEU; S. MARSALA; S. JUHAS; J. JUHASOVA; K. KAMIZATO; T. YOSHIZUMI; M. R. NAVARRO; J. A. CORLETO; J. GIESSINGER; A. M. ALAMRI; O. PLATOSHYN; A. MIYANOHARA; J. MOTLIK; J. BUI; A. R. MUOTRI; T. KATO; M. MARSALA. *Univ. of California San Diego, Inst. of Animal Physiol. and Genet. vvi, Ctr. for iPS Cell Res. and Application CIRA Kyoto Univ.*

2:00 A17 **380.06** Neurotrophins and trk receptors expression in preinduced rat bone marrow stromal cells into neuron phenotype with selegiline. A. ROEINTAN\*; T. TIRAIHI. *Shefa Neurosci. Res. Ctr., Shefa Neurosci. Res. Center, Khatam Ol Anbia Hosp.*

3:00 A18 **380.07** Effects of neuronal fate on secretion of APP metabolites. C. R. MURATORE\*; C. ZHOU; T. L. YOUNG-PEARSE. *Ann Romney Ctr. For Neurologic Dis., Brigham and Women's Hosp.*

4:00 A19 **380.08** Effect of food-derived opioid peptides on neuronal stem cell differentiation: Implications of redox-based epigenetic changes. M. S. TRIVEDI\*; Y. ZHANG; M. L. TOLEDANO; R. C. DETH. *Nova Southeastern Univ., Northeastern Univ., Florida Atlantic Univ.*

1:00 A20 **380.09** Human neural stem cell-induced endothelial morphogenesis requires paracrine and juxtacrine signalling. M. M. MODO\*; C. CHOU. *Univ. of Pittsburgh, Univ. of Pittsburgh.*

2:00 A21 **380.10** Sustained culture of human stem cell-derived radial glial cell recapitulates cortical development. S. VAN GULDEN; L. DUAN; V. CHU; A. R. WADHWANI; J. A. KESSLER\*. *Northwestern Univ.*

3:00 A22 **380.11** ▲ Acetylcholinesterase influences neuronal differentiation from stem cells. M. ROSS; A. ALRIDGE; S. GONZALEZ; M. SRIVATSAN\*. *Arkansas State Univ.*

4:00 A23 **380.12** Modeling human telencephalic development using iPSCs *in vivo* and *in vitro*: Deleterious effects of disrupting cell-to-cell contacts. G. G. ALTOBELLI\*; M. AMENDUNI; G. COPPOLA; J. MARIANI; A. AMIRI; F. M. VACCARINO. *Yale Univ., Univ. of Naples Federico II, Yale Univ.*

1:00 A24 **380.13** BrainPhys™ Neuronal Medium: A medium optimized to support the synaptic activity of neurons derived from human pluripotent stem cells or primary CNS tissues. C. K. H. MAK; V. M. LEE; J. YOON; L. CHEW; S. LLOYD-BURTON; A. C. EAVES; T. E. THOMAS; S. A. LOUIS\*. *STEMCELL Technologies Inc, Terry Fox Laboratory, BC Cancer Agency.*

2:00 A25 **380.14** Deterministic derivation of human neural stem cell and somatic motor neuron phenotypes from any hindbrain or spinal cord region. R. S. ASHTON\*; E. S. LIPPMANN; G. T. KINGHT; M. C. ESTEVEZ-SILVA; C. E. WILLIAMS; D. A. RUHL; M. A. BAKOOSHLI; P. M. GILBERT; E. R. CHAPMAN; J. J. COON. *Univ. of Wisconsin–Madison, Univ. of Wisconsin–Madison, Univ. of Toronto.*

3:00 A26 **380.15** Comparative transcriptome analysis between *in vitro* and *in vivo* neural development. C. FLORUTA\*; P. CHANDER; R. DU; H. KANG; J. P. WEICK. *Univ. of New Mexico, Univ. of New Mexico, Univ. of New Mexico.*

4:00 A27 **380.16** Inhibition of Wnt signaling enhances yield of Medial Ganglionic Eminence progenitors. I. IHNATOVYCH\*; J. LENTINI; A. SHENG; E. LAZAR; D. NAIR; K. SZIGETI. *SUNY At Buffalo.*

1:00 A28 **380.17** The aging signature of human neurons derived by microRNA-mediated direct conversion of fibroblasts. C. J. HUH\*; A. S. YOO. *Washington Univ.*

2:00 A29 **380.18** Characterization of metabotropic glutamate receptor 2 in human pluripotent stem cell derived hippocampal PROX1 granule cells. J. RÉTHELYI\*; E. HATHY; G. VÖFÉLY; L. HOMOLYA; B. SARKADI; Á. APÁTI. *Semmelweis Univ., Hungarian Acad. of Sci. and Semmelweis Univ., Hungarian Acad. of Sci.*

3:00 A30 **380.19** Effects of Caffeine on pluripotent stem cells-induced neural rosettes formation and neural stem cells proliferation. B. YAMANOHA\*; T. WAKAI; R. SAKAI. *Soka Univ. Fac. of Engin.*

4:00 A31 **380.20** Odorant receptors loci epigenetic landscape in mouse embryonic stem cells. I. G. PARVANOVA\*; P. FEINSTEIN; E. LEMPERT. *Hunter Col., Hunter Col.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 1:00 A32 **380.21** Physiologically normal 5% O<sub>2</sub> supports neuronal differentiation and resistance to ischemic injury in neural stem cell cultures. X. SUN\*; L. VOLOBOUEVA; C. M. STARY; R. G. GIFFARD. *Stanford Univ.*
- 2:00 A33 **380.22** APP cleavage changes during differentiation of human cortical neurons from iPS cells. P. BERGSTRÖM\*; F. NAZIR; E. PORTELIUS; J. TOOMBS; H. WELLINGTON; J. STRANDBERG; T. OLSSON BONTELL; C. BORESTRÖM; S. SIMONSSON; T. KUNATH; K. BLENNOW; E. HANSE; H. ZETTERBERG; S. WRAY; L. AGHOLME. *Inst. of Neurosci. and Physiol., Inst. of Neurosci. and Physiol., Inst. of Neurol., Biomedicine, MRC Ctr. for Regenerative Med.*
- 3:00 A34 **380.23** 3D retina-like tissue from human pluripotent stem cells derived in adherent monolayer culture. I. O. NASONKIN\*; R. K. SINGH; R. K. MALLELA; P. K. CORNUET. *Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 4:00 A35 **380.24** Differentiated human pluripotent stem cells for cell-based therapy of spinal cord injury. J. VIVIAN\*; S. TAGUE; D. AGBAS; J. DRAPER; J. PACE; S. PAUL; M. WEISS; P. SMITH. *Univ. of Kansas Med. Ctr., Univ. of Kansas Med. Ctr., Kansas State Univ.*
- 1:00 A36 **380.25** Defining dynamic change in neural fate specification across human pluripotent cells. D. HOEPPNER\*; J. CHENOWETH; S. KIM; A. JAISHANKAR; Y. WANG; N. OLIVARES; S. SEO; G. STEIN O'BRIEN; C. COLANTUONI; R. MCKAY. *Lieber Inst. For Brain Develop.*
- 2:00 A37 **380.26** ● New tools for the generation of differentiated CNS cell types from human pluripotent stem cells: STEMdiff neuron, dopaminergic neuron, and astrocyte kits. V. M. LEE\*; L. CHEW; J. YOON; S. LLOYD-BURTON; A. C. EAVES; T. E. THOMAS; S. A. LOUIS. *STEMCELL Technologies Inc, STEMCELL Technologies, STEMCELL Technologies.*
- 3:00 A38 **380.27** Pluripotent derived human enteric neuron lineage for combined cell and drug based therapy in hirschsprung's disease. F. FATTAHI\*; J. STEINBECK; S. KRIKS; J. TCHIEU; B. ZIMMER; S. KISHINEVSKY; N. ZELTNER; Y. MICA; W. EL-NACHEF; E. DE STANCHINA; M. GERSHON; T. GRIKSCHHEIT; S. CHEN; L. STUDER. *Weill Cornell Grad. Sch. of Med. Sci., Mem. Sloan Kettering Cancer Ctr., Children's Hosp. Los Angeles, Mem. Sloan Kettering Cancer Ctr., Columbia Univ., Weill Med. Col. of Cornell Univ.*
- 2:00 A40 **381.02** DISC1-binding zinc finger protein (DBZ) regulates cortical cell positioning and neurite elongation through control of Ndel1 dual-phosphorylation. T. IGUCHI\*; M. OKAMOTO; T. HATTORI; S. MATSUZAKI; Y. KOYAMA; M. TANIGUCHI; M. KOMADA; M. XIE; H. YAGI; S. SHIMIZU; M. OMI; T. KATAYAMA; A. ITO; S. HIROTSUNE; M. TOHYAMA; M. SATO. *Osaka Univ., Univ. of Fukui, Univ. of Fukui, Univ. of Fukui, Osaka Univ., United Grad. Sch. of Child Development, Osaka University, Kanazawa University, Hamamatsu Univ. Sch. of Medicine, Chiba Univ. and Univ. of Fukui, Osaka City Univ.*
- 3:00 A41 **381.03** Photoactivated adenylyl cyclase (PAC) as an optogenetic tool to investigate cAMP-mediated axonal morphogenesis. Z. ZHOU\*; K. TANAKA; S. MATSUNAGA; M. ISEKI; M. WATANABE; N. MATSUKI; Y. IKEGAYA; R. KOYAMA. *The Univ. of Tokyo, Sch. of Medicine, Keio Univ., Hamamatsu Photonics K.K., Toho Univ., The Grad. Sch. for the Creation of New Photonics Industries.*
- 4:00 A42 **381.04** Regulated mRNA degradation controls axonal mRNA localization. J. C. MARTINEZ\*; U. HENGST. *Columbia Univ.*
- 1:00 A43 **381.05** Pre-target organization of retinal ganglion cell axons in the developing mouse optic tract: Eye-specific versus topographic axon order. A. A. SITKO\*; C. A. MASON. *Columbia Univ., Columbia Univ.*
- 2:00 A44 **381.06** Quantitative analysis of axonal branch dynamics in the developing retinotectal system. G. J. GOODHILL\*; K. CHALMERS; E. M. KITA. *The Univ. of Queensland.*
- 3:00 A45 **381.07** Localized G3BP aggregation in axonal regeneration. P. K. SAHOO; A. SHARAF; C. GOMES; S. LEE; S. M. RANDOLPH; R. BEN-TOV-PERRY; M. FAINZILBER; J. L. TWISS\*. *Univ. of South Carolina, Weizmann Inst. of Sci.*
- 4:00 A46 **381.08** ● TRIM9 regulates netrin-1 dependent axon guidance through ubiquitination of VASP. N. BOYER\*; S. MENON; C. C. WINKLE; A. M. TAYLOR; S. L. GUPTON. *Univ. of North Carolina At Chapel Hill.*
- 1:00 A47 **381.09** Analyses of signaling pathways involved in the GPR3-mediated neurite outgrowth. S. TANAKA\*; T. MIYAGI; I. HIDE; T. SHIRAFUJI; N. SAKAI. *Hiroshima Univ. Sch. of Biomed. Sci.*
- 2:00 A48 **381.10** Analysis of coding and non-coding transcripts during maturation of defined population of CNS neurons. E. F. TRAKHTENBERG\*; D. W. PITA-THOMAS; D. VELMESHEV; S. M. DOMBROWSKI; L. I. BENOWITZ; J. L. GOLDBERG. *Boston Children's Hospital, Harvard Med. Sch., Washington Univ., Univ. of Miami Sch. of Med., Genomatix Software, Children's Hospital, Harvard Med. Sch., Univ. of California San Diego.*
- 3:00 A49 **381.11** Live imaging of endosome dynamics and guidance receptors in developing neurons reveals trafficking patterns *in vivo*. J. MILLER\*; E. HANNIGAN; M. HALLORAN. *Univ. of Wisconsin, Univ. of Wisconsin.*
- 4:00 A50 **381.12** Modeling protein synthesis-dependent axon guidance with human induced pluripotent stem cells. T. S. CATLETT\*; R. H. NICHOL, IV; K. M. HAGEN; A. J. MCCANN; T. M. GOMEZ. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*

## POSTER

### 381. Intrinsic Mechanisms of Axon Growth and Guidance

#### Theme A: Development

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 A39 **381.01** ASIC1 regulates cortical neurite growth through modifying Notch signaling. M. LIU; K. INOUE\*; A. ZHOU; Z. XIONG. *Neurosci. Institute, Morehouse Sch. of Med., Dept. of Microbiology, Biochem. and Immunology, Morehouse Sch. of Med.*

- 1:00 A51 **381.13** Reducing cap-dependent translation or S6K-GSK3 $\beta$  activity prevents accelerated axon growth induced by hyperactive mTOR *in vivo*. X. GONG; L. ZHANG; T. HUANG; T. V. LIN; J. WEN; L. HSIEH; A. F. BORDEY\*. *Yale Sch. Med., Xiangya Hospital, Central South Univ., Yale Univ., Xiangya Hospital, Central South Univ.*
- 2:00 A52 **381.14** SoxC transcription factors mediate contralateral retinal ganglion cell differentiation and axon guidance factors at the optic chiasm midline. T. KUWAJIMA\*; V. LEFEBVRE; C. MASON. *Columbia Univ., Cleveland Clin. Lerner Res. Inst., Columbia Univ.*
- 3:00 A53 **381.15** Reconciling growth cone adaptation and topographic guidance by a novel co-adaptation mechanism. F. FIEDERLING\*; M. WESCHENFELDER; M. BASTMEYER; F. WETH. *Karlsruhe Inst. of Technol.*
- 4:00 A54 **381.16** The anatomy, organisation and development of homotopic and heterotopic contralateral callosal projections from mouse primary somatosensory cortex. L. R. FENLON\*; R. SUÁREZ; L. J. RICHARDS. *The Univ. of Queensland, The Univ. of Queensland.*
- 1:00 A55 **381.17** Axonal mis-pathfinding and semaphorin reduction are observed in the hippocampus of  $\alpha$ -CaMKII hKO mice. S. NAKAHARA\*; S. MIYAKE; K. TAJINDA; H. ITO. *Astellas.*
- 2:00 A56 **381.18** TRIM9 regulates DCC localization and netrin-1-dependent signaling during axon branching and guidance. C. C. WINKLE\*; S. MENON; S. GUPTON. *UNC Chapel Hill, UNC Chapel Hill.*
- 3:00 A57 **381.19** Sites of H<sub>2</sub>O<sub>2</sub> generation in developing neurons: Role of reactive oxygen species and glutathione in axonal development. M. OLGUIN\*; J. MORAN. *Univ. Nacional Autonoma De Mexico.*
- 4:00 A58 **381.20** Morphometric alterations in netrin-1 receptor deficient mice. D. VOSBERG\*; A. MENEGAUX; C. MANITT; S. ZEHNTNER; C. ENG\*; K. DEDUCK; M. LEYTON; B. J. BEDELL; C. FLORES. *McGill Univ., McGill University, Douglas Hosp. Res. Ctr., Biospective Inc., McGill Univ., Res. Inst. of the McGill Univ. Hlth. Ctr., McGill Univ.*
- 1:00 A59 **381.21** Cell autonomous and non-autonomous functions of RacGAP  $\alpha$ -chimaerin in axon guidance at the midline choice point. S. KATORI\*; S. ITOHARA; T. IWASATO. *Natl. Inst. of Genet., RIKEN Brain Sci. Inst.*
- 2:00 A60 **381.22** Local synthesis of dynein cofactors regulates transport of axonal cargoes. J. M. VILLARIN\*; U. HENGST. *Columbia Univ.*
- 3:00 A61 **381.23** Importance of Reelin C-terminal region in the development and maintenance of the postnatal cerebral cortex and its regulation by specific proteolysis. T. KOHNO\*; T. HONDA; K. KUBO; Y. NAKANO; A. TSUCHIYA; T. MURAKAMI; H. BANNO; K. NAKAJIMA; M. HATTORI. *Nagoya City Univ., Keio Univ. Sch. of Med.*
- 4:00 A62 **381.24** Celsr3 is required in Isl1-positive cells in ventral telencephalon and prethalamus to guide cortical and thalamic axons. Q. XIAN\*; J. FENG; Y. QU; L. ZHOU. *Jinan Univ.*

- 1:00 A63 **381.25** TxnRd2-mediated metabolic redox dysregulation during neuronal differentiation results in abnormal mitochondrial morphology and neurite arborization. A. FERNANDEZ\*; B. KARPINSKI; D. MEECHAN; T. MAYNARD; A. S. LAMANTIA. *The George Washington Univ.*

## POSTER

### 382. Synaptic Structure and Glutamate Receptors

#### Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 A64 **382.01** Wnt5a regulates GluN2B containing NMDA receptor trafficking by mobilizing intracellular calcium. A. L. MCQUATE\*; A. BARRIA. *Univ. of Washington.*
- 2:00 A65 **382.02** Ror2-Wnt5a signaling in hippocampal neurons regulates NMDAR-mediated synaptic transmission. E. S. LATORRE-ESTEVEZ\*; A. BARRIA. *Univ. of Washington Sch. of Med.*
- 3:00 A66 **382.03** Zinc increases accumulation of Shank3 at the postsynaptic density independent of NMDA receptor activation. J. TAO-CHENG\*; D. TOY; C. A. WINTERS; T. S. REESE; A. DOSEMECI. *NIH.*
- 4:00 A67 **382.04** FILIP-related molecule binds to NMDA receptor and controls spine maturation and synaptic function of the hippocampal neuron. K. KURODA\*; H. YAGI; M. XIE; Y. FUKAZAWA; Y. OKA; T. IGUCHI; M. SATO. *Univ. of Fukui, Hyogo Col. of Med., Osaka Univ.*
- 1:00 A68 **382.05** Arg kinase regulates NMDAR function and synaptic plasticity. X. XIAO\*; A. D. LEVY; B. J. ROSENBERG; M. J. HIGLEY; A. J. KOLESKE. *Yale Univ., Yale Univ., Yale Univ.*
- 2:00 A69 **382.06** Spinophilin association with NMDAR is regulated by protein kinase A. A. BEIRAGHI SALEK\*; J. P. MCBRIDE; M. C. EDLER, Jr; A. J. BAUCUM, II. *Indiana University-Purdue Univ. Indianapolis, Northwestern, Indiana Univ. Sch. of Med.*
- 3:00 A70 **382.07** Cell-type specific perturbation of nmdar function leads to disrupted receptive field structure in mouse visual cortex. J. L. HOY\*; C. NIELL. *Univ. Oregon, Univ. of Oregon.*
- 4:00 A71 **382.08** Depolarization of hippocampal neurons induces rapid and transient formation of nonsynaptic NMDA receptor islands resembling nascent postsynaptic densities. T. S. REESE\*; R. AZZAM; V. T. CROCKER; C. A. WINTERS; J. TAO-CHENG. *NIH, NIH.*
- 1:00 A72 **382.09** Synapse-specific expression of calcium-permeable AMPA receptors in neocortical layer-5 sharpens basket cell-mediated inhibition. T. LALANNE\*; J. OYRER; E. GREGOR; A. MANCINO; S. BURWELL; M. FARRANT; P. J. SJÖSTRÖM. *McGill Univ., Univ. Col. London, McGill Univ.*
- 2:00 A73 **382.10** Novel AMPA receptor interacting proteins modulate memory. L. J. SCHMITZ\*; R. V. KLAASSEN; A. B. SMIT; S. SPIJKER. *VU Univ.*

Mon. PM

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 3:00 A74 **382.11** Interactions of Calcineurin with PSD-proteins modulates AMPA receptor trafficking in Purkinje cells. Z. LIN\*; B. WU; M. W. PAUL; K. W. LI; M. PROIETTI ONORI; H. HASANBEGOVIC; A. HOUTSMULLER; F. E. HOEBEEK; M. SCHONEWILLE; Z. GAO; A. B. SMIT; C. I. DE ZEEUW. *Erasmus MC, Erasmus MC, VU Univ. Amsterdam, Netherlands Inst. for Neuroscience, Royal Netherlands Acad. of Arts & Sci.*
- 4:00 A75 **382.12** Usp46 regulates ampa receptor deubiquitination and trafficking. Y. HUO\*; N. KHATRI; Q. HOU; J. GILBERT; H. MAN. *Boston Univ., Boston Univ. Sch. of Med.*
- 1:00 A76 **382.13** Involvement of Kainate Receptors in Cerebellar Climbing Fiber to Purkinje cell synaptic transmission and maturation. A. V. PATERNAIN\*; M. I. ALLER; J. LERMA. *Inst. de Neurociencias de Alicante CSIC-UMH.*
- 2:00 A77 **382.14** Activity-dependent regulation of ubiquitination at excitatory synapses. S. L. SCUDDER\*; M. S. GOO; E. M. RODRIGUES; G. N. PATRICK. *UC San Diego, UC San Diego.*
- 3:00 A78 **382.15** ▲ Spinophilin association with SAPAP3 is regulated by dopamine depletion, mGluR5, and protein kinase C. C. W. MORRIS\*; M. C. EDLER, Jr; A. J. BAUCUM, II. *Indiana University-Purdue Univ. Indianapolis, Indiana University-Purdue Univ. Indianapolis, Indiana Univ. Sch. of Med.*
- 4:00 A79 **382.16** Proteomic screening for substrates of CaMKII stimulated by NMDA. S. NAKAMUTA\*; T. NISHIOKA; T. TAKANO; M. AMANO; A. NISHI; K. KAIBUCHI. *Nagoya Univ. Grad. Sch. of Med., Dept. of Pharmacol.*
- 2:00 A85 **383.06** Effect of pentobarbital on brain membrane organization and lipid rafts: A new hypothesis of the effect of anesthetics on NMDAR function. F. J. SIERRA-VALDEZ; J. RUIZ-SUÁREZ; I. DELINT-RAMÍREZ\*. *CINVESTAV, Univ. Autonoma De Nuevo Leon, UT Southwestern Med. Ctr.*
- 3:00 A86 **383.07** ▲ Proportional suppression of NMDA and AMPA mediated synaptic responses in layer 2/3 pyramidal neurons from rat visual cortex by adenosine. J. T. ELLENBERG\*; N. M. BANNON; S. L. GURMAN; M. CHISTIAKOVA; M. VOLGUSHEV. *Univ. of Connecticut, Univ. of Connecticut.*
- 4:00 A87 **383.08** Novel mechanisms of pregnenolone sulfate modulation of GluN1/GluN2A NMDAR receptor gating. D. C. CHOPRA; S. DRAVID\*. *Creighton Univ.*
- 1:00 A88 **383.09** The conundrum of triheteromeric NMDA receptor assembly. N. A. MINASSIAN\*; M. GREEN; C. PURYEAR; S. BERTRAND; D. BERTRAND; D. BUHL. *Pfizer, Inc., HiQ Screen.*
- 2:00 A89 **383.10** NMDA receptor expression in human pulmonary artery smooth muscle cells. Y. DONG; D. R. LYNCH\*. *Univ. of Pennsylvania Sch. of Med.*
- 3:00 A90 **383.11** A novel mechanism regulating effects of STEP on synaptic NMDA receptors. S. WON\*; K. W. ROCHE. *NIH.*
- 4:00 A91 **383.12** The activity of the NMDA receptor is downregulated by ouabain in a Src dependent manner. L. WESTIN; E. AKKURATOV; A. MELNIKOVA; H. BLOM; H. B. BRISMAR\*; A. APERIA. *Karolinska Institutet, KTH, Royal Inst. of Technol., KTH, Royal Inst. of Technol.*
- 1:00 A92 **383.13** Novel role of X11 and X11L in the regulation of NMDA receptor localization. R. MOTODATE\*; Y. SAITO; T. SUZUKI. *Hokkaido Univ.*
- 2:00 A93 **383.14** Role of Wnt5a on GluN2B expression. E. RAMOS\*; N. C. INESTROSA. *Pontificia Univ. Católica.*
- 3:00 A94 **383.15** Up-regulation of hippocampal NR2B subunit in response to behavioral training contributes to memory consolidation in adult rats. C. WEI\*; Y. SUN. *Fudan Univ., Inst. of Brain Science, Fudan Univ.*
- 4:00 A95 **383.16** Glun1 c-terminal splicing controls glun1/gln3a nmda receptor function and pharmacology. K. A. CUMMINGS\*; G. K. POPESCU. *Univ. At Buffalo.*
- 1:00 A96 **383.17** Role of transmembrane domain interactions in nmda receptor assembly. C. L. SALUSSOLIA\*; Q. GAN; A. MALHOTRA; L. P. WOLLMUTH. *Stony Brook Univ., Stony Brook Univ., Stony Brook Univ.*
- 2:00 A97 **383.18** The neuronal endoplasmic reticulum (ER) undergoes rapid and reversible fission *in vivo*. The phenomenon correlates with changes in intracellular calcium and neuronal activity following cortical spreading depression. K. KUCHARZ\*; M. LAURITZEN. *Univ. of Copenhagen, Glostrup Hosp.*
- 3:00 A98 **383.19** Inhibition of sodium-calcium exchanger enhances calcium-dependent desensitization of NMDA receptors. D. A. SIBAROV\*; E. E. POGUZHELKAYA; P. A. ABUSHIK; S. M. ANTONOV. *Sechenov Inst. of Evolutionary Physiol. and Biochem.*

## POSTER

### 383. NMDA II

#### **Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 A80 **383.01** ▲ Modulation of molecular substrates of thalamic rhythmogenesis through synaptic NMDA receptors. C. PELLEGRINI; L. M. J. FERNANDEZ; A. LÜTHI; S. ASTORI\*. *DNF, Univ. of Lausanne.*
- 2:00 A81 **383.02** Adaptation of synaptic NMDARs during HIV Tat-induced neurotoxicity. M. GREEN\*; S. THAYER. *Univ. of Minnesota, Univ. of Minnesota.*
- 3:00 A82 **383.03** Identification of novel allosteric modulator binding sites in NMDA receptors. B. M. COSTA\*; L. T. KANE. *Virginia Col. of Osteo. Med.*
- 4:00 A83 **383.04** ▲ Glutamatergic synaptic transmission in the dorsal lateral septum. K. DALEY; A. HARASTA; M. KLUGMANN; J. M. POWER\*. *UNSW Australia.*
- 1:00 A84 **383.05** ● Endogenous 24S-hydroxycholesterol modulates NMDAR-mediated function in hippocampal slices. M. SUN\*; Y. IZUMI; A. BENZ; C. F. ZORUMSKI; S. J. MENNERICK. *Washington Univ. In St. Louis, Taylor Family Inst. for Innovative Psychiatric Res.*

- 4:00 A99 **383.20** Intersubunit interactions in the transmembrane regions of NMDA receptors. M. WILCOX\*; J. W. JOHNSON. *Univ. of Pittsburgh*.
- 1:00 A100 **383.21** Functional characterization of GluN3B splice variants expressed in developing white matter. M. FERREIRA BELTRÁN\*; L. BELTRÁN; B. ACKERMANN; R. TRIPPE; M. HOLLMANN. *Ruhr-Universität Bochum, Ruhr-Universität Bochum*.
- 2:00 A101 **383.22** Impact of intracellular soluble oligomers of amyloid- $\beta$  peptide on glutamatergic synaptic transmission. M. ROLLAND; J. MARTINEZ-HERNANDEZ; A. BUISSON\*; F. LANTÉ. *Gin-U836-Université J. Fourier Grenoble 1*.
- 3:00 A102 **383.23** Synaptic and extra-synaptic NMDAR subunit composition at juvenile hippocampal synapses. R. ROTHÄRMEL\*; N. J. BANNISTER; E. S. BURNELL; M. W. IRVINE; S. M. FITZJOHN; D. E. JANE; G. L. COLLINGRIDGE; A. VOLIANSKIS. *Univ. of Oxford, Univ. of Bristol, Univ. of Oxford*.
- 4:00 A103 **383.24** ● Potentiation of NMDA receptor-mediated synaptic currents is not evident in the population field response in Sprague Dawley rat CA1 hippocampus. N. SACHS\*; V. KUZMICK GRAUFELED; J. J. RENGGER; M. J. MARINO. *Merck & Co., Inc.*
- 1:00 A104 **383.25** A novel binding pocket for GluN2B-selective antagonists at the N-terminal domain interface of N-methyl-D-aspartate receptors. D. L. BUHL\*; D. STROEBEL; J. F. KNAPFELS; P. CHANDA; P. PAOLETTI; J. PANDIT. *Pfizer Inc., World Res. and Develop., Ecole Normale Supérieure, Inst. de Biologie de l'École Normale Supérieure, Pfizer Inc., World Res. and Develop.*
- 2:00 B2 **384.06** Novel Cav2-selective calcium channel gating modifiers that prolong channel deactivation and alter transmitter release at synapses. H. V. WHITE; M. WU; T. B. TARR; M. FRASSO; M. LIANG; P. WIPF; S. D. MERINEY\*. *Univ. Pittsburgh*.
- 3:00 B3 **384.07** Altered short-term synaptic plasticity and reduced strength in mice with impaired short-term regulation of a presynaptic calcium channel. E. NANOU\*; J. YAN; T. SCHEUER; W. A. CATTERALL. *Univ. of Washington*.
- 4:00 B4 **384.08** Amphetamine derivatives increase calcium levels in adrenal chromaffin cells. E. SOLIS\*, JR; L. J. DE FELICE; J. M. ELTIT. *VIRGINIA COMMONWEALTH UNIVERSITY*.
- 1:00 B5 **384.09** High resolution analyses of presynaptic protein localizations in the stimulated parallel fiber-Purkinje cell synapses. H. HARADA\*; K. BEPPU; K. MATSUI; Y. NAKAMURA; M. WATANABE; H. SAKAMOTO; S. NAMIKI; K. HIROSE; R. SHIGEMOTO. *IST Austria, Tohoku Univ. Grad. Sch. of Med., Hokkaido Univ. Sch. of Med., The Univ. of Tokyo*.
- 2:00 B6 **384.10** Distinct voltage gated calcium channels sensitize D2-autoreceptor responses via NCS-1 in Substantia nigra dopamine neurons - a novel neuroprotective mechanism? J. DUDA; E. DRAGICEVIC; J. BENKERT; C. POETSCHKE; J. NEHMET; S. MUELLER; H. HOLLMANN; D. SPAICH; T. SCHNEIDER; O. PONGS; T. SNUTCH; J. STRIESSNIG; T. FRANK; B. LISS\*. *Univ. of Ulm, Univ. of Cologne, Univ. of the Saarland, Univ. of British Columbia, Univ. of Innsbruck, Univ. Med. Goettingen*.
- 3:00 B7 **384.11** The role of CaV3.1 T-type calcium channels in the subiculum: To burst or not to burst? S. M. JOKSIMOVIC\*; S. M. TODOROVIC. *Univ. of Virginia*.
- 4:00 B8 **384.12** Conservation and divergence of the activity-dependent transcriptome of mouse and human neurons. J. QIU\*; J. MCQUEEN; B. BILICAN; O. DANDO; M. LIVESEY; G. HAGHI; T. CEZARD; K. BURR; R. PATANI; R. RAJAN; O. SHEPPARD; P. C. KIND; I. SIMPSON; V. L. J. TYBULEWICZ; D. J. A. WYLLIE; K. GHARBI; E. FISHER; S. CHANDRAN; G. E. HARDINGHAM. *Univ. of Edinburgh, Univ. of Edinburgh, Univ. of Edinburgh, UCL, Natl. Inst. for Med. Res.*
- 1:00 B9 **384.13** 1-octanol modifies low frequency and alpha range spontaneous brain activity in healthy adults. K. D. WALTON\*; J. GARCIA; I. GALATZER-LEVY; R. R. LLINÁS. *NYU Sch. Med., NYU Sch. of Med., NYU Sch. of Med.*
- 2:00 B10 **384.14** A *Drosophila* model of CaV2.1 FHM1 mutations has enhancements in neuronal function that can be suppressed by impairment of inositol triphosphate signaling. T. D. JAMES\*; D. J. BRUSICH; C. A. FRANK. *Univ. of Iowa*.
- 3:00 B11 **384.15** Quantification of somatic calcium currents in midbrain dopaminergic neurons. F. PHILIPPART; D. ENGEL; V. M. SEUTIN\*. *Univ. of Liège, Univ. Liege*.

## POSTER

### 384. Calcium Channels I

#### Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 A105 **384.01** Store-operated CRAC channels regulate purinergic calcium signaling and exocytosis in hippocampal astrocytes. A. B. TOTH\*; M. PRAKRIYA. *Northwestern Univ.*
- 2:00 A106 **384.02** ● Glioprotection of adult optic nerve head astrocytes. S. KAJA\*; A. J. PAYNE; Y. NAUMCHUK; E. G. SIECK; D. H. VOELKER; D. H. ZAIDI; P. KOULEN. *Univ. of Missouri - Kansas City*.
- 3:00 A107 **384.03** Regulation of Cav1.3 L-type calcium channels by Ca<sup>2+</sup>/CaM-dependent protein kinase II. X. WANG\*; J. G. PASEK; T. L. PERFITT; C. R. MARKS; D. A. JACOBSON; R. J. COLBRAN. *Vanderbilt Univ. Sch. of Med., Vanderbilt Univ. Sch. of Med.*
- 4:00 A108 **384.04** NMDA receptor activation of STIM1 by depletion of endoplasmic reticulum calcium stores regulates L-type calcium channel signaling to the nucleus. W. A. SATHER\*; M. L. DELL'ACQUA; P. J. DITTMER. *Univ. of Colorado Sch. of Med.*
- 1:00 B1 **384.05** Novel method for approximating equilibrium single-channel Ca<sup>2+</sup> domains. V. V. MATVEEV\*. *New Jersey Inst. Tech.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

## POSTER

### 385. Calcium Channels II

#### **Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 B12 **385.01** Alzheimer's disease drug candidate sak3 stimulates cav3.1 and cav3.3 t-type calcium channels. Y. YABUKI\*; M. WAKAMORI; K. FUKUNAGA. *Grad. Sch. of Pharmaceut. Sciences, Tohoku, Grad. Sch. of Dentistry, Tohoku Univ., Grad. Sch. of Pharmaceut. Sciences, Tohoku Univ.*
- 2:00 B13 **385.02** Orai function and SOCE is required in dopaminergic neurons of *Drosophila* Flight Circuit. T. PATHAK\*; T. AGRAWAL; S. RICHHARIYA; S. SADAF; G. HASAN. *Natl. Ctr. For Biol. Sci. (TIFR).*
- 3:00 B14 **385.03** Functional evaluation of exome variants in the Cav3.3 T-type voltage gated calcium channel. A. ALLEN; H. YAN; Y. ZHANG; J. Q. PAN\*. *Broad Inst.*
- 4:00 B15 **385.04** The role of scaffolding protein RIM1 in NMDA receptor trafficking. J. WANG\*; X. LV; C. CHEN; Y. YAN; Y. WU; J. LUO; S. QIU. *Inst. of Neuroscience, Zhejiang Univ. Sch., Dept. of Neurobiology, Key Lab. of Med. Neurobio. of the Ministry of Hlth. of China, Zhejiang Univ. Sch. of Med.*
- 1:00 B16 **385.05** Effects of splice variation and G-proteins on Ca<sup>2+</sup>-dependent regulation of Ca<sub>v</sub>2.2 channels. J. R. THOMAS\*; A. LEE; A. LEE. *Univ. of Iowa.*
- 2:00 B17 **385.06** Uncovering the molecular mechanisms of Cav2.1 calcium channel organization at the presynaptic terminal in a large central synapse. B. DAS\*; S. M. YOUNG, Jr; R. RICHARD. *Max Planck Florida Inst.*
- 3:00 B18 **385.07** Comprehensive behavioral analysis of voltage-gated calcium channel beta-anchoring and -regulatory protein (BARP) knockout mice. A. NAKAO\*; T. MIKI; H. SHOJI; Y. MORI; T. MIYAKAWA. *Fujita Hlth. Univ., Kyoto Univ., Core Res. for Evolutional Sci. and Technol. (CREST), Natl. Inst. for Physiological Sci.*
- 4:00 B19 **385.08** Efficient millisecond clearance of Ca<sup>2+</sup> mediated by plasma membrane calcium ATPases. C. E. CONSTANTIN\*; B. FAKLER. *Inst. of Physiol.*
- 1:00 B20 **385.09** Insulin resistance in KHLH1 KO hypothalamic neurons. E. MARTÍNEZ-HERNÁNDEZ\*; P. P. PERISSINOTTI; Y. HE; M. D. KOOB; E. S. PIEDRAS-RENTERIA. *Loyola Univ. Chicago, Loyola Univ. Chicago, Univ. of Minnesota, Loyola Univ. of Chicago.*
- 2:00 B21 **385.10** Modulation of Cav1.2 channel function by Galectin-1. Z. HU\*; D. YU; J. YANG; T. SOONG. *Natl. Univ. of Singapore, NUS Grad. Sch. for Integrative Sci. and Engin.*
- 3:00 B22 **385.11** Hydrogen sulfide and intracellular cyclic AMP enhance T-type calcium channel-dependent neurite outgrowth in distinct subpopulations of isolated and dissociated mouse dorsal root ganglion neurons. F. SEKIGUCHI\*; I. AMO; S. ONO; A. KAWABATA. *Kinki Univ. Sch. Pharm.*

- 4:00 B23 **385.12** A Cav3 calcium channel-calmodulin interaction promotes CaMKII activation and a gain of Cav3 channel function. H. ASMARA\*; A. RIZWAN; C. HEATH; I. MICU; F. ZHANG; P. STYS; G. ZAMPONI; R. TURNER. *Univ. of Calgary.*
- 1:00 B24 **385.13** Heantos, a natural product used to treat drug addiction, inhibits thalamocortical burst firing and is a selective modulator of T-type calcium channels. S. M. CAIN\*; E. GARCIA; S. AHN; Y. ZHANG; Z. WAHEED; A. PHILLIPS; T. SNUTCH. *Univ. of British Columbia, Univ. of British Columbia.*
- 2:00 B25 **385.14** Functional characterization of the mitochondrial Ca<sup>2+</sup> uniporter (mcu) in the peripheral nervous system using mcu knockout mice. J. RYSTED\*; Z. LIN; A. GNANASEKARAN; P. HOULIHAN; K. RAHATBEK; Y. USACHEV. *Univ. of Iowa.*
- 3:00 B26 **385.15** Characterization of human splice variants of the voltage-gated Cav1.4 Ca<sup>2+</sup> channel. B. WILLIAMS\*; S. WANG; J. HAGEN; T. SCHEETZ; F. HAESELEER; A. LEE. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa, Univ. of Washington, Univ. of Iowa, Univ. of Iowa.*
- 4:00 B27 **385.16** Glial calcium excitability: A role for store operated calcium entry. M. PAPANIKOLAOU\*; A. LEWIS; A. M. BUTT. *Univ. of Portsmouth, Univ. of Portsmouth.*

## POSTER

### 386. Glutamate Transporters

#### **Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 B28 **386.01** Conditional deletion of the glutamate transporter GLT-1 in neurons attenuates the locomotor and rewarding effects of amphetamine. K. D. FISCHER\*; M. MIAN; A. C. W. HOUSTON; P. A. ROSENBERG. *Boston Children's Hosp., F.M. Kirby Neurobio. Ctr., Harvard Med. Sch.*
- 2:00 B29 **386.02** Brain endothelial cells induce astrocytic expression of the Na<sup>+</sup>-dependent glutamate transporter, GLT-1/EAAT2. M. C. LANE\*; E. N. KRIZMAN; R. SATTLER; J. D. ROTHSTEIN; M. B. ROBINSON. *Children's Hosp. of Philadelphia, Children's Hosp. of Philadelphia, Johns Hopkins Univ., Children's Hosp. of Philadelphia, Univ. of Pennsylvania.*
- 3:00 B30 **386.03** Methamphetamine regulates trafficking of the neuronal glutamate transporter, EAAT3. S. M. UNDERHILL\*; P. D. HULLIHEN; S. G. AMARA. *NIH/NIMH.*
- 4:00 B31 **386.04** Trpm7 is required by zebrafish hair cells for neurotransmission. S. E. LOW\*; L. KATAYEVA; A. J. HUDSPETH. *The Rockefeller Univ., The Rockefeller Univ.*
- 1:00 B32 **386.05** Fluoride Toxicity and the Glutamine/ Glutamate shuttle in cultured Bergmann glia cells. A. ORTEGA\*; L. C. R. HERNANDEZ-KELLY; A. RODRIGUEZ; L. DEL-RAZO. *Cinvestav-IPN, Univ. Autonoma de Queretaro.*
- 2:00 B33 **386.06** Identification of trafficking motifs in the c-terminus of the cystine/gluatamate exchanger, system xc-. L. A. CHASE\*; N. LADD; S. LANG; A. GEORGES. *Hope Col.*



- 3:00 B34 **386.07** Cysteine-scanning analysis of the structural determinants of anion permeation in excitatory amino acid transporters (EAATs). A. D. L. M. GONZALEZ SUAREZ; D. TORRES-SALAZAR; S. G. AMARA\*. *Natl. Inst. of Mental Hlth.*
- 4:00 B35 **386.08** Neuronal glutamate transporters regulate cross-talk between glutamatergic and dopaminergic circuits. S. BELLINI; A. SCIMEMI\*. *SUNY Albany.*
- 1:00 B36 **386.09** PICK1 deficiency impairs glutathione synthesis and increases oxidative stress via reduction of surface EAAC1. L. ZHOU\*; Y. WANG; L. ZHOU; Y. LI; Y. SHEN. *Zhejiang Univ. Sch. of Med., Ningxia Med. Univ.*
- 2:00 B37 **386.10** An exploration of the anion channel gating mechanism in excitatory amino acid transporters using site-directed mutagenesis. D. TORRES-SALAZAR\*; A. D. L. M. GONZALEZ SUAREZ; J. GARCIA-OLIVARES; S. G. AMARA. *Natl. Inst. of Mental Hlth.*
- 3:00 B38 **386.11** Striatal glutamate and dopamine transporters in long-lived, growth hormone-insensitive mice. K. OKI\*; B. C. CLARK; S. L. HONG; J. J. KOPCHICK. *Ohio Univ., Ohio Univ.*
- 4:00 B39 **386.12** ▲ Glutamine synthetase and mitochondrial glutamate carrier inhibition slow the decay time of synaptic glial transporter current and amplify NMDARs-mediated synaptic transmission in rat neocortical pyramidal cells. Y. TRABELSI\*; H. BECQ; C. MELON; F. MOLINARI; L. ANIKSZTEJN. *INMED-INSERM U901, Aix-Marseille Univ., CNRS, IBDM UMR 7288.*
- 1:00 B40 **386.13** Neuroprotection by vitamin C against dose-dependent glutamate-induced neurodegeneration in the hippocampal postnatal rat brain. G. YOON\*; S. ALI SHAH; M. KIM. *Gyeongsang Natl. Univ.*
- 2:00 B41 **386.14** Thrombin and protease-activated receptor-1 contribute to decreased expression of astrocyte glutamate transporters. C. PIAO\*; H. RANAIVO; N. WADHWANI; S. KOH; M. WAINWRIGHT. *Ann & Robert H. Lurie Children's Hosp. of Chica, Ruth D. & Ken M. Davee Pediatric Neurocritical Care Program, Northwestern Univ. Feinberg Sch. of Med., Ann & Robert H. Lurie Children's Hosp. of Chica, Ann & Robert H. Lurie Children's Hosp. of Chica.*
- 3:00 B42 **386.15** Clearance of synaptically-evoked glutamate in Huntington's disease: Real-time, *in situ* measures contrast with biochemical assays of glutamate transporter-mediated uptake. L. A. RAYMOND\*; M. P. PARSONS; R. KANG; M. VANNI; T. H. MURPHY. *Univ. of British Columbia.*
- 4:00 B43 **386.16** Regulation of seizure threshold by system xc- in the pentylenetetrazol model of temporal lobe epilepsy. S. SHAHIDZADEH\*; J. A. HEWETT; S. J. HEWETT. *Syracuse Univ.*
- 1:00 B44 **386.17** Enhancement of system xc- on infiltrating immune cells might contribute to the pathogenesis of multiple sclerosis. A. MASSIE\*; E. MERCKX; M. PATERKA; J. VAN LIEFFERINGE; E. BENTE; G. ALBERTINI; T. DEMUYSER; L. DENEYER; P. MAHER; J. LEWERENZ; I. SMOLDERS; H. SATO; J. DE KEYSER; A. METHNER. *Vrije Univ. Brussel, Johannes Gutenberg-University of Mainz, Salk Inst., Univ. Hosp. Ulm, Niigata Univ.*

- 2:00 B45 **386.18** Assessing the contributions of metallo-beta-lactamase domain containing protein 1 (Mblac1) to cellular glutamate homeostasis. C. RETZLAFF\*; C. SNARRENBURG; J. HARDAWAY; S. STURGEON; J. WRIGHT; R. BRIDGES; D. MORTLOCK; R. BLAKELY. *Vanderbilt Univ., Univ. of Montana.*
- 3:00 B46 **386.19** Interplay of acrolein and glutamate toxicity mediating myelin damage following spinal cord injury. J. PAGE\*; G. ACOSTA; Z. SENA AGIM; B. MURATORI; J. R. CANNON; R. SHI. *Purdue Univ., Purdue Univ., Purdue Univ.*

## POSTER

### 387. Monoaminergic Transmission

#### Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 B47 **387.01** Integrin  $\alpha\beta3$  receptors define a subpopulation of serotonergic neurons and regulate serotonin transporter function. M. MAZALOUSKAS\*; A. M. D. CARNEIRO. *Vanderbilt Univ.*
- 2:00 B48 **387.02** The autism-associated integrin  $\beta3$  Pro33 coding variant alters serotonin homeostasis and neurobehaviors in mice. A. M. CARNEIRO\*; C. KOOKER; T. JESSEN; J. SUTCLIFFE; M. DOHN. *Vanderbilt Univ.*
- 3:00 B49 **387.03** Serotonin strongly regulates the activation of prefrontal layer 6 pyramidal neurons in prefrontal cortex. M. K. TIAN\*; E. K. LAMBE. *Univ. of Toronto.*
- 4:00 B50 **387.04** Mechanisms responsible for altered excitability of serotonin (5-HT) neurons in chronic social isolation stress. D. SARGIN\*; E. K. LAMBE. *Univ. of Toronto.*
- 1:00 B51 **387.05** Serotonin packets in the brain parenchyma and vasculature. S. E. GROSS; S. JANUSONIS\*. *Univ. of California, Santa Barbara.*
- 2:00 B52 **387.06** 5-HT<sub>7</sub> receptor agonists and antagonists during memory consolidation and forgetting. R. SOLIS GUILLEN\*; A. MENESES. *Ctr. De Investigación Y De Estudios Avanzados De, cinvestav.*
- 3:00 B53 **387.07** 5-HT<sub>6</sub> receptor agonists and antagonists at effective and subeffective doses: Memory consolidation. F. APARICIO NAVA\*; A. MENESES. *Ctr. De Investigación Y Estudios Avanzados Del I.*
- 4:00 B54 **387.08** Systematic input-output mapping of dorsal raphe 5-HT neurons. J. REN\*; B. BRANDON WEISSBOURD; L. LUO. *Stanford Unibersity, Howard Hughes Med. Inst.*
- 1:00 B55 **387.09** Development of the mouse prefrontal cortex-dorsal raphe nucleus synaptic circuitry. M. SOIZA-REILLY\*; P. GASPARD. *Inst. du Fer à Moulin - Inserm.*
- 2:00 B56 **387.10** Chronic stress-induced changes of synaptic transmission and serotonergic receptor subtypes in mouse medial prefrontal cortex and nucleus accumbens. S. KOHNOMI\*; S. HIRAOKA; S. KONISHI. *Kagawa Sch. Pharmaceut. Sci.*

Mon. PM

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 3:00 B57 **387.11** Molecular characterization of indolethylamine-N-methyltransferase in rat brain. J. DEAN\*; S. HUFF; K. YOUNG; M. WANG; J. BORJIGIN. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*
- 4:00 B58 **387.12** Investigating the potential role of the transcription factor FKH8 in dopamine metabolism. B. E. CAWTHON\*; B. NELMS. *Fisk Univ.*
- 1:00 B59 **387.13** Modulation of dopamine-sensitive neuron in the inferior colliculus: Role in noise induced hearing loss and tinnitus. A. K. APAWU; B. FYK-KOLODZIEJI; M. HALI; D. DOLAN; K. HALSEY; P. WALKER; A. HOLT\*. *Wayne State Univ. Sch. Med., Univ. of Michigan, John D Dingell VAMC.*
- 2:00 B60 **387.14** The dopamine releasing in nuclei accumbency were affected by focal brain injury. Y. CHEN\*; E. HUANG; T. KUO; J. TSAI. *Tri-Service Gen. Hospital/ National Def. Med., Natl. Def. Med. Ctr., Natl. Taipei Univ. of Technol., Tri-Service Gen. Hosp.*
- 3:00 B61 **387.15** ● A novel electrochemical approach for prolonged measurement of absolute levels of extracellular dopamine in brain slices. M. H. BURRELL; C. W. ATCHERLEY; M. L. HEIEN; J. LIPSKI\*. *Univ. Auckland, Mayo Clin., Univ. Arizona.*
- 4:00 B62 **387.16** Dopamine release is gated by coincidentally stimulated postsynaptic neurons to reinforce plasticity. K. UENO\*; M. SAITOE. *Tokyo Metropolitan Inst. of Med. Sci.*
- 1:00 B63 **387.17** Blocking Zn<sup>2+</sup> elevation attenuates the dopamine-induced autophagy in cultured embryonic cortical neurons. H. HUNG\*; C. PAN. *Natl. Taiwan Univ.*
- 2:00 B64 **387.18** Aromatic L-amino acid decarboxylase in rhesus monkey spinal cord. N. LINDQVIST\*; H. SCHERBERGER; M. ZHANG. *Univ. of Copenhagen, Lund Univ., German Primate Ctr.*
- 3:00 B65 **387.19** Cyclophosphamide induced changes in animal behaviour and brain monoamine oxidase activity in the C57BL/6 model of chemotherapy-induced alopecia. M. D. BERRY\*; A. C. GAISER; C. U. IKPEAMA; D. GARDINER; P. JACKSON; J. BLUNDELL. *Mem. Univ. of Newfoundland, Brandon Univ., Brandon Univ., Mem. Univ. of Newfoundland.*
- 4:00 B66 **387.20** The norepinephrine alpha-2A agonist and sedative analgesic dexmedetomidine decreases glutamate and serotonin turnover in rat brain. M. P. GALLOWAY\*; E. L. ETNYRE; F. GHODDOUSSI; C. D. HATTAWAY; G. MCKELVEY; M. H. MARSH. *Wayne State Univ. Sch. Med., Wayne State Univ. Sch. Med.*
- 1:00 B67 **387.21** Subcellular localization of estrogen receptor alpha in the locus coeruleus and its morphological relationship with noradrenergic axon terminals in the medial prefrontal cortex of female rats. J. ZHANG\*; B. A. S. REYES; E. J. VAN BOCKSTAELE. *Col. of Medicine, Drexel Univ.*
- 2:00 B68 **387.22** Plasma CORT and brain neurotransmitter levels to evaluate stress associated with common methods of euthanasia in mice. M. M. SAMPSON\*; H. YANG; A. M. ANDREWS. *UCLA, Mol. Toxicology IDP, Chem. & Bioche, UCLA, UCLA.*
- 3:00 B69 **387.23** The disturbance of gonadal hormone during the critical period induces monoaminergic abnormality on the limbic system of adult rats. H. SHIKANAI\*; S. HIRAIDE; S. INOUE; M. NEBUKA; A. OHASHI; K. IIZUKA; H. TOGASHI; K. SHIMAMURA. *Hlth. Sci. Univ. of Hokkaido.*

## POSTER

### 388. Monoaminergic Signaling

#### **Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 B70 **388.01** MAPK-mediated phosphorylation of NPAS4 regulates BDNF promoter activity by modulating its interaction with CBP. Y. FUNAHASHI\*; A. ARIZA; S. WEI; K. KURODA; S. NAKAMUTA; T. NAGAI; K. KAIBUCHI. *Nagoya University, Grad. Sch. of Med.*
- 2:00 B71 **388.02** Differential role of PDE2 in AMPAR trafficking in D1 vs. D2 medium spiny neurons. R. S. SONG; R. TOLENTINO; B. MASSENBURG; S. R. NEVES\*. *Icahn Sch. of Med. at Mount Sinai, Mount Sinai Sch. of Med.*
- 3:00 B72 **388.03** Transglutaminase 2 overexpression in the brain induces depressive behavior and impaired TrkB signaling in mice. C. D. PANDYA\*; N. HODA; A. CRIDER; D. PETER; A. KUTIYANAWALLA; G. TURECKI; A. TERRY, Jr.; A. PILLAI. *Georgia Regents Univ., Georgia Regents Univ., Georgia Regents Univ., McGill Univ., Georgia Regents Univ.*
- 4:00 B73 **388.04** Potential role of the unfolded protein response in the impaired production and release of adrenal catecholamines caused by recurrent insulin-induced hypoglycemia. B. B. NANKOVA\*; J. KIM; N. KUDRICK; E. LAGAMMA; E. LAGAMMA. *New York Med. Col., New York Med. Col.*
- 1:00 B74 **388.05** Differential induction of intracellular calcium transients by dopamine in fan and pyramidal cells of layer II of the lateral entorhinal cortex. I. GLOVACI\*; C. A. CHAPMAN. *Concordia Univ.*
- 2:00 B75 **388.06** Activation of the JAK/STAT pathway through the human serotonin 2C receptor. M. E. CURTIS; L. S. FEARS; M. T. IVY; H. M. FENTRESS\*. *Tennessee State Univ.*
- 3:00 B76 **388.07** Regulatory mechanisms of striatal synaptic plasticity. A. HERNANDEZ-CORTES\*; C. TAN; G. METTLACH; F. PLATTNER; J. BIBB. *UT Southwestern Med. Ctr.*
- 4:00 B77 **388.08** Modulation of microglia function by serotonin and dopamine. C. CHUNG\*; Y. FAN; S. SUBRAMANIYAM; D. JUNG. *SPST, Tianjin Univ., Vanderbilt Univ. Sch. of Med.*
- 1:00 B78 **388.09** Mechanism for MPH promoting NMDARs expression in Rat Prefrontal cortex *in vitro*. J. YU\*; X. ZHANG. *Fudan Univ.*
- 2:00 B79 **388.10** Evidence for a non-canonical neurotransmitter activation: Norepinephrine as a dopamine D2-like receptor agonist. M. SANCHEZ SOTO\*; A. BONIFAZI; M. ELLENBERGER; N. CAI; A. NEWMAN; S. FERRÉ; H. YANO. *NIDA/NIH.*

POSTER

**389. Homeostatic Plasticity I**

**Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 B80 **389.01** Early homeostatic changes of neuronal activity in somatosensory cortex of mice after traumatic brain injury. F. LE PRIEULT; B. IMBROSCI; S. C. THAL\*; K. ENGELHARD; T. MITTMANN. *Johannes Gutenberg-University, Johannes Gutenberg-University.*
- 2:00 B81 **389.02** Epigenetic regulation in homeostatic synaptic plasticity. W. MAO\*; K. FUTAI. *Univ. of Massachusetts Med. Sch.*
- 3:00 B82 **389.03** Bidirectional modulation of taste aversion induced by LTP and LTD in the insular cortex. L. F. RODRIGUEZ-DURAN\*; A. MARTÍNEZ-MORENO; M. L. ESCOBAR. *Fac. de Psicología, UNAM, Univ. Autónoma Metropolitana (UAM), Unidad Lerma.*
- 4:00 B83 **389.04** A general homeostatic principle following denervation induced dendritic reorganization. P. JEDLICKA\*; S. PLATSCHEK; M. VUKSIC; H. CUNTZ; T. DELLER. *Goethe Univ. Frankfurt, Croatian Inst. for Brain Res., Ernst Strüngmann Inst. (ESI) for Neurosci. in Cooperation with Max Planck Society, Frankfurt Inst. for Advanced Studies.*
- 1:00 B84 **389.05** The role of RAR $\alpha$ -mediated synaptic signaling *in vivo*. Y. HSU\*; L. CHEN. *Stanford Univ.*
- 2:00 B85 **389.06** Retinoic acid signaling regulates homeostatic synaptic plasticity in visual cortex. L. R. ZHONG\*; L. CHEN. *Stanford Univ. Sch. of Med.*
- 3:00 B86 **389.07** Calcineurin mediates homeostatic synaptic plasticity by regulating retinoic acid synthesis. K. L. ARENDT\*; Z. ZHANG; S. GANESAN; M. HINTZE; Y. TANG; I. A. GRAEF; L. CHEN. *Stanford Univ., Stanford Univ. Sch. of Med., Stanford Univ. Sch. of Med.*
- 4:00 B87 **389.08** Retinaldehyde dehydrogenase (aldh1a1) mediates homeostatic synaptic plasticity in the hippocampus. S. GANESAN\*; K. ARENDT; F. SARTI; L. CHEN. *Stanford Univ.*
- 1:00 B88 **389.09** Role of the fragile-x mental retardation protein in retinoic acid-induced homeostatic plasticity. A. G. LAU\*; K. L. ARENDT; L. CHEN. *Stanford Univ.*
- 2:00 B89 **389.10** Spontaneous neurotransmission signals through store-driven Ca<sup>2+</sup> transients to maintain synaptic homeostasis. A. L. REESE\*; E. T. KAVALALI. *UT Southwestern Med. Ctr., Univ. of Texas Southwestern Med. Ctr.*
- 3:00 B90 **389.11** Fibroblast growth factor receptor signaling and src family kinase activity gate homeostatic synaptic plasticity. A. SPRING\*; D. J. BRUSICH; C. FRANK. *Univ. of Iowa.*
- 4:00 B91 **389.12** Mdm2-p53 signaling guides Nedd4-2 and GluA1 expression in homeostatic downscaling. K. A. JEWETT\*; J. ZHU; H. KAWABE; N. TSAI. *Univ. of Illinois At Urbana-Champaign, Max Planck Inst. for Exptl. Med., Univ. of Illinois at Urbana-Champaign.*
- 1:00 B92 **389.13** Reduction of increased calcineurin activity rescues impaired homeostatic synaptic plasticity in presenilin 1 M146V mutant. S. KIM\*; C. J. VIOLETTE; E. B. ZIFF. *NYU Sch. Med., Bucknell Univ., New York Univ. Langone Med. Ctr.*
- 2:00 B93 **389.14** Perturbation of M-type potassium channel activity leads to fast homeostatic plasticity at the axon initial segment in cultured hippocampal neurons. B. ATTALI\*; J. LEZMI; E. PATRICH; M. LIPINSKY; A. PERETZ; I. FLEIDERVISH. *Tel Aviv Univ., Tel Aviv Univ., Ben Gurion Univ.*
- 3:00 B94 **389.15** Withdrawn.
- 4:00 B95 **389.16** Synaptic compensation as a probable cause of upregulation of synaptic and neuronal proteins expression in cognitively impaired 3xTg-AD mice. N. BAAZAOUI\*; K. IQBAL. *New York Inst. For Basic Res., City Univ. of New York (CUNY) Grad. Center, New York.*
- 1:00 B96 **389.17** Homeostatic scaling of excitatory synapses during sleep. G. H. DIERING\*; R. S. NIRUJOGI; P. F. WORLEY; A. PANDEY; R. L. HUGANIR. *Johns Hopkins Univ., Johns Hopkins, Johns Hopkins.*
- 2:00 B97 **389.18** The role of cAMP in synaptic homeostasis in response to environmental temperature challenges and hyperexcitability mutations. A. UEDA; C. WU\*. *The Univ. of Iowa, Univ. Iowa.*
- 3:00 B98 **389.19** Ca<sup>2+</sup> dynamics in ionotropic and metabotropic synaptic terminals at *Drosophila* larval neuromuscular junctions: Distinct membrane excitability and clearance mechanisms. X. XING\*; C. WU. *Univ. of Iowa.*
- 4:00 B99 **389.20** *Drosophila* voltage gated calcium channel auxiliary subunit  $\alpha 2\delta$ -3 is essential for homeostatic synaptic plasticity. T. WANG\*; G. DAVIS. *Univ. of California, San Francisco.*
- 1:00 B100 **389.21** GCN2 activity modulates a retrograde signal at the *Drosophila* larval neuromuscular junction. G. KAUWE\*; P. HAGHIGHI. *Buck Inst. Res. On Aging.*
- 2:00 B101 **389.22** Sexually dimorphic gene expression in response to infraorbital nerve transection in the adult rat barrel cortex: RNA-Seq. J. J. ORCZYK; D. DOSTER; R. SETHIA; R. J. BATKA; P. E. GARRAGHTY\*. *Indiana Univ., Indiana Univ.*
- 3:00 B102 **389.23** Potentiation to D2! The development of experience-dependent plasticity in the barrel cortex induced by different whisker deprivation paradigms. J. BUTCHER\*; S. GLAZEWSKI. *Keele Univ.*
- 4:00 B103 **389.24** Selective and adaptive synaptic downscaling of fast-spiking interneurons in the hyperexcitable visual cortex in a focal lesion model in mice. T. MITTMANN\*; A. NEITZ; B. IMBROSCI. *UMC of the Johannes-Gutenberg Univ. Mainz, Med. Fac. of Heidelberg Univ. and German Cancer/Research Ctr., Charite-Universitaetsmedizin Berlin.*
- 1:00 B104 **389.25** Homer1a signaling in visual cortex plasticity. V. B. CHOKSHI\*; P. WORLEY; M. GAO; R. PATTERSON; H. LEE. *Johns Hopkins Univ., Johns Hopkins Univ., Barrow Neurolog. Inst., Johns Hopkins Univ.*

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\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 2:00 B105 **389.26** Cell autonomous and network effects of NMDA receptors in experience-dependent homeostatic synaptic scaling. G. RODRIGUEZ; M. GAO; H. LEE\*. *Johns Hopkins Univ., Barrow Neurolog. Inst., Johns Hopkins Univ.*
- 3:00 B106 **389.27** Spontaneous neuronal spiking during visual deprivation drives metaplasticity and synaptic scaling. M. BRIDI\*; R. DE PASQUALE; C. LANTZ; E. QUINLAN; A. KIRKWOOD. *Johns Hopkins Univ., Univ. of Sao Paulo, Univ. of Maryland.*
- 4:00 B107 **389.28** Regulation of STEP61 and tyrosine-phosphorylation of NMDA and AMPA receptors during homeostatic synaptic plasticity. S. JANG\*; S. ROYSTON; J. XU; J. CAVARETTA; M. VEST; K. LEE; S. LEE; H. JEONG; P. LOMBROSO; H. CHUNG. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Child Study Center, Yale Univ. Sch. of Med., Yale Univ. Sch. of Med.*
- POSTER**
- 390. Synaptic Structure**
- Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms**
- Mon. 1:00 PM – McCormick Place, Hall A
- 1:00 B108 **390.01** ● Affinity purification of the PSD-95 interactome: A regional human postmortem proteome analysis and comparison. A. FUNK\*; M. R. HEAVEN; G. LABILLOY; K. E. CLICK; J. MELLER; R. E. MCCULLUMSMITH. *Univ. of Cincinnati, Vulcan Analytical, LLC, Cincinnati Children's Hosp. Med. Ctr.*
- 2:00 B109 **390.02** Immunoprecipitation of chondroitin sulfate proteoglycans for analysis of perineuronal nets. K. E. CLICK\*; A. J. FUNK; H. PANTAZOPOULOS; S. BERRETTA; R. E. MCCULLUMSMITH. *Univ. of Cincinnati, Harvard Univ.*
- 3:00 B110 **390.03** A transsynaptic nanocolumn organizes synaptic protein distribution to align neurotransmitter release with receptors. A. TANG\*; H. CHEN; T. A. BLANPIED. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*
- 4:00 B111 **390.04** The role of synaptic nanostructure in regulating NMDA receptor activation. S. RANSOM METZBOWER\*; S. RAGHAVACHARI; T. A. BLANPIED. *Univ. of Maryland, Baltimore, Univ. of Maryland, Baltimore, Univ. of Maryland, Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med.*
- 1:00 B112 **390.05** Distinct organization of evoked and spontaneous vesicle fusion sites within single CNS active zones. H. CHEN\*; A. TANG; S. RANSOM METZBOWER; T. A. BLANPIED. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland Baltimore.*
- 2:00 C1 **390.06** Protein crowding within the postsynaptic density can impede the escape of membrane proteins. T. P. LI\*; Y. SONG; T. A. BLANPIED; S. RAGHAVACHARI. *Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Med., Duke Univ., Univ. of Maryland Col. Park.*
- 3:00 C2 **390.07** Synaptome mapping on the whole brain scale in mice reveals patterned architecture. F. ZHU\*; M. CIZERON; Z. QIU; R. BENAVIDES-PICCIONE; J. DEFELIPE; M. KOPANITSA; N. H. KOMIYAMA; S. G. N. GRANT. *The Univ. of Edinburgh, Univ. Politécnica de Madrid, Synome Ltd.*
- 4:00 C3 **390.08** Super-Resolution Imaging of PSD95 nanoclusters in brain regions using mEos2 and eGFP knockin mice. M. BROADHEAD\*; M. H. HORROCKS; F. ZHU; R. BENAVIDES-PICCIONE; L. MURESAN; J. DEFELIPE; S. LEE; N. KOMIYAMA; S. GRANT. *Univ. of Edinburgh, Heriot Watt Univ., Univ. of Cambridge, Univ. Politecnica de Madrid, Univ. of Cambridge.*
- 1:00 C4 **390.09** An automated image analysis tool for large-scale synaptome mapping at single synapse resolution. Z. QIU; F. ZHU; M. CIZERON; S. G. GRANT\*. *Ctr. for Clin. Brain Science, the Univ. of Edinburgh, Edinburgh Univ.*
- 2:00 C5 **390.10** Mutations in disease-relevant paralogues cause global re-patterning of mouse synaptome maps. M. J. CIZERON\*; F. ZHU; Z. QIU; G. MYLES; N. H. KOMIYAMA; S. G. N. GRANT. *Univ. of Edinburgh.*
- 3:00 C6 **390.11** Syntabulin regulates the trafficking of PICK1-containing vesicles in neurons. N. WANG\*; J. XU; J. XIA. *Zhejiang Univ. Sch. of Med., Hong Kong Univ. of Sci. and Technol.*
- 4:00 C7 **390.12** Characterization of main size variations within the Cav1.2  $\alpha$ 1 subunit. O. BUONARATI\*; P. B. HENDERSON; J. W. HELL. *UC Davis, UC Davis.*
- 1:00 C8 **390.13** Shockwaves produced by detonated RDX explosive cause distinct losses of synaptic proteins in hippocampal slice cultures. M. SMITH\*; T. PIEHLER; R. BENJAMIN; H. ROMINE; B. BAHR. *Univ. of North Carolina-Pembroke, US Army Res. Lab.*
- 2:00 C9 **390.14** ● Distribution of endogenous psd-95-MAGUKs in hippocampal synapses probed by intrabodies. X. CHEN\*; O. KWON; A. JAN; C. WINTERS; R. D. LEAPMAN; D. ARNOLD; M. FUKATA; W. GREEN; H. SHROFF; R. THOMAS. *NINDS-NIH, Wake Forest University, Univ. of California, Berkeley, NINDS-NIH, NIBIB-NIH, USC, Natl. Inst. for Physiological Sci., Univ. of Chicago, NINBIB-NIH, NINDS-NIH.*
- 3:00 C10 **390.15** Cypin disrupts PSD-95 synaptic targeting and neuronal network activity. A. RODRIGUEZ\*; M. TRIVEDI; P. SWIATKOWSKI; B. FIRESTEIN. *Rutgers Univ., Rutgers Univ.*
- 4:00 C11 **390.16** Characterization of the association of spinophilin with myosin-Va. M. C. EDLER, Jr; A. C. HIDAY; A. J. BAUCUM II\*. *Indiana University-Purdue Univ. Indianapolis, Indiana University-Purdue Univ. Indianapolis, Indiana Univ. Sch. of Med.*
- 1:00 C12 **390.17** Arginine methylated form of hnRNP K variant mediates a dendritic localization of  $\alpha$ CaMKII mRNA. Y. OKA\*; Y. MORI; T. IGUCHI; M. TOHYAMA; M. SATO. *Osaka Univ., Kinki Univ.*

- 2:00 C13 **390.18** Differences in SER composition in dendritic spines of rat hippocampal CA1 and dentate gyrus receiving entorhinal afferents. M. KUWAJIMA\*; J. M. MENDENHALL; C. N. HAINES; K. E. DEMBNEY; A. N. HERBERT; J. N. MACKEY; J. AHN; J. B. BOWDEN; W. C. ABRAHAM; K. M. HARRIS. *Univ. Texas, Austin, Univ. Texas, Austin, Univ. Otago, Univ. Texas, Austin.*
- 3:00 C14 **390.19** Regulation of synaptic localization of PSD-95. D. CHOWDHURY; J. W. HELL\*. *Univ. of California at Davis, UC Davis.*
- 4:00 C15 **390.20** Analyses of possible PSD-core mesh-like structure of type I excitatory synapses obtained from detergent-treated SPM of rat forebrain. T. SUZUKI\*; W. GUO; L. ZHAO. *Shinshu Univ. Grad. Sch. Med.*
- 1:00 C16 **390.21** Extra-synaptic signature of synaptic domain growth by membrane diffusion and aggregation of receptor-scaffold complexes. V. HAKIM\*; J. RANFT; P. RODRIGUEZ; L. G. ALMEIDA; K. SEKIMOTO; A. TRILLER. *CNRS & Ecole Normale Supérieure, Ecole Normale Supérieure, ESPCI.*
- 2:00 C17 **390.22** Primary cultured hippocampal neurons prepared from drebrin knockout mice show the less immunoreactivity of MAP2. N. KOGANEZAWA\*; Y. KAJITA; H. YASUDA; K. SAKIMURA; T. SHIRAO. *Gunma Univ. Grad. Sch. of Med., Brain Res. Institute, Niigata Univ.*
- 3:00 C18 **390.23** ● Use of CRISPRs to remove of a spontaneous mouse mutation causing abnormal Anxiety- / Autism-like behaviors. F. J. BUSTOS\*; S. PANDIAN; F. ZHANG; M. CONSTANTINE-PATON. *MIT, Broad Inst. of MIT and Harvard.*
- 4:00 C19 **390.24** ASTN2 regulates the surface expression of proteins involved in synaptic form and function via clathrin-mediated endocytosis. H. BEHESTI\*; M. E. HATTEN. *Rockefeller Univ.*
- 1:00 C20 **390.25** Studies of patho-physiological roles of epilepsy related ligand, LGI1. N. YOKOI\*; Y. FUKATA; M. FUKATA. *Natl. Inst. For Physiological Sci.*
- 2:00 C21 **390.26** Functional effects of distinct innervation styles of pyramidal cells by fast spiking cortical interneurons. Y. KUBOTA\*; S. KONDO; M. NOMURA; S. HATADA; N. YAMAGUCHI; A. MOHAMED; F. KARUBE; J. LÜBKE; Y. KAWAGUCHI. *Natl. Inst. Physiol. Sci. (NIPS), SOKENDAI, Kyushu Univ., CREST-JST, Kyoto Univ., South Valley Univ., Inst. Neurosci. & Med.*
- 3:00 C22 **390.27** ▲ Synaptic trafficking proteins in the postsynaptic spine. T. L. STORLI\*; S. WALAAS; S. DAVANGER. *Univ. of Oslo, Univ. of Oslo.*
- 4:00 C23 **390.28** AIDA-1 moves out of the postsynaptic density core under excitatory conditions. A. DOSEMECI\*; D. TOY; T. S. REESE; J. TAO-CHENG. *NIH, NIH.*
- 1:00 C24 **390.29** Voltage-gated calcium channels regulate activity-dependent exocytosis of post-synaptic recycling endosomes. B. HIESTER\*; E. S. GIBSON; M. J. KENNEDY. *Univ. of Colorado, Denver, AMC.*

## POSTER

### 391. Synaptic and Other Structural Plasticity

#### Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 C25 **391.01** Synapse plasticity and endoplasmic reticulum dynamics are correlated. A. PEREZ-ALVAREZ\*; S. YIN; C. SCHULZE; W. WAGNER; J. A. HAMMER, III; T. G. OERTNER. *ZMNH, UKE, NIH.*
- 2:00 C26 **391.02** Interaction between post-synaptic cGMP and cAMP signaling during structural plasticity. J. BOROVIAC\*; T. LUYBEN; M. KHAN; K. OKAMOTO. *Univ. of Toronto, Samuel Lunenfeld Res. Inst.*
- 3:00 C27 **391.03** Are very long-term memories stored in the pattern of holes in the perineuronal net? V. LEV-RAM\*; E. A. BUSHON; T. J. DEERINCK; C. J. POZATEK; C. P. LECHENE; S. F. PALIDA; K. M. TALIMAN; J. N. SAVAS; J. R. 3. YATES; M. H. ELLISMAN; R. Y. TSIEN. *UCSD Sch. Med., UCSD, Brigham and Women's Hosp., Brigham and Women's Hosp., Northwestern Univ., The Scripps Res. Inst.*
- 4:00 C28 **391.04** Visualizing structure and activity-dependent changes in the perineuronal net, a putative substrate for very long-term memory. S. PALIDA\*; V. LEV-RAM; E. A. BUSHONG; M. H. ELLISMAN; R. Y. TSIEN. *UCSD, UCSD, UCSD.*
- 1:00 C29 **391.05** Dendritic spine dynamics in the somatosensory cortex across the estrous cycle in female mice. E. H. TRIMMER; B. ALEXANDER; H. M. BARNES; R. MOSTANY\*. *Tulane Univ.*
- 2:00 C30 **391.06** Cortactin is a modulator of activity-dependent synaptic plasticity under the control of the wingless (wg) / Wnt signaling. M. PEREZ CARAMBOT\*; C. DOMINICCI; C. MALDONADO; B. MARIE. *Inst. of Neurobio.*
- 3:00 C31 **391.07** Neuron type-specific plasticity of synaptic circuits in motor cortex during motor learning. S. CHEN\*; A. KIM; A. PETERS; T. KOMIYAMA. *UCSD.*
- 4:00 C32 **391.08** Spine outgrowth and stabilization on cortical pyramidal dendrites correlates with the presence of shaft synapses. V. KEHAYAS\*; J. CHUCKOWREE; M. CANE; E. WELKER; A. HOLTMAAT; G. KNOTT. *Univ. of Geneva, Lemanic Neurosci. Doctoral Sch., Univ. of Tasmania, DNF, UNIL, Life Sciences, EPFL.*
- 1:00 C33 **391.09** Sumo1 overexpression affects synaptic function, spine density and memory. S. MATSUZAKI\*; H. TAKAMURA; K. MIYOSHI; H. HASHIMOTO; B. RAUGHT; O. ARANCIO; T. KATAYAMA; P. FRASER. *Osaka Univ., Ontario Cancer Inst., Columbia Univ., Tanz. Ctr. for Res. in Neurodegenerative Diseases, Univ. of Toronto.*
- 2:00 C34 **391.10** ▲ Compensatory cortical sprouting across the lifespan of the rat. B. CARNES\*; S. DE LACALLE. *Ohio Univ.*
- 3:00 C35 **391.11** Staufen is implicated in dendritic structural plasticity through an interaction with Asef1 (ARHGEF4). H. KIM\*; J. OH. *Chungbuk Nat'l Univ., Chungbuk Nat'l Univ.*

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\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 4:00 C36 **391.12** Optogenetic control of postsynaptic cAMP dynamics in dendritic spines during synaptic plasticity using a two-photon approach. T. LUYBEN\*; J. BOROVAC; M. VALENCIA; M. KHAN; K. OKAMOTO. *Samuel Lunenfeld Res. Inst., The Univ. of Toronto.*
- 1:00 C37 **391.13** Role of Interleukin15 receptor  $\alpha$  in synaptic plasticity. Y. HE\*; H. HSUCHOU; L. HARRISON; A. KASTIN; Y. WANG; W. PAN. *Pennington Biomed. Res. Ctr., Biopotentials Sleep Ctr.*
- 2:00 C38 **391.14** Changes of neuronal plasticity in the hippocampus of mothers induced by 3h pups separation during the first two weeks after birth. M. C. MOSTALLINO\*; F. BIGGIO; V. M. MELIS; G. BIGGIO. *Natl. Res. Council, CNR, Univ. of Cagliari.*
- 3:00 C39 **391.15** Coordinated spine pruning and maturation mediated by inter-spine competition for cadherin/catenin complexes. W. BIAN\*; W. MIAO; S. HE; Z. QIU; X. YU. *Inst. of Neuroscience, SIBS, CAS, Univ. of Chinese Acad. of Sci.*
- 4:00 C40 **391.16** CPG2 links endophilinB2 with the F-actin cytoskeleton to mediate activity-dependent internalization of synaptic glutamate receptors. M. BENOIT\*; S. LOEBRICH; E. NEDIVI. *MIT.*
- 1:00 C41 **391.17** Synaptic plasticity-dependent processing of CNTNAP2/Caspr2 in neurons. M. D. MARTIN-DE-SAAVEDRA; O. VAREA; R. GAO; K. J. KOPEIKINA; K. MYCZEK; A. SANZ-CLEMENTE\*; P. PENZES. *Northwestern Univ., Northwestern Univ.*
- 2:00 C42 **391.18** Stress-related psychiatric risk factors, synaptic dysfunction, and disease pathogenesis. K. MYCZEK\*; I. OZSAN; P. PENZES. *Northwestern Univ.*
- 3:00 C43 **391.19** Basal and motor skill learning-induced plasticity of axonal varicosities in the primary motor cortex of Fragile X mice. B. C. REINER\*; A. DUNAEVSKY. *Univ. of Nebraska Med. Ctr., Univ. of Nebraska Med. Ctr.*
- 4:00 C44 **391.20** A novel DnaJ domain protein regulates synaptic growth via integrin activation. J. LEE\*; K. T. CHANG. *Zilkha Neurogenetic Inst., Univ. Southern California.*
- 1:00 C45 **391.21** Bdnf stimulation regulates perineuronal net formation and stabilization in cortical neurons. D. UJLA\*; M. GARABEDIAN; M. CHAO. *NYU Langone Med. Ctr.*
- 2:00 C46 **391.22** The autophagy, highwire and wallenda genes regulate the temperature-dependence of synaptic growth at the *Drosophila* NMJ. I. ADAMES\*; B. MARIE. *Inst. of Neurobio.*
- 3:00 C47 **391.23** Rapid dispersion of syngap from synaptic spines triggers ampa receptor insertion and spine enlargement during ltp: Implications for human intellectual disability. Y. ARAKI\*; R. L. HUGANIR. *Johns Hopkins Univ, Sch. of Med.*
- 4:00 C48 **391.24** Forebrain NgR1 overexpression affects spine maturation, dendritic complexity and learning. T. E. KARLSSON\*; G. SMEDFORS; A. ALVIN.BRODIN@STUD.KI.SE; I. HÖGBECK; L. OLSON. *Karolinska Institutet, Karolinska Institutet.*

## POSTER

### 392. Transcription and Translation in Plasticity II

#### Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 C49 **392.01** Arc is an epigenetic regulator of activity-dependent gene expression. H. LEUNG; N. OEY; H. VANDONGEN; A. VANDONGEN\*. *Duke-Nus Grad. Med. Sch.*
- 2:00 C50 **392.02** LSD1 is involved in the regulation of Nur77 expression: Implications in neuronal plasticity. M. OLIVARES COSTA\*; G. PARADA; M. E. ANDRÉS. *Univ. Católica.*
- 3:00 C51 **392.03** Excitation-transcription coupling in parvalbumin-positive interneurons employs a novel CaM Kinase-dependent pathway distinct from excitatory neurons. S. M. COHEN\*; H. MA; K. KUCHIBHOTLA; R. C. FROEMKE; R. W. TSIEN. *NYU Sch. of Med.*
- 4:00 C52 **392.04** The AKAP79/150 leucine zipper motif regulates synapse to nucleus signaling through organization of an L-type  $Ca^{2+}$  channel-NFAT complex. J. G. MURPHY\*; S. F. OLIVERIA; P. J. DITTMER; D. A. HOFFMAN; W. A. SATHER; M. L. DELL'ACQUA. *NIH, Univ. of Colorado, Anschutz Med. Campus.*
- 1:00 C53 **392.05** Balanced activity of NF- $\kappa$ B subunits p50 and RelA/p65 is required for cortical plasticity in the adult brain. C. ENGELMANN\*; K. LEHMANN; J. BOLZ; F. WEIH; R. HAENOLD. *Leibniz-Institut Für Altersforschung - FLI, Friedrich Schiller Univ. Jena.*
- 2:00 C54 **392.06** Tagging dentate granule cells activated by brief periods of exercise. C. CHATZI\*; G. L. WESTBROOK; R. H. GOODMAN; Y. ZHANG. *Vollum Institute, OHSU.*
- 3:00 C55 **392.07** The effect of eEF2 phosphorylation on the release of stalled polysomes in *Aplysia californica* during the induction of Massed ITF. M. N. ANADOLU\*; P. K. MCCAMPBILL; W. S. SOSSIN. *Montreal Neurolog. Institute, McGill Univ., Montreal Neurolog. Institute, McGill Univ.*
- 4:00 C56 **392.08** Distinct mechanisms of activity-dependent synapse elimination by brief and chronic postsynaptic action potential firing: Roles of MEF2 and FMRP. C. CHANG\*; J. R. WILKERSON; C. F. HALE; J. R. GIBSON; K. M. HUBER. *Univ. of Texas Southwestern Med. Ctr.*
- 1:00 C57 **392.09** Transcriptome profiling in hippocampal CA2. S. FARRIS\*; Y. WANG; J. M. WARD; S. M. DUDEK. *Natl. Inst. of Envrn. Hlth. Sci.*
- 2:00 C58 **392.10** Dendritic transport and local processing of microRNA precursors in hippocampal neurons. S. BICKER\*; F. ZAMPA; S. KHUDAYBERDIEV; K. WEISS; K. ZOCHER; S. BAUMEISTER; G. SCHRATT. *Univ. of Marburg, Univ. of Marburg, Univ. of Marburg.*
- 3:00 C59 **392.11** Presynaptic protein synthesis and mTOR signaling are required for endocannabinoid-mediated long-term depression. H. MONDAY\*; T. J. YOUNTS; M. E. KLEIN; B. A. JORDAN; P. E. CASTILLO. *Albert Einstein Col. of Med., Albert Einstein Col. of Med., Univ. Col. London.*

- 4:00 C60 **392.12** Identification of mRNAs that localize to the distal dendrites of the molecular layer of the dentate gyrus following high frequency stimulation of the perforant path. C. A. DE SOLIS\*; A. C. PARTIN; M. P. HOSEK; A. A. MORALES; J. E. PLOSKI. *Univ. of Texas at Dallas, UT Southwestern.*
- 1:00 C61 **392.13** ● Kismet affects endocytosis and glutamate receptor localization at the *Drosophila* melanogaster neuromuscular junction. T. DELANEY\*; C. GRIDLEY; F. L. W. LIEBL. *Southern Illinois Univ. Edwardsville.*
- 2:00 C62 **392.14** Selective optogenetic activation of peralant path synapses in hippocampal slices. P. SALGADO\*; B. TRIEU; Y. JIA; C. GALL; G. LYNCH; O. STEWARD. *Univ. of California, Irvine, Univ. of California, Irvine.*
- 3:00 C63 **392.15** Dissecting the role of Fragile X Mental Retardation Protein in activity-dependent local synthesis of key synaptic protein PSD95 by TimeSTAMP. Y. GENG\*; Y. YANG; M. Z. LIN. *Stanford Univ.*
- 4:00 C64 **392.16** SynapTRAP: Cell specific identification of localized translation in neuronal processes *in vivo*. R. OUWENGA\*; A. MOGHA; J. DOUGHERTY. *Washington Univ. In St Louis, Washington Univ. In St Louis, Washington Univ. In St Louis.*
- 1:00 C65 **392.17** Staufen 2 and the mRNA decay factor Upf1 regulate stalled translation and synaptic plasticity in neurons. E. B. FREEMANTLE\*; T. GRABER; S. HÉBERT-SEROPIAN; R. MCADAM; W. SOSSIN; J. LACAILLE. *Univ. De Montréal, McGill University, Montreal Neurolog. Inst.*
- 2:00 C66 **392.18** Cell type-specific mTORC1 function in somatostatin-expressing interneurons regulates hippocampal network plasticity and memory. J. ARTINIAN\*; A. LA FONTAINE; M. MAURER; I. LAPLANTE; K. GAMACHE; K. NADER; J. LACAILLE. *Univ. de Montréal, McGill Univ.*
- 3:00 C67 **392.19** Visualization of dynamic local proteins synthesis in response to visual experience in *Xenopus laevis*. H. LIU\*; H. T. CLINE. *The Scripps Res. Inst., The Scripps Res. Inst.*
- 4:00 C68 **392.20** Drug-controllable protein tags allow selective visualization, or selective shutoff, of newly synthesized pools of specific endogenous synaptic proteins in mammalian neurons. C. JACOBS\*; Y. GENG; R. Y. TSIEN; M. Z. LIN. *Stanford Univ., UCSD.*
- 1:00 C69 **392.21** Chemical long term potentiation studied by bio-orthogonal noncanonical amino acid tagging. R. P. MOLLOY\*; R. D. HAWKINS. *Columbia Univ., New York State Psychiatric Inst.*
- 2:00 C70 **392.22** A role for the deadenylase Nocturnin in synaptic plasticity. Y. ONDER\*; G. MOLINARO; K. M. HUBER; C. B. GREEN. *UT Southwestern Med. Ctr., UT Southwestern Med. Ctr.*
- 3:00 C71 **392.23** ● ▲ Kismet is important for endocytosis and the localization of the cell adhesion molecule, FasII, at the *Drosophila* neuromuscular junction. S. A. MARKEL\*; F. L. W. LIEBL. *Southern Illinois Univ. Edwardsville, Southern Illinois Univ. Edwardsville.*
- 4:00 C72 **392.24** Effect of trithorax group proteins on synaptic vesicle endocytosis and glutamate receptor localization at the *Drosophila* neuromuscular junction. C. GRIDLEY\*; T. DELANEY; F. LIEBL. *Siu.*

## POSTER

### 393. Oscillations and Synchrony: Other II

#### Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 C73 **393.01** Dynamics of coupled oscillatory networks in sensory cortex. L. FONTOLAN\*; M. KRUPA; A. HYAFIL; S. ROMANI; B. GUTKIN. *Univ. of Geneva, HHMI, INRIA Paris-Rocquencourt Res. Ctr., Univ. Pompeu Fabra and Fundacio Sant Joan de Deu, Ecole Normale Supérieure.*
- 2:00 C74 **393.02** Non-linearities between neuronal firing rates and spike-field coherence in primary somatosensory and motor cortex. F. I. ARCE-MCSHANE\*; N. HATSOPOULOS; B. SESSLE; C. ROSS. *Univ. of Chicago, Univ. of Chicago, Univ. of Toronto.*
- 3:00 C75 **393.03** VIP+ interneurons control spontaneous activity in neocortical circuits. J. C. JACKSON\*; M. M. KARNANI; I. AYZENSHTAT; R. YUSTE. *Columbia Univ., Columbia.*
- 4:00 C76 **393.04** ▲ Early-life stress impairs recognition memory by perturbing the activity within prefrontal-hippocampal-perirhinal networks of juvenile rats. S. A. J. REINCKE\*; I. L. HANGANU-OPATZ. *Univ. Med. Ctr. Hamburg-Eppendorf.*
- 1:00 C77 **393.05** Electrophysiological correlates of the default mode network. J. C. BILLINGS\*; W. PAN; M. NEZAFATI; S. D. KEILHOLZ. *Emory Univ., Emory Univ. and Georgia Inst. of Technol.*
- 2:00 C78 **393.06** Bold fmri correlation reflects frequency-specific neuronal correlation. J. F. HIPPI\*; M. SIEGEL. *Roche, Univ. of Tübingen.*
- 3:00 C79 **393.07** High-density scalp EEG in the macaque monkey during spatial working memory. F. SANDHAEGER\*; C. VON NICOLAI; N. NOURY; M. SIEGEL. *Univ. of Tuebingen, Univ. of Tuebingen.*
- 4:00 C80 **393.08** Measuring the correlation structure of cortical oscillations with EEG and MEG. M. SIEMS\*; A. PAPE; J. F. HIPPI; M. SIEGEL. *Univ. of Tübingen.*
- 1:00 C81 **393.09** Obstacles of simultaneous transcranial current stimulation and electrophysiological recording. N. NOURY\*; J. HIPPI; M. SIEGEL. *Univ. of Tuebingen, Univ. of Tuebingen.*
- 2:00 C82 **393.10** Large-scale cross-frequency coupling during spatial working memory. C. V. NICOLAI\*; E. K. MILLER; M. SIEGEL. *Univ. of Tuebingen, MIT.*
- 3:00 C83 **393.11** Phase-amplitude coupling in the resting human brain. J. GIEHL\*; J. F. HIPPI; A. A. PAPE; M. SIEGEL. *Univ. of Tuebingen, Univ. of Tuebingen.*
- 4:00 C84 **393.12** Cortical information flow during flexible sensorimotor decisions. M. SIEGEL\*; T. J. BUSCHMAN; E. K. MILLER. *Ctr. for Integrative Neurosci., Univ. of Tuebingen, MIT, Princeton Univ.*
- 1:00 C85 **393.13** Prestimulus activity in motor cortex predicts sensorimotor decisions. A. PAPE\*; M. SIEGEL. *Univ. of Tübingen, Ctr. for Integrative Neurosci. and MEG Ctr., IMPRS for Cognitive and Systems Neurosci.*

Mon. PM

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 2:00 C86 **393.14** Spontaneous and stimulus-induced activity in ferret visual cortex before and after eye-opening. Y. LI\*; C. YU; K. K. SELLERS; Z. ZHOU; J. H. GILMORE; F. FROHLICH. *Univ. of North Carolina At Chapel Hill, Univ. of North Carolina At Chapel Hill, Univ. of North Carolina At Chapel Hill, Univ. of North Carolina At Chapel Hill.*
- 3:00 C87 **393.15** Ih regulates cortical oscillations driven by layer V pyramidal neurons. S. L. SCHMIDT\*; A. K. IYENGAR; A. A. FOULSER; M. R. BOYLE; F. FROHLICH. *Univ. of North Carolina.*
- 4:00 C88 **393.16** Biophysical thalamic network model of alpha, gamma, and spindle oscillations dependent on cholinergic neuromodulatory state. G. LI\*; F. FROHLICH. *Univ. of North Carolina at Chapel Hill.*
- 1:00 C89 **393.17** ● Feedback-controlled sleep spindle transcranial alternating current stimulation promotes motor memory consolidation. C. LUSTENBERGER\*; M. R. BOYLE; S. ALAGAPAN; J. M. MELLIN; B. VAUGHN; F. FROHLICH. *UNC at Chapel Hill.*
- 2:00 C90 **393.18** GABA<sub>A</sub> receptor density affects both gamma oscillations and fMRI BOLD activity during visual working memory. J. KUJALA\*; J. JUNG; C. CIUMAS; S. BOUVARD; F. LECAIGNARD; A. LOTHE; R. BOUET; P. RYVLIN; K. JERBI. *Aalto Univ., Lyon Neurosci. Res. Ctr., Inst. for Child and Adolescent with Epilepsy, CERMEP imaging center, Ctr. hospitalier universitaire vaudois, Univ. of Montreal.*
- 3:00 C91 **393.19** State-dependent modulation of alpha oscillation by direct electrical stimulation. S. ALAGAPAN\*; S. L. SCHMIDT; J. LEFEBVRE; H. SHIN; F. FRÖHLICH. *Univ. of North Carolina At Chapel Hill, Univ. Hosp. Ctr. and Univ. of Lausanne.*
- 4:00 C92 **393.20** The effects of ketamine on *in vitro* network dynamics. X. CHEN; R. DZAKPASU\*. *Georgetown Univ., Georgetown Univ. Med. Ctr.*
- 1:00 C93 **393.21** The onset of intrinsic predictability at criticality in somatosensory cortex. L. FAKHRAEI\*; S. GAUTAM; W. SHEW. *Univ. of Arkansas.*
- 2:00 C94 **393.22** Fast sparsely synchronized brain rhythms in a scale-free neural network. W. LIM\*; S. KIM. *Daegu Natl. Univ. of Educ., Computat. Neurosci. Lab.*
- 3:00 C95 **393.23** ● Propagation of epileptiform activity along the dorso-ventral axis of the medial entorhinal cortex. T. RIDLER; A. POPE; K. PHILLIPS; A. D. RANDALL; J. T. BROWN\*. *Univ. of Exeter, Eli Lilly.*
- 4:00 C96 **393.24** Distinct contributions of somatostatin- and VIP-expressing interneurons to pyramidal cell excitability during Up states in barrel cortex. G. NESKE\*; B. W. CONNORS. *Brown Univ.*
- 1:00 D1 **393.25** Potential mechanisms and functions of short desynchronizations of neural oscillations. L. L. RUBCHINSKY\*; S. AHN. *IUPUI & Indiana Univ. Sch. Med., Indiana Univ. Purdue Univ. Indianapolis.*
- 2:00 D2 **393.26** Developmental switch from hypo- to hypercoupling within prefrontal-hippocampal networks of a gene-environment mouse model of mental illness. H. HARTUNG\*; S. SCHILD; A. MARQUARDT; N. CICHON; V. DE FEO; S. RIEMANN; C. MULERT; J. GOGOS; I. L. HANGANU-OPATZ. *Univ. Med. Ctr. Hamburg-Eppendorf, Univ. Med. Ctr. Hamburg-Eppendorf, Columbia Univ.*
- 3:00 D3 **393.27** Noradrenaline alters the structure of long-range temporal correlations of intrinsic activity fluctuations in the human cortex. T. PFEFFER\*; K. LINKENKAER-HANSEN; A. K. ENGEL; T. H. DONNER. *Univ. Med. Ctr. Hamburg-Eppendorf, VU Univ. Amsterdam, Univ. of Amsterdam, Univ. of Amsterdam.*
- 4:00 D4 **393.28** ▲ Contextual connectivity: Intrinsic dynamic architecture of large-scale functional brain networks. R. CIRIC\*; J. S. NOMI; L. Q. UDDIN; A. B. SATPUTE. *Pomona Col., Pomona Col., Univ. of Miami, Pomona Col.*
- 1:00 D5 **393.29** Microscopic evaluation of synaptogenesis and synaptic connectivity in health and disease: An *in vitro* toolbox. P. VERSTRAELEN\*; J. R. DETREZ; I. PINTELON; R. NUYDENS; T. MEERT; W. H. DE VOS; J. TIMMERMANS. *Univ. of Antwerp, Janssen Pharmaceutica.*

## POSTER

### 394. Schwann Cells and Peripheral Nerve

#### Theme B: Neural Excitability, Synapses, and Glia: Cellular Mechanisms

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 D6 **394.01** An improved method for the isolation, purification and expansion of Schwann cells from adult rodent nerves. N. D. ANDERSEN\*; S. SRNIVAS; C. ZABALO; P. MONJE. *Univ. of Miami Miller Sch. of Med.*
- 2:00 D7 **394.02** Expression profiling of developmentally arrested Schwann cells reveals new candidates in the regulation of peripheral nerve myelination. N. E. SANCHEZ\*; K. R. MONK. *Washington Univ.*
- 3:00 D8 **394.03** The soluble adenylyl cyclase (sAC) is required for ErbB3 expression and neuregulin-dependent Schwann cell proliferation. R. G. CORREDOR\*; K. BACALLAO; P. V. MONJE. *Florida Intl. Univ., Univ. of Miami Miller Sch. of Med.*
- 4:00 D9 **394.04** Glial  $\beta$ II spectrin stabilizes nodal and paranodal molecular organization. K. SUSUKI\*; D. R. ZOLLINGER; K. CHANG; C. ZHANG; C. TSAI; Y. LIU; M. N. RASBAND. *Wright State Univ., Baylor Col. of Med.*
- 1:00 D10 **394.05** Neuregulin modifies the disease course of Charcot-Marie-Tooth disease 1A. M. W. SEREDA\*; R. STASSART; K. NAVE; R. FLEDERICH. *Max-Planck Inst. Exp. Med., Max-Planck Inst., Max-Planck Inst. of Exptl. Med.*
- 2:00 D11 **394.06** Advanced chronic nerve compression injuries induce robust glial scar. D. ZHU; M. TAPADIA; M. LUU; J. JUNG; W. WANG; T. MOZAFFAR; R. GUPTA\*. *Univ. of California, Irvine, Univ. of California, Irvine.*
- 3:00 D12 **394.07** Identity-function correlates in human and rodent Schwann cells as revealed by next generation RNA sequencing. P. V. MONJE\*; M. MCGRATH; D. SANT; G. WANG. *Univ. of Miami Miller Sch. of Med., Miller Sch. of Medicine, Univ. of Miami.*



- 4:00 D13 **394.08** ▲ Using complement-mediated cell ablation to characterize the role of perisynaptic schwann cells at the vertebrate neuromuscular junction. M. J. FITZPATRICK; A. E. BYRNE; C. A. LINDGREN\*. *Dept. of Biology, Grinnell Col.*
- 1:00 D14 **394.09** ▲ GABA in the Dorsal Root Ganglion: Distribution and possible function. A. VARGAS PARADA\*; E. LOEZA-ALCOCER; M. B. BRAVO-HÉRNANDEZ; R. GONZÁLEZ-RAMÍREZ; F. PAZ-BERMÚDEZ; B. FLORÁN; R. FELIX; R. DELGADO-LEZAMA. *CINVESTAV, CINVESTAV, CINVESTAV, Gen. Hosp. Dr. Manuel Gea González, CINVESTAV, CINVESTAV, IPN.*
- 2:00 D15 **394.10** Sex differences in P2rx4 upregulation and involvement of PPARs in pain hypersensitivity resulting from peripheral nerve injury. J. MAPPLEBECK\*; S. BEGGS; Y. TU; N. J. PILLON; P. BILAN; A. KLIP; J. S. MOGIL; M. W. SALTER. *Hosp. For Sick Children, Univ. of Toronto, McGill Univ.*
- 3:00 D16 **394.11** Short and long-term neuroprotective effects of Cannabidiol after post-natal peripheral nerve axotomy. M. PEREZ\*; A. L. R. OLIVEIRA; L. P. CARTAROZZI; F. S. GUIMARÃES. *Unicamp, Unicamp, USP.*
- 4:00 D17 **394.12** SIMPLE, a causative gene for Charcot-Marie-Tooth disease type 1C, participates in protein trafficking in trans-Golgi network and recycling endosome. Y. MORIWAKI\*; Y. OHNO; T. ISHII; Y. TAKAMURA; K. SANGO; K. WATABE; H. MISAWA. *Keio University, Fac. of Pharm., Tokyo Metropolitan Inst. of Med. Sci.*
- 1:00 D18 **394.13** PERK activation interferes with myelin signals and formation in the S63del-CMT1B mouse. M. SIDOLI; P. PAEZ; C. SCAPIN; M. D'ANTONIO; M. FELTRI; L. WRABETZ\*. *RF SUNY Buffalo Sch. Med., San Raffaele Scientific Institute - DIBIT.*
- 2:00 D19 **394.14** Liver X Receptors (LXRs): New modulators of myelination in the peripheral and central nervous system. C. MASSAAD\*; D. MEFFRE; G. SHACKLEFORD; M. HICHOR; J. GRENIER. *Univ. Paris Descartes/Inserm.*
- 3:00 D20 **394.15** Humanized microbiota alter host immune response to campylobacter jejuni infection. P. BROOKS\*; K. A. BRAKEL; J. A. BELL; L. S. MANSFIELD. *Michigan State Univ., Michigan State Univ., Michigan State Univ.*
- 4:00 D21 **394.16** Non-Obese Diabetic (NOD) mice serve as inducible models of Guillain Barré Syndrome following Campylobacter jejuni infection. L. S. MANSFIELD\*; J. L. ST. CHARLES; B. J. GADSDEN; J. A. BELL. *Michigan State Univ., Michigan State Univ.*
- 2:00 D23 **395.02** ● A general amyloid interaction motif (gaim)-immunoglobulin fusion, NPT088 binds and remodels both amyloid- $\beta$  and tau aggregates in a conformation-dependent manner. R. KRISHNAN\*; E. ASP; M. PROSCHITSKY; C. H. CHUNG; J. C. CARROLL; H. TSUBERY; M. LULU; S. GILEAD; M. GARTNER; P. DAVIS; J. WALTHO; J. M. LEVENSON; J. WRIGHT; K. S. GANNON; B. SOLOMON; R. FISHER. *NEUROPHAGE PHARMACEUTICALS, Univ. of Manchester, Tel Aviv Univ.*
- 3:00 D24 **395.03** The activation of Wnt pathways stimulates neuronal glucose metabolism enhancing the neuroprotection against the toxicity of A $\beta$  peptide. P. CISTERNAS\*; C. SILVA-ALVAREZ; P. SALAZAR; N. C. INESTROSA. *CARE-UC, Pontificia Univ. Católica de Chile.*
- 4:00 D25 **395.04** Microna 298 - a one-two punch for Alzheimer's disease. N. CHOPRA\*; K. NHO; J. M. LONG; B. MALONEY; A. J. SAYKIN; D. K. LAHIRI. *Indiana Univ. Sch. of Med.*
- 1:00 D26 **395.05** Interactions of diminished mitochondrial metabolism and mitophagy in Alzheimer's disease. K. BANERJEE; H. XU; D. E. FRANK; J. YANG; S. CHO; C. T. CHU; V. E. KAGAN; T. DENTON; Y. Y. TYURINA; H. BAYIR; J. F. JIANG; G. E. GIBSON\*. *Weill Cornell Med. College/Burke Med. Res. Inst., Univ. of Pittsburgh, Eastern Washington Univ., UPMC, univ of pittsburgh.*
- 2:00 D27 **395.06** The effect of Liraglutide on streptozotocin-induced neurodegeneration in cultured mouse hippocampal neurons. C. LEARMAN\*; M. SONG; T. HALL; L. PALADUGU; J. ROSSIGNOL; G. DUNBAR. *Field Neurosciences Inst. Lab. For Restorative Neu, Central Michigan Univ., Field Neurosciences Inst., Central Michigan Univ., Central Michigan Univ.*
- 3:00 D28 **395.07** Targeting RyR2 calcium channels for Alzheimer's disease therapeutics. S. RILEY\*; C. A. BRIGGS; R. HELFRICH; N. KAPECKI; H. DEOKAR; J. BUOLAMWINI; G. E. STUTZMANN. *Rosalind Franklin Univ. of Med. and Scien, Rosalind Franklin Univ. of Med. and Scien.*
- 4:00 D29 **395.08** Effective screening method of new drugs for Alzheimer's disease. B. ZHU\*; L. LU; K. HERRUP. *Hong Kong Univ. of Sci. and Technol.*
- 1:00 D30 **395.09** CRISPR/Cas 9 mediated disruption of the Swedish APP allele in human fibroblasts. M. INGELSSON\*; B. GYÖRGY; S. TAKEDA; C. LÖÖV; L. LANNFELT; B. T. HYMAN; X. O. BREAKEYFIELD. *Uppsala Univ. / Geriatrics, Harvard Med. Sch. / Massachusetts Gen. Hosp., Howard Hughes Med. Inst.*
- 2:00 D31 **395.10** Consequence of drp1/ fis1 interaction in Alzheimer's disease - dangerous liaisons. A. U. JOSHI; N. QVIT; D. MOCHLY-ROSEN\*. *Stanford Univ.*
- 3:00 D32 **395.11** Novel, potent TLR4 antagonists attenuate oA $\beta$ -induced neuroinflammation *in vitro*. K. P. KOSTER\*; J. M. YORK; S. GHURA; N. COLLINS; F. NEUMANN; L. M. TAI; M. LADU. *Univ. of Illinois at Chicago, Innaxon.*
- 4:00 D33 **395.12** ▲ Glyceraldehyde-3-phosphate dehydrogenase aggregation inhibitor: Exploring a drug targeting for Alzheimer's disease. A. KITA\*; T. KUBO; Y. SEMI; S. HIGASHIDA; A. KANESHIGE; M. ITAKURA; Y. AZUMA; T. TAKEUCHI; H. NAKAJIMA. *Osaka Prefecture Univ.*

## POSTER

### 395. Therapeutic Strategies for Alzheimer's Disease

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 D22 **395.01** ● Activation of *in vitro* microglial phagocytosis and amyloid- $\beta$  (A $\beta$ ) clearance by lipoxin A4 receptor (ALXR) agonists. S. LIM\*; Z. KIEU; M. KITAZAWA. *Univ. of California, Merced.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 1:00 D34 **395.13** ● Glatiramer acetate promotes alternative activation of bone marrow-derived macrophages effective in clearance of neurotoxic A $\beta$ . A. RENTSENDORJ\*; Y. KORONYO; J. SHEYN; D. DALEY; D. FUCHS; K. L. BLACK; M. KORONYO-HAMAOU. *Cedars Sinai Med. Ctr., Biomed. Sci. and Translational Med.*
- 2:00 D35 **395.14** Antioxidant effects of thymoquinone in LPS-activated BV2 microglia cell line. M. K. DUVAL; E. TAKA; K. F. SOLIMAN\*. *Florida A&M Univ., Florida A&M Univ.*
- 3:00 D36 **395.15** A $\beta$  oligomers bind selectively to synaptic proteins in a nanoscale membrane mimetic system engineered for HTS and therapeutic discovery. K. C. WILCOX\*; M. R. MARUNDE; A. DAS; P. T. VELASCO; B. KUHNS; M. T. MARTY; H. JIANG; C. LUAN; S. G. SLIGAR; W. L. KLEIN. *Northwestern Univ., Northwestern Univ., Univ. of Illinois Urbana Champaign.*
- 4:00 D37 **395.16** Amylin and its analog: Potential diagnostic test and therapeutic drug for Alzheimer's disease. W. Q. QIU\*; H. ZHU. *Boston Univ. Sch. of Med.*
- 1:00 D38 **395.17** Age-dependent effects of TH-9 on synaptic plasticity in the rat hippocampus *in vitro*. S. B. KOMBIAN\*; H. NASHAWI; T. BARTL; L. NOVOTNY; M. ORIOWO. *Kuwait Univ., Fac. of Pharmacy, Kuwait Univ., Univ. of Vet. and Pharmaceut. Sci., Fac. of Pharmacy, Kuwait Univ., Fac. of Medicine, Kuwait Univ.*
- 2:00 D39 **395.18** Intranasal administration of a small molecule antagonist efficiently blocks CRF1 receptor radioligand binding. L. A. TAN\*; J. M. VAUGHAN; R. A. RISSMAN; P. E. SAWCHENKO. *Salk Inst. For Biol. Studies, Univ. of California San Diego.*
- 3:00 D40 **395.19** Allopregnanolone promotes neural stem cell differentiation to neurons and oligodendrocyte precursor cells. S. CHEN\*; J. YAO; K. WONG; R. BRINTON. *USC.*
- 4:00 D44 **396.04** Deletion of the type-1 interferon receptor in APPSWE/PS1 $\Delta$ E9 mice preserves cognitive function and alters microglial phenotype. M. R. MINTER; Z. MOORE; M. ZHANG; N. JONES; S. SHULTZ; J. TAYLOR; P. J. CRACK\*. *Univ. of Melbourne.*
- 1:00 D45 **396.05** Pathological tau induces inflammasome activation and neuroinflammation relevant to Alzheimer's disease. S. JIANG\*; J. BINDER; N. MAPHIS; W. DURAN; C. FLORUTA; S. JETT; E. LATZ; K. BHASKAR. *Univ. of New Mexico, Univ. of New Mexico, Univ. of New Mexico, Univ. of Massachusetts Med. Sch.*
- 2:00 D46 **396.06** Microglia constitute a barrier that prevents neurotoxic protofibrillar A $\beta$ 42 hotspots around plaques. P. YUAN\*; C. CONDELLO; A. SCHAIN; Y. WANG; D. BADDELEY; M. COLONNA; J. GRUTZENDLER. *Yale Univ., Washington Univ. in St. Louis Sch. of Med., Yale Univ.*
- 3:00 D47 **396.07** Wild-type human tau enhances the macrophage response to experimental traumatic brain injury. O. KOKIKO-COCHRAN\*; M. SABER; R. TEKNIPP; S. BEMILLER; B. LAMB. *Lerner Res. Inst. Cleveland Clin.*
- 4:00 D48 **396.08** Characterization of high passage adult human microglia cultures. A. REZVANIAN; M. PETERSON; T. GEFEN; S. WEINTRAUB\*; E. H. BIGIO; M. MESULAM; J. EL-KHOURY; L. GUO; C. GEULA. *Northwestern Univ. Med. Sch., Northwestern Univ. Med. Sch., Massachusetts Gen. Hosp. / Harvard Med. Sch., The Third People's Hosp. of Yunnan Province.*
- 1:00 E1 **396.09** Selective Neurodegeneration in Alzheimer's disease and Parkinson's disease. J. WANG\*; W. SONG. *UBC.*
- 2:00 E2 **396.10** Withdrawn.
- 3:00 E3 **396.11** Induction of learning and memory deficits by diminishing neurogenesis in a FAD mouse model. C. L. HOLLANDS\*; M. HSU; S. KERNIE; O. LAZAROV. *The Univ. of Illinois at Chicago, Columbia Univ.*

## POSTER

### 396. Neuroinflammation, Immunity, and Alzheimer's Disease

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 D41 **396.01** Interleukin-10 deficiency licenses innate immunity to fight against cerebral amyloidosis. T. C. TOWN\*; M. GUILLOT-SESTIER; K. R. DOTY; D. GATE; J. RODRIGUEZ, Jr.; B. P. LEUNG; K. REZAI-ZADEH. *Zilkha Neurogenetic Inst., Pennington Biomed. Res. Ctr.*
- 2:00 D42 **396.02** Discordant transcriptomic profile in Amyloid $\beta$  treated primary microglia and aged APP mice. P. CHAKRABARTY\*; C. CEBALLOS-DIAZ; B. HEAVNER; T. LADD; A. LI; N. PRICE; T. E. GOLDE. *Univ. of Florida, Inst. of Systems Biol.*
- 3:00 D43 **396.03** Inflammation-induced phosphorylation and cleavage of neuronal APP: A molecular mechanism in the pathogenesis of late onset Alzheimer's disease. V. MURESAN\*; Z. LADESCU MURESAN. *New Jersey Med. School, Rutgers, The State Univ. of New Jersey.*
- 4:00 E4 **396.12** ▲ Intranasal paclitaxel increases axonal transport and rescues cognitive deficits in 3xTg-AD mice. C. CROSS\*; M. M. CLINE; G. G. GARWIN; S. MINOSHIMA; D. J. CROSS. *Brown Univ., Univ. of Washington, Univ. of Utah.*
- 1:00 E5 **396.13** Dysfunction of CREB signaling is associated with impaired learning and memory in a mouse model of Alzheimer's disease. N. BARTOLOTTI\*; L. SEGURA; D. STORM; O. LAZAROV. *Univ. of Illinois At Chicago, Univ. of Washington.*
- 2:00 E6 **396.14** ● Development of ORY-2001, a dual LSD1/MAOB inhibitor, for the treatment of neurodegenerative disease. T. MAES\*; C. MASCARÓ; F. CAVALCANTI; D. ROTLLANT; A. ORTEGA; C. GRIÑÁN FERRÉ; M. PALLÀS; C. BUESA. *ORYZON GENOMICS S.A., Univ. of Barcelona.*
- 3:00 E7 **396.15** The epigenetic role of Tip60 in environmental enrichment induced cognitive restoration. S. XU\*; F. ELEFANT. *Drexel Univ.*
- 4:00 E8 **396.16** The role of TREM2 in traumatic brain injury-induced neuroinflammation and neurodegeneration. M. SABER\*; O. KOKIKO-COCHRAN; R. TEKNIPP; B. LAMB. *Cleveland Clin.*

1:00 E9 **396.17** • Untangling the brain's neuroinflammatory and neurodegenerative transcriptional responses. B. A. FRIEDMAN\*; K. SRINIVASAN; D. HANSEN. *Genentech, Inc.*

2:00 E19 **397.10** Subject-specific computational model of DBS in the brainstem. L. M. ZITELLA\*; B. A. TEPLITZKY; H. M. HUDSON; K. BRINTZ; Y. DUCHIN; N. HAREL; K. B. BAKER; J. L. VITEK; M. D. JOHNSON. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

## POSTER

### 397. Deep Brain Stimulation Mechanisms and Treatments in Parkinson's Disease

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, Hall A

1:00 E10 **397.01** Role of dopamine and gaba on primate striatal interneurons during electrical stimulation to the subthalamic nucleus and internal part of the globus pallidus. A. NAKAJIMA\*; Y. SHIMO; T. UKA; N. HATTORI. *Juntendo Univ. Sch. of Med., Juntendo Univ. Sch. of Med., Juntendo Univ. Sch. of Med., Juntendo Univ. Sch. of Med.*

3:00 E20 **397.11** Neurophysiological differences in M1-SMA activity during pallidal deep brain stimulation in the behaving 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine nonhuman primate hemi-Parkinson's disease model. C. M. HENDRIX\*; B. CAMPBELL; Z. WEINSTOCK; M. JOHNSON; K. BAKER; J. VITEK. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*

2:00 E11 **397.02** High frequency burst stimulation of subthalamic nucleus induces motor deficits and modulates cortical activity in normal rats. C. S. OZA\*; C. E. BEHREND; K. KUMARAVELU; D. BROCKER; W. GRILL. *Duke Univ., Duke Univ., Duke Univ.*

4:00 E21 **397.12** Effects of stimulation of the subthalamic nucleus on thalamic activity patterns in parkinsonian monkeys. A. DEVERGNAS\*; D. PITTARD; I. HAMADA; Y. SMITH; T. WICHMANN. *Yerkes Natl. Primate Res. Ctr., Dept. Neurol., Emory Univ. Sch. Med.*

3:00 E12 **397.03** Modulation of oscillatory activity and increased expression of cFos and pERK in the midbrain locomotor region parallel improvement in gait by deep brain stimulation of the substantia nigra pars reticulata in hemiparkinsonian rats. G. C. MCCONNELL\*; W. M. GRILL. *Duke Univ.*

1:00 E22 **397.13** Local evoked potentials recorded during subthalamic nucleus deep brain stimulation in humans with Parkinson's disease. W. M. GRILL\*; D. T. BROCKER; B. D. SWAN; A. R. KENT; D. A. TURNER; P. T. HICKEY. *Duke Univ.*

4:00 E13 **397.04** An explanation for how high-frequency DBS signals help attenuate low-frequency rest tremors in Parkinson's disease patients. V. V. SHAH\*; S. GOYAL; H. PALANTHANDALAM-MADAPUSI. *Indian Inst. of Technol. Gandhinagar, Univ. of California, Merced, Indian Inst. of Technol. Gandhinagar.*

2:00 E23 **397.14** Deep brain stimulation increases motor cortical 1/f noise and decouples high gamma amplitude from beta phase. S. R. COLE\*; E. J. PETERSON; C. DE HEMPTINNE; P. A. STARR; B. VOYTEK. *UCSD, UCSD, Univ. of California, San Francisco.*

1:00 E14 **397.05** Spontaneous neural activity in primary motor cortex and subthalamic nucleus during therapeutic deep brain stimulation. K. B. BAKER\*; L. A. JOHNSON; J. ZHANG; S. D. NEBECK; M. D. JOHNSON; J. L. VITEK. *Univ. of Minnesota, Univ. of Minnesota.*

## POSTER

### 398. Connectivity, Physiologic Mechanisms and Computational Models of Parkinson's Disease

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, Hall A

2:00 E15 **397.06** Phase-amplitude coupling in the STN and its change following therapeutic STN DBS in the MPTP monkey model of PD. J. WANG; S. NEBECK\*; L. A. JOHNSON; J. ZHANG; M. D. JOHNSON; K. B. BAKER; J. L. VITEK. *Univ. of Minnesota.*

1:00 E24 **398.01** Topological changes in nondemented pd patients with visual hallucination: Graph-theoretical analysis. A. STRAFELLA\*; S. H. FOX; M. ZUROWSKI; S. DUFF-CANNING; S. HOULE; S. CHO. *Univ. Toronto, Toronto Western Res. Inst. and Hosp., Res. Imaging Centre, Ctr. for Addiction and Mental Hlth., Univ. of Toronto.*

3:00 E16 **397.07** Spike activity in M1 during epicortical direct current stimulation. M. D. JOHNSON\*; N. FABER; F. AGNESI. *Univ. of Minnesota.*

2:00 E25 **398.02** A computational model for the progression of Parkinson's disease in the basal ganglia. M. CAIOLA\*; M. HOLMES. *Rensselaer Polytechnic Inst.*

4:00 E17 **397.08** Oscillatory activity and phase-amplitude coupling in macaque primary motor cortex and subthalamic nucleus in normal and parkinsonian states. L. A. JOHNSON\*; J. ZHANG; S. D. NEBECK; M. D. JOHNSON; K. B. BAKER; J. L. VITEK. *Univ. of Minnesota, Univ. of Minnesota.*

3:00 E26 **398.03** Interneuron-selective pallidothalamic projections are crucial for the emergence of beta oscillations under dopamine-depleted conditions in a computational model of a basal ganglia circuit. V. L. CORBIT\*; T. C. WHALEN; K. T. ZITELLI; J. E. RUBIN; A. H. GITTIS. *Univ. of Pittsburgh, Ctr. for the Neural Basis of Cognition, Carnegie Mellon Univ., Univ. of Pittsburgh, Univ. of Pittsburgh, Carnegie Mellon Univ.*

1:00 E18 **397.09** Modulation of passive responses in primary motor cortex during STN DBS in the parkinsonian monkey. J. ZHANG\*; L. A. JOHNSON; S. D. NEBECK; M. D. JOHNSON; K. B. BAKER; J. L. VITEK. *Univ. of Minnesota, Univ. of Minnesota.*

4:00 E27 **398.04** Anti-phase synchronized neural oscillations underlying Parkinson's disease resting tremor in a realistic neural network model of corticothalamic circuit. J. IGARASHI\*; J. MOREN; J. YOSHIMOTO; K. DOYA. *Okinawa Inst. of Sci. and Technol., Okinawa Inst. of Sci. and Technol. Grad. Univ.*

1:00 E28 **398.05** High frequency optogenetic stimulation of cortical projections to the subthalamic nucleus using ultrafast opsins. T. H. SANDERS\*; D. JAEGER. *Emory Univ.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 2:00 E29 **398.06** Reconstruction of the nigrostriatal pathway in parkinsonian macaques. A. J. RICO\*; D. PIGNATARO; D. SUCUNZA; I. G. DOPESO-REYES; E. MARTINEZ-PINILLA; M. LANZ; E. RODA; A. VALES; G. GONZALEZ-ASEGUINOLAZA; N. KHOLODILOV; R. E. BURKE; J. L. LANCIEGO. *FIMA, Ctr. de Investigacion Biomedica en Red sobre Enfermedades Neurodegenerativas (CIBERNED), Inst. de Investigacion Sanitaria de Navarra (IdiSNA), Ctr. for Applied Med. Res. (CIMA), Univ. of Navarra, Udall Parkinson's Dis. Res. Center, Columbia Univ. Med. Ctr.*
- 3:00 E30 **398.07** LRRK2 contributes to the establishment of functional striatal and cortical circuits. B. A. MATIKAINEN-ANKNEY\*; N. KEZUNOVIC; R. E. MESIAS; C. MORRISON; F. M. WILLIAMS; G. W. HUNTLEY; D. L. BENSON. *Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*
- 4:00 E31 **398.08** ● Connectivity-based subdivision of the subthalamic nucleus. H. LEE\*; W. OH; L. FENG; H. JEON; O. KWON; B. LEE; J. KIM. *Korea Inst. of Sci. and Technol. (KIST), Univ. of Sci. and Technol.*
- 1:00 E32 **398.09** Rostral reticular thalamus activity is altered in anaesthetized parkinsonian rats. L. C. PARR-BROWNLIE\*; R. A. SMITHER; S. T. C. LITTLE. *Univ. Otago, Univ. Otago.*
- 2:00 E33 **398.10** Increases in LRRK2 kinase activity caused by G2019S mutation enhance cortical input to striatal medium spiny neurons. N. KEZUNOVIC\*; B. A. MATIKAINEN-ANKNEY; R. E. MESIAS; C. MORRISON; F. M. WILLIAMS; D. L. BENSON; G. W. HUNTLEY. *Icahn Sch. of Med. at Mount Sinai.*
- 3:00 E34 **398.11** Sensory attenuation and Parkinson's disease: A new pathophysiological framework of bradykinesia. A. MACEROLLO\*; J. CHEN; P. KORLIPARA; T. FOLTYNIE; J. ROTHWELL; M. EDWARDS; J. KILNER. *UCL.*
- 4:00 E35 **398.12** Re-organization of corticostriatal circuit in parkinsonian and dyskinetic mice is associated with 'dumb' axospinous synapses. S. M. GRAVES\*; A. TANIMURA; D. J. SURMEIER. *Northwestern Univ.*
- 1:00 E36 **398.13** Neurophysiology of impulse control disorder in Parkinson's disease. P. J. ROSSI\*; J. SHUTE; O. CASTELLANOS; A. GUNDUZ; M. OKUN. *Univ. of Florida COM, Univ. of Florida, Univ. of Florida, Univ. of Florida Col. of Med.*
- 2:00 E37 **398.14** ● Evidence of early cerebellar dysfunction in presymptomatic Parkinson's disease: Data from quantitative anisotropy using magnetic resonance imaging, mitochondrial biochemistry and genetics, and eye-blink in PINK1 knock-out rats. K. MOORE\*; M. TRIVEDI; D. MARINI; P. KULKARNI; K. GAMBER; M. NEDELMAN; C. FERRIS. *Northeastern Univ., Northeastern Univ., Horizon Discovery, Ekam Imaging.*
- 3:00 E38 **398.15** Ultrastructural assessment of the striatal target following induction of new axon growth in the nigrostriatal projection induced by intra-nigral AAV hRheb(S16H). A. ROLLAND; A. P. TAGLIAFERRO\*; T. KAREVA; N. KHOLODILOV; R. E. BURKE. *Dept. of Neurology, Columbia Univ., Columbia Univ.*
- 4:00 E39 **398.16** Morphological evidence supporting dopamine D1-D2 receptor heteromers in Macaca fascicularis. J. L. LANCIEGO\*; A. J. RICO; I. G. DOPESO-REYES; E. MARTINEZ-PINILLA; M. LANZ; D. SUCUNZA; D. PIGNATARO; E. RODA; S. R. GEORGE; R. FRANCO. *FIMA, Ctr. de Investigacion Biomedica en Red sobre Enfermedades Neurodegenerativas (CIBERNED), Inst. de Investigacion Sanitaria de Navarra (IdiSNA), Ctr. for Applied Med. Res. (CIMA), Univ. of Navarra, Campbell Family Mental Hlth. Res. Institute, Ctr. for Addiction and Mental Hlth., Univ. of Barcelona, Ctr. de Investigacion Biomedica en Red sobre Enfermedades Neurodegenerativas (CIBERNED).*
- 1:00 E40 **398.17**  $\alpha$ -synuclein oligomers suppress spike firing by strengthening functional coupling of L-type calcium channel, SK-type potassium channel, and inositol trisphosphate receptor in neocortical pyramidal neurons. K. YAMAMOTO\*; H. SAWADA. *Utano Natl. Hosp.*
- 2:00 E41 **398.18** Effects of aging in Parkinson's disease: Role of Ca channel in dopamine neuron computational model. C. MAHAPATRA\*; R. MANCHANDA. *IIT Bombay, IIT Bombay.*
- 3:00 E42 **398.19** Striatal olfactory type G-protein alpha subunit expression is regulated by the dopaminergic system. I. RUIZ DE DIEGO\*; J. NARANJO; D. HERVÉ; R. MORATALLA. *Cajal Institute, CSIC, CIBERNED, Ctr. Nacional de Biotecnología, Inserm UMR S-839, Inst. du Fer à Moulin, Univ. Pierre et Marie Curie.*
- 4:00 E43 **398.20** The fate of striatal projection neurons expressing D1 and D2 receptors in 6-OHDA-lesioned mice. D. GAGNON\*; M. G. SANCHEZ; C. BORIES; S. PETRYSZYN; Y. DE KONINCK; J. M. BEAULIEU; M. PARENT. *CR-IUSMQ.*
- 1:00 E44 **398.21** Motor effects of antagonism of dopamine D4 receptors in the substantia nigra reticulata (SNr) are correlated with changes in intranigral GABA levels. M. RODRÍGUEZ-SÁNCHEZ; V. AYALA-GONZÁLEZ; S. LOYA-LÓPEZ; J. AVALOS-FUENTES; D. ERLIJ; G. B. FLORAN\*. *Farmacology, CINVESTAV-IPN, CINVESTAV IPN, Dept. of Physiol. and Pharmacology, State Univ. of New York.*
- 2:00 E45 **398.22** ● Dopaminergic, serotonergic and noradrenergic deficits in Parkinson's with dementia. C. BUDDHALA\*; S. K. LOFTIN; B. KULEY; N. J. CAIRNS; M. C. CAMPBELL; J. S. PERLMUTTER; P. T. KOTZBAUER. *Washington Univ. Sch. of Med., Washington Univ. in St. Louis, Washington Univ. in St. Louis, Washington Univ. in St. Louis, Washington Univ. in St. Louis.*
- 3:00 E46 **398.23** The mechanism of reduced muscle strength and fatigue in Parkinson's disease. Y. CHANG\*; F. CHANG; W. LIU; Y. HUANG; Y. CHUANG. *Chang Gung Univ., Chang Gung Mem. Hosp.*
- 4:00 E47 **398.24** A neurophysiologic basis for the therapeutic potential of cerebellar stimulation on cognition in schizophrenia. K. L. PARKER\*; Y. KIM; V. A. EWALD; R. M. KELLEY; Y. HAN; K. R. BIJANKI; N. C. ANDREASEN; N. S. NARAYANAN. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa, Emory, Univ. of Iowa.*
- 1:00 E48 **398.25** Brief 4 Hz stimulation of medial frontal D1 neurons is sufficient to compensate for dopamine dysfunction during interval timing. Y. KIM\*; S. L. ALBERICO; S. HAN; N. S. NARAYANAN. *Univ. of Iowa, Univ. of Iowa.*

2:00 F1 **398.26** Ramping activity of neural ensembles in the medial frontal cortex and striatum during interval timing. E. EMMONS\*; K. L. PARKER; V. EWALD; N. NARAYANAN. *Univ. of Iowa.*

4:00 F9 **399.08** Nuclear imaging and molecular analysis of a Huntington's disease mouse model, zQ175KI. T. HUHTALA\*; M. BJÖRKMAN; J. RYTKÖNEN; A. AIRAKSINEN; T. KOIVULA; M. VIHMA; P. J. SWEENEY; T. PARKKARI; O. KONTKANEN; L. C. PARK. *Charles River Discovery Res. Services Finland Ltd, Univ. of Helsinki, CHDI Management/CHDI Fndn.*

## POSTER

### 399. Huntington's Disease: *In Vivo* and Methods

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, Hall A

1:00 F2 **399.01** RNAi for Huntington's disease: Maximizing therapeutic benefit with retrograde transport and neuronal/astrocytic transduction of viral vectors. V. ZIMMER\*; S. MOSER; C. PYTHOUD; A. SPOERL; M. REY; N. DÉGLON. *CHUV, CHUV.*

1:00 F10 **399.09** Neonatal iron supplementation exacerbates neuropathological markers of Huntington's disease in YAC 128 mice. K. L. BERGGREN\*; Z. LU; J. FOX; J. H. FOX. *Univ. of Wyoming, Univ. of Wyoming.*

2:00 F11 **399.10** Differential alterations in direct and indirect striatal output pathways in the R6/2 mouse model of Huntington's disease. J. BARRY\*; C. CEPEDA; M. S. LEVINE. *UCLA.*

2:00 F3 **399.02** Allele-specific silencing of the mutant huntingtin gene in primary fibroblast and neural cultures with transcription activator-like effectors. K. FINK\*; A. TORREST; P. DENG; S. KALOMOIRIS; W. CARY; J. R. GUTIERREZ; K. PEPPER; W. GRUENLOH; G. ANNETT; T. TEMPKIN; V. WHEELOCK; D. J. SEGAL; J. A. NOLTA. *UC Davis, Inst. For Regenerative Cures, Univ. of California, Davis, UC Davis Hlth. Systems.*

3:00 F12 **399.11** Use of high precision kinematic analysis to assess pharmacologically-induced motor impairment in mice. T. HEIKKINEN\*; T. BRAGGE; A. NURMI; R. HODGSON. *Charles River Discovery Res. Services.*

4:00 F13 **399.12** Addressing the *in vivo* contribution of JNK3 to Huntington's disease pathogenesis. R. G. GATTO\*; M. KANG; Y. CHU; A. LOPEZ-ROSAS; B. KIM; H. FRIEDECK; J. H. KORDOWER; G. MORFINI. *Univ. of Illinois At Chicago, Rush Univ. Med. Ctr.*

3:00 F4 **399.03** Novel immunoassays for the detection and quantification of huntingtin phosphoepitopes. L. AZZOLLINI; C. CARIULO; L. PETRICCA; M. VERANI; A. ANSALONI; Z. WANG; J. MARSH; S. GINES; F. SQUITIERI; H. LASHUEL; A. CARICASOLE\*. *IRBM Sci. Park, Lab. of Mol. and Chem. Biol. of Neurodegeneration, Univ. of Irvine, Fac. of Immunol. and Neurosciences, Univ. of Barcellona, I.R.C.C.S. Neuromed, LIRH.*

1:00 F14 **399.13** Effects of glutamate transporter inhibition on the excitatory inputs of cortical pyramidal neurons in the R6/2 mouse model of Huntington's disease. A. M. ESTRADA SANCHEZ\*; C. CEPEDA; D. CASTRO; M. S. LEVINE. *UCLA.*

4:00 F5 **399.04** Fine motor kinematic analysis in R6/2 mouse model of Huntington's disease: Capturing dyskinesia-like movement as a component of progressive motor deficits. T. HEIKKINEN; T. BRAGGE; O. KONTKANEN; T. PARKKARI\*; I. MUNOZ-SANJUAN; L. C. PARK. *Charles River Discovery Services Finland, CHDI Management/CHDI Fndn.*

2:00 F15 **399.14** Evaluation of monoamine oxidase A inhibition as a treatment for affective phenotypes in Huntington's disease. M. GARCIA-MIRALLES\*; J. OOI; C. FERRARI-BARDILE; A. TAN; M. R. HAYDEN; M. A. POULADI. *Translational Lab. In Genet. Med., Agency for Science, Technol. and Res. (A\*STAR), Yong Loo Lin Sch. of Medicine, Natl. Univ. of Singapore, Ctr. for Mol. Med. and Therapeutics, Child and Family Res. Institute, Univ. of British Columbia.*

1:00 F6 **399.05** Partial amelioration of peripheral and central symptoms of Huntington's disease by manipulating lipid metabolism. C. CEPEDA\*; J. Y. CHEN; C. TRAN; M. S. LEVINE. *IDDR, Semel Inst. for Neurosci. and Human Behavior, BRI, UCLA.*

3:00 F16 **399.15** Adaptation of a naturalistic motor learning task to assess behaviour and drug intervention in the YAC128 model of Huntington's disease. C. L. WOODARD\*; F. BOLAÑOS; T. H. MURPHY; L. A. RAYMOND. *Univ. of British Columbia.*

2:00 F7 **399.06** Neural stem cell implantation improves electrophysiology and behavior in R6/2 mice. S. M. HOLLEY\*; C. CEPEDA; J. C. REIDLING; J. BARRY; A. KING; S. YEUNG; A. LAU; D. SALAMATI; A. RELAÑO-GINÉS; M. CHESSELET; L. M. THOMPSON; M. S. LEVINE. *UCLA, UCI, UCI, UCI, UCLA.*

4:00 F17 **399.16** Integrated mouse genetic and genomic approach to dissect Huntington's disease pathogenesis. N. WANG\*; J. CANTLE; P. LANGFELDER; G. COPPOLA; S. HORVATH; X. YANG. *UCLA, UCLA, UCLA.*

3:00 F8 **399.07** ▲ Caspase activation in the olfactory bulb and alterations in neurogenesis observed early in HD rodent models. M. LAROCHE\*; M. DEMERS; M. LESSARD-BEAUDOIN; M. GARCIA-MIRALLES; C. KREIDY; L. YU-TAGER; H. NGUYEN; M. R. HAYDEN; M. A. POULADI; R. K. GRAHAM. *Fac. of Med. and Hlth. Sciences, Universit, Translational Lab. in Genet. Medicine, Agency for Science, Technol. and Res. (ASTAR) and Natl. Univ. of Singapore, Inst. for Med. Genet. and Applied Genomic, Univ. of Tuebingen, Ctr. for Mol. Med. and Therapeut. (CMMT), Child and Family Res. Inst. (CFRI), Univ. of British Columbia.*

1:00 F18 **399.17** Generation of CRISPR/Cas9-mediated Huntingtin knock in pigs. S. YAN\*; Q. HUANG; Z. TU; R. CHANG; B. ZHAO; L. LI; N. FAN; X. GUO; Y. ZHAO; Z. LIU; S. LI; L. LAI; X. LI. *Chinese Acad. of Sci., Key Lab. of Regenerative Biology, South China Inst. for Stem Cell Biol. and Regenerative Med., Dept. of Human Genetics, Emory Univ. Sch. of Med.*

2:00 F19 **399.18** Selective disruption of corticostriatal pathways in a mouse model of Huntington's disease. N. FOSTER\*; H. HINTIRYAN; M. BAY; I. BOWMAN; X. J. LI; L. GOU; M. S. BIENKOWSKI; M. Y. SONG; S. YAMASHITA; M. ZHU; A. W. TOGA; X. W. YANG; H. DONG. *USC, UCLA.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 3:00 F20 **399.19** OPCs derived from Huntington's disease-derived hESCs exhibit a SOX10 and MYRF disruption-associated suppression of oligodendrocyte development and myelinogenesis. A. LAMPP; A. BENRAISS\*; D. CHANDLER-MILITELLO; A. CORNWELL; X. LI; M. OSIPOVITCH; S. WANG; M. S. WINDREM; J. WINTERMUTE; L. ZOU; S. A. GOLDMAN. *Univ. of Copenhagen, Univ. of Rochester Med. Ctr.*
- 4:00 F21 **399.20** Withdrawn.
- 1:00 F22 **399.21** Serotonergic neurotransmission in Huntington's disease BACHD transgenic mice: A potential animal model of anxiety and depression? S. K. ALSELEHDAR\*; E. D. ABERCROMBIE. *Rutgers, The State Univ. of NJ.*
- 2:00 F23 **399.22** Therapeutic effectiveness of peroxisome proliferator activated receptors activation by agonists in a Huntington's disease model. A. MORALES\*; P. MARTINEZ-GOPAR; A. ZAMORANO; F. PEREZ. *THE NATIONAL INSTITUTE OF NEUROLOGY AND NEUROSURGERY, Escuela Nacional de Medicina y Homeopatía.*
- 3:00 F24 **399.23** Generation and characterization of mouse adenovirus induced pluripotent stem cells utilized for transplantation ameliorates behavioral deficits in the YAC128 mouse model of Huntington's disease. R. CULVER\*; A. AL-GHARAIBEH; A. CRANE; R. WYSE; A. ANTCLIFF; G. SHALL; S. MOORE; B. SRINAGESHWAR; N. KOLLI; D. STORY; O. LOSSIA; L. FROLLO; A. EICKHOLT; G. DUNBAR; J. ROSSIGNOL. *Central Michigan Univ., Central Michigan Univ., Field Neurosci. Inst.*
- 4:00 F25 **399.24** Sequential organization and circadian effects on ultrasonic vocalizations in the social interactions of male WT and zQ175 KI mice with wild-type females. P. C. CURTIN\*; M. MAZZELLA; K. A. COX; J. SUTPHEN; D. HOWLAND; T. VOGT; D. BRUNNER. *Psychogenics, Inc, CHDI.*
- 1:00 F26 **399.25** Characterization of brain metabolic imbalance in zQ175 knock-in and R6/2 mice of Huntington's disease: Principal component analysis-based meta-analysis of MRS phenotypic progression. K. LEHTIMÄKI; T. HEIKKINEN; T. BRAGGE; S. STAVÉN\*; I. MUNOZ-SANJUAN; L. C. PARK. *Charles River Discovery Services, CHDI Management/CHDI Fndn.*
- 3:00 F29 **400.03** ▲ Chronic 17β-estradiol therapy ameliorates progressive motor degeneration in the spastic Han Wistar rat, a genetic model of ataxia. B. D. GRIESS\*; L. H. STREB; R. W. COHEN. *California State University, Northridge.*
- 4:00 F30 **400.04** Functional alterations of the first Afg3l2 knock-in mouse harboring a SCA28 mutation. E. HOXHA; C. MANCINI; F. MONTAROLO; D. I. GONDOR MOROSINI; V. NICOLÒ; A. BRUSCO; F. TEMPIA\*. *N.I.C.O. - Neurosci. Inst. Cavalieri Ottolenghi, Univ. of Torino, Univ. of Torino.*
- 1:00 F31 **400.05** Characterization of an iPSC model of SCA13. A. AMIRI\*; Y. ZHANG; X. ZHANG; P. FORSCHER; L. KACZMAREK; F. VACCARINO. *Yale Univ.*
- 2:00 F32 **400.06** Altered precision of Purkinje cell firing in a mouse model of spinocerebellar ataxia type 6. S. JAYABAL\*; L. LJUNGBERG; K. LIANG; T. ERWES; A. CORMIER; A. WATT. *McGill Univ., McGill Univ.*
- 3:00 F33 **400.07** ▲ Mitochondrial deficits and treatment in Spinocerebellar ataxia type 1. A. M. FERRO; E. CARBONE; J. ZHANG; A. SIEGEL; M. VILLEGAS; T. H. REYNOLDS; K. FREDERICK; S. J. IVES; S. LAGALWAR\*. *Skidmore Col., Skidmore Col., Skidmore Col.*
- 4:00 F34 **400.08** Altered Purkinje cell firing contributes to disease onset in a mouse model of ARSACS. A. VISOU\*; P. K. CHANG; M. NATH; R. LARIVIÈRE; B. BRAIS; A. R. MCKINNEY; A. J. WATT. *McGill Univ., McGill Univ., McGill Univ.*
- 1:00 F35 **400.09** Motor unit activity and functional capacity in spinocerebellar ataxia 6. A. CASAMENTO MORAN\*; Y. CHEN; M. KWON; A. SYNYSYDER; S. H. SUBRAMONY; D. E. VAILLANCOURT; E. A. CHRISTOU. *Univ. of Florida.*
- 2:00 F36 **400.10** Hsp90 inhibitors induce degradation of mutant ataxin-1 in a cellular model of spinocerebellar ataxia type 1. Y. DING\*; A. HIROAKI; K. MASAHISA; S. GEN. *Nagoya Univ. Grad. Sch. of Med., Univ. of Occup. and Envrn. Hlth.*
- 3:00 F37 **400.11** Alkaline ceramidase 3 is essential for protecting Purkinje cells and spinal motor neurons from premature degeneration in the adult mouse. J. SCHRANDT\*; K. WANG; P. SHAH; C. MAO. *Stony Brook Univ., Stony Brook Univ., Stony Brook Univ.*
- 4:00 F38 **400.12** ● Neurodegeneration and aberrant RNA metabolism: The role of Staufen1 in spinocerebellar ataxia type 2 (SCA2) pathogenesis. S. PAUL; W. DANSITHONG; K. P. FIGUEROA; D. R. SCOLES; S. M. PULST\*. *Clin. Neurosci. Ctr., Clin. Neurosci. Ctr.*
- 1:00 F39 **400.13** Distinct effects of frataxin missense point mutations on mitochondria localization and protein processing. E. CLARK\*; D. LYNCH. *Univ. of Pennsylvania, Children's Hosp. of Philadelphia.*
- 2:00 F40 **400.14** Changes in EAAT1 anion channel activity affect intracellular chloride concentrations in an animal model of episodic ataxia 6. V. UNTIET\*; P. KOVERMANN; T. GENSCH; C. FAHLKE. *Forschungszentrum Jülich.*

## POSTER

### 400. Ataxias

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 F27 **400.01** VEGF-based nanotherapy ameliorates disease phenotypes in Spinocerebellar ataxia type 1 (SCA1). Y. HU\*; S. SUR; S. I. STUPP; P. OPAL. *Northwestern Univ., Northwestern University, Feinberg Sch. of Med., Northwestern University, Feinberg Sch. of Med.*
- 2:00 F28 **400.02** ▲ Evaluating the effectiveness of minocycline on reducing neurodegeneration in the spastic Han-Wistar rat, a model of ataxia. J. SAENZ\*; R. W. COHEN. *California State University, Northridge.*

3:00 F41 **400.15** Serotonergic signaling suppresses protein aggregation and neurotoxicity in models of Spinocerebellar Ataxia type 3. A. TEIXEIRA-CASTRO; A. JALLES; S. ESTEVES; S. KANG; L. DA SILVA SANTOS; A. SILVA-FERNANDES; M. F. NETO; R. M. BRIELMANN; C. BESSA; S. DUARTE-SILVA; A. MIRANDA; S. OLIVEIRA; A. NEVES-CARVALHO; J. BESSA; T. SUMMAVIELLE; R. B. SILVERMAN; P. OLIVEIRA; R. I. MORIMOTO; P. E. MACIEL\*. *Life and Hlth. Sci. Res. Inst. (ICVS), Sch. of Hlth. Sciences, Univ. of Minho, 4710-057 Braga, Portugal, ICVS/3Bs - PT Government Associate Laboratory, Braga/Guimarães, Portugal, Dept. of Mol. Biosciences, Northwestern Univ. Evanston, Illinois 60208, USA, Rice Inst. for Biomed. Research, Northwestern Univ. Evanston, Illinois 60208, USA, Dept. of Chemistry, Northwestern University, Evanston, Illinois 60208, USA, Chem. of Life Processes Inst. and Ctr. for Mol. Innovation and Drug Discovery, Northwestern University, Evanston, Illinois 60208, USA, IBMC - Inst. de Biología Mol. e Celular, Univ. do Porto, Rua do Campo Alegre, 823, 4150-180 Porto, Portugal, ICBAS- Abel Salazar Biomed. Sci. Institute, Univ. of Porto, Porto, Portugal, Life and Hlth. Sci. Res. Inst. (ICVS).*

4:00 F42 **400.16** White matter alterations correlates with ataxia severity in spinocerebellar ataxia type 2. C. R. HERNANDEZ-CASTILLO\*; V. GALVEZ; R. DIAZ; J. FERNANDEZ-RUIZ. *Consejo Nacional De Ciencia Y Tecnología - Cátedra, Univ. Veracruzana, Univ. Nacional autonoma de Mexico.*

1:00 F43 **400.17** Cerebellar circuit deficits in a frataxin-deficient mouse model of Friedreich's ataxia. H. LIN\*; J. MAGRANE; D. R. LYNCH. *The Children's Hosp. of Philadelphia, Weill Cornell Med. Col.*

2:00 F44 **400.18** Acute knockdown of ATM in the cerebellum recapitulates the neurological phenotype of Ataxia-telangiectasia (A-T). A. TEWARI\*; K. KHODAKHAH. *Albert Einstein Col. of Med., Albert Einstein Col. of Med.*

3:00 G1 **400.19** Transmembrane protein 240 (TMEM240), a causal protein for spinocerebellar ataxia type 21, regulates endocytosis, autophagy and intracellular lipid accumulation. T. SEKI\*; M. SATO; Y. KURAUCHI; A. HISATSUNE; H. KATSUKI. *Dept Chemico-Pharmacol Sci, Grad Sch. Pham Sci, Kumamoto Univ., Priority Organization for Innovation and Excellence, Kumamoto Univ., Program for Leading Grad Sch. HIGO Program, Kumamoto Univ.*

4:00 G2 **400.20** Abnormal cerebral excitability state in the P/Q-type Ca<sup>2+</sup> mutant tottering mouse. R. CARTER\*; S. W. CRAMER; L. S. POPA; G. CHEN; T. J. EBNER. *Univ. of Minnesota.*

1:00 G3 **400.21** *In vivo* analysis of proteasomal impairment in SCA3. J. SCHMIDT\*; S. UNSER; O. RIESS; T. SCHMIDT. *Med. Genetics, Univ. of Tuebingen, Ctr. for Rare Dis. (ZSE).*

2:00 G4 **400.22** Dissecting the nucleocytoplasmic transport of ataxin-3 *in vitro* and *in vivo*. T. SCHMIDT\*; A. SOWA; M. MARTINS; J. SCHMIDT; H. TRICOIRE; O. RIESS. *Med. Genetics, Univ. Tuebingen, Ctr. for Rare Dis. (ZSE), Grad. Sch. of Cell. & Mol. Neurosci., Degenerative Processes, Stress and Aging, Univ. Paris Diderot - Paris 7.*

## POSTER

### 401. Human Aging

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 G5 **401.01** Cardiometabolic risk factors and apolipoprotein E genotype predict cerebrovascular health in older adults. A. V. TYNDALL\*; L. ARGOURD; T. T. SAJOBI; M. H. DAVENPORT; S. C. FORBES; S. J. GILL; J. S. PARBOOSINGH; T. J. ANDERSON; B. J. WILSON; E. E. SMITH; D. B. HOGAN; M. D. HILL; M. J. POULIN. *Univ. of Calgary, Univ. of Calgary, Univ. of Calgary, Univ. of Calgary, Univ. of Calgary, Univ. of Calgary, Univ. of Calgary, Univ. of Calgary.*
- 2:00 G6 **401.02** Calorie restriction is a potential life-style strategy to reduce aging-related Parkinsonism even when initiated at advanced age: Evidence from intervention in 18 month old rats. M. F. SALVATORE\*; J. TERREBONNE; K. VENABLE; D. KELLEY; Y. YU; D. K. INGRAM. *Univ. of North Texas Hlth. Sci. Ctr., LSU Hlth. Sci. Center-Shreveport, Pennington Biomed. Res. Ctr.*
- 3:00 G7 **401.03** Bayesian optimal adaptation explains age-related human sensorimotor changes. F. KARMALI\*; G. T. WHITMAN; R. F. LEWIS. *Harvard Med. / Mass. Eye and Ear Infirmary.*
- 4:00 G8 **401.04** Life-span changes in resting state networks using magnetoencephalography: A PLS regression analysis. M. TREDER\*; D. PRICE; M. G. KITZBICHLER; K. TSVETANOV; . CAM-CAN; E. T. BULLMORE. *Univ. of Cambridge, Univ. of Cambridge.*
- 1:00 G9 **401.05** Effects of ageing on spectral responses of the pupillary light reflex. A. V. RUKMINI\*; T. AUNG; D. MILEA; J. J. GOOLEY. *Duke-NUS Grad. Med. Sch., Singapore Natl. Eye Ctr.*
- 2:00 G10 **401.06** Effects of cerebrovascular reactivity and cerebral metabolic rate of oxygen on cognition in healthy aging. S. J. CATCHLOVE; A. PIPINGAS; H. MACPHERSON; M. HUGHES; A. SCHOLEY; D. CREWTHOR; D. J. WHITE\*; R. NIBBS; D. LILEY; S. J. MOUM; Y. CHEN; T. PARRISH. *Swinburne Univ., Deakin Univ., Northwestern Univ.*
- 3:00 G11 **401.07** Differential white matter connectivity abnormalities in elderly carriers of the Alzheimer's risk allele APOE-ε4 by cognitive status. B. C. RIEDEL\*; D. ZHU; N. JAHANSHAD; J. FASKOWITZ; R. DIAZ BRINTON; P. M. THOMPSON. *USC, USC.*
- 4:00 G12 **401.08** The role of BDNF in normal age-associated decrease of synaptic markers in human prefrontal cortex. H. OH\*; D. A. LEWIS; E. SIBILLE. *Univ. of Pittsburgh, Campbell Family Mental Hlth. Res. Inst. of CAMH, Univ. of Toronto.*
- 1:00 G13 **401.09** Iron accumulation over 7 years in the striatum predicts its shrinkage in healthy adults. A. M. DAUGHERTY\*; N. RAZ. *Inst. of Gerontology, Wayne State Univ.*
- 2:00 G14 **401.10** Longitudinal evaluation of ependymal gliosis and periventricular edema in age-related ventriculomegaly. K. TODD\*; T. BRIGHTON; E. NORTON; S. SCHICK; S. RESNICK; W. ELKINS; J. TRONCOSO; O. PLETNIKOVA; J. CONOVER. *Univ. of Connecticut, Natl. Inst. on Aging, Johns Hopkins Univ. Sch. of Med.*

Mon. PM

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

3:00 G15 **401.11** A comparison study of microglial activation in aging and dementia between first- and second-generation TSPO PET tracers: [11C]PK11195 and [11C]DPA713. M. YOKOKURA\*; Y. OUCHI; K. TAKEBAYASHI; Y. ETSUJI; M. FUTATSUBASHI; Y. IWATA; T. TERADA; K. NAKAIZUMI; T. BUNAI; N. MORI. *Hamamatsu Univ. Sch. of Med., Hamamatsu Univ. Sch. of Med., Hamamatsu Univ. Sch. of Med., Hamamatsu Photonics KK.*

## POSTER

### 402. Cellular Mechanisms Associated with Ischemia

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, Hall A

1:00 G16 **402.01** Differences in ROS management between hippocampal CA1 and CA3 pyramidal neurons determined by real-time measurements of mitochondrial H<sub>2</sub>O<sub>2</sub> and GSH/GSSG status in organotypic hippocampal slice cultures. B. YIN\*; G. BARRIONUEVO; I. BATINIC-HABERLE; S. G. WEBER. *Univ. of Pittsburgh, Univ. of Pittsburgh, Duke Univ.*

2:00 G17 **402.02** Genetic lineage mapping shows altered hippocampal neurogenesis after focal ischemia in adult mice. D. K. LEWIS\*; A. C. AJLEN; H. ZHANG; J. M. PARENT. *Univ. of Michigan Hlth. Syst.*

3:00 G18 **402.03** HMGB1 provides protective effects on ischemic oligodendrocytes in a autocrine/paracrine manner via Toll-like receptor 2. B. G. KIM\*; Y. CUI; J. CHOI. *Ajou Univ. Sch. Med., Anjou Univ. Sch. of Med.*

4:00 G19 **402.04** *Drosophila melanogaster* as a model to study cellular mechanisms involved in spreading depression. K. E. SPONG\*; R. M. ROBERTSON. *Queen's Univ.*

1:00 G20 **402.05** Calibration of the acid-induced [Zn<sup>2+</sup>] elevations in cultured cortical neurons loaded with a low-affinity ratiometric probe FuraZin-1. L. KIEDROWSKI\*. *Univ. Illinois At Chicago.*

2:00 G21 **402.06** Laminar evaluation of cortical spreading depression. R. J. RUSHMORE\*, III; M. ROCHE; S. MAISEL; A. WIHAK. *Boston Univ. Sch. Med., Boston Univ. Sch. of Med.*

3:00 G22 **402.07** Translocation of stomatin-like protein 2 from the inner mitochondrial membrane to the matrix signifies cellular damage in developing and adult mouse brain. Y. M. MOROZOV\*; Y. SUN; C. KUAN; P. RAKIC. *Yale Univ. Sch. Med., Emory Univ. Sch. of Med.*

4:00 G23 **402.08** ▲ AMPK activation mimics starvation in promoting fast locomotor recovery from anoxia in *Drosophila melanogaster*. J. J. EVANS; C. XIAO; R. M. ROBERTSON\*. *Queen's Univ.*

1:00 G24 **402.09** Effects of focal calcium removal during spreading depolarization: Implication for the vulnerability of tissue. D. T. PROTAS\*; C. W. SHUTTLEWORTH. *UNM Sch. of Med.*

2:00 G25 **402.10** ● Osteopontin treatment is beneficial after permanent cerebral ischemia by separating M1 and M2 polarized microglial activation. M. SCHROETER\*; A. LADWIG; H. L. WALTER; J. HUCKLENBROICH; A. WILLUWEIT; K. LANGEN; G. R. FINK; M. A. RUEGER. *Dept. of Neurology, Univ. Hosp. Cologne, Univ. Hosp. Cologne, Res. Ctr. Juelich.*

3:00 G26 **402.11** Consumption of circulating endothelial progenitor cells in patients with moyamoya disease. H. SHICHINOHE\*; K. KAZUMATA; N. NAKAYAMA; T. ABUMIYA; S. HAMAUCHI; K. HOUKIN; S. KURODA. *Hokkaido Univ., Univ. of Toyama.*

4:00 G27 **402.12** Memantine and ketamine reduce severity of spreading depolarization clusters in brain slices. K. M. REINHART\*; K. S. KING; C. W. SHUTTLEWORTH. *UNM Sch. of Med.*

1:00 G28 **402.13** Calpain activation as a possible mediator of the interplay between autophagy and apoptosis during neuronal death induced by glucose deprivation. C. GERÓNIMO\*; T. MONTIEL; L. MASSIEU. *Inst. De Fisiología Celular, UNAM, Inst. de Fisiología Celular.*

2:00 G29 **402.14** Stroke transcriptome-driven analysis of axonal outgrowth mechanisms. C. SCHWEPPE\*; E. H. NIE; S. T. CARMICHAEL. *Univ. of California Los Angeles.*

3:00 G30 **402.15** Three-dimensional reconstruction of human posterior ischemic optic neuropathy suggests watershed infarction in pial circulation. A. LE\*; V. POUKENS; J. L. DEMER. *UCLA.*

4:00 G31 **402.16** Prohibitin degradation and OPA1 cleavage are early mitochondrial events in neuronal ischemia. C. J. ANDERSON\*; A. KAHL; L. QIAN; G. MANFREDI; P. ZHOU; C. IADECOLA. *Weill Cornell Med. Col.*

1:00 G32 **402.17** Zinc chelation reduces the generation of reactive oxygen species induced by hypoxia. Q. LU\*; K. SLEPCHENKO; Y. LI. *Ohio Univ., Ohio Univ.*

2:00 G33 **402.18** Synaptic receptors and network connections contribute to hypoxia responses in hippocampal slices. P. DYKAS; B. S. HEIT; H. SIDDIQI; H. AKBARI; J. R. LARSON\*. *Univ. of Illinois at Chicago, Univ. Illinois Chicago.*

3:00 G34 **402.19** Heterogeneity of aquaporin-4 localization and expression in white versus grey matter astrocytes after focal cerebral ischemia. J. A. STOKUM\*; D. B. KURLAND; V. GERZANICH; J. M. SIMARD. *Univ. of Maryland, Baltimore.*

4:00 G35 **402.20** Postischemic seizures in diabetes. Z. C. XU\*; Y. LIANG; Z. LEI; H. ZHANG; L. XIA; Z. SHI. *Indiana Univ. Med. Ctr.*

1:00 G36 **402.21** The response of cortical cultured neurons to neurotransmitters after hypoxic insults *in vitro*. T. MORITA\*; S. SHIBUTA; J. KOSAKA; Y. FUJINO. *Osaka Univ. Grad. Sch. of Med., Intl. Univ. of Hlth. and Welfare, Ctr. for Med. Sci.*

2:00 G37 **402.22** The neuroprotective function of the mitochondrial protein prohibitin is modulated by its cysteine s-nitrosylation. L. QIAN\*; Y. QU; C. ANDERSON; G. MANFREDI; C. IADECOLA; P. ZHOU. *Weill Cornell Med. Col.*



POSTER

403. Ischemia: Recovery

**Theme C: Disorders of the Nervous System**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 G38 **403.01** Inhibition of connexin43 improves functional recovery after ischemic brain injury in neonatal rats. X. XU\*; X. LI; H. ZHAO; R. ZOU; M. SUN. *Soochow Univ., The Second Affiliated Hosp. of Soochow Univ., The First Affiliated Hosp. of Soochow Univ.*
- 2:00 G39 **403.02** The role of glutamate uptake and metabolism in P2Y1R-enhanced neuroprotection after brain injury. E. FISHER\*; D. HOLSTEIN; J. D. LECHLEITER. *Univ. of Texas Hlth. Sci. Ctr. San Anto.*
- 3:00 G40 **403.03** White matter connectivity in ventral language pathway supports residual speech comprehension in chronic post-stroke aphasia. S. XING\*; E. LACEY; L. SKIPPER-KALLAL; M. FAMA; S. KATHERINE; P. TURKELTAUB. *Georgetown Univ., First Affiliated Hospital, Sun Yat-Sen Univ., Georgetown Univ. Med. Ctr., MedStar Natl. Rehabil. Hosp., Georgetown Univ. Med. Ctr.*
- 4:00 G41 **403.04** Changes in the extracellular matrix of the contralateral sensorimotor cortex following ischemic stroke in the rat. E. M. ANDREWS\*; H. THOMALLARI; A. MEYER; T. BRUGMAN; A. LEBERT. *Midwestern Univ., Midwestern Univ.*
- 1:00 G42 **403.05** *In vivo* imaging reveals that peri-infarct thalamocortical axons are structurally and functionally resilient to the effects of ischemic stroke. C. E. BROWN\*; K. TENNANT. *Univ. of Victoria.*
- 2:00 G43 **403.06** Neuroplasticity in the pediatric brain following ischemic stroke. K. M. RODGERS\*; F. A. STRNAD; J. T. AHRENDSEN; J. C. YONCHEK; W. B. MACKLIN; R. J. TRAYSTMAN; P. S. HERSON. *Univ. of Colorado Denver | Anschutz Med. Campus, Univ. of Colorado Denver | Anschutz Med. Campus, Univ. of Colorado Denver | Anschutz Med. Campus.*
- 3:00 G44 **403.07** Voluntary wheel running affects on hippocampal dopamine level after global cerebral ischemia. Y. WANG; L. DUAN; T. SU; K. LIU\*. *Capital Univ. of Physical Educ. and Sports.*
- 4:00 H1 **403.08** ▲ The effects of compensatory limb training on cross-cortical fibers in C57BL/6 mice. R. HOLDEN\*; A. L. KERR. *Illinois Wesleyan Univ.*
- 1:00 H2 **403.09** Melatonin promotes neurological recovery, peri-lesional tissue remodeling, and contralesional pyramidal tract plasticity after focal cerebral ischemia. U. KILIC\*; M. C. BEKER; A. B. CAGLAYAN; B. ELIBOL; M. KARAKAS; B. ALTUG; O. GOK; T. KELESTEMUR; E. KILIC. *Istanbul Medipol Univ., Istanbul Medipol Univ., Istanbul Bezmialem Univ., Anadolu Univ., Istanbul Medipol Univ.*
- 2:00 H3 **403.10** Antalarmin pretreatment modulates activation of the Corticotropin-releasing hormone and mesolimbic circuitry following brain ischemia. N. F. NARVAEZ LINARES\*; P. BARRA DE LA TREMBLAYE; H. PLAMONDON. *Univ. Of Ottawa, Univ. Of Ottawa.*
- 3:00 H4 **403.11** Impaired autophagosome clearance contributes to neuronal death after ischemia/reperfusion injury triggered by cardiac arrest in neonatal piglets. D. CUI\*; W. JIANG; M. REYES; E. KULIKOWICZ; J. ARMSTRONG. *Shanghai Sixth People's Hosp., The Johns Hopkins Univ. Sch. of Med.*
- 4:00 H5 **403.12** Norepinephrine content in the dentate gyrus and the pons in adult rats recovering from focal cortical injury. L. RAMOS-LANGUREN\*; N. CHÁVEZ-GARCÍA; R. GONZÁLEZ-PIÑA; S. MONTES; C. RÍOS. *Univ. Autónoma Metropolitana, Xochimilco, Inst. de Neurología y Neurocirugía MVS, Inst. Nacional de Rehabilitación.*
- 1:00 H6 **403.13** ▲ Exercise improves functional recovery following ischemic insult in aged C57BL/6 mice. M. DOMINGUEZ\*; M. CURTIS; B. WALL; A. MACUIBA; A. L. KERR. *Illinois Wesleyan Univ.*
- 2:00 H7 **403.14** Post-stroke neuroplasticity and motor recovery in a mouse model of ischemic injury. C. SPALLETTI\*; C. ALIA; S. LAI; A. PANARESE; F. VALLONE; A. DI GARBO; S. MICERA; M. CALEO. *CNR, Scuola Superiore Sant'Anna, Scuola Normale Superiore, CNR, Ecole Polytechnique Federale de Lausanne.*
- 3:00 H8 **403.15** Effect of intranasal Orexin-A treatment on arousal in an asphyxial cardiac arrest model. H. R. MODI\*; M. KHENG; Q. WANG; D. SHERMAN; E. GREENWALD; R. GEOCADIN; N. THAKOR. *Johns Hopkins Univ., The Johns Hopkins Univ. Sch. of Medicin.*
- 4:00 H9 **403.16** ▲ Effects of Bmal1-deficiency on photothrombotic stroke. A. S. LEMBACH\*; A. STAHR; M. INGENWERTH; C. VON GALL. *Heinrich-Heine-University, Inst. of Anat. II.*
- 1:00 H10 **403.17** Revealing the neurobiology of individual rehabilitation courses in rats by multimodal monitoring after stroke. A. WAHL\*; E. ERLEBACH; A. MOSBERGER; B. V. INEICHEN; B. ANTIC; A. JESKE; A. SCHRÖTER; B. OMMER; M. E. SCHWAB. *Brain Res. Institute, Univ. and ETH Zurich, Computer Vision Group, Heidelberg Collaboratory for Image Processing and Interdisciplinary Ctr. for Scientific Computing (IWR), Univ. of Heidelberg, Inst. for Biomed. Engineering, ETH Zurich.*
- 2:00 H11 **403.18** Degeneration and plasticity of connected areas after stroke. F. HELLAL; A. CHOVSSEPIAN; F. BAREYRE; M. DICHGANS; N. PLESNILA\*. *Univ. of Munich Med. Ctr., Univ. of Munich Med. Ctr.*
- 3:00 H12 **403.19** Early paretic forelimb experience protects against maladaptive effects of learning with the nonparetic forelimb after ischemic lesions in rats. E. NUDI\*; R. P. ALLRED; T. A. JONES. *Univ. of Texas, Univ. of Texas.*
- 4:00 H13 **403.20** Whole brain screening of regenerative processes after stroke. M. ASWENDT\*; B. HSUEH; S. ISHIZAKA; G. SUN; M. CHENG; K. DEISSEROTH; G. K. STEINBERG. *Stanford Univ. Sch. of Med., Stanford Univ.*
- 1:00 H14 **403.21** Green tea polyphenols induce redox signaling by binding to laminin receptor-1, thereby inhibiting RhoA activation and consequently blocking axonal growth inhibitor Nogo-A. R. GOPALAKRISHNA\*; W. J. MACK; Q. LIU; U. GUNDIMEDA; T. H. MCNEILL; E. CADENAS. *USC Keck Sch. of Med., USC Keck Sch. of Med., USC Sch. of Pharm.*

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• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

- 2:00 H15 **403.22** Vascular Endothelial Growth Factor ligand presentation and post-stroke angiogenesis for brain tissue regeneration after stroke. L. R. NIH\*; S. CARMICHAEL; T. SEGURA. *Univ. of Los Angeles*.
- 3:00 H16 **403.23** *In vivo* reprogramming factor expression promotes functional recovery in a mouse model of ischemic brain injury. J. SEO\*; J. YU; S. WI; Y. SHIN; H. KIM; S. CHO. *Rehabil. Med., Yonsei Univ. Col. of Med., Brain Korea 21 PLUS Project for Med. Science, Yonsei Univ. Col. of Med., Dept. of Pharmacology, Yonsei Univ. Col. of Med., Rehabil. Inst. of Neuromuscular Disease, Yonsei Univ. Col. of Med., Yonsei Stem Cell Res. Center, Avison Biomed. Res. Ctr.*
- 4:00 H17 **403.24** Neuroprotection by selective neuronal deletion of Atg7 in neonatal brain injury. C. XIE\*; Y. SUN; K. ZHOU; X. WANG; K. BLOMGREN; C. ZHU. *Univ. of Goteborg, Karolinska Univ. Hosp.*
- 1:00 H18 **403.25** Post-ischemic salubral treatment results in a neuroprotective response in global cerebral ischemia. B. ANUNCIBAY SOTO\*; M. SANTOS-GALDIANO; D. PEREZ-RODRIGUEZ; E. FONT; A. FERNÁNDEZ-LÓPEZ. *Univ. Leon. Inst. De Biomedicina*.
- 2:00 H19 **403.26** Early neuroprotection of 2-hydroxy arachidonic acid (2-OAA) in a rat MCAO model is linked to the autophagy mechanisms. I. F. UGIDOS; M. SANTOS-GALDIANO; B. ANUNCIBAY-SOTO; P. GONZALEZ-RODRIGUEZ; D. PEREZ-RODRIGUEZ; A. I. CORTINA-RIVERO; P. V. ESCRIBA; A. FERNANDEZ-LOPEZ\*. *Univ. De Leon, Inst. de Biomedicina, Univ. de las Islas Baleares (UIB)*.
- 3:00 H20 **403.27** Differential effect of miR-29a levels on reactive oxygen species generation between hippocampal CA1 and DG astrocytes in response to glucose deprivation. Y. OUYANG\*; X. SUN; R. G. GIFFARD. *Stanford Univ. Sch. Med.*
- 4:00 H21 **403.28** Celecoxib treatment after MCAO results in neuroprotection and increases the UPR in the cerebral cortex. M. SANTOS GALDIANO\*; B. ANUNCIBAY-SOTO; D. PEREZ-RODRIGUEZ; C. PEREZ-GARCIA; A. FERNÁNDEZ-LÓPEZ. *Univ. De Leon. Inst. De Biomedicina*.
- 1:00 H22 **403.29** The role of c-c chemokine receptor 5 in neural repair after stroke. M. T. JOY\*; M. ZHOU; Y. CAI; A. J. SILVA; S. T. CARMICHAEL. *UCLA, UCLA*.
- 3:00 H25 **404.03** Suppressive effect of orexin-A through vagus nerve projected from medulla oblongata on the development of post-ischemic glucose intolerance-induced neuronal damage. S. HARADA\*; S. TOKUYAMA. *Kobe Gakuin Univ.*
- 4:00 H26 **404.04** Numerical modeling of cerebral infarct evolution in the rat brain with neuregulin-1 treatment. X. ZHANG\*; S. WANG; Y. LI; R. PAUDYAL; C. LI; L. HOWELL; B. D. FORD. *Yerkes Natl. Primate Res. Center, Emory Univ., Morehouse Med. Sch., Morehouse Med. Sch.*
- 1:00 H27 **404.05** Phosphodiesterase-2 inhibition prevents emotional and cognitive deficits induced by global brain ischemia in mice. R. M. WEFFORT DE OLIVEIRA\*; L. M. SOARES; J. DE VRY; H. MILANI; J. PRICKAERTS. *State Univ. of Maringá, Univ. of Maastricht*.
- 2:00 H28 **404.06** Direct delivery of neuroprotective factors from hypoxic bone marrow mesenchymal stem cell conditioned media significantly improves outcome in a rat model of retinal ischemia. J. C. DREIXLER\*; I. BALLYASNIKOVA; L. XUE; J. R. MANN; V. BODDAPATI; M. S. LESNIAK; S. ROTH. *Univ. Chicago*.
- 3:00 H29 **404.07** Robust protective effects of a novel multimodal neuroprotectant TP1008 (a triflusal/pyruvate ester) in the postischemic brain. S. KIM\*; L. LUO; K. CHOI; J. PARK; S. YOON; J. LEE. *Inha university, Ajou Univ.*
- 4:00 H30 **404.08** ▲ Prophylactic chronic administration of zinc in tolerable dose increases nitrosative stress and impairs the long-term memory in a rat model of cerebral hypoxia-ischemia. C. T. SANCHEZ\*; V. BLANCO-ALVAREZ; G. GARCIA-ROBLES; G. SOTO-RODRIGUEZ; J. GONZALEZ-BARRIOS; D. MARTINEZ-FONG; E. BRAMBILA-COLOMBRES; M. TORRES-SOTO; J. GARATE-MORALES; D. I. LIMON; B. A. LEON-CHAVEZ; L. A. AGUILAR-CARRASCO. *Benemerita Univ. Autonoma De Puebla, Benemerita Univ. Autonoma de Puebla, Ctr. de investigaciones y estudios avanzados, Hosp. regional 1 de octubre ISSSTE, Benemerita Univ. Autonoma de Puebla*.
- 1:00 H31 **404.09** Transplantation of human placenta-derived multipotent stem cells reduces ischemic brain injury in adult rats. Y. WANG\*; K. WU; S. YU; C. CHIANG; B. L. YEN; L. KUO. *Natl. Hlth. Res. Inst.*
- 2:00 H32 **404.10** ● Omega-3 fatty acids protect from mitochondrial dysfunction in a mcao mouse model of stroke. D. BERRESSEM; G. P. ECKERT\*. *Goethe-University, Goethe-University*.
- 3:00 H33 **404.11** Neuroprotective effect of perfluorocarbons after traumatic spinal cord injury in rats. S. M. SANCHEZ-TORRES\*; A. CHÁVEZ-NEGRETE; S. TORRES-CASTILLO; A. DÍAZ-RUIZ; H. SALGADO-CEBALLOS. *Univ. Autónoma Metropolitana, UIME Neurológicas, Hosp. de Especialidades, CMN Siglo XXI, del Inst. Mexicano del Seguro Social, Dirección de Educación e Investigación en Salud del CMN, Siglo XXI, Univ. Estatal del Valle de Ecatepec, Inst. Nacional de Neurología y Neurocirugía, Proyecto Camina A.C.*
- 4:00 H34 **404.12** Preserving the ischemic penumbra viability with a safe neuroprotective oxygen carrier improves functional outcomes when given after focal cerebral ischemia. N. LE MOAN\*; P. LEUNG; C. BEDARD; T. DAVIS; S. NG; C. LIANG; J. GETZ; A. DAVIS; K. TANAKA; T. KEATING; J. WINGER; A. KRTOLICA; S. P. L. CARY. *Omniox Inc.*

## POSTER

### 404. Ischemia: *In Vivo* Studies

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 H23 **404.01** Nanoparticle therapy for targeted drug delivery to injured cells following neonatal hypoxic-ischemic brain injury. C. L. NEMETH; G. DRUMMOND; M. K. MISHRA; F. ZHANG; R. M. KANNAN; A. FATEMI; M. V. JOHNSTON; S. KANNAN; M. A. WILSON\*. *Kennedy Krieger Inst., Kennedy Krieger Inst., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*
- 2:00 H24 **404.02** Beneficial role of methylene blue in global cerebral ischemia. Q. LU; D. TUCKER; Y. DONG; Q. ZHANG\*. *Georgia Regents Univ.*

- 1:00 H35 **404.13** Cerebral sodium-glucose transporter exacerbates the development of cerebral ischemia mediated by post-ischemic hyperglycemia. Y. YAMAZAKI\*; S. HARADA; S. TOKUYAMA. *Kobe Gakuin Univ.*
- 2:00 H36 **404.14** Genestein ameliorates neurological deficits and enhances structural recovery in endothelin-1 induced stroke rats. N. SABITHA; N. SANE; L. T. RAO\*. *NIMHANS, IISER, NIMHANS.*
- 3:00 H37 **404.15** Knockdown of p22-phox reduces infarct volume and improves functional outcome after ischemic stroke insults. J. WU\*; M. KAO; H. TSAI; W. CHEUNG; T. LIN. *Neurosci. Division, IBMS Academia Sinica.*
- 4:00 H38 **404.16** Post-ischemic administration of valproic acid reduces infarcts in middle-aged females and increases histone 3 lysine 4 trimethylation in the cerebral cortex. N. C. CHISHOLM\*; K. G. COCKERHAM; F. SOHRABJI. *Texas A & M Hlth. Sci. Ctr., Texas A & M Hlth. Sci. Ctr.*
- 1:00 H39 **404.17** Intranasal delivery of iNOS siRNA encapsulated in gelatin nanoparticles confers robust neuroprotective effects in the postischemic brain. I. KIM\*; H. LEE; H. LEE; Y. LEE; P. HAN; K. KIM; H. CHOI; J. LEE. *Inha Univ., Ewha Womans Univ., Illinois Univ.*
- 2:00 H40 **404.18** Neuroprotection of A. bidentata polypeptides against cerebral ischemic injury and its mechanism. H. SHEN\*; W. HU. *Nantong Univ., Walt whitman high school.*
- 3:00 H41 **404.19**  $\alpha$ -Synuclein and ischemic brain damage. T. KIM\*; B. KAIMAL; R. VEMUGANTI. *Univ. of Wisconsin - Madison, Univ. of Wisconsin - Madison.*
- 4:00 H42 **404.20** Remote preconditioning moderates neuronal death through reducing oxidative DNA damage in rat. W. JIN; W. XU; W. DONG; J. CHEN; X. ZHANG; C. REN\*. *Shanghai No.5 Hospital, Fudan Univ.*
- 1:00 H43 **404.21** Monoacylglycerol lipase inhibitors reduce infarct volume and improve functional outcome in experimental animal models of focal cerebral ischemia. S. CHOI\*; A. ARAI; B. KANG; Y. MOU; J. HALLENBECK; A. C. SILVA. *NINDS/NIH, Univ. of Maryland Sch. of Med., Chungbuk Natl. Univ., NINDS/NIH.*
- 2:00 H44 **404.22** Nicotinamide mononucleotide inhibits poly-ADP-ribosylation, NAD<sup>+</sup> catabolism, and ameliorates brain damage following global cerebral ischemia. T. KRISTIAN\*; J. H. PARK; A. LONG; K. OWENS. *Univ. Maryland Sch. Med., Veterans Affairs Maryland Hlth. Care Service.*
- 3:00 H45 **404.23** The role of autophagy in post-ischemic conditioning in the rat retina. S. ROTH\*; A. R. SHAIKH; J. R. MANN; J. C. DREIXLER. *Univ. Chicago.*
- 4:00 H46 **404.24** Therapeutic hypothermia and TrkB mediated neuroprotection after neonatal hypoxic ischemic encephalopathy in mice. Y. SEYMOUR; U. CIKLA; S. MARQUEZ; D. B. KINTNER\*; W. SUN; E. UDHO; V. CHANANA; P. FERRAZZANO; P. CENGIZ. *Univ. of Wisconsin-Madison, Univ. Wis., Univ. Wis.*
- 1:00 H47 **404.25** ▲ The administration of S-allyl cysteine reduces the neurological damage and increases the survival rate in the middle cerebral artery occlusion model in the rat. G. ANAYA\*; A. ORTIZ-PLATA; P. D. MALDONADO. *Inst. Nacional De Neurología Y Neurocirugía Ma, Inst. Nacional De Neurología Y Neurocirugía, Inst. Nacional De Neurología Y Neurocirugía.*
- 2:00 H48 **404.26** ▲ The prophylactic subacute administration of zinc increases CCL2, CCR2, FGF2 and IGF-1 expression and prevents the long-term memory loss in a rat model of cerebral hypoxia-ischemia. V. M. BLANCO ALVAREZ\*; G. SOTO-RODRIGUEZ; J. GONZALEZ-BARRIOS; D. MARTINEZ-FONG; E. BRAMBILA; M. TORRES-SOTO; A. AGUILAR-PERALTA; A. GONZALEZ-VAZQUEZ; C. TOMAS-SANCHEZ; D. I. LIMON; J. EGUIBAR; A. UGARTE; J. HERNANDEZ-CASTILLO; B. LEON-CHAVEZ. *Benemerita Univ. Autonoma De Puebla, Ctr. de Investigaciones y de Estudios Avanzados, Hosp. Regional 1° de Octubre, ISSSTE, Benemérita Univ. Autónoma de Puebla, Benemérita Univ. Autónoma de Puebla, Ctr. de Investigaciones y de Estudios Avanzados.*
- 3:00 I1 **404.27** Characterizing a dosing schedule for BML-111, a lipoxin A<sub>4</sub> receptor agonist, to maximally enhance resolution and neuroprotection in a rat model of ischemic stroke. K. E. HAWKINS\*; K. M. DEMARS; A. O. MCCREA; S. PACHECO; L. DELEON; J. C. FRANKOWSKI; C. YANG; E. CANDELARIO-JALIL. *Univ. of Florida.*
- 4:00 I2 **404.28** Identification of miRNA regulated by activation of AMP-activated protein kinase during ischemic neuronal injury. S. L. PFEIFFER\*; G. CHEN; J. H. M. PREHN. *Royal Col. of Surgeons In Ireland, Royal Col. of Surgeons In Ireland.*
- 1:00 I3 **404.29** Interleukin-4 (IL-4) attenuates brain injury by promoting M2 macrophage polarization after stroke in mice. W. FANG\*. *Stanford Univ.*

## POSTER

### 405. Traumatic Brain Injury: Human Studies III

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 I4 **405.01** Heart rate variability and serum level of insulin growth factor-1 are correlated with emotional disorders in patients suffering a mild traumatic brain injury. J. WANG\*; C. SUNG; K. CHEN; Y. CHIANG; W. CHIU; H. LEE. *Grad. Inst. of Med. Sci. TMU, Taipei Med. Univ., Taipei Med. Univ., Taipei Med. Univ.*
- 2:00 I5 **405.02** Long-term effects of concussion on neuropsychological function are mediated by the BDNF Val66Met polymorphism. C. BEAULIEU\*; F. CARRIER-TOUTANT; A. TURCOTTE-GIROUX; A. BOMBARDIER; L. DE BEAUMONT. *Univ. Du Québec À Trois-Rivières, Univ. Du Québec À Trois-Rivières, Ctr. de recherche de l'Hôpital du Sacré-Coeur de Montréal.*
- 3:00 I6 **405.03** Post concussive symptoms in students: The impact of genetics, coping, and executive functioning. K. A. DIXON\*; R. GABRYS; M. R. HOLAHAN; H. ANISMAN. *Carleton Univ.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 4:00 17 **405.04** Relating structural and functional network changes from repeated sub-concussive impacts in soccer players: Modeling with The Virtual Brain. T. J. GOOD\*; R. BLUMENFELD; S. L. SMALL; A. R. MCINTOSH. *Rotman Res. Inst. At Baycrest Ctr., Univ. of California, Irvine.*
- 1:00 18 **405.05** Exercise as a therapeutic approach for persistent post-concussion symptoms. C. ALARIE\*; R. MOORE; D. ELLEMBERG. *Univ. of Montreal.*
- 2:00 19 **405.06** Evolution of tau pathology within the nucleus basalis of Meynert in athletes with traumatic brain injury. E. FARRELL\*; M. NADEEM; S. E. PEREZ; F. C. CRAWFORD; T. STEIN; V. E. ALVAREZ; A. C. MCKEE; E. J. MUFSON. *Barrow Neurolog. Inst., Rush Univ. Med. Ctr., Roskamp Inst., Boston Univ.*
- 3:00 110 **405.07** ▲ Persistent neurophysiological alterations in soccer players with and without a history of concussion. J. LEPINE\*; R. MOORE; D. ELLEMBERG. *Univ. of Montreal.*
- 4:00 111 **405.08** A neural network basis of brain injury from intimate-partner related violence. A. KUCYI\*; E. M. VALERA. *Aaron Kucyi, Harvard Med. Sch., Massachusetts Gen. Hosp.*
- 1:00 112 **405.09** Tissue-level and cellular characterization of contusion and pericontusion in human traumatic brain injury. S. BHARATH\*; G. HARISH; A. MAHADEVAN; N. PRUTHI; S. K. SREENIVASAMURTHY; V. N. PUTTAMALLESH; T. S. KESHAVAPRASAD; S. K. SHANKAR. *Natl. Inst. Mtl Hlth. & Neurosci. Inst. of Bioinformatics.*
- 2:00 113 **405.10** Noddi mri to characterize microstructural abnormalities in concussed soccer players. L. E. HUNTER\*; M. WAGSHUL; R. FLEYSHER; N. KIM; E. CATENACCIO; G. HUI ZHANG; M. LIPTON. *Albert Einstein Col. of Med., Dept. of Computer Sci. & Ctr. for Med. Image Computing.*
- 3:00 114 **405.11** N-acetylaspartate a novel biofluid-based traumatic brain injury biomarker. A. NAMBOODIRI\*; G. JIANG; K. WANG; S. MORAN; J. KRISHNAN; P. ARUN; Z. YANG; F. LIN; M. FLORA; H. POLLARD; G. MUELLER; J. MOFFETT. *USUHS, Univ. of Florida.*
- 4:00 115 **405.12** Limitations of objective and subjective assessment in correlating dizziness and balance in mild traumatic brain injury patients. Y. CHIANG\*; K. CHEN; C. WU; J. OU; S. TSAI; W. CHIU; K. LIAO. *Taipei Med. Univ., Taipei Med. Univ., Taipei Med. Univ., Taipei Med. Univ., Taipei Med. Univ.*
- 1:00 116 **405.13** Diffusion Tensor MRI reveals sex-based risk for traumatic brain injury in soccer players. E. CATENACCIO\*; R. FLEYSHER; N. KIM; L. HUNTER; W. MU; M. ZUGHAFI; T. GLATTSTEIN; M. ZIMMERMAN; M. WAGSHUL; W. F. STEWART; R. B. LIPTON; M. L. LIPTON. *Albert Einstein Col. of Med., Sutter Healthcare, Montefiore Med. Ctr., Montefiore Med. Ctr.*
- 2:00 117 **405.14** ▲ Hypersensitivity to sounds in the post-acute phase of sport-related concussions. H. ASSI\*; C. ALARIE; R. MOORE; S. HÉBERT; C. TURGEON; D. ELLEMBERG. *Univ. of Montreal, Univ. of Montreal.*
- 3:00 118 **405.15** Translational plasma lipidomic profiling in military populations with TBI, PTSD and TBI+PTSD and correlation to a CCI mouse model. T. E. EMMERICH\*; L. ABDULLAH; G. CRYNEN; M. DRETSCH; J. EVANS; T. NGUYEN; G. AIT-GHEZALA; J. REED; B. MOUZON; J. OJO; V. MATHURA; J. MARTIN; M. MULLAN; F. CRAWFORD. *Roskamp Inst., The Open Univ., James A. Haley Veteran's Hosp., Natl. Intrepid Ctr. of Excellence, U.S. Army Aeromedical Res. Lab., Chronic Effects of Neurotrauma Consortium, The Open Univ.*
- 4:00 119 **405.16** Association between calcineurin genotype and clinical outcomes after severe TBI. N. OSIER\*; S. A. ALEXANDER; Y. CONLEY; C. E. DIXON. *Univ. of Pittsburgh, Univ. of Pittsburgh, VA Pittsburgh Healthcare Syst., Univ. of Pittsburgh, Neurosurg.*
- 1:00 120 **405.17** Is the CogState test sensitive to persistent cognitive deficits in asymptomatic athletes with a history of concussion? V. SICARD\*; R. D. MOORE; D. ELLEMBERG. *Neurodev Lab. - Univ. of Montreal.*
- 2:00 121 **405.18** EEG evidence of auditory working memory and selective attention in disorders of consciousness. M. M. CONTE\*; B. C. FIDALI; H. M. MARKELL; N. D. SCHIFF. *Weill Cornell Med. Col., Univ. of Pennsylvania.*
- 3:00 122 **405.19** Multimodal neuroimaging analysis of blast related traumatic brain injury. J. STOUT\*; T. ROSKOS; R. BUCHOLZ; J. GFELLER; M. OSMAN; D. MOGUL. *Illinois Inst. of Technol., Wayne State Univ., St. Louis Univ. Sch. of Med., St. Louis Univ., St. Louis Univ. Sch. of Med.*
- 4:00 123 **405.20** Impact of blast-dependent cellular damage on the local field potential (lfp) in a large scale simulation of cerebral cortex. D. L. BOOTHE\*; A. B. YU; P. KUDELA; N. E. ZANDER; Y. R. SLIOZBERG; T. CHANTAWANSRI; R. J. BANTON; T. N. PIEHLER; J. M. VETTEL; W. ANDERSON; P. J. FRANASZCZUK. *Altus Engineering/Army Res. Lab., Army Res. Lab., John Hopkins Sch. of Med., Army Res. Lab., Univ. of California, Santa Barbara, John Hopkins Sch. of Med.*

## POSTER

### 406. Peripheral Nerve Injury

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 124 **406.01** ▲ Inosine enhances the regeneration after Sciatic Nerve Crush. F. S. S. CARDOSO; M. G. DE AGUIAR; B. S. RAMALHO; R. CARDOSO; A. B. MARTINEZ; F. ALMEIDA\*. *UFRJ.*
- 2:00 125 **406.02** Investigating altered phenotypes of Schwann cells and macrophages during nerve regeneration in aging rats. J. SCHEIB\*; A. HOKE. *Johns Hopkins Univ.*
- 3:00 126 **406.03** Development of a device to produce an animal model of traumatic brachial plexus injury. E. L. OLIVEIRA\*; H. SIMPLICIO. *Edmond and Lily Safra Intl. Inst. of N, State Univ. of Rio Grande do Norte.*
- 4:00 127 **406.04** MK2 contributes to regeneration after peripheral nerve injury. A. KRONER-MILSCH\*; E. NOGUIERA SANTOS; R. RUBEN LOPEZ-VALES; S. DAVID. *Ctr. For Res. In Neuroscience, Res. Inst. of the McGill Univ., Univ. Autònoma de Barcelona.*

- 1:00 I28 **406.05** Antrodia cinnamomea promotes functional recovery after sciatic nerve crush injury in mice. C. RAZA\*; K. S. Y. LEUNG; C. H. E. MA. *Dept. of Biomed. Sci., Dept. of Chem., Ctr. for Biosystems, Neurosci. and Nanotechnology.*
- 2:00 I29 **406.06** Human embryonic stem cell derived Schwann cells myelinate regenerated rat sciatic nerve axons. E. J. ARROYO\*; F. FATTAHI; K. L. LANKFORD; L. STUDER; J. D. KOC SIS. *Yale Univ. Sch. of Medicine/VA CT Healthcare Syst., Mem. Sloane Kettering Cancer Ctr.*
- 3:00 I30 **406.07** Overexpression of human Hsp27 (hHsp27) protects against Paclitaxel-induced peripheral neuropathy in mice. V. B. CHINE\*; G. KUMAR; P. ASTHANA; C. TIN; C. H. E. MA. *Dept. of Biomed. Sci., Dept. of Mechanical and Biomed. Engin., Ctr. for Biosystems, Neurosci. and Nanotechnology.*
- 4:00 I31 **406.08** Astrocytes and microglia-mediated immune response in maladaptive plasticity is differently modulated by NGF in the ventral horn of the spinal cord following peripheral nerve injury. M. PAPA\*; A. COLANGELO; C. DE LUCA; L. SAVARESE; L. ALBERGHINA; G. CIRILLO. *Anatomia Umana Normale Seconda Universita' Di Napoli, Univ. of Milano-Bicocca.*
- 1:00 I32 **406.09** Correlation of nuclear movement and axonal growth *in vitro*. T. AKGUL\*; E. ERDOGDU; E. CONAY; G. OZTURK. *Istanbul Medipol Univ.*
- 2:00 I33 **406.10** ● Using optogenetics, multi-photon imaging and novel behavioural measures to assess nerve repair following acute injury. P. CHIU\*; S. GLADWELL; S. CUMMINGS; J. JONES; A. LINDQUIST; S. HUGHES; J. FRANCOIS. *Vertex Pharmaceuticals (Europe) Ltd., Vertex Pharmaceuticals.*
- 3:00 I34 **406.11** Role of TrkB and noradrenergic descendent projections in the modulatory effects induced by treadmill exercise on the spinal changes that motoneurons suffer after peripheral nerve injury in rats. A. ARBAT PLANA\*; S. COBIANCHI; X. NAVARRO; E. UDINA. *Univ. Autònoma De Barcelona.*
- 4:00 I35 **406.12** Involvement of the Hedgehog signaling pathway in peripheral nerve regeneration. Y. YAMADA\*; T. MAEDA; A. OHAZAMA; K. SEO. *Niigata Univ. Grad. Sch. of Med. and.*
- 1:00 I36 **406.13** ● Bcl-w prevents chemotherapy-induced axon degeneration. S. E. PEASE\*; M. F. PAZYRA-MURPHY; L. A. BARCLAY; F. WACHTER; L. D. WALENSKY; R. A. SEGAL. *Dana-Farber Cancer Inst., Dana-Farber Cancer Inst., Harvard Med. Sch.*
- 2:00 I37 **406.14** Identification of novel small molecule inhibitors of PTP $\sigma$  activity to promote axon regeneration. R. GARDNER\*; H. JIN; D. JOHNSEN; S. SEO; M. COHEN; B. HABECKER. *Oregon Hlth. and Sci. Univ.*
- 3:00 I38 **406.15** Transplanted ESC-derived motor neurons as a cell-based therapy for maintenance of peripheral nerve regeneration in the chronically denervated nerve. C. R. CASHMAN\*; R. MI; A. HÖKE. *Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins Sch. of Med.*
- 4:00 I39 **406.16** Inhibition of microtubule detyrosination markedly promotes functional nerve regeneration. D. FISCHER\*; P. GOBRECHT; A. ANDREADAKI; A. HESKAMP. *Univ. of Düsseldorf.*
- 1:00 I40 **406.17** Wild type and EGFP+ Bone Marrow Mononuclear Cells: A useful tool for peripheral axonal regeneration and remyelination in sciatic nerve injury. G. M. PIÑERO\*; V. USACH; P. A. SOTO; P. C. SETTON-AVRUJ. *CONICET.*
- 2:00 I41 **406.18** The role of trafficking of fibroblast growth factor receptor 1 in axon elongation versus axon branching. B. HAUSOTT\*; A. FOERSTE; S. MANGGER; F. ZACH; L. KLIMASCHEWSKI. *Innsbruck Med. Univ.*
- 3:00 I42 **406.19** Window for chronic multi-photon imaging of wound healing in the rodent peripheral nerve. J. R. NOVELLO\*; S. K. BRODNICK; J. P. NESS; C. R. ESQUIBEL; M. R. HAYAT; S. O. POORE; K. W. ELICERI; J. C. WILLIAMS; L. A. KRUGNER-HIGBY. *Univ. of Wisconsin - Madison, Univ. of Wisconsin - Madison, Univ. of Wisconsin - Madison.*
- 4:00 I43 **406.20** The effects of adipose derived stem cell application on peripheral nerve regeneration, in rats. E. ERDOGAN\*; M. KOCACAN; M. N. SELIMOGLU; M. SOLMAZ; Z. TOSUN; N. UNLUKAL; M. YILMAZ. *Selcuk Un. Med. Fac. (Tip Fak), Selcuk Univ. Neurosci. Res. Ctr. (SUSAM), Selcuk Univ. Neurosci. Res. Ctr. (SUSAM), Selcuk Univ. Med. Fac.*
- 1:00 I44 **406.21** The peroneal nerve injury method: A reliable assay to identify and test factors that repair NMJs. W. DALKIN\*; G. VALDEZ. *Virginia Tech. Carilion Res. Inst., Virginia Tech. Carilion Sch. of Med., Virginia Tech. Carilion Res. Inst., Virginia Tech.*
- 2:00 I45 **406.22** Oxidative stress-dependent phosphorylation activates ZNRF1 ubiquitin ligase to induce neuronal apoptosis and Wallerian degeneration. T. ARAKI\*; S. WAKATSUKI. *Natl. Inst. Neurosci, NCNP.*
- 3:00 I46 **406.23** Thymosin- $\beta$ 4 (T $\beta$ 4) ameliorates diabetic peripheral neuropathy. X. LU\*. *Henry Ford Hosp.*
- 4:00 I47 **406.24** Dorsal root ganglia transcriptome of early painful diabetic neuropathy in a rat model of type-I diabetes shows a regenerative/cell survival profile. M. P. ATHIÉ\*; A. S. VIEIRA; J. M. TEIXEIRA; E. V. DIAS; C. A. PARADA. *Univ. Estadual De Campinas.*
- 1:00 I48 **406.25** Which neurotrophic factors and receptors play a role in the (-)-Epigallocatechin-3-gallate (EGCG) neuroprotection after sciatic nerve crush injury in rats? W. M. RENNO\*; K. M. KHAN; L. BENOVA. *Kuwait Univ., Kuwait Univerisy, Kuwait Univerisy.*
- 2:00 J1 **406.26** Investigating the mechanism of action of ethoxyquin as a neuroprotection drug against cisplatin-induced peripheral neuropathy. J. ZHU\*; R. MI; V. A. CAROZZI; N. REED; G. CAVALETTI; G. CAVALETTI; A. HOKE. *Nanjing Univ. of Chinese Med., Johns Hopkins Uni. school of Med., Univ. of Milan-Bicocca.*
- 3:00 J2 **406.27** The neuroprotective agent, P7C3-A20, protects against paclitaxel-induced allodynia in the rat. P. M. LOCOCO\*; A. L. RISINGER; S. L. MOOBERRY; K. A. BERG; W. P. CLARKE. *Univ. of Texas Hlth. Sci. Ctr. At San Antonio.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

**POSTER**

**407. Cell Death Mechanisms: Excitotoxicity and Calcium**

**Theme C: Disorders of the Nervous System**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 J3 **407.01** Unexpected heterodivalent recruitment of nos1ap to nnos reveals multiple sites for pharmacological intervention in neuronal disease models. L. LI\*; R. M. MELERO-FERNANDEZ DE MERA; J. CHEN; W. BA; N. NADIF KASRI; M. ZHANG; M. J. COURTNEY. *Mol. Signalling lab, A.I. Virtanen Inst., Wellcome Trust/Cancer Res. UK Gurdon Institute, Univ. of Cambridge, Ctr. for Systems Biol. and Human Health, Hong Kong Univ. of Sci. and Technol., Radboud Univ. Med. Center, Donders Inst. for Brain, Cognition and Behaviour, Turku Ctr. for Biotechnology, Åbo Akademi Univ. and Univ. of Turku.*
- 2:00 J4 **407.02** Neuronal Bok is cytoprotective during excitotoxic and seizure-induced neuronal injury. B. D'ORSI; T. ENGEL; J. H. PREHN\*. *Royal Col. of Surgeons in Ireland.*
- 3:00 J5 **407.03** Treatment with embryonic-derived neural stem/progenitor cells targets vulnerable brain regions in experimental Wernicke's encephalopathy. A. S. HAZELL\*; D. WANG. *Univ. Montreal.*
- 4:00 J6 **407.04** Regulation of excitotoxic neuronal superoxide production. R. A. SWANSON\*; A. M. BRENNAN-MINNELLA. *U.C.S.F.*
- 1:00 J7 **407.05** Computational analysis of an AMPK-mediated neuroprotective response to transient excitotoxic stress suggests that ATP, AMPK and intracellular glucose dynamics are regulated by a minimal core of critical reactions. N. M. C. CONNOLLY\*; H. J. HUBER; J. H. M. PREHN. *Royal Col. of Surgeons In Ireland, KU Leuven.*
- 2:00 J8 **407.06** The Mitochondrial Ca<sup>2+</sup> processing unit (mitochondrial Ca<sup>2+</sup> uniporter and Na<sup>+</sup>/Ca<sup>2+</sup> exchanger) is crucial for regulation of glutamate receptor-mediated Ca<sup>2+</sup> influx in neurons. G. REISER\*; M. STROKIN. *Otto-von-Guericke Univ.*
- 3:00 J9 **407.07** Estrogen receptor beta regulates mitochondrial permeability transition in brain. S. R. BURSTEIN\*; H. J. KIM; L. QIAN; P. ZHOU; A. STARKOV; C. IADECOLA; G. MANFREDI. *Weill Cornell Med. Col.*
- 4:00 J10 **407.08** Mitochondrial calcium uniporter (mcu) knockout alters Ca<sup>2+</sup> signaling and inhibits excitotoxicity in hippocampal neurons. Z. LIN; A. GNANASEKARAN; J. E. RYSTED; Y. M. USACHEV\*. *Univ. Iowa.*
- 1:00 J11 **407.09** RIPK1 and RIPK3 delays neurite degeneration but not apoptotic neuronal death in cultured hippocampal neurons exposed to glutamate excitotoxicity. D. E. HERNANDEZ TREJO\*; F. A. COURT. *Pontificia Univ. Católica De Chile, Millenium Nucleus for Regenerative Biol.*
- 2:00 J12 **407.10** The role of ATP synthase c-subunit ring in mitochondrial permeability transition, neuronal function and survival. N. MNATSAKANYAN\*; H. PARK; P. MIRANDA; E. A. JONAS. *Yale Univ.*

- 3:00 J13 **407.11** ● ▲ Impact of poly(adp-ribose) polymerase-1 in the glutamate-induced disturbances of calcium homeostasis in the cultured neurons. V. G. PINELIS\*; I. A. KRASILNIKOVA; N. A. PERSIANTSEVA; A. S. EFREMOVA; S. I. SHRAM; L. R. GORBACHEVA; I. SAVINKOVA; A. M. SURIN. *Scientific Ctr. For Children's Hlth., Inst. of molecular genetics, Moscow State University, Pirogov Russian Natl. Res. Med. Univ., Inst. of general pathology and pathophysiology.*

**POSTER**

**408. Psychosis: Genomics**

**Theme C: Disorders of the Nervous System**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 J14 **408.01** Genome-wide association study of plasma total homocysteine in schizophrenia. M. KINOSHITA\*; S. NUMATA; A. TAJIMA; A. NISHI; I. IMOTO; T. OHMORI. *Tokushima Univ. Grad. School/Institute of, Tokushima Univ. Grad. School/Institute of Biomed. Sci., Tokushima Univ. Grad. School/Institute of Biomed. Sci., Kanazawa Univ.*
- 2:00 J15 **408.02** ● ZIP8 (SLC39A8), a zinc transporter associated with neuropsychiatric disease, mediates proinflammatory gene expression *in vitro*. V. L. REINHART\*; C. R. SCHUBERT; P. O'DONNELL; T. A. LANZ. *Pfizer.*
- 3:00 J16 **408.03** Analysis of long interspersed nuclear elements-1 in dorsolateral prefrontal cortex of schizophrenics and controls. G. A. DOYLE\*; R. C. CRIST; E. T. KARATAS; C. HAHN; W. H. BERRETTINI. *Univ. Pennsylvania, Univ. Pennsylvania.*
- 4:00 J17 **408.04** ▲ The impact of common copy number duplications and deletions on gray matter volumes in health controls and schizophrenia patients. A. J. ZIMMERMAN; J. M. POMMY; R. YEO\*. *Univ. of New Mexico.*
- 1:00 J18 **408.05** Comprehensive gene expression analysis of prefrontal cortex and hippocampus in social isolation rearing mouse model. K. UM\*; A. KHAN; M. HARIHARAN; J. LUCERO; T. J. SEJNOWSKI; J. R. ECKER; S. B. POWELL; M. BEHRENS. *Salk Inst., UCSD, Salk Inst., Howard Hughes Med. Inst., Res. Service, VA San Diego Healthcare Syst.*
- 2:00 J19 **408.06** Transcriptional factor regulators as novel targets for the treatment of schizophrenia: Findings from μGWAS. B. BIGIO\*; C. N. DADURIAN; C. NASCA; B. S. MCEWEN; J. G. KRUEGER; K. WITTKOWSKI. *The Rockefeller Univ., The Rockefeller Univ.*
- 3:00 J20 **408.07** Facial features correlate with schizotypal traits and SAT performance in a sex-specific way. J. CANNON\*; T. M. MILEWSKI; W. K. MOWENN; M. SU; J. I. PERI; A. GESHEVA; R. A. ANTONAWICH; P. T. ORR. *Univ. of Scranton, Univ. of Scranton.*
- 4:00 J21 **408.08** Normal memory gene expression is altered in hippocampal CA3 in schizophrenia. J. M. PEREZ\*; A. J. KENNEDY; K. GLEASON; S. GHOSE; T. KIM; J. D. SWEATT; C. A. TAMMINGA. *UT Southwestern, Univ. of Alabama at Birmingham, UT Southwestern Med. Ctr.*
- 1:00 J22 **408.09** Relative expression levels of DISC2 and DISC1 in schizophrenia and bipolar patients. P. P. LI\*; R. L. MARGOLIS; M. V. PLETNIKOV; D. D. RUDNICKI. *Johns Hopkins Univ. Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 2:00 J23 **408.10** The effect of systemic administration of valproic acid on the expression of Wfs1 in prefrontal cortex in mice. M. PUNAPART\*; A. TERASMAA; E. VASAR. *Univ. of Tartu, Univ. of Tartu.*
- 3:00 J24 **408.11** ● Large-scale neuro-omics data analysis of human brains in schizophrenia. J. QUAN\*; H. XI; C. SCHUBERT; 2. HUMAN BRAIN GENOMICS CONSORTIUM. *Pfizer, Inc, Lieber Inst. for Brain Develop.*
- 4:00 J25 **408.12** Transcriptomic analysis of the human striatum in bipolar disorder by RNA-Seq. R. PACIFICO\*; R. L. DAVIS. *The Scripps Res. Inst.*
- 1:00 J26 **408.13** The effect of blood cellular heterogeneity on DNA methylation in schizophrenia. S. NUMATA\*; M. KINOSHITA; A. TAJIMA; K. OHI; R. HASHIMOTO; S. SHIMODERA; I. IMOTO; M. TAKEDA; T. OHMORI. *The Univ. of Tokushima Grad. Sch., Dept. of Psychiatry, The Univ. of Tokushima Grad. Sch., Dept. of Human Genetics, The Univ. of Tokushima Grad. Sch., Dept. of Bioinformatics and Genomics, Kanazawa University,, Dept. of Psychiatry, Osaka Univ. Grad. Sch. of Med., Mol. Res. Ctr. for Children's Mental Development, United Grad. Sch. of Child Development, Osaka University,, Dept. of Neuropsychiatry, Kochi Med. Sch.*
- 2:00 J27 **408.14** Regulation of the serotonin 2a receptor gene (htr2a) in the mouse prefrontal cortex by early growth response 3 (egr3). X. ZHAO\*; J. LISH; A. MCBRIDE; A. MISHRA; A. GALLITANO. *Arizona State Univ., Univ. of Arizona, Arizona State Univ.*
- 3:00 J28 **408.15** Transcriptional regulation of endocannabinoid system genes in psychiatric disorders. C. D'ADDARIO\*; B. DELL'OSSO; M. PUCCI; M. PALAZZO; M. V. MICONI DI BONAVENTURA; C. CIFANI; A. FALCONI; C. A. ALTAMURA; M. MACCARRONE. *Univ. of Teramo, Univ. of Milano, Univ. of Camerino, Campus Bio-Medico Univ. of Rome.*
- 4:00 J29 **408.16** Cell-type specific effects underlying changes in gene expression in psychiatric patients. L. TOKER\*; O. B. MANCARCI; S. THIRIPATHY; P. PAVLIDIS. *Univ. of British Columbia.*
- 1:00 J30 **408.17** Neurocan risk variant for bipolar disorder influences memory performance and hippocampal function. A. ASSMANN\*; A. BARMAN; J. SOCH; H. SCHUETZE; E. DUEZEL; C. SEIDENBECHER; B. SCHOTT. *Universitätsklinikum Magdeburg, Leibniz Inst. for Neurobio., Charite, DZNE.*
- 2:00 J31 **408.18** Association of serotonin 2c receptor polymorphisms with antipsychotic drug response in schizophrenia. J. Y. LI\*. *Northwestern Univ.*
- 2:00 J33 **409.02** Altered monoamine metabolite and cocaine and amphetamine-regulated transcript peptide levels in the cerebrospinal fluid of major depressive disorder patients. H. YOON\*; K. HATTORI; D. SASAYAMA; M. OTA; H. KUNUGI. *Yonsei Univ. Col. of Med., Natl. Inst. of Neuroscience, Natl. Ctr. of Neurol. and Psychiatry, Natl. Ctr. of Neurol. and Psychiatry, Shinshu Univ. Sch. of Med.*
- 3:00 J34 **409.03** Relationship between circulating IL-6 levels and cortico-limbic grey matter volume in Intermittent Explosive Disorder and healthy controls. M. A. COLEMAN\*; E. F. COCCARO; D. FITZGERALD; R. LEE; M. COUSSONS-READ; K. L. PHAN. *Univ. of Chicago, Univ. of Illinois at Chicago, Univ. of Colorado Colorado Springs.*
- 4:00 J35 **409.04** ● OMNI: A distributed, modular, closed-loop neuromodulation device for the treatment of neuropsychiatric disorders. R. MULLER\*; A. MOIN; K. SHAH; G. ALEXANDROV; B. JOHNSON; I. IZYUMIN; F. BURGHARDT; P. STARR; E. F. CHANG; E. ALON; J. M. RABAEY; S. PANNU. *Cortera Neurotechnologies, Inc., Univ. of California, Berkeley, Lawrence Livermore Natl. Lab., Univ. of California, San Francisco.*
- 1:00 J36 **409.05** Spatial resolution dependence on spectral frequency in human electrocorticography: Implications for device neurotechnology. L. MULLER\*; E. CHANG; E. EDWARDS; L. HAMILTON; K. BOUCHARD. *UCSF.*
- 2:00 J37 **409.06** Learned representations of sensory stimulus value in large-scale brain networks. E. F. CHANG\*; J. CASE; J. WALLIS; E. L. RICH. *UCSF, UCSF, UC Berkeley.*
- 3:00 J38 **409.07** Neural biomarkers of mood in the human mesolimbic network. L. A. KIRKBY\*; F. LUONGO; M. NAHUM; T. VAN VLEET; M. LEE; H. DAWES; E. CHANG; V. SOHAL. *UC San Francisco, Posit Sci.*
- 4:00 J39 **409.08** A novel binary noise modulated electrical stimulation pattern for identification of brain network dynamics. Y. YANG\*; A. T. CONNOLLY; M. M. SHANECHI. *USC.*
- 1:00 J40 **409.09** Modeling brain network dynamics underlying mood disorders. A. T. CONNOLLY\*; Y. YANG; E. F. CHANG; M. M. SHANECHI. *USC, Univ. of California San Francisco.*
- 2:00 J41 **409.10** Association between admission cortisol and post-traumatic stress symptoms in long-term survivors of the acute respiratory distress syndrome. J. L. SPENCER-SEGAL\*; R. C. HYZY; T. J. IWASHYNA; T. J. STANDIFORD. *Univ. of Michigan, Univ. of Michigan.*
- 3:00 J42 **409.11** ● Exercise-related associations between inflammatory cytokines and cognitive function in major depressive disorder. T. L. GREER\*; B. D. GRANNEMANN; C. D. RETHORST; M. S. TOUPS; M. H. TRIVEDI. *Univ. Texas Southwestern Med. Ctr.*
- 4:00 J43 **409.12** ● The rostral anterior cingulate cortex thickness is associate with response to psychotherapy in unmedicated subjects with major depressive disorder. S. SPINELLI\*; N. DOERIG; J. HÁNGGI; F. SAMBATARO; J. SPÄTI; J. BRAKOWSKI; M. GROSSE HOLTFOORTH; E. SEIFRITZ. *Psychiatric Hospital, Univ. of Zurich, Univ. of Zurich, Hoffmann-La Roche, Ltd., Natl. Ctr. of Neurol. and Psychiatry, Dept. of psychology, Univ. Hosp. Inselspital.*

## POSTER

### 409. Mood Disorders: Biomarkers and Therapeutics

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 J32 **409.01** Behavioral and Electrophysiological Predictors of Response to left dorsolateral prefrontal cortex rTMS in patients with treatment refractory depression. E. SANCHEZ; K. VYAS; S. SAEED; H. SYED; A. QURESHI; G. A. DE ERAUSQUIN\*. *Univ. of South Florida, Univ. of South Florida.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 1:00 J44 **409.13** Vitamin d, anxiety, depression and headache. K. K. ABDUL-RAZZAK\*; M. I. AL-FARRAS. *Jordan Univ. of Sci. and Technol., King Abdulla Univ. Hosp.*
- 2:00 J45 **409.14** ● Childhood trauma or proinflammatory activity determines amygdala volume and subgenual anterior cingulate cortical thickness in relation to major depressive disorder. H. SUZUKI\*; J. MARINO; K. TEAGUE; M. MISAKI; J. SAVITZ; B. MCKINNEY; W. DREVETS; J. BODURKA. *Laureate Inst. For Brain Res., Univ. of Oklahoma Sch. of Community Med., Univ. of Oklahoma Col. of Pharm., Oklahoma State Univ. Ctr. for the Hlth. Sci., The Univ. of Tulsa, The Univ. of Tulsa, Johnson & Johnson, Inc., Univ. of Oklahoma Col. of Engin.*
- 3:00 J46 **409.15** 'Antidepressant' tDCS montage slows emotional face identification. C. NORD\*; J. ROISER. *Univ. Col. London.*
- 4:00 J47 **409.16** Long term immune - inflammatory alterations accompanying chronic post traumatic stress disorder. T. GOLTSEY\*; A. SHALEV; B. HARASH F.; E. GALILI-WEISSTUB; L. CANETTI; R. SEGMAN. *Hadassah Hebrew U, The Herman-Danna Div. of Pediatric Psychiatry, Dept. of Psychiatry, Hadassah - Hebrew Univ. Med. Center; Jerusalem Israel., Mol. Psychiatry Lab. - Dept. of Psychiatry, Hadassah - Hebrew Univ. Med. center Jerusalem, Israel, 1Molecular Psychiatry Lab. - Dept. of Psychiatry, Hadassah - Hebrew Univ. Med. center.*
- 1:00 J48 **409.17** Epileptic seizures produce a transient improvement in mood in epileptic patients with depression. K. W. TURLINGTON; M. E. RICHERT; M. D. KVARTA; S. M. THOMPSON\*; J. HOPP. *Univ. of Maryland Sch. of Med., Univ. Maryland Baltimore Sch. Med.*
- 2:00 K1 **409.18** Negative emotional states in the general population and its relationship with FKBP5 gene and childhood trauma. N. P. MARIC\*; M. MIHALJEVIC; M. ADZIC; J. RADULOVIC. *Sch. of Med. Univ. of Belgrade, Sch. of Med. Univ. of Belgrade, VINCA Inst. of Nuclear Sciences, Univ. of Belgrade, Northwestern Universty.*
- 3:00 K2 **409.19** Mutual contribution of FKBP5 and glucocorticoid receptor phosphorylation to impaired glucocorticoid signaling in major depressive disorder. M. ADZIC\*; I. LUKIC; M. MITIC; I. SOLDATOVIC; M. JOVICIC; N. MARIC-BOJOVIC; J. RADULOVIC. *Vinca Inst. Fr Nuclear Sci., Fac. of Medicine, Univ. of Belgrade, Clin. for Psychiatry, Clin. Ctr. of Serbia, Radulovic.*
- 4:00 K3 **409.20** Decreased sensitivity to paroxetine-induced inhibition of lymphocyte growth in depressed and antidepressant-treatment resistant patients. S. RZEZNICZEK; A. PILC\*; M. OBUCHOWICZ; D. DUDEK; W. DATKA; D. GURWITZ; K. OVED; N. SHOMRON. *Inst. of Pharmacol., Jagiellonian Univ. Med. Col., Tel Aviv Univ.*
- 1:00 K4 **409.21** Evaluating the predictability of the onset of mental health disorders based on handwriting characteristics while writing numbers. H. KAWAGUCHI\*; Y. MASHIO; S. SAKURABA. *Toyo Univ.*
- 2:00 K5 **409.22** Factors associated with risk of relapse after a response to electroconvulsive therapy: A comparison of unipolar versus bipolar depression. K. ITAGAKI; C. SHIBASAKI; W. OMORI; Y. FUJITA; M. NAKAMURA; N. KAJITANI; H. ABE; M. TAKEBAYASHI\*. *Natl. Hosp Org Kure Med. Centr, Div. Psychiat, Neurosci, Inst. for Clin. Res, NHO Kure Med. Centr, Kure, Hiroshima, Japan, Dept Psychiat, NHO Kure Med. Centr, Kure, Hiroshima, Japan, Mihara Hosp., Dept Pharmacol, Hiroshima Univ, Hiroshima, Japan.*
- 3:00 K6 **409.23** Evaluation of GSK-3 $\beta$  gene polymorphism frequencies in depressed, bipolar, and control groups. D. MEROLA; N. HENGEN\*; J. WOZNAK; R. KIDD. *Shenandoah Univ.*
- 4:00 K7 **409.24** Changes in mental flexibility and fronto-cingulate function mediate antidepressant response to ventral capsule/ventral striatum deep brain stimulation. A. S. WIDGE\*; S. ZOROWITZ; R. FRANKLIN; A. CORSE; W. TANG; E. K. MILLER; E. N. ESKANDAR; T. DECKERSBACH; D. D. DOUGHERTY. *Massachusetts Gen. Hosp., MIT, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp.*
- 1:00 K8 **409.25** Depressed individuals show altered facial emotion expression during goal-directed behavior. H. HUANG\*; R. KUPLICKI; J. MOVELLAN; M. BARTLETT; M. PAULUS. *Laureate Inst. for Brain Res., UC San Diego, Emotient, UC San Diego.*
- 2:00 K9 **409.26** Modeling the effects of electrical stimulation on cortical and deep brain local field potentials: Potential use in closed loop brain stimulation paradigms. I. BASU\*; M. KRAMER; D. I. VALLEJO; N. NOSSENSON; A. S. WIDGE; E. ESKANDAR. *Massachusetts Gen. Hosp., Boston Univ., Massachusetts Gen. Hosp.*
- 3:00 K10 **409.27** Design and development innovations and challenges for an implantable device for closed-loop control of neuropsychiatric disorders. P. D. PARKS\*. *Charles Stark Draper Lab.*
- 4:00 K11 **409.28** Power efficient neural signal processing and closed-loop control algorithm design for an implantable device. J. J. WHEELER\*. *Draper Lab.*
- 1:00 K12 **409.29** Properties of the direct cortical response and local field potential power after single pulse stimulation. B. CROCKER\*; E. N. ESKANDAR; S. S. CASH. *MIT, MGH, Harvard Med. Sch.*
- 2:00 K13 **409.30** Modulating fear via deep brain stimulation in non-human primates. J. J. CHENG; A. C. PAULK\*; C. MARTINEZ-RUBIO; E. J. MCDONALD; S. R. PATEL; A. S. WIDGE; E. N. ESKANDAR. *Johns Hopkins Hosp., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp.*

## POSTER

### 410. Mood Disorders: Preclinical Models

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 K14 **410.01** Assessment of major depressive disorder model in rat. E. N. LÓPEZ-MORÁN; V. B. APARICIO-DÍAZ; E. M. BRAMBILA-COLOMBRES; G. FLORES; H. A. RUBIO-ZAPATA; I. HERRERA-CAMACHO; J. C. MORALES-MEDINA; P. AGUILAR-ALONSO\*. *BENEMÉRITA UNIVERSIDAD AUTÓNOMA DE PUEBLA, BENEMÉRITA UNIVERSIDAD AUTÓNOMA DE PUEBLA, UNIVERSIDAD AUTÓNOMA DE YUCATÁN, BENEMÉRITA UNIVERSIDAD AUTÓNOMA DE PUEBLA, CINVESTAV-UNIVERSIDAD AUTÓNOMA DE TLAXCALA, BUAP.*
- 2:00 K15 **410.02** Peripheral administration of lactate produces antidepressant-like effects. A. CARRARD; M. ELSAYED; E. MEYLAN; B. BOURY-JAMOT; J. PETIT; P. J. MAGISTRETTI; J. MARTIN\*. *Ctr. For Psychiatric Neurosci., EPFL, King Abdullah Univ. of Sci. and Technol.*



- 3:00 K16 **410.03** Impaired sleep architecture in a pathological animal model of impaired fear extinction. T. FENZL\*; E. FRITZ; M. KREUZER; N. WHITTLE; N. SINGEWALD. *Univ. of Innsbruck, Tech. Univ. Munich.*
- 4:00 K17 **410.04** Determining the involvement of lactate in mediating antidepressant responses. M. ELSAYED\*; J. PETIT; V. ELIGERT; P. MAGISTRETTI. *UNIL, EPFL, CHUV-UNIL, KAUST.*
- 1:00 K18 **410.05** Exacerbation of Compulsive and associated cognitive and affective functions in ovariectomized non-induced compulsive-like mice is attenuated by acute estrogen administration. S. MITRA\*; C. P. BASTOS; A. BULT-ITO. *Univ. of Alaska Fairbanks, Federal Univ. of Minas Gerais.*
- 2:00 K19 **410.06** Sertraline as an anxiolytic drug in female rats. C. H. WIDEMAN; H. M. MURPHY\*. *John Carroll Univ., John Carroll Univ.*
- 3:00 K20 **410.07** Acute prenatal exposure to ethanol elicits social deficits and anxiety-like alterations in Sprague-Dawley rats. E. I. VARLINSKAYA\*; M. R. DIAZ; J. M. COLE. *Binghamton Univ.*
- 4:00 K21 **410.08** Female rats exposed to coronary ischemia reperfusion show post-traumatic stress-like behavior and cardiac mast cell degranulation when exposed to feared cues. K. E. SCROGIN\*; E. ROBBINS; N. BINDA; J. VANTREASE; A. SAMAREL. *Loyola Univ. Med. Ctr.*
- 1:00 K22 **410.09** Involvement of the jak/stat3 signaling pathway in ketamine-induced synaptic plasticity. M. PATTON\*; D. A. MORILAK; M. GIROTTI. *UTHSCSA.*
- 2:00 K23 **410.10** ● Effect of estradiol on serotonergic function in middle aged OVX rats. S. BENMANSOUR\*; L. D. ARROYO; A. FRAZER. *UTHSCSA, South Texas Veterans Hlth. Care Syst.*
- 3:00 K24 **410.11** Effects of the neurotensin NTS1 agonist PD149163 on fear-potentiated startle in male and female mice. M. A. VANDEN AVOND\*; C. SMITH; T. RITCHIE; A. J. PRUS. *Northern Michigan Univ., Northern Michigan Univ.*
- 4:00 K25 **410.12** ● The analysis of murine plasma proteins after chronic stress by lectin microarray. H. YAMAGATA\*; S. UCHIDA; F. HIGUCHI; T. HOBARA; Y. WATANABE. *Yamaguchi Univ. Sch. of Med.*
- 1:00 K26 **410.13** Optogenetic inactivation of the ventral hippocampus-medial prefrontal cortex pathway reverses the antidepressant-like effects of ketamine. F. R. CARRENO\*; A. FRAZER; D. J. LODGE. *Univ. of Texas Hlth. Sci. Ctr.*
- 2:00 K27 **410.14** Ketamine ameliorates reversal-learning deficits induced by chronic cold stress via the JAK/STAT3 signaling pathway. M. GIROTTI\*; M. S. PATTON; D. A. MORILAK. *Univ. Texas Hlth. Sci. Ctr.*
- 3:00 K28 **410.15** ● Reduced frontal grey matter volume correlates with life history of aggression and is substantially influenced by genetics in adult twins. T. RHOADS\*; E. COCCARO; H. CREMERS; J. FANNING; E. NOSAL; R. LEE; S. KEEDY; K. JACOBSON. *The Univ. of Chicago.*
- 4:00 K29 **410.16** Modulation by neuronal nicotinic acetylcholine receptors of social stress impact on the the reward system. J. BARIK\*; C. MOREL; F. MEYE; S. P. FERNANDEZ; F. MARTI; S. TOLU; H. MARIE; F. TRONCHE; U. MASKOS; M. MAMELI; P. FAURE. *Inst. De Pharmacologie Moléculaire & Cellulaire, Icahn Sch. of Med. at Mount Sinai, Inst. du fer à moulin, Inst. de Biologie Paris Seine, Inst. Pasteur.*
- 1:00 K30 **410.17** ● Vortioxetine reduces exaggerated fear memory and restores active coping behavior in chronically stressed rats. L. EVANS; G. SMAGIN; C. SÁNCHEZ; D. A. MORILAK\*. *Univ. of Texas Hlth. Sci. Ctr., Lundbeck Res. USA.*
- 2:00 K31 **410.18** Lateral hypothalamic regulation of midbrain reward circuitry in social defeat stress. S. M. KU\*; H. ZHANG; B. JUAREZ; A. K. FRIEDMAN; J. J. WALSH; R. MESIAS; D. CHAUDHURY; D. BENSON; M. HAN. *Icahn Sch. of Med. At Mount Sinai, Stanford Univ., New York Univ. Abu Dhabi.*
- 3:00 K32 **410.19** Sex and genotype differences in microglia in mice lacking functional T lymphocytes. S. L. THOMPSON\*; J. A. FOSTER. *McMaster Univ., St. Joseph's Healthcare.*
- 4:00 K33 **410.20** ● Wistar-Kyoto rats as a model of treatment resistant depression. D. VIRLEY; M. BIANCHI; N. UPTON\*. *TRANSPHARMATION LTD, Transpharmation Ireland.*
- 1:00 K34 **410.21** Prediction of subjective ratings of emotional pictures by features of the eeg. D. J. MCFARLAND\*; M. PARVAZ; W. SARNACKI; R. GOLDSTEIN; J. WOLPAW. *Wadsworth Ctr., Icahn Sch. of Med. at Mount Sinai.*
- 2:00 K35 **410.22** Vulnerability to glutamate excitotoxicity in female rats exposed to chronic social defeat stress. V. RAPPENEAU\*; A. BLAKER; J. R. PETRO; J. S. GOODWIN; B. K. YAMAMOTO; A. SHIMAMOTO. *Meharry Med. Col., Univ. of Toledo, Meharry Med. Col.*
- 3:00 K36 **410.23** ● *in vivo* electrophysiological evidence for the targeting of 5-HT3 expressing cortical interneurons by the novel multimodal antidepressant vortioxetine. J. V. SCHWEIMER\*; Y. LI; C. SÁNCHEZ; T. SHARP. *Univ. of Oxford, Lundbeck Res. USA.*
- 4:00 K37 **410.24** Involvement of CB1 and TRPV1 receptors located in the ventral medial prefrontal cortex in the control of depressive-like behavior of rats submitted to the forced swimming test. A. G. SARTIM\*; F. A. MOREIRA; S. R. L. JOCA. *USP - Univ. of São Paulo, Federal Univ. of Minas Gerais.*
- 1:00 K38 **410.25** Role of hcn channels in major depressive disorder. D. W. FISHER\*; K. LYMAN; R. HEUERMANN; Y. HAN; K. TIMMONS; A. ISMAIL; X. CHENG; D. CHETKOVICH. *Northwestern Univ.*
- 2:00 K39 **410.26** ● Exposure to the chronic mild stress induced cognitive dysfunctions: Investigation of molecular mechanisms underlying this deficit. F. CALABRESE\*; P. BRIVIO; M. PAPP; M. RIVA. *Dept. of Pharmacol. and Biomolecular Sciences, Univ. of Milan, Inst. of Pharmacology, Polish Acad. of Sci.*
- 3:00 K40 **410.27** Temperament at age 3 predicts neural activity during face perception in later childhood. S. KANN\*; J. O'RAWE; A. HUANG; B. GOLDSTEIN; D. KLEIN; H. LEUNG. *Stony Brook Univ.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 4:00 K41 **410.28** Prenatal fluoxetine exposure decreases social preference but does not alter depression-related behaviors in female mice. M. P. LEUSSIS\*; J. M. THANOS; N. J. MCGOVERN; F. J. MALARKEY; J. P. HEAD. *Emmanuel Col., Emmanuel Col.*
- 1:00 K42 **410.29** Role of Pde1b in depression: A mouse model. J. R. HUGGARD\*; M. T. WILLIAMS; C. V. VORHEES. *Univ. of Cincinnati Med. Ctr., Cincinnati Children's Hosp. Med. Ctr.*

## POSTER

### 411. Cocaine: Self-Administration and Other Behavioral Studies

#### Theme C: Disorders of the Nervous System

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 L1 **411.01** Chronic intermittent pattern of alcohol use promotes degradation of HDAC4 and HDAC5 in the rat striatum and enhances compulsive cocaine self-administration. E. A. GRIFFIN\*, JR; R. ZHOU; P. A. MELAS; L. COLNAGHI; Y. LI; P. GADDAM; K. KEMPADOO; D. KANDEL; E. KANDEL. *Columbia Univ., Columbia Univ., Columbia Univ.*
- 2:00 L2 **411.02** Effects of suvorexant, a dual orexin receptor antagonist, on motivation for and affective processing of self-administered cocaine in rats. S. J. SIMMONS\*; T. A. GENTILE; J. K. SHAW; D. J. BARKER; R. A. ESPAÑA; J. W. MUSCHAMP. *Temple University, Sch. of Med., Drexel University, Col. of Med., Natl. Inst. on Drug Abuse.*
- 3:00 L3 **411.03** Analysis of anxiety- and behavioral arousal-related behaviors following binge-pattern cocaine and Single Prolonged Stress in rats. M. J. LISIESKI\*; S. A. PERRINE. *Wayne State Univ. Sch. of Med.*
- 4:00 L4 **411.04** The Subthalamic nucleus modulates how proximal social factors influence cocaine consumption in rats. E. GIORLA\*; Y. PELLOUX; K. DAVRANCHE; C. MANRIQUE; P. HUGUET; C. BAUNEZ. *Inst. De Neurosciences De La Timone, Lab. de Psychologie cognitive, Fédération 3C FR3512.*
- 1:00 L5 **411.05** Omega-3 acid deprivation during rat adolescence do not enhance the vulnerability of cocaine addiction in adulthood. S. SERRANO\*; J. GESTE; M. POMPILUS; C. S. MALDONADO-VLAAR. *Univ. of Puerto Rico-Rio Piedras Campus, Univ. of Puerto Rico-Rio Piedras Campus.*
- 2:00 L6 **411.06** ▲ Preventing cocaine-induced transitions to habit-based behavior through inactivation of the basolateral amygdala. J. BALASZ; S. BOWMAN; R. FISZL; A. W. JOHNSON\*. *Michigan State Univ., Michigan State Univ., Heinrich Heine Univ. Dusseldorf.*
- 3:00 L7 **411.07** Selectivity of pilocarpine and tacrine effects on cocaine- and food-reinforced responding in rats. F. YANG\*; K. GRASING. *Kansas City VA Med. Ctr.*
- 4:00 L8 **411.08** Hypocretin 1 receptor blockade preferentially reduces high effort responding for cocaine without promoting sleep. Z. D. BRODNIK\*; D. L. BERNSTEIN; C. D. TAYLOR; R. A. ESPANA. *Drexel Univ.*
- 1:00 L9 **411.09** Cocaine vs food choice under a dependent schedule. J. J. CHOW\*; J. S. BECKMANN. *Univ. of Kentucky.*
- 2:00 L10 **411.10** Independent of the amount of cocaine consumed, the speed of drug delivery in the past determines the motivation to self-administer the drug in the future. F. ALLAIN\*; A. SAMAHA. *Univ. De Montréal, Univ. de Montréal.*
- 3:00 L11 **411.11** Short and extended cocaine abstinence in behaviorally sensitized animals elicits differential firing patterns in medial prefrontal cortex and nucleus accumbens. B. H. GIPSON\*; G. V. REBEC. *Indiana Univ., Indiana Univ.*
- 4:00 L12 **411.12** Optogenetic stimulation of red nucleus glutamate neurons inhibits cocaine self-administration in mice. Y. HE\*; R. MCDEVITT; H. ZHANG; H. SHEN; G. BI; H. YAU; E. GARDNER; A. BONCI; Z. XI. *Natl. Inst. on Drug Abuse.*
- 1:00 L13 **411.13** Withdrawal from binge cocaine increases negative urgency in rats. A. BARKER\*; G. V. REBEC. *Indiana Univ.*
- 2:00 L14 **411.14** Cocaine induced increases in impulsivity in rats are eliminated by deletion of the *trpc4* gene. W. D. KLIPECK\*; A. PAJSER; T. GRAY; R. LEWIS; R. LEWIS; M. TROSKE; R. SHARE. *Drake Univ.*
- 3:00 L15 **411.15** Basal forebrain cholinergic lesions attenuate the reinstatement of cocaine-seeking produced by a discriminative stimulus in goal-trackers but not sign-trackers. J. L. JONES\*; K. K. PITCHERS; T. E. ROBINSON; M. SARTER. *University of Michigan.*
- 4:00 L16 **411.16** Falling for drug cues versus staying on task. K. PITCHERS\*; T. R. WOOD; C. J. SKRZYNSKI; T. E. ROBINSON; M. SARTER. *Univ. of Michigan.*
- 1:00 L17 **411.17** Incentive sensitization as a function of increasing experience with self-administered cocaine using an 'Intermittent Access' procedure. A. KAWA\*. *Univ. of Michigan.*
- 2:00 L18 **411.18** The relationship between cocaine-induced ultrasonic vocalizations and the attribution of incentive salience to food cues. J. A. TRIPI; C. L. VERSAGGI; D. DANIELS\*; M. L. DENT; P. J. MEYER. *Univ. at Buffalo, SUNY.*
- 3:00 L19 **411.19** Mechanisms and reversal of adolescent cocaine-induced habits. L. DEPOY\*; S. L. GOURLEY. *Emory Univ., Dept. of Pediatrics, Emory Sch. of Med., Yerkes Natl. Primate Res. Ctr., Grad. Program in Neuroscience, Emory Univ.*
- 4:00 L20 **411.20** Maladaptive behaviors resulting from decreased glutamate release from astrocytes: Phenotyping a system xc- knockout rat. E. HESS; L. KONG; N. RADDATZ; C. MUELLER; A. GEURTS; J. MANTSCH; S. CHOI; D. A. BAKER\*. *Marquette Univ., Med. Col. of Wisconsin, Marquette Univ.*
- 1:00 L21 **411.21** PACAP and Cocaine Reinstatement: A neuropeptide expressed by corticostriatal neurons that regulates nucleus accumbens astrocytes. L. KONG\*; E. HESS; B. MAUNZE; M. HURLEY; M. KHADIJAH; S. CHOI; J. MANTSCH; D. BAKER. *Marquette Univ.*

- 2:00 L22 **411.22** Conditioned dopamine release scales with cocaine dose during Pavlovian conditioning. B. H. MANDT\*; L. I. COPENHAGEN; N. R. ZAHNISER; R. M. ALLEN. *Univ. Colorado Denver, Univ. Colorado Denver.*
- 3:00 L23 **411.23** Roles of suvorexant, a dual orexin receptor antagonist, on impulsivity and cocaine-induced attention deficits. T. A. GENTILE\*; S. J. SIMMONS; J. W. MUSCHAMP. *Temple Univ.*
- 4:00 L24 **411.24** Caffeine, adenosine, sex and the estrous cycle. L. B. MALAVE\*; P. BRODERICK. *Sophie Davis Sch. CCNY, The Grad. Ctr. CUNY, NYU Langone center.*
- 1:00 L25 **411.25** Distribution analysis of intervals between cue-induced presses in rats trained to self-administer cocaine. V. L. TSIBULSKY\*; A. B. NORMAN. *Univ. Cincinnati, Univ. of Cincinnati.*
- POSTER**
- 412. Amphetamine and Related Drugs: Reinforcement and Relapse**
- Theme C: Disorders of the Nervous System**
- Mon. 1:00 PM – McCormick Place, Hall A
- 1:00 L26 **412.01** Methamphetamine self-administration and foot-shocks produced differential molecular neuroadaptations in the hippocampi of punishment-sensitive and punishment-resistant rats. I. N. KRASNOVA\*; B. LADENHEIM; M. T. MCCOY; D. COLLECTOR; O. V. TORRES; Y. SHAHAM; J. CADET. *NIDA, NIH, DHHS, NIDA, NIH, DHHS.*
- 2:00 L27 **412.02** Adolescent stress exposure increases vulnerability to addiction: Role of glutamate trafficking. A. FOSNOCHT\*. *Temple Univ.*
- 3:00 L28 **412.03** ● Effects of vaped delivery of psychomotor stimulants to rats. M. A. TAFFE\*; J. D. NGUYEN; S. A. VANDEWATER; Y. GRANT; M. COLE. *The Scripps Res. Inst., La Jolla Alcohol Research, Inc.*
- 4:00 L29 **412.04** Chronic exposure to conditions of uncertainty promotes the pursuit of amphetamine. P. MASCIA\*; J. BROWN; P. VEZINA. *University of Chicago.*
- 1:00 L30 **412.05** ▲ Differences in behavioral response to methylphenidate in adolescent and adult rats. A. N. BINETTE\*; T. J. ZAFAR; A. ESCOBEDO; K. A. TRUJILLO. *California State Univ. San Marcos.*
- 2:00 L31 **412.06** ▲ Sensitization to reward-related ultrasonic vocalizations in response to experimenter tickling and methamphetamine in rats. T. TOWNER\*; A. ROCHA; K. A. TRUJILLO. *California State Univ. San Marcos.*
- 3:00 L32 **412.07** Methamphetamine-induced reward and aversion as assessed by ultrasonic vocalizations in rats. A. ESCOBEDO\*; T. TOWNER; A. ROCHA; K. A. TRUJILLO. *California State Univ. San Marcos.*
- 4:00 L33 **412.08** ▲ Adolescents show an altered locomotor response to methamphetamine when compared to adults. V. ESPINOZA\*; C. HELLER; K. A. TRUJILLO; A. ROCHA. *California State Univ. San Marcos.*
- 1:00 L34 **412.09** Effects of a histone deacetylase inhibitor on the induction of one-trial methamphetamine- and cocaine-induced behavioral sensitization in preweanling rats. Z. R. HARMONY\*; M. J. STONE; M. L. BECKER; K. N. RUDBERG; A. E. MORAN; E. MACEDO; S. A. MCDUGALL. *California State Univ.*
- 2:00 L35 **412.10** One-trial and multi-trial methamphetamine-induced behavioral sensitization in preweanling rats: Role of D2 receptors. M. A. MOHD-YUSOF\*; A. VELIZ; K. N. RUDBERG; M. J. STONE; A. E. GONZALEZ; S. A. MCDUGALL. *California State Univ.*
- 3:00 L36 **412.11** A significant increase of basal dopamine extracellular levels in the rat dorsolateral striatum accompanies the expression of amphetamine-induced sensitization: Effect of the kappa-opioid receptor antagonist norBNI. J. A. FUENTEALBA\*; G. SEPULVEDA; C. AGUILERA; E. ANDRÉS. *Pontificia Univ. Católica De Chile, Pontificia Univ. Católica de Chile, Pontificia Univ. Católica de Chile.*
- 4:00 L37 **412.12** Methamphetamine self-administration increases the expression of neurotrophic factors in a sub-population of rats that show foot-shock-induced abstinence from methamphetamine. O. V. TORRES\*; I. N. KRASNOVA; M. T. MCCOY; B. LADENHEIM; J. CADET. *Natl. Inst. On Drug Abuse (NIDA).*
- 1:00 L38 **412.13** Role of central nucleus of amygdala in cue-induced relapse to methamphetamine seeking after voluntary abstinence. M. VENNIRO\*; C. CIFANI; S. ADHIKARY; N. J. MARCHANT; J. M. BOSSERT; C. CHIAMULERA; Y. SHAHAM; D. CAPRIOLI. *Natl. Inst. On Drug Abuse, Univ. of Verona.*
- 2:00 L39 **412.14** β-lactam antibiotic affects amphetamine-induced reinstatement in differentially reared rats: Evidence for glutamate homeostasis. E. J. GARCIA\*; D. L. ARNDT; G. R. ERICKSON; L. E. KOMER; L. S. SPRICK; E. T. JORGENSEN; K. I. PARKS; C. J. PETERSON; M. E. CAIN. *Kansas State Univ.*
- 3:00 L40 **412.15** The 5ht1b receptor agonist, cp 94253, modulates methamphetamine self-administration. R. GARCIA\*; N. PENTKOWSKI; J. VENAULT; K. LESLIE; J. P. BONADONNA; A. COTTER; A. CAMPAGNA; M. F. OLIVE; J. L. NEISEWANDER. *Arizona State Univ., Arizona State Univ., Univ. of New Mexico.*
- 4:00 L41 **412.16** Extended access to MDMA and substituted cathinone self-administration in rats. J. D. NGUYEN\*; S. VANDEWATER; Y. GRANT; K. CREEHAN; M. A. TAFFE. *Scripps Res. Inst.*
- 1:00 L42 **412.17** The effects of varenicline on methamphetamine self-administration and drug-primed reinstatement in male and female rats. S. T. PITTENGER\*; S. BARRETT; S. CHOU; S. CHARNTIKOV; R. BEVINS. *Univ. of Nebraska-Lincoln.*
- 2:00 L43 **412.18** A mouse model for binge methamphetamine use. S. SHABANI\*; L. HELLMUTH; S. HOULTON; E. MOJICA; J. MOOTZ; Z. ZHU; C. REED; T. J. PHILLIPS. *Minot State Univ., Methamphetamine Abuse Res. Center, Oregon Hlth. & Sci. Univ., Veterans Affairs Portland Hlth. Care Syst.*
- 3:00 L44 **412.19** Role of dopamine and adenosine receptor stimulation on methamphetamine seeking in rats. M. C. WINKLER; J. STAFFORD; C. E. O'NEILL; R. K. BACHTELL\*. *Univ. of Colorado.*

Mon. PM

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

- 4:00 M1 **412.20** A rat model of social stress-potentiated methamphetamine seeking. A. M. BLOUIN\*; C. G. HOFFER; C. A. MILLER. *The Scripps Res. Inst., Florida Atlantic Univ.*
- 1:00 M2 **412.21** Initial extended access to methamphetamine during acquisition promotes stable but intense IV self-administration during maintenance in Wistar rats. V. BATRA; T. TRAN; G. F. GUERIN\*; N. E. GOEDERS; J. WILDEN. *LSUHSC-S.*
- 2:00 M3 **412.22** d-Methamphetamine self-administration in rats: Specific antagonism with blockade of the vesicular monoamine transporter. T. HIRANITA; T. KOPAJTIC; Y. LIN; L. HSIN; J. L. KATZ\*. *NIDA Intramural Res. Program, Natl. Taiwan Univ., DHHS/NIH/NIDA IRP, Biomed. Res. Ctr.*
- 3:00 M4 **412.23** Intermittent bilateral deep brain stimulation of nucleus accumbens shell reduces intravenous methamphetamine self-administration in wistar rats. V. R. BATRA\*; G. F. GUERIN; N. E. GOEDERS; J. WILDEN. *LSU Hlth. Sci. Ctr., Louisiana State Univ. Hlth. Sci. Ctr.*
- 4:00 M5 **412.24** Different role of prelimbic and infralimbic norepinephrine on the extinction of conditioned place preference. E. LATAGLIATA\*; P. SACCOCCIO; C. MILIA; S. PUGLISI-ALLEGRA. *Fndn. Santa Lucia, Sapienza Univ., Fndn. Santa Lucia.*
- 3:00 M12 **413.07** Towards an animal model of stuttering; Mice with mutations in the lysosomal enzyme sorting pathway have abnormal vocalizations similar to humans who stutter. T. D. BARNES\*; D. WOZNIK; J. GUTIERREZ; T. HAN; D. DRAYNA; T. E. HOLY. *Washington Univ. Sch. of Med., Washington Univ. in St. Louis, Sch. of Med., Natl. Inst. on Deafness and Other Communication Disorders.*
- 4:00 M13 **413.08** Perceptual categories for species-specific vocalizations in the common marmoset (*Callithrix jacchus*). M. S. OSMANSKI\*; X. WANG. *Johns Hopkins Univ.*
- 1:00 M14 **413.09** 2-Photon Calcium imaging in the auditory cortex of awake marmosets. C. T. MILLER\*; S. ITTHIPURIPAT; E. HWANG; J. SERENCES; T. KOMIYAMA. *UCSD, UCSD, UCSD.*
- 2:00 M15 **413.10** Responses of marmoset auditory and prefrontal cortex neurons to changes in natural categories during active vocal exchanges. V. JOVANOVIĆ\*; C. T. MILLER. *UC San Diego.*
- 3:00 M16 **413.11** Optogenetic control of marmoset cortical neurons. M. MACDOUGALL\*; S. COOP; S. NUMMELA; J. MITCHELL; C. T. MILLER. *UCSD, Univ. of Rochester, UCSD.*
- 4:00 M17 **413.12** Auditory fields recruited during vocalization processing revealed by fMRI in awake marmosets. C. TOARMINO\*; M. E. SMITH; A. C. SILVA; C. T. MILLER. *UCSD, NIH.*
- 1:00 M18 **413.13** Functional organization of sensorimotor interactions across primate auditory cortex during vocal production. S. D. KOEHLER\*; X. Q. WANG. *The Johns Hopkins Sch. of Med., The Johns Hopkins Univ.*
- 2:00 M19 **413.14** Neural encoding of vocalizations in the ventral auditory cortical stream. M. FUKUSHIMA\*; R. C. SAUNDERS; M. MISHKIN; B. B. AVERBECK. *NIH/NIMH.*
- 3:00 M20 **413.15** Category-specific suppression and enhancement of high-gamma activity in the superior temporal gyrus. I. DEWITT\*; J. WITTIG, Jr.; J. COCJIN; A. VAZ; W. THEODORE; S. INATI; K. ZAGHLOUL; B. HORWITZ. *NIDCD/NIH, NINDS/NIH.*
- 4:00 M21 **413.16** Frequency-multiplexed chirp-speech: Rapid, simultaneous EEG characterization of the ascending speech processing hierarchy. L. M. MILLER\*; B. D. MOORE; A. S. KESSLER; C. W. BISHOP. *Univ. California, Univ. Texas, ViaSat.*
- 1:00 M22 **413.17** Speech perception - effects of attentional modulation on syllable processing. M. E. ARCHILA-MELENDEZ\*; G. VALENTE; B. M. JANSMA. *Maastricht Univ., Maastricht Brain Imaging Ctr. (MBIC), Maastricht Univ.*
- 2:00 M23 **413.18** I thought that I heard you laughing: Authentic laughter and crying in context. N. LAVAN\*; C. F. LIMA; S. EVANS; S. PARKER; S. K. SCOTT; C. MCGETTIGAN. *Royal Holloway, Univ. Col. London.*

## POSTER

### 413. Auditory Processing: Vocalizations and Natural sounds - Cortex and human studies

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 M6 **413.01** Temporal cue cognition provides auditory information for species detection in the auditory forebrain of the zebra finch. M. ARAKI; Y. YAZAKI-SUGIYAMA\*. *Okinawa Inst. of Sci. and Technol. (OIST) Grad. Univ.*
- 2:00 M7 **413.02** Changes in spectro-temporal features of echolocation pulses emitted by flying FM bats (*Miniopterus fuliginosus*) in reaction to FM jamming sounds. K. HASE\*; T. MIYAMOTO; Y. WATANABE; H. RIQUIMAROUX; T. OHTA; S. HIRYU. *Doshisha Univ., Doshisha Univ., JST.*
- 3:00 M8 **413.03** The role of the midbrain SC in natural orienting behaviors. M. J. WOHLGEMUTH\*, III; N. KOTHARI; C. MOSS. *Johns Hopkins Univ., Johns Hopkins Univ.*
- 4:00 M9 **413.04** Reconstruction of song from neuronal responses in distinct auditory cortical regions. H. LI; N. SO; A. CALABRESE; N. MESGARANI; S. M. WOOLLEY\*. *Columbia Univ., Columbia Univ., Columbia Univ.*
- 1:00 M10 **413.05** Vocalization-induced Arc mRNA expression in core auditory cortex depends on the interaction of estrogen and social experience. T. N. IVANOVA\*; K. K. CHONG; R. C. LIU. *Emory Univ.*
- 2:00 M11 **413.06** Tolerance to acoustic variation within a natural vocal category increases between core and non-core auditory cortical fields. K. CHONG\*; K. N. SHEPARD; T. N. IVANOVA; R. C. LIU. *Emory Univ., Georgia Inst. of Technol.*

## POSTER

### 414. Subcortical Pathways

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 M24 **414.01** ● Detection of white matter activation using diffusion weighted imaging by a 7Tesla human MRI system. I. KIDA\*; T. UEGUCHI; Y. MATSUOKA; K. ZHOU; A. STEMMER. *NICT, Osaka Univ., Siemens Shenzhen Magnetic Resonance Ltd, Siemens AG.*
- 2:00 M25 **414.02** Automated retinofugal visual pathway reconstruction with multi-shell diffusion imaging and fod-based tractography. Y. SHI\*; A. KAMMEN; M. LAW; B. TJAN; A. TOGA. *Keck Sch. of Med. of USC, USC.*
- 3:00 M26 **414.03** Cell-type specific tracing of the subcortical input to primary visual cortex from the hypothalamus. G. A. LEAN\*; Y. LIU; D. C. LYON. *Univ. of California, Univ. of California.*
- 4:00 M27 **414.04** Genetic analysis of the role of competition in retinal ganglion cell axon-target matching. T. A. SEABROOK\*; V. P. WOOLEY; O. S. DHANDE; P. L. NGUYEN; A. D. HUBERMAN. *UCSD, UCSD, UCSD, Salk Inst. for Biol. Studies.*
- 1:00 M28 **414.05** Experience-dependent structural and functional plasticity of eye-specific thalamocortical axons. J. JÄPEL-SCHAEEL\*; M. HÜBENER; T. BONHOEFFER; T. ROSE. *Max Planck Inst. of Neurobio.*
- 2:00 M29 **414.06** Visual experience enhances regeneration of retinal ganglion cell axons. J. A. LIM\*; P. L. NGUYEN; B. V. LIEN; A. D. HUBERMAN. *UC San Diego, UC San Diego, UC San Diego, Salk Inst.*
- 3:00 M30 **414.07** The effect of the locations of return electrodes on the electrical evoked potentials elicited by suprachoroidal-transretinal stimulation retinal prosthesis in rabbit eye. K. NISHIDA\*; H. SAKAGUCHI; T. FUJIKADO; M. KAMEI; K. NISHIDA. *Osaka Univ. Grad. Sch. of Med.*
- 4:00 M31 **414.08** Receptive field properties of single neurons in the lateral posterior nucleus of the rat. A. T. FOIK\*; L. R. SCHOLL; D. C. LYON. *Univ. of California.*
- 1:00 M32 **414.09** ● Electrophysiological responses of SCN neurones to temporal modulations in light intensity. R. C. DOBB\*; T. M. BROWN; R. J. LUCAS. *Univ. of Manchester.*
- 2:00 M33 **414.10** Depth-dependence of visual signals in the human superior colliculus: Comparison between 3T and 9.4T. J. R. A. LOUREIRO; G. HAGBERG; T. ETHOFER; M. ERB; K. SCHEFFLER; M. HIMMELBACH\*. *Max Planck Inst. for Biol. Cybernetics, Biomed. Magnetic Resonance, UKT, Ctr. of Neurology, Hertie-Institute For Clin. Brain Res.*
- 3:00 M34 **414.11** Large-scale silicon probe recordings identify new cell types and gamma rhythm properties in the mouse superior colliculus. S. ITO\*; D. A. FELDHEIM; A. M. LITKE. *Univ. of California, Santa Cruz, Univ. of California, Santa Cruz.*
- 4:00 M35 **414.12** Size-dependent contrast sensitivity and LFP response modulations in primate superior colliculus. C. CHEN\*; Z. M. HAFED. *Werner Reichardt Ctr. For Integrative Neurosci., Grad. Sch. of Neural and Behavioural Sciences, Intl. Max Planck Res. Sch.*
- 1:00 M36 **414.13** Visual and nonvisual responses in superficial layers of mouse superior colliculus. S. SCHRÖDER\*; M. KRUMIN; K. D. HARRIS; M. CARANDINI. *Univ. Col. London.*
- 2:00 M37 **414.14** SSFO-mediated optogenetic activation of the mouse superior colliculus results in a repeatable behavioral response. E. GEERAERTS\*; E. DEKEYSTER; S. VREYSEN; L. DE GROEF; C. VAN DEN HAUTE; V. BAEKELANDT; L. MOONS. *KU Leuven.*
- 3:00 M38 **414.15** Parameter estimation of large-scale spiking simulations of superficial superior colliculus. R. VEALE\*; T. ISA; M. YOSHIDA. *Natl. Inst. for Physiological Sci., SOKENDAI (The Grad. Univ. for Advanced Studies).*
- 4:00 M39 **414.16** Representation of visual eccentricity in human superior colliculus. E. HALFEN\*; S. KATYAL; I. AKBAR; D. RESS. *Baylor Col. of Med., Univ. of Minnesota, Rice Univ.*
- 1:00 M40 **414.17** Using memory-guided saccades to map the polar-angle representation of eye movements in human superior colliculus. R. R. SAVJANI\*; D. RESS. *Baylor Col. of Med., Baylor Col. of Med.*
- 2:00 M41 **414.18** Common tectal input to different nuclear components of the midbrain stimulus selection network. F. GARRIDO-CHARAD; T. VEGA-ZUNIGA; C. GUTIERREZ-IBANEZ; S. WEIGEL; J. MPODOZIS; H. LUKSCH; G. J. MARÍN\*. *Facultad de Ciencias, Univ. de Chile, Lehrstuhl für Zoologie, Technische Univ. München, Univ. Finis Terrae.*
- 3:00 M42 **414.19** Active vision may enhance orientation-contrast based saliency through mechanisms of neural adaptation. Y. GUTFREUND\*; A. DUTTA. *The Technion, The Technion.*

## POSTER

### 415. Striate Cortex in Rodents

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 M43 **415.01** Visual Masking in the rodent primary visual cortex. D. S. ALWIS\*; K. L. RICHARDS; M. GHODRATI; E. ZAVITZ; N. S. C. PRICE. *Monash Univ.*
- 2:00 M44 **415.02** Chronic GCaMP6 imaging shows temporal stability of noise correlations: Relevance for population coding. G. T. MEIJER\*; J. S. MONTIJN; C. S. LANSINK; C. M. A. PENNARTZ. *Univ. of Amsterdam, Univ. of Amsterdam.*
- 3:00 M45 **415.03** The balance of excitatory and inhibitory input shifts population dynamics from linear to nonlinear in a model cortical column. N. H. CAIN\*; R. IYER; C. KOCH; S. MIHALAS. *Allen Inst. For Brain Sci.*
- 4:00 M46 **415.04** Cannabinoid 2 receptors modulate visual information in the primary visual cortex. W. J. REDMOND\*; S. THOMAS; J. BOUCHARD; C. CASANOVA. *Univ. de Montréal.*
- 1:00 M47 **415.05** Intra-population heterogeneity rather than mean activity predicts visual detection. J. MONTIJN\*; P. M. GOLTSTEIN; C. M. A. PENNARTZ. *Univ. of Amsterdam.*

● Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 2:00 M48 **415.06** Spatiotemporal dynamics of visual responses in mouse visual cortex during locomotion. D. SHIMAOKA\*; K. D. HARRIS; M. CARANDINI. *Univ. Col. London.*
- 3:00 N1 **415.07** Decoding grating spatial frequency and direction from Multi-Unit-Activity in mouse visual cortex. M. TOLKIEHN\*; S. R. SCHULTZ. *Imperial Col. London.*
- 4:00 N2 **415.08** A biophysically detailed computational model of layer 4 of the mouse primary visual cortex. A. ARKHIPOV\*; N. W. GOUWENS; R. IYER; N. MACARICO DA COSTA; S. DURAND; D. FENG; T. P. FLISS; L. LI; S. R. OLSEN; C. DANG; L. NG; H. PENG; C. REID; H. ZENG; S. MIHALAS; M. J. HAWRYLYCZ; C. KOCH. *Allen Inst. For Brain Sci.*
- 1:00 N3 **415.09** Characterizing the influence of the local state on neuronal responses in mouse thalamo-cortical circuits *in vivo*. R. IYER\*; S. DURAND; K. MIZUSEKI; M. BUICE; C. REID; C. KOCH; S. MIHALAS. *Allen Inst. For Brain Sci.*
- 2:00 N4 **415.10** Figure ground processing in awake mice. U. H. SCHNABEL\*; J. A. M. LORTEIJE; P. R. ROELFSEMA. *Netherlands Inst. of Neurosci., Swammerdam Inst. for Life Sciences, Univ. of Amsterdam, Ctr. for Neurogenomics and Cognitive Research, VU Univ. Amsterdam, Academic Med. Centre, Univ. of Amsterdam.*
- 3:00 N5 **415.11** The functional roles of cell-type specific short-term plasticity in encoding of sensory inputs. J. LEE\*; R. IYER; S. DURAND; C. REID; C. KOCH; S. MIHALAS. *Allen Inst., Allen Inst.*
- 4:00 N6 **415.12** Tuning of mouse V1 cells in the joint orientation and spatial frequency domain. P. MINEAULT; E. TRING; J. T. TRACHTENBERG; D. L. RINGACH\*. *UCLA.*
- 1:00 N7 **415.13** Cross-modal responses in mouse primary visual cortex during active behavior. S. KANDLER\*; D. MAO; B. MCNAUGHTON; V. BONIN. *Neuro-Electronics Res. Flanders, imec, Canadian Ctr. for Behavioural Neuroscience, Univ. of Lethbridge, Katholieke Univ. Leuven, Vlaams Inst. voor Biotechnologie.*
- 2:00 N8 **415.14** Response strength in mouse V1 reflects decision time in a visual foraging task. F. KLEIN\*; A. WAL; L. BUSSE; S. KATZNER. *Univ. of Tuebingen.*
- 3:00 N9 **415.15** Effects of reward on sensory processing in mouse primary visual cortex: Laminar profile and cell-type specificity. A. WAL\*; F. KLEIN; L. BUSSE; S. KATZNER. *Univ. of Tuebingen, Grad. Training Ctr. of Neurosci.*
- 4:00 N10 **415.16** ▲ Temporal predictability of visual target onset by audition leads to decrease in evoked neural activity in mouse V1. S. LOEWE; M. WATANABE; N. LOGOTHETIS; L. BUSSE; S. KATZNER\*. *Univ. of Tuebingen, Max Planck Inst. For Biol. Cybernetics, Univ. of Tokyo, Univ. of Manchester.*
- 1:00 N11 **415.17** Visual image reconstruction from neuronal activities in the mouse primary visual cortex. T. YOSHIDA\*; K. OHKI. *Kyushu Univ., CREST, JST.*
- 2:00 N12 **415.18** The role of v2 in shaping v1 neuronal activity during complex visual tasks in mice. S. MEYER ZUM ALTEN BORGLOH; D. MORELLI; R. HERNANDEZ-SOLIS; S. MARIK; C. D. GILBERT\*. *Rockefeller Univ.*
- 3:00 N13 **415.19** Neurons with non-uniform surround modulation have greater orientation selectivity in mouse primary visual cortex. J. M. SAMONDS\*; R. ZHANG; T. LEE; S. J. KUHLMAN. *Carnegie Mellon Univ., Carnegie Mellon Univ., Carnegie Mellon Univ.*
- 4:00 N14 **415.20** Inhibitory and excitatory network responses to natural movies in alert mice. N. D. OLIVAS\*; P. MINEAULT; D. L. RINGACH; J. T. TRACHTENBERG. *UCLA.*

## POSTER

### 416. Striate Cortex: Imaging Studies

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 N15 **416.01** Cross registration of CAM data acquisition platforms for experimental consistency and multimodal data alignment. T. M. KEENAN\*; J. PERKINS; T. SIUDA; C. WHITE; C. SLAUGHTERBECK; A. BERNARD; C. FARRELL. *Allen Inst. for Brain Sci.*
- 2:00 N16 **416.02** Development of a platform for acquiring and analyzing visual field response properties by intrinsic signal imaging. K. ROLL\*; J. PERKINS; M. GARRETT; E. MOUNT; F. LONG; J. ZHUANG; S. CROSS; S. CALDEJON; C. WHITE; N. GAUDREAU; T. KEENAN; C. LAU; S. DE VRIES; D. WILLIAMS; J. WATERS; S. OLSEN; F. GRIFFIN; J. JOHAL; L. KUAN; C. SLAUGHTERBECK; W. WAKEMAN; V. MALDONADO; C. FARRELL; L. NG; C. DANG; C. KOCH; C. REID; J. PHILLIPS; A. BERNARD. *Allen Inst. For Brain Sci., Allen Inst. For Brain Sci.*
- 3:00 N17 **416.03** Measuring the precision of contextual feedback to V1 using 3T and 7T fMRI. L. S. PETRO\*; F. W. SMITH; J. ZIMMERMANN; F. DE MARTINO; L. MUCKLI. *Univ. of Glasgow, Univ. of East Anglia, New York Univ., Maastricht Univ.*
- 4:00 N18 **416.04** Using high-resolution layer-specific fMRI to investigate predictive coding of auditory and contextual information in early visual cortex. L. MUCKLI\*; L. VIZIOLI; L. S. PETRO; F. DE MARTINO; M. BENNETT. *Univ. of Glasgow, Maastricht Univ.*
- 1:00 N19 **416.05** Interactive physiological map of visual responses in the mouse visual cortex during sensory stimulation and behavior. W. WAKEMAN; D. FENG; C. LAU; L. KUAN; Y. LI; F. LONG; K. GODFREY; T. FLISS; N. SJOQUIST; T. DOLBEARE; A. SODT; M. CHAPIN; C. BARBER; S. SHI; C. L. THOMPSON\*; A. BERNARD; M. HAWRYLYCZ; C. REID; J. PHILLIPS; C. DANG; C. KOCH; L. NG. *Allen Inst. for Brain Sci.*
- 2:00 N20 **416.06** Population coding, correlations, and functional connectivity in the mouse visual system with the Cortical Activity Map (CAM). M. A. BUICE\*; S. DE VRIES; A. BERNARD; B. ROGERS; C. WHITE; C. DANG; P. GROBLEWSKI; C. LAU; C. SLAUGHTERBECK; C. FARRELL; D. WILLIAMS; J. WATERS; J. PERKINS; K. ROLL; L. KUAN; M. GARRETT; N. ORLOVA; S. OLSEN; S. CROSS; S. MIHALAS; T. KEENAN; W. WAKEMAN; J. PHILLIPS; C. KOCH; C. REID. *Allen Inst. for Brain Sci.*

- 3:00 N21 **416.07** Development of a cortical activity map: A scalable data generation platform for high-throughput *in vivo* functional imaging of awake behaving mice. A. BERNARD\*; S. OLSEN; M. BUICE; C. DANG; S. DE VRIES; C. FARRELL; M. GARRETT; N. GAUDREAU; P. GROBLEWSKI; J. HARRINGTON; T. KEENAN; L. KUAN; C. LAU; F. LONG; V. MALDONADO; S. MIHALAS; L. NG; N. ORLOVA; J. PERKINS; B. ROGERS; K. ROLL; N. SJOQUIST; C. SLAUGHTERBECK; W. WAKEMAN; J. WATERS; C. WHITE; D. WILLIAMS; C. KOCH; J. PHILLIPS; R. C. REID. *Allen Inst. Brain Sci., Allen Inst. for Brain Sci.*
- 4:00 N22 **416.08** Quantitative estimation of visual and optogenetic optical-imaging responses. O. RUIZ\*; M. M. CHERNOV; A. W. ROE; G. R. STONER. *Salk Inst. For Biol. Studies, Vanderbilt Univ.*
- 1:00 N23 **416.09** Modeling behavior in a virtual visual environment: What (if anything) do mice optimize when foraging for abstract objects? D. VOINA\*; P. GROBLEWSKI; S. OLSEN; E. SHEA-BROWN; S. MIHALAS. *Univ. of Washington, Allen Inst. of Brain Sci.*
- 2:00 N24 **416.10** The cortical magnification factor and spatial frequency selectivity in macaque V1 revealed quantitatively by intrinsic optical imaging. Y. LU; H. GONG; J. YIN; Z. CHEN; I. M. ANDOLINA; W. WANG\*. *Inst. of Neuroscience, State Key Lab. of Neuroscience, CAS.*
- 3:00 N25 **416.11** Mind the drift - improving sensitivity to fMRI pattern information by accounting for temporal pattern drift. A. ALINK\*; A. WALTHER; A. KRUGLIAK; J. VAN DEN BOSCH; N. KRIEGESKORTE. *MRC Cognition and Brain Sci. Unit, Univ. of Birmingham, Univ. of Washington.*
- 4:00 N26 **416.12** Generating a cortical activity map using high-throughput functional imaging in the mouse visual cortex. S. E. DEVRIES\*; M. BUICE; A. BERNARD; C. DANG; C. FARRELL; M. GARRETT; P. GROBLEWSKI; T. KEENAN; C. KOCH; L. KUAN; C. LAU; S. MIHALAS; L. NG; S. OLSEN; N. ORLOVA; J. PERKINS; B. ROGERS; K. ROLL; C. SLAUGHTERBECK; W. WAKEMAN; J. WATERS; C. WHITE; D. WILLIAMS; J. PHILLIPS; C. REID. *Allen Inst. For Brain Sci., Allen Inst. for Brain Sci.*
- 1:00 N27 **416.13** Automated annotation of functional cortical areas in intrinsic signal imaging. F. LONG\*; K. ROLL; J. ZHUANG; J. PERKINS; M. GARRETT; C. WHITE; N. SJOQUIST; D. FENG; C. LAU; W. WAKEMAN; J. PHILLIPS; C. KOCK; C. DANG; A. BERNARD; L. NG. *Allen Inst. For Brain Sci., Allen Inst. For Brain Sci.*
- 2:00 N28 **416.14** Characterization of calcium events and spiking activity *in vivo* and their relationship using transgenic mouse lines. U. KNOBLICH\*; J. WATERS; C. REID; C. KOCH; H. ZENG; L. LI. *Allen Inst. for Brain Sci.*
- 3:00 N29 **416.15** Development of a platform for training head-fixed mice on a visual stimulus detection task. P. A. GROBLEWSKI\*; D. OLLERENSHAW; D. WILLIAMS; S. CROSS; M. GARRETT; C. MOCHIZUKI; J. ZHUANG; T. SIUDA; T. KEENAN; D. REID; C. SLAUGHTERBECK; C. FARRELL; V. MALDONADO; J. PHILLIPS; A. BERNARD; R. C. REID; J. WATERS; C. KOCH; S. OLSEN. *Allen Inst. for Brain Sci.*
- 4:00 N30 **416.16** ● Novel coil designs for ultra-high resolution cortical fMRI at 7T. A. BECKETT\*; L. CHEN; D. FEINBERG. *Univ. of California, Advanced MRI Technologies.*
- 1:00 N31 **416.17** Non-neuronal contribution to fMRI population receptive fields in early visual cortex. R. MILLIN\*; B. TJAN. *USC.*
- 2:00 N32 **416.18** Responses to color, contrast, and spatial frequency across retinotopic cortical areas and eccentricity representations in alert macaque monkey measured with fMRI. K. S. BOHON\*; J. E. FULLER-DEETS; B. R. CONWAY. *Wellesley Col., MIT.*
- 3:00 N33 **416.19** Characterizing GCaMP6f nonlinearity using two-photon imaging of ferret V1. R. SRINATH\*; A. DANIELS; A. A. LEMPEL; K. J. NIELSEN. *Zanvyl Krieger Mind/Brain Inst., Johns Hopkins Univ.*
- 4:00 N34 **416.20** Spatial specificity of the functional MRI blood oxygenation response relative to metabolic activity. D. CHAIMOW\*; E. YACCOUB; K. UGURBIL; A. SHMUEL. *Univ. of Tuebingen, Univ. of Minnesota, McGill Univ.*

## POSTER

### 417. Eye Movements: Central Mechanisms

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 N35 **417.01** Central neural processing in the vestibular system of caspase-3-deficient mice. N. SHIMIZU\*. *Univ. of Texas Med. Br.*
- 2:00 N36 **417.02** Error signals driving adaptation of compensatory eye movement reflexes in the mouse. B. H. WINKELMAN\*; L. TOLOSA-RODRIGUEZ; Ö. ÖZYILDIRIM; B. BRAAKMAN; C. I. DE ZEEUW. *Netherlands Inst. For Neurosci., Erasmus MC, Netherlands Inst. for Neurosci., iThera Med. GmbH.*
- 3:00 N37 **417.03** Differential compartmental extraocular muscle (EOM) mechanisms of vergence compensation of strabismus. J. L. DEMER\*; R. A. CLARK. *Jules Stein Eye Inst., Stein Eye Inst.*
- 4:00 N38 **417.04** Neural plasticity following surgical correction of strabismus in monkeys. M. N. AGAAGLU; M. PULLELA; B. A. DEGLER; A. C. JOSHI; S. AGAAGLU; D. K. COATS; V. E. DAS\*. *Univ. of Houston, Baylor Col. of Med.*
- 1:00 N39 **417.05** Central mesencephalic reticular formation projections to horizontal gaze motoneurons - a green light or red? M. O. BOHLEN; S. WARREN; P. J. MAY\*. *Univ. Mississippi Med. Ctr., Univ. Mississippi Med. Ctr.*
- 2:00 N40 **417.06** Anatomical evidence for shared control of eye and neck muscles by neurons in the ventral premotor cortex of a primate. I. BILLIG\*; P. L. STRICK. *Univ. Pittsburgh, VAMC, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 3:00 N41 **417.07** The ventral premotor cortex contributes to head and eye movements. I. SMALIANCHUK\*; N. GANDHI. *Univ. of Pittsburgh.*
- 4:00 N42 **417.08** Evidence for adaptation of an internal model in pre-programmed eye movements. S. HAGGERTY\*; L. SCHOOF; W. KING. *Univ. of Michigan.*
- 1:00 N43 **417.09** Prevalence of an arcuate spur in macaques. M. S. SCHALL\*; W. ZINKE; G. F. WOODMAN; J. D. SCHALL. *Vanderbilt Univ., Vanderbilt Univ.*

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▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 2:00 N44 **417.10** Laminar organization of the supplementary eye field: Orbital tuning. S. YIN; D. GODLOVE; T. NINOMIYA; W. ZINKE; J. D. SCHALL\*. *Vanderbilt Univ.*
- 3:00 N45 **417.11** Optogenetic projection targeting in the primate oculomotor system. G. D. HORWITZ\*; Y. KOJIMA; A. M. NI; R. SOETEDJO. *Univ. of Washington.*
- 4:00 N46 **417.12** The role of eye movements in observational learning. M. MASSING\*; S. PANZER; Y. BLANDIN. *Saarland Univ., Univ. of Poitiers.*
- 1:00 N47 **417.13** Up-regulation of central catecholamines prevent decrements in ocular motor function following fatiguing exercise. C. J. CONNELL\*; B. THOMPSON; R. HESS; A. SRZICH; G. KUHN; N. GANT. *Univ. of Auckland, Univ. of Auckland, Univ. of Auckland, McGill Univ., Univ. of Auckland, Goldsmiths, Univ. of London.*
- 2:00 N48 **417.14** Development of an eyewear to detect movement of eyes and body. S. KANOH\*; S. ICHI-NOHE; S. SHIOYA; K. INOUE; R. KAWASHIMA. *Shibaura Inst. of Technol., JIN Co., Ltd., Tohoku Univ.*
- 3:00 O1 **417.15** ● Eye movement rehabilitation by CN-NINM intervention: A set of case studies. Y. P. DANILOV\*; Y. VERBANY; K. SKINNER; M. TYLER; K. KACZMAREK. *Univ. of Wisconsin-Madison, Univ. of Wisconsin.*

## POSTER

### 418. Spinal Cord Processing: Pharmacology

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 O2 **418.01** Dopamine D1/D5 receptor-mediated mechanisms in the maintenance of pathological pain plasticity. T. J. PRICE\*; S. MEGAT; G. L. MEJIA; J. V. KIM. *UTD, Univ. of Texas at Dallas.*
- 2:00 O3 **418.02** Spinal functions of BNP-NPRA and GRP-GRPR systems in regulating itch in mice. N. KIGUCHI\*; D. D. SUKHTANKAR; H. DING; K. TANAKA; S. KISHIOKA; C. M. PETERS; M. KO. *Wake Forest Univ. Sch. of Med., Saitama Prefectural Univ., Wakayama Med. Univ., Wake Forest Univ. Sch. of Med.*
- 3:00 O4 **418.03** The role of spinal astrocytic Cx43 in the maintenance of neuropathic pain. F. ZHANG; N. MORIOKA\*; Y. NAKAMURA; S. FUJII; K. HISAOKA-NAKASHIMA; Y. NAKATA. *Dept. Pharmacol., Grad. Sch. of Biomed & Health Sci., Hiroshima Univ.*
- 4:00 O5 **418.04** Role of NMDAR/PKC/ERK signal pathway in the transition of acute to chronic pain in acid-induced muscle pain model. W. CHEN\*; C. CHEN. *Academia Sinica.*
- 1:00 O6 **418.05** ● Development and validation of defined medium GAD-67-GFP organotypic cultures of mouse spinal cord; preservation of neuronal phenotypes. P. A. BOAKYE\*; C. PATTERSON; K. WHITLOCK; P. A. SMITH. *UNIVERSITY OF ALBERTA, UNIVERSITY OF ALBERTA, UNIVERSITY OF ALBERTA.*
- 2:00 O7 **418.06** Tranexamic acid evokes pain by modulating neuronal excitability in the spinal dorsal horn. N. OHASHI; M. SASAKI; M. OHASHI; Y. KAMIYA\*; H. BABA; T. KOHNO. *Niigata Univ. Hosp.*

- 3:00 O8 **418.07** Inhibition of hyperpolarization-activated cyclic nucleotide-gated channels in rat spinal dorsal horn neurons contributes to analgesic effects of lidocaine. T. LIU\*; T. HU; N. LIU; S. PENG; S. LUO. *The First Affiliated Hosp. of Nanchang Univ., the First Affiliated Hosp. of Nanchang Univ.*
- 4:00 O9 **418.08** NPY Y1 receptor signaling masks spinal transmission of chronic pain by inhibiting adenylyl cyclase 1, TRPA1, and TRPV1. W. FU\*; B. K. TAYLOR. *Univ. of Kentucky, Univ. of Kentucky.*
- 1:00 O10 **418.09** Dopamine modulation of synaptic transmission in the dorsal horn spinal cord: Presynaptic versus postsynaptic effects. M. PUOPOLO\*; M. DOROSHENKO; W. GALBAVY; S. CHAKRABORTY; M. REBECCHI. *Stony Brook Med.*
- 2:00 O11 **418.10** Gabab receptor mediated presynaptic inhibition in laminae III-IV of rat dorsal horn. R. BARDONI\*. *Univ. Modena and Reggio Emilia.*
- 3:00 O12 **418.11** Nociceptive effects of neurotensin(NTS)- and somatostatin(SST)-toxin conjugates applied to the lumbar dorsal horn in rats. R. G. WILEY\*. *Veterans Affairs Tennessee Valley Healthcare Syst., Vanderbilt Univ.*

## POSTER

### 419. Plasticity of Somatosensory System

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 O13 **419.01** Tracking structural changes in chronic *in vivo* images of neurites. R. GALA\*; D. LEBRECHT; A. HOLTMAAT; A. STEPANYANTS. *Northeastern Univ., Univ. de Genève.*
- 2:00 O14 **419.02** Anatomical correlates of perceptual learning in mouse barrel cortex. D. LEBRECHT; R. GALA; M. DIMANICO; S. PAGÈS; K. MORANDELL; D. HUBER; A. STEPANYANTS; A. HOLTMAAT\*. *Univ. Geneva, Northeastern Univ.*
- 3:00 O15 **419.03** Intensity of task-specific rehabilitation and severity of injury in monkeys with dorsal column lesions contribute to cortical plasticity and differential recovery of manual dexterity. J. L. REED\*; H. QI; J. H. KAAS. *Vanderbilt Univ.*
- 4:00 O16 **419.04** The effect of diet induced obesity on muscle spindle afferent function in adult male mice. L. ELAHI; K. SHAMAI; C. CRIDDLE; D. ZAYTSEVA; K. A. WILKINSON\*. *San Jose State Univ., San Jose State Univ.*
- 1:00 O17 **419.05** The effect of mechanosensory silence on somatosensory connectivity. J. HASELEU\*; G. R. LEWIN. *Max Delbrück Ctr. For Mol. Med.*
- 2:00 O18 **419.06** Constructing a distributed infrared sensory modality in the adult rat. E. E. THOMSON\*; K. HARTMANN; M. A. L. NICOLELIS. *Duke Univ., Duke Univ., Duke Univ., Edmond and Lily Safra Intl. Inst. for Neurosci. of Natal.*
- 3:00 O19 **419.07** Perception of angular position during passive and slow movements about the elbow joint in individuals with chronic hemiparesis. N. GURARI\*; J. DROGOS; J. P. A. DEWALD. *Northwestern Univ.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author



- 4:00 O20 **419.08** From to the foot to the brain: Does an increase in sensory feedback from the foot sole modulate excitability of the motor cortex? G. GILL\*; C. D. TOKUNO; J. L. TAYLOR; L. R. BENT. *Univ. of Guelph, Brock Univ., Neurosci. Res. Australia.*
- 1:00 O21 **419.09** Circuit basis for rapid disinhibition following whisker deprivation in mouse somatosensory cortex. M. A. GAINEY\*; D. E. FELDMAN. *UC Berkeley.*
- 2:00 O22 **419.10** Intrinsic cortical and thalamocortical connections between hand and chin representations in somatosensory area 3b are unaltered by chronic spinal cord injuries in macaque monkeys. P. CHAND\*; N. JAIN. *Natl. Brain Res. Ctr.*
- 3:00 O23 **419.11** Influence of rapid-rate paired associative stimulation targeting physiology within primary somatosensory cortex. T. LULIC\*; C. B. JONES; A. Z. BAILEY; A. J. NELSON. *McMaster Univ., McMaster Univ.*
- 4:00 O24 **419.12** Sensorimotor organization in patients with complex regional pain syndrome. A. Z. SIDDIQI\*; E. ZEWDIE; A. T. SMITH; J. DUCHCHERER; S. RASHIQ; B. DICK; M. A. GORASSINI. *Univ. of Alberta.*
- 1:00 O25 **419.13** Spinal cord inputs to the cuneate nucleus are potentiated after long-standing dorsal column lesions: A pathway that may contribute to recovery after spinal cord injury. C. LIAO\*; H. QI; J. L. REED; J. H. KAAS. *Vanderbilt Univ.*
- 2:00 O26 **419.14** Laminar-dependent structural remodeling of adult pyramidal neurons during novel motor skill learning. T. CLARK\*; S. KAZMI; M. FU; Y. ZUO; T. A. JONES. *The Univ. of Texas At Austin, Duke, The Univ. of California Santa Cruz.*
- 3:00 O27 **419.15** Developmental plasticity of inhibitory barreloids created by feedback projections from the thalamic reticular nucleus. K. IMAIZUMI\*; Y. YANAGAWA; C. C. LEE. *Broad Inst. of MIT and Harvard, Gunma Univ. Grad. Sch. of Med., Louisiana State Univ. Sch. of Vet. Med.*
- 4:00 O28 **419.16** Sensorimotor training differentially augments intrinsic cortical connectivity. S. L. JULIANO\*; E. M. SHINDELL; S. C. SCHWERIN. *USUHS.*
- 1:00 O29 **419.17** Theta-burst stimulation to induce metaplasticity in human primary somatosensory cortex. C. JONES\*; T. LULIC; T. N. MACKENZIE; A. Z. BAILEY; A. J. NELSON. *McMaster Univ.*
- 2:00 O30 **419.18** Effects of cTBS on body sway and the reorganization of sensory information during light tactile interaction. D. KAULMANN\*; L. JOHANNSEN. *Technische Univ. Muenchen.*
- 3:00 O31 **419.19** ▲ Structural plasticity of the axon initial segment after sensory deprivation in mouse somatosensory cortex. N. JAMANN; C. CORCELLI; C. SCHULTZ; M. ENGELHARDT\*. *Univ. Heidelberg, Med. Fac. Mannheim.*
- 4:00 O32 **419.20** Evidence for interhemispheric reorganization in sensory cortex following unilateral upper extremity amputation in humans. B. A. PHILIP\*; K. F. VALYEAR; S. H. FREY. *Univ. of Missouri, Washington Univ., Bangor Univ.*

## POSTER

### 420. Rhythmic Motor Patterns: Interneurons and Motor Neurons

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 O33 **420.01** Pkd2l1 drives spontaneous activity of GABAergic sensory neurons in the embryonic spinal cord. J. R. STERNBERG\*; L. DJENOUNE; A. PRENDERGAST; J. GOMEZ; C. WYART. *Inst. Du Cerveau Et De La Moelle Epiniere, Inserm UMRs 1127, CNRS UMR 7225, UPMC Univ. Paris 06, F-75005, Ecole des Neurosciences de Paris (ENP), Muséum Natl. d'Histoire Naturelle, CNRS UMR 7221, F-75005.*
- 2:00 O34 **420.02** The role of the sodium pump in mouse spinal locomotor network activity. L. D. PICTON; K. T. SILLAR\*; G. B. MILES. *Univ. St Andrews.*
- 3:00 O35 **420.03** Motoneurons input onto Renshaw cells: A relay synapse? M. BEATO\*; N. J. MOORE; J. D. FOSTER; G. S. BHUMBRA. *UCL, UCL.*
- 4:00 O36 **420.04** The high conductance state in motoneurons during rhythmic motor behaviour is composed of synaptic and intrinsic conductance. R. GUZULAITIS\*; J. HOUNSGAARD. *Univ. of Copenhagen.*
- 1:00 O37 **420.05** The encoding properties of mechanosensory edge cells in the lamprey spinal cord. N. MASSARELLI\*; K. HOFFMAN; E. TYTELL; T. KIEMEL. *Univ. of Maryland Baltimore County, Tufts Univ., Univ. of Maryland Col. Park.*
- 2:00 O38 **420.06** Regulation of activity and development in a spinal locomotor network by a non-visual opsin. D. FRIEDMANN\*; A. HOAGLAND; S. BERLIN; E. ISACOFF. *UC Berkeley, UC Berkeley.*
- 3:00 O39 **420.07** Day-night changes in the pattern of dendritic dynamics of zebrafish motor neurons. J. V. DIPIETRO\*, JR; J. R. FETCHO. *Cornell Univ.*
- 4:00 O40 **420.08** Differences in the *in vivo* kinetic properties of glycine receptors measured in two different functional classes of motoneurons. D. M. CHOW\*; J. R. FETCHO. *Cornell Univ.*
- 1:00 O41 **420.09** Resilience of motor pool organization to abnormal neuronal migration in zebrafish. K. L. MCARTHUR\*; J. R. FETCHO. *Cornell Univ.*
- 2:00 O42 **420.10** Cerebrospinal fluid-contacting neurons form an intraspinal mechanosensitive feedback loop relying on the channel PKD2L1. U. L. BOEHM\*; A. E. PRENDERGAST; L. DJENOUNE; S. NUNES-FIGUEIREDO; F. DEL BENE; C. WYART. *Inst. du cerveau et de la moelle épinière, UPMC Univ. Paris 06, Inserm UMR 1127, CNRS UMR 7225, Muséum Natl. d'Histoire Naturelle, Institut Curie, CNRS UMR 3215, Inserm U 934.*
- 3:00 O43 **420.11** Individual local non-spiking interneurons specifically modify leg searching movements in stick insect. E. BERG\*; J. SCHMIDT; A. BÜSCHGES. *Univ. of Cologne.*
- 4:00 O44 **420.12** Premotor mechanisms controlling vocal timing in *Xenopus* calls. C. L. BARKAN\*; D. B. KELLEY. *Columbia Univ., Columbia Univ.*

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▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 1:00 O45 **420.13** How do motor neurons mediate premotor activity in the *Xenopus laevis* vocal circuit? K. LAWTON\*; E. ZORNIK. *Reed Col.*
- 2:00 O46 **420.14** Identifying the molecular basis of sexually differentiated vocal behaviors in the frog, *Xenopus laevis*. E. ZORNIK\*; A. BRAY; H. NGUYEN; J. SWINDERMAN. *Reed Col.*
- 3:00 O47 **420.15** ● Quantification of morphological properties of multiple types of stomatogastric ganglion neurons. A. C. SUTTON\*; M. L. GOERITZ; T. BROOKINGS; E. MARDER. *Brandeis Univ., Brandeis Univ.*
- 4:00 O48 **420.16** Localized GABA and glutamate responses in identified neurons of the stomatogastric ganglion. A. G. OTOPALIK\*; P. ROSENBAUM; E. MARDER. *Brandeis Univ.*
- 1:00 P1 **420.17** The transient outward potassium current (IA) contributes to regulation of the pyloric and gastric mill rhythms in the stomatogastric ganglion of the American lobster, *Homarus americanus*. L. ZHU\*; A. SELVERSTON; J. AYERS. *Northeastern Univ., Northeastern Univ.*
- 2:00 P2 **420.18** Effect of covariations of maximal conductances on burst characteristics in an half-center oscillator model. A. DOLOC-MIHU\*; R. CALABRESE. *Emory Univ.*
- 3:00 P3 **420.19** Cyclic-nucleotide activation speeds up the bursting activity of central pattern generator neurons in the leech heartbeat system and likely targets the h-current. D. KUEH\*; R. L. CALABRESE. *Emory Univ.*
- 4:00 P4 **420.20** ▲ Exploring non-linear parameter correlations maintaining bursting activity. R. LI\*; A. DOLOC-MIHU; R. L. CALABRESE. *Emory Univ., Georgia Inst. of Technol., Agnes Scott Col.*
- 1:00 P5 **420.21** Changes in intrinsic properties across animals. C. GUNAY\*; D. G. LAMB; R. L. CALABRESE. *Emory Univ., Univ. of Florida.*
- 2:00 P6 **420.22** Coordinating distributed central pattern generators: Two neurons, two strategies. A. C. SCHNEIDER\*; C. R. SMARANDACHE-WELLMANN. *Univ. of Cologne.*
- 3:00 P7 **420.23** Ionic currents and intrinsic properties of key interneurons in a chain of coupled oscillators. L. SCHLAEGER\*; C. R. SMARANDACHE-WELLMANN. *Univ. of Cologne, Univ. of Cologne.*
- 4:00 P8 **420.24** Gradient of synaptic strength correlates with area of synaptic contact. C. R. SMARANDACHE-WELLMANN\*; F. BLUMENTHAL; H. A. SEICHTER. *Univ. of Cologne.*
- 1:00 P9 **420.25** Physiological properties of a hub neuron in a coordinating network. F. BLUMENTHAL\*; C. R. SMARANDACHE-WELLMANN. *Univ. of Cologne.*
- 2:00 P10 **420.26** Rapid mapping of the *Aplysia* ventral pedal ganglion locomotion network using VSD imaging and unsupervised consensus clustering. E. S. HILL\*; A. M. BRUNO; M. HUMPHRIES; E. MORAVAC; W. N. FROST. *Rosalind Franklin Univ., UCSD, Univ. of Manchester.*
- 3:00 P11 **420.27** Role of intracellular calcium dynamics in the spontaneous drive for feeding behavior in *Aplysia*. A. BEDECARRATS; J. CASTRO; Q. LADE; D. CATTART; J. SIMMERS; R. NARGEOT\*. *Univ. Bordeaux, CNRS UMR5287, Univ. Paris Diderot.*
- 4:00 P12 **420.28** Persistent activation of a cyclic nucleotide gated sodium current contributes to the maintenance of a primed state in a multi-functional network. M. H. PERKINS; E. C. CROPPER; K. R. WEISS\*. *New York Univ., Mt. Sinai Sch. of Med., Mt. Sinai Sch. Med.*
- 1:00 P13 **420.29** Identification of specific targets of a command-like interneuron reveals novel roles of pattern-generating interneurons in *Aplysia* feeding network. S. CHEN; T. CHEN; K. YU; D. LIU; F. S. VILIM; E. C. CROPPER; K. R. WEISS; J. JING\*. *Nanjing Univ., Mt. Sinai Sch. Med.*
- 2:00 P14 **420.30** ▲ Contributions of electrical coupling to the generation of different activity phases in the *Aplysia* locomotor network. K. YU; D. LIU; R. JIA; Y. ZHENG; S. CHEN; Y. SU; C. YANG; T. CHEN; W. YU; Y. WANG; S. YANG; E. C. CROPPER\*; K. R. WEISS; J. JING. *Nanjing Univ., Mt. Sinai Sch. Med.*

## POSTER

### 421. Rhythmic Motor Pattern Connectivity

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 P15 **421.01** Development of lumbar spontaneous activity patterns and interactions with brainstem activities *in vitro*. S. ZANELLA; L. VINAY; J. VIEMARI\*. *CNRS-INSTITUT DE NEUROSCIENCES DE LA TIMONE.*
- 2:00 P16 **421.02** Optimizing computer models of layer 5 motor cortex pyramidal neurons using somatic whole cell recordings. S. A. NEYMOTIN\*; B. A. SUTER; M. MIGLIORE; S. DURA-BERNAL; G. M. G. SHEPHERD; W. W. LYTTON. *State Univ. of New York, Downstate Med. Ctr., Yale Univ., Northwestern Univ., Natl. Res. Council, Kings County Hosp. Ctr.*
- 3:00 P17 **421.03** Normalized cortical depth (NCD) as a primary coordinate system for cell connectivity in cortex: Experiment and model. S. DURA-BERNAL\*; B. A. SUTER; S. A. NEYMOTIN; A. QUINTANA; P. GLEESON; G. M. G. SHEPHERD; W. W. LYTTON. *SUNY Downstate Med. Ctr., Northwestern Univ., Univ. Col. London.*
- 4:00 P18 **421.04** Phenotypic characterization of gait changes in mice with axon-guidance defects. L. BORGIUS\*; C. BELLARDITA; N. SLEIERS; O. KIEHN. *Dept. of Neuroscience, Karolinska Institutet.*
- 1:00 P19 **421.05** Probing diversity within genetically-defined interneuronal populations in the mammalian spinal cord. F. HAQUE; W. ZHANG; S. GOSGNACH\*. *Univ. of Alberta, Univ. of Alberta.*
- 2:00 P20 **421.06** Connectivity of spinal V3 interneurons. J. W. CHOPEK\*; R. M. BROWNSTONE; Y. ZHANG. *Dalhousie Univ.*
- 3:00 P21 **421.07** Roles of V3 spinal interneurons in locomotion and spasticity after spinal cord injury. Y. LI\*; A. LUCAS-OSMA; L. SANELLI; M. J. STEPHENS; K. FOUAD; D. J. BENNETT; K. K. FENRICH. *Univ. of Alberta.*

- 4:00 P22 **421.08** Optogenetic dissection of the function of V1 interneurons in locomotor rhythmogenesis. M. FALGAIROLLE\*; M. J. O'DONOVAN. *NIH*.
- 1:00 P23 **421.09** Vglut2-dependent excitatory neurotransmission is essential for purposeful locomotor activity. A. E. TALPALAR\*; V. RIBEIRO CALDEIRA; O. KIEHN. *Dept. Neuroscience, Karolinska Institutet*.
- 2:00 P24 **421.10** Locomotor-networks activated by dorsal and ventral root stimulation are similar but not identical. D. BLIVIS\*; A. PUJALA; M. O'DONOVAN. *NIH, Janelia Farms Res. Campus*.
- 3:00 P25 **421.11** Examination of functional connectivity between brain and spinal neural networks in adult mice, *in vivo* with the use of fictive motor output. K. STECINA\*. *Univ. of Manitoba*.
- 4:00 P26 **421.12** Generation and control of the locomotor pattern in the mammalian spinal circuits: Insights from genetically identified spinal interneurons and computational modeling. N. A. SHEVTSOVA\*; K. J. DOUGHERTY; I. A. RYBAK. *Drexel Univ. Col. of Med.*
- 1:00 P27 **421.13** Skewed participation of neuronal populations during spinal motor activity reveals a prominent fluctuation-driven regime. P. C. PETERSEN; R. W. BERG\*. *Univ. of Copenhagen, Univ. of Copenhagen, INF*.
- 2:00 P28 **421.14** Role of DSCAM in the development of the spinal locomotor circuit. L. THIRY\*; M. LEMIEUX; O. D. LAFLAMME; F. BRETZNER. *CRCHUQ, Fac. of Medecine, Univ. Laval*.
- 3:00 P29 **421.15** Bimodal respiratory-locomotor neurons in the neonatal rat spinal cord. L. JUVIN\*; J. LE GAL; L. CARDOIT; D. MORIN. *Univ. Bordeaux, Univ. Montreal*.
- 4:00 P30 **421.16** Using *in vivo* conditional silencing to dissect the central pattern generator: Emerging hierarchies. D. S. MAGNUSON\*; A. M. POCRATSKY; S. R. WHITTEMORE. *Univ. of Louisville, Univ. of Louisville*.
- 1:00 P31 **421.17** Long ascending propriospinal neurons: A key pathway in left-right control. A. POCRATSKY\*; J. T. HARDIN; J. R. MOREHOUSE; A. S. RIEGLER; D. A. BURKE; J. E. BEARE; R. M. HOWARD; S. R. WHITTEMORE; D. S. K. MAGNUSON. *Univ. of Louisville, Univ. of Louisville, Univ. of Louisville*.
- 2:00 P32 **421.18** Test of the half-center hypothesis for generation of locomotor activity in the adult lamprey spinal cord. A. D. MCCLELLAN\*; J. A. MESSINA; A. ST. PAUL; S. HARGIS. *Univ. of Missouri*.
- 3:00 P33 **421.19** Dopaminergic and GABAergic modulation of sensorimotor processing in the olfactory bulb of lampreys. P. BEAUSEJOUR\*; G. DAGHFOUS; F. AUCLAIR; B. ZIELINSKI; R. DUBUC. *Univ. de Montréal, Univ. du Québec à Montréal, Univ. of Windsor*.
- 4:00 P34 **421.20** Identification of a descending neural mechanism that controls termination of locomotion in the lamprey. S. GRÄTSCH\*; F. AUCLAIR; D. VEILLEUX; A. BÜSCHGES; R. DUBUC. *Univ. du Québec à Montréal, Univ. de Montréal, Univ. zu Köln*.
- 1:00 P35 **421.21** Substance P plays a role in increasing respiratory activity during locomotion. J. LE GAL\*; A. SMIRNOV; F. AUCLAIR; R. DUBUC. *Univ. du Québec à Montréal, Univ. de Montréal*.
- 2:00 P36 **421.22** Divergent neural mechanisms underlie homologous rhythmic behaviors. A. SAKURAI\*; A. SENATORE; P. S. KATZ. *Georgia State Univ., Univ. of Toronto Mississauga*.
- 3:00 P37 **421.23** A female sexual motor pattern expressed by males and non-sexual segments of grasshoppers. K. J. THOMPSON\*. *Agnes Scott Col.*
- 4:00 P38 **421.24** GABAergic cerebrospinal fluid contacting neurons modulate V0-v, V2a, and V3 excitatory premotor interneurons. K. FIDELIN\*; L. DJENOUNE; C. STOCKES; A. PRENDERGAST; A. BARADEL; F. DEL BENE; C. WYART. *Inst. du Cerveau et de la Moelle épinière, Museum Natl. d'Histoire Naturelle, Inst. Curie*.
- 1:00 P39 **421.25** ChR2-mediated mapping of spinal CSF-contacting neuron connectivity onto fast motor circuits in the zebrafish spinal cord. J. HUBBARD\*; U. BOEHM; C. STOKES; C. WYART. *Inst. Du Cerveau Et De La Moelle Epiniere*.
- 2:00 P40 **421.26** Motoneurons control the premotor locomotor circuits via gap junction. J. SONG\*; K. AMPATZIS; A. EL MANIRA. *Karolinska Inst.*
- 3:00 P41 **421.27** Synaptic connectivity defines hierarchical locomotor functions of V2a neurons in the zebrafish spinal cord. E. MENELAOU\*; D. L. MCLEAN. *Northwestern Univ.*
- 4:00 P42 **421.28** Mechanisms underlying developmental modifications of premotor excitatory spinal circuits. C. M. VANDUNK\*; D. L. MCLEAN. *Northwestern Univ.*
- 1:00 Q1 **421.29** A speed-based subcellular map of reciprocal inhibition in the zebrafish spinal cord. S. KISHORE\*; C. SATOU; K. OGINO; H. HIRATA; S. HIGASHIJIMA; D. L. MCLEAN. *Northwestern Univ., Northwestern Univ., Okazaki Inst. for Integrative Biosci., Aoyama Gakuin Univ.*

## POSTER

### 422. Rhythmic Motor Patterns: Neuromodulation

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 Q2 **422.01** A computational model of epidural electrical stimulation of locomotor circuitry in rhesus macaque lumbar spinal cord. R. DARIE\*; O. NEMA; D. A. BORTON. *Brown Univ., Brown Inst. for Brain Sci.*
- 2:00 Q3 **422.02** A11 optogenetic stimulation elicits locomotor activity in mice. K. KOBLINGER\*; C. JEAN-XAVIER; J. EJDRYGIEWICZ; T. FÜZESI; J. S. BAINS; P. J. WHELAN. *Univ. of Calgary, Univ. of Calgary, Univ. of Calgary*.
- 3:00 Q4 **422.03** A13 dopaminergic cells control locomotion: A study using dREADT activation and inhibition. S. SHARMA\*; K. KOBLINGER; S. BISWABHARATI; P. J. WHELAN. *Hotchkiss Brain Inst.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 4:00 Q5 **422.04** Neuronal pathways mediating primary afferent depolarization are depressed by activation of dopamine D2-like receptors in the mouse spinal cord. J. J. MILLA-CRUZ; D. L. GARCÍA-RAMÍREZ; J. R. CALVO; C. M. VILLALÓN; S. HOCHMAN; J. N. QUEVEDO\*. *CINVESTAV del IPN, CINVESTAV del IPN, Emory Univ., CINVESTAV del IPN*.
- 1:00 Q6 **422.05** Intrathecal dopamine administration alters stepping behaviours in adult decerebrate mice. K. A. MAYR; C. JEAN-XAVIER\*; P. J. WHELAN. *Univ. of Calgary*.
- 2:00 Q7 **422.06** Distribution and function of the 5HT7 receptors in the lumbar spinal cord of the adult rat. X. CHEN\*; C. MACDONELL; K. STECINA; S. ZHAO; E. COUTO-ROLDAN; U. SLAWINSKA; K. GARDINER; P. GARDINER; L. JORDAN. *Univ. of Manitoba, Univ. of Manitoba, Nencki Inst. of Exptl. Biol.*
- 3:00 Q8 **422.07** Dopamine exerts concentration-dependent bidirectional modulation and evokes state-dependent NMDA-mediated rhythmicity in motor networks of the neonatal mouse spinal cord. S. A. SHARPLES\*; P. J. WHELAN. *Univ. of Calgary, Hotchkiss Brain Inst., Univ. of Calgary*.
- 4:00 Q9 **422.08** The modulatory effects of taurine on locomotor activity in the neonatal mouse spinal cord. E. G. CABEZAS\*; M. E. DÍAZ-RÍOS. *Univ. of Puerto Rico, Rio Piedras Campus, Inst. of Neurobio., Univ. of Puerto Rico, Med. Sci. Campus*.
- 1:00 Q10 **422.09** *In vivo* assessment of changes in mandibular incising force direction in the absence and presence of persistent jaw muscle pain. C. G. WIDMER\*; J. MORRIS-WIMAN. *Univ. of Florida, West Virginia Sch. of Osteo. Med.*
- 2:00 Q11 **422.10** The effect of persistent jaw muscle pain on incising force output parameters. J. MORRIS-WIMAN\*; C. G. WIDMER. *West Virginia Sch. of Osteo. Med., Univ. of Florida*.
- 3:00 Q12 **422.11** Does axonal influence on the spike interval structure matter? N. DAUR\*; H. NGANGUIA; F. NADIM; D. BUCHER. *New Jersey Inst. of Technol.*
- 4:00 Q13 **422.12** Rhythmic circuit output is maintained by graded transmission in the absence of spikes. P. ROSENBAUM\*; E. MARDER. *Brandeis Univ.*
- 1:00 Q14 **422.13** Withdrawn.
- 2:00 Q15 **422.14** ▲ The distinct ultrastructures of the stomatogastric and cardiac ganglionic sheaths may contribute to differential permeabilities to circulating neurohormones in the American lobster. L. J. KELLER; T. M. WEATHERBY; A. E. CHRISTIE; P. S. DICKINSON\*. *Bowdoin Coll, Univ. of Hawai'i at Mānoa*.
- 3:00 Q16 **422.15** Modulators differentially affect robust rhythmic output across temperature. S. A. HADDAD\*; E. MARDER. *Brandeis Univ.*
- 4:00 Q17 **422.16** Feeding state-dependent hormonal modulation of a well-defined microcircuit. S. TEMPORAL\*; A. P. COOK; M. P. NUSBAUM. *Perelman Sch. of Medicine, Univ. of Pennsylvania*.
- 1:00 Q18 **422.17** SUMOylation mediates dopamine (DA)-enabled, activity-dependent regulation of the hyperpolarization activated current (I<sub>h</sub>). A. R. PARKER\*; D. J. BARO. *Georgia State Univ.*
- 2:00 Q19 **422.18** ▲ Dopaminergic signaling modulates swimming force production in *Daphnia magna*. R. MCDONNELL; R. SNEED; M. L. BECKMAN\*. *Augsburg Col., Augsburg Col.*
- 3:00 Q20 **422.19** ▲ Just keep swimming: Dopamine's neuromodulatory effects on the optomotor response in larval zebrafish. J. R. WEISS\*; U. JHA; V. THIRUMALAI. *Brandeis Univ., NCBS*.
- 4:00 R1 **422.20** Pharmacological comparison of hindbrain and spinal locomotor networks in lamprey. J. T. BUCHANAN\*; X. HOU; S. VALERO; M. CHAN. *Marquette Univ., Marquette Univ.*

## POSTER

### 423. Motoneuron Disease: Cellular Mechanisms III

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 R2 **423.01** Calcineurin directly dephosphorylates human TDP-43 preventing pathological TDP-43 accumulation and motor dysfunction. B. C. KRAEMER\*; N. LIACHKO; A. SAXTON; P. MCMILLAN; T. STROVAS; J. WHEELER. *Veterans Affairs Puget Sound Hlth. Care Syst., Univ. of Washington, Seattle Inst. for Biomed. and Clin. Res., Dept. of Veterans Affairs Puget Sound Hlth. Care Syst., Univ. of Washington, Dept. of Veterans Affairs Puget Sound Hlth. Care Syst.*
- 2:00 R3 **423.02** Ubiquilin2 protein interacts with hnRNP family through PXX domain and hnRNP1 aggregates in sporadic ALS patients. Y. SHI; T. LUKAS; H. DENG; H. ZHAI; T. SIDDIQUE\*. *Northwestern Univ. Feinberg Sch. of Med.*
- 3:00 R4 **423.03** Analysis MatrIn-3 encoding mutations associated with ALS in cultured cell models. C. GALLEGO-IRADI; M. PACE; J. LEWIS; D. R. BORCHELT\*. *Univ. of Florida*.
- 4:00 R5 **423.04** Absence of UCHL1 function affects upper and lower motor neurons differently: Spinal motor neurons are spared when upper motor neurons display profound degeneration. M. C. SCHULTZ\*; B. GENC; J. H. JARA; M. STANFORD; E. ULUPINAR; M. MANUEL; G. COX; C. HECKMAN; C. DIDONATO; P. OZDINLER. *Northwestern Univ., Northwestern Univ. Feinberg Sch. of Med., Northwestern University, Feinberg Sch. of Med., Northwestern University, Feinberg Sch. of Med., Eskişehir Osmangazi Univ. Med. Sch., Northwestern University, Feinberg Sch. of Med., Jackson Lab., Northwestern University, Feinberg Sch. of Med., Northwestern Univ. Feinberg Sch. of Med., Ann & Robert H. Lurie Children's Hosp. of Chicago Res. Ctr., Northwestern Univ., Northwestern Univ. Feinberg Sch. of Med.*
- 1:00 R6 **423.05** ▲ Specific exercise efficiently reverses the metabolic switch affecting skeletal muscles in ALS mice. C. S. DESSEILLE; S. DEFORGES; O. BIONDI\*; L. WEILL; J. BASTIN; A. LAMAZIERE; C. PARISSET; P. LOPES; F. CHARBONNIER. *Paris Descartes Univ., CESEM, UMR8194, CNRS, St. Antoine Hosp.*

- 2:00 R7 **423.06** Development of a novel TDP-43 granule inhibitor: A putative mode of action through the reduction of TDP-43 phosphorylation. A. EBATA\*; H. LUSIC; J. D. BOYD; J. Y. BOON; P. ASH; H. LI; J. J. COLLINS; K. J. HODGETTS; M. A. GLICKSMAN; B. L. WOLOZIN. *Boston Univ. Sch. of Med., Boston Univ. Sch. of Med., Harvard NeuroDiscovery Ctr., Brigham and Women's Hosp., Mayo Clin., MIT, Harvard-MIT Program in Hlth. Sci. and Technol., Broad Inst. of MIT and Harvard, Harvard Univ., Orig3n, Boston Univ. Sch. of Med.*
- 3:00 R8 **423.07** Regulation of KIF5C by JNK3 in neurons. P. S. DESHPANDE\*; P. HOLLLOS; A. PADZIK; E. RANNIKKO; M. FRANKER; D. CAI; P. PRUS; M. MÅGÅRD; M. MÅGÅRD; K. VERHEY; P. JAMES; C. HOOGENRAAD; C. HOOGENRAAD; E. COFFEY. *Turku Ctr. For Biotechnology, Åbo Akademi, Utrecht Univ., Univ. of Michigan, Univ. of Oulu, Univ. of Lund.*
- 4:00 R9 **423.08** The ALS/FTD C9ORF72 hexanucleotide expansion disrupts nucleocytoplasmic transport. T. E. LLOYD\*; K. ZHANG; C. DONNELLY; A. HAEUSLER; J. WANG; J. ROTHSTEIN. *Johns Hopkins Schl Med., Johns Hopkins.*
- 1:00 R10 **423.09** Conditional UCHL1 mutant mice allow investigation of impact of CSMN health on motor neuron circuitry. B. GENC\*; A. K. B. LAGRIMAS; P. OZDINLER. *Northwestern Univ. Feinberg Sch. of Med., Northwestern University, Feinberg Sch. of Med., Northwestern University, Feinberg Sch. of Med., Northwestern Univ.*
- 2:00 R11 **423.10** AAV9 is relatively efficient for wide-scale gene transfer and disease modeling in adult rats. K. L. JACKSON; R. D. DAYTON; R. L. KLEIN\*. *LSUHSC.*
- 3:00 R12 **423.11** Ubqln2 mutation and proteasomal dysfunction. B. HUANG; L. GAO; Q. WU; Y. XIA; C. HUANG; X. XIA\*. *Thomas Jefferson Univ., Thomas Jefferson Univ.*
- 4:00 R13 **423.12** Molecular phenotyping of cortical projection neurons using bacTRAP during disease progression in the SOD1-G93A mouse model of FALS. M. V. MOYA\*; C. E. SFERRAZZA; K. L. MCGUIRE; S. B. PICKETT; N. HEINTZ; E. F. SCHMIDT. *The Rockefeller Univ., Howard Hughes Med. Inst.*
- 1:00 R14 **423.13** Mutations in the PFN1 gene induce degenerative changes through aggregation of both mutant PFN1 and TDP-43. Y. TANAKA\*; T. NONAKA; G. SUZUKI; F. KAMETANI; M. HASEGAWA. *Tokyo Metropolitan Inst. of Med. Sci.*
- 2:00 R15 **423.14** Study on hnrnpa1 pathobiology using rat models. Y. XIA; Q. WU; B. HUANG; H. ZHOU\*; C. HUANG. *Thomas Jefferson Univ., Dept. of Neurosci.*
- 3:00 R16 **423.15** Overlapping role of SCYL1 and SCYL3 in motor neuron survival. S. PELLETIER\*; S. GINGRAS. *St. Jude Children's Res. Hosp.*
- 4:00 R17 **423.16** Increased survival motor neuron expression in SMA motor neurons alters their intrinsic excitability. J. LOMBARDO; L. KONG; C. SUMNER; M. A. HARRINGTON\*. *Delaware State Univ., Johns Hopkins Univ. Sch. of Med.*
- 1:00 R18 **423.17** Nuclear pore abnormalities in C9ORF72 ALS iPS neurons and tissue alter nucleocytoplasmic protein trafficking. J. D. ROTHSTEIN\*; C. DONNELLY; K. ZHANG; A. HAEUSLER; J. C. GRIMA; E. DALEY; L. W. OSTROW; J. WANG; R. SATTTLER; T. LLOYD. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Publ. Hlth., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*
- 2:00 R19 **423.18** Further characterization of mutant Profilin1 transgenic mouse model for ALS. M. COZART\*; A. BASNAKIAN; M. KIAEI. *UAMS, UAMS.*
- 3:00 R20 **423.19** TDP-43 Pathology drives hippocampal CA2 pyramidal neuronal degeneration and neuroinflammation in CAMKIIa-tTA mice. M. B. SELENICA\*; N. JOHNSON; J. HUNT; B. HOUSLEY; K. NASH; D. LEE; M. SELENICA. *USF Hlth. Byrd Alzheimer Institute, Univ. of South Florida, USF Hlth. Byrd Alzheimer Institute, Univ. of South Florida, Byrd Alzheimer's Institute, USF Hlth. Byrd Alzheimer Institute, Univ. of South Florida.*
- 4:00 S1 **423.20** Proteostasis imbalances impact sensory and motor neuron function in *Caenorhabditis elegans* expressing TAR DNA-binding protein. C. VOISINE\*; Q. NGUYEN; E. RENDLEMAN; Z. FIGUEROA. *Northeastern Illinois Univ.*
- 1:00 S2 **423.21** The low complexity domain of FUS is required for the motor neuron phenotypes in a human FUS *Drosophila* model. E. BOGAERT; N. WILMANS; W. SCHEVENEELS; J. STEYAERT; W. HAECK; P. VAN DAMME; W. L. ROBBERECHT\*; P. CALLAERTS; L. VAN DEN BOSCH. *Lab. of Neurobiology, Vesalius Res. Center, VIB, KULeuven, Univ. Hosp Gasthuisberg, Lab. of Behavioral and Developmental Genetics, VIB.*
- 2:00 S3 **423.22** Harnessing the heat shock response to protect against TDP-43 pathology in neurodegenerative diseases. O. FOLORUNSO\*; P. LIN; M. WHITE; A. PIERCE. *The Univ. of Texas Med. Br.*
- 3:00 S4 **423.23** The genome-wide DNA binding properties of the ALS-associated protein TDP-43. P. NATHANSON\*; X. YU; T. L. UNGER; Q. ZHENG; J. MAK; B. D. GREGORY; A. S. CHEN-PLOTKIN. *Dept. of Neurology, Univ. of Pennsylvania, Dept. of Biology, Univ. of Pennsylvania, Dept. of Dermatology, Univ. of Pennsylvania.*
- 4:00 S5 **423.24** Axon initial segment geometry in normal mouse spinal motoneurons and in the symptomatic G127X mouse model of amyotrophic lateral sclerosis. H. S. JØRGENSEN; J. LEHNHOFF; M. H. JAKOBSEN; D. B. JENSEN; C. F. MEEHAN\*. *Univ. of Copenhagen, Copenhagen Univ., Univ. of Copenhagen, Univ. Copenhagen.*
- 1:00 S6 **423.25** ▲ Using CRISPR/Cas9 to model ALS in zebrafish. C. SMITH\*; L. LABOISSONNIERE; P. OZDINLER; J. TRIMARCHI. *Iowa State Univ., Iowa State Univ., Northwestern Univ. Feinberg Sch. of Med.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

**POSTER**

**424. Motoneuron: Muscle Interaction**

**Theme D: Sensory and Motor Systems**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 S7 **424.01** ▲ Effect of multiparity on contractile properties and function of some pelvic and perineal muscles in the female rabbit. R. LOPEZ JUAREZ\*; R. ZEMPOALTECA; D. CORONA-QUINTANILLA; F. CASTELÁN; M. MARTÍNEZ-GÓMEZ. *Univ. Autonoma De Tlaxcala, Univ. Nacional Autonoma De México.*
- 2:00 S8 **424.02** The neuromuscular transform of the leech hearts: One segment at a time. A. WENNING\*; Y. R. CHANG; R. L. CALABRESE. *Emory Univ.*
- 3:00 S9 **424.03** Changes provoked by multiparity on the fiber type composition of pelvic and perineal striated muscles in the female rabbit. K. LÓPEZ-GARCÍA\*; E. L. ANTONIO-ARGÜELLES; S. MARISCAL-TOVAR; B. SEGURA-ALEGRÍA; E. E. RODRÍGUEZ-TORRES; M. MARTÍNEZ-GÓMEZ; F. CASTELÁN; I. JIMÉNEZ-ESTRADA. *CINVESTAV-IPN, UAEH, UNAM, UAEH, UNAM, UATx.*
- 4:00 S10 **424.04** Medial pterygoid muscle activity during force generation. Y. MOJAVER\*; G. MURRAY; T. WHITTLE; P. TAWADROS. *Univ. of Sydney, Australian Catholic Univ.*
- 1:00 S11 **424.05** Assessing muscle alterations during isometric contraction and fatigue with multifrequency electrical impedance myography. L. LI\*; H. SHIN; X. LI; S. LI; P. ZHOU. *Univ. of Texas Hlth. Sci. Ctr. Houston, First Affiliated Hospital, Sun Yat-sen Univ.*
- 2:00 S12 **424.06** Neuromuscular physiology in chronic and acute cold exposed crayfish. Y. ZHU\*; L. DE CASTRO; R. COOPER. *Univ. of Kentucky.*
- 3:00 S13 **424.07** Test re-test reliability of trunk motor variability measured by large-array surface electromyography. J. ABOUD\*; F. NOUGAROU; M. LORANGER; M. DESCARREAU. *Univ. Du Québec À Trois-Rivières.*
- 4:00 S14 **424.08** ● The frequency of intermuscular coherence shifts with load. N. P. ISSA\*; K. REZANIA. *Univ. of Chicago, Univ. of Chicago.*
- 1:00 S15 **424.09** ● Neuromuscular magnetic stimulation on quadriceps in hemiplegic stroke. S. JEE\*; M. SOHN. *Chungnam Natl. Univ. Hosp.*
- 2:00 S16 **424.10** Effect of chronic undernutrition on the composition and organization of fibers in fascicles of the rat extensor digitorum longus muscle. E. E. RODRÍGUEZ-TORRES\*; E. VÁZQUEZ MENDOZA; J. VIVEROS ROGEL; C. X. HINOJOSA; S. MARISCAL TOVAR; I. JIMÉNEZ-ESTRADA; B. SEGURA-ALEGRÍA; K. LÓPEZ-GARCÍA. *Autonomous Univ. of Hidalgo (UAEH), Autonomous Univ. of Hidalgo (UAEH), Ctr. for Res. and Advanced Studies (CINVESTAV), Natl. Autonomous Univ. of Mexico (UNAM).*
- 3:00 S17 **424.11** The change of the apoptotic and myosin heavy chain expression in full lengthened immobilization model of soleus muscle in rats. H. SUH\*; E. PARK; S. MOON; H. HAN. *Korea Univ., Korea Univ.*
- 4:00 S18 **424.12** Mechanisms of knee extensor muscle fatigability in young men and women after isometric and dynamic contractions. J. SENEFELD\*; H. M. PEREIRA; N. ELLIOTT; T. YOON; S. K. HUNTER. *Marquette Univ., Michigan Technological Univ.*
- 1:00 S19 **424.13** Muscle fatigability from repeated lengthening contractions in young men and women. A. C. LEE\*; J. BAXTOR; C. EISCHER; M. GAGE; S. K. HUNTER; T. YOON. *Michigan Tech. Univ., Marquette Univ.*
- 2:00 S20 **424.14** Changes in muscle fiber type in plantar flexors after transection and repair of feline soleus and lateral gastrocnemius nerves. A. PANTALL\*; M. KIUPEL; R. GREGOR; B. PRILUTSKY. *Michigan State Univ., Michigan State Univ., USC, Georgia Inst. of Technol.*
- 3:00 T1 **424.15** Identification of sAnk1 as novel SERCA1 regulatory protein in skeletal muscle. A. LABUZA\*; P. F. DESMOND; J. MAURIEL; M. L. MARKWARDT; M. A. RIZZO; R. J. BLOCH. *Univ. of Maryland, Baltimore.*
- 4:00 T2 **424.16** Sugared water consumption: Effects on the response of the pubococcygeus muscle during the urethro-genital reflex in the male rat. I. XICOHTÉNCATL RUGERIO\*; D. L. CORONA-QUINTANILLA; F. CASTELÁN; M. MARTÍNEZ-GÓMEZ; J. RODRÍGUEZ-ANTOLÍN. *Univ. Autónoma De Tlaxcala, Univ. Veracruzana, Univ. Nacional Autónoma de México.*
- 1:00 T3 **424.17** ● Increasing muscle activation in children after neurological injury with contingent reinforcement. S. V. DUFF\*; B. SARGENT; J. J. KUTCH; J. BERGGREN; L. FETTERS. *Thomas Jefferson Univ., USC, Children's Hosp. of Los Angeles.*
- 2:00 T4 **424.18** Postsynaptic roles in synapse elimination and maturation of the neuromuscular junction. I. W. SMITH\*. *Texas A&M Inst. For Neurosci.*
- 3:00 T5 **424.19** Estrogenic sensitivity and glucose metabolism are differently linked in pubococcygeus and iliococcygeus muscles of female rat during estral cycle. M. D. CARRASCO RUIZ\*; Y. A. GONZALEZ VAZQUEZ; E. CUEVAS; M. MARTINEZ GOMEZ; F. CASTELAN. *Univ. Autonoma De Tlaxcala, Univ. Veracruzana, Univ. Nacional Autónoma de México.*
- 4:00 T6 **424.20** The *C. elegans* sarcoplasmic reticulum calcium-ATPase regulates nicotinic acetylcholine receptor ACR-16 expression. A. MARTIN\*; F. SANCAR; J. RICHMOND. *UIC.*
- 1:00 T7 **424.21** ● Functional connexin-based hemichannels in dysferlinopathy. Possibles new therapeutics targets. L. A. CEA\*; J. A. BEVILACQUA; A. BIGOT; A. M. CARDENAS; V. MOULY; J. C. SÁEZ; P. CAVIEDES. *ICBM, Fac Medicina, Univ. of Chile, UPMC-INSERM, Univ. de Valparaiso, Pontificia Univ. Católica de Chile.*
- 2:00 T8 **424.22** Myofiber hypertrophy, neuromuscular junction fragmentation, and retrograde transport dysfunction are all pathologies associated with mice missing muscle-synthesized BDNF. R. L. DANGREMOND; A. E. TAISTO; C. M. AGEE; A. M. BOSINK; T. W. FROBERG; J. E. ENNAMANY; E. R. O'BRIEN; T. J. PORTER; E. N. OTTEM\*. *Northern Michigan Univ.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

POSTER

425. Cerebellum: Anatomy and *In Vitro* models

**Theme D: Sensory and Motor Systems**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 T9 **425.01** Non-canonical rubro-cerebellar afferents form both positive and negative feedback loops via diverse postsynaptic targets. C. S. BEITZEL\*; B. D. HOUCK; A. L. PERSON. *Univ. of Colorado, Sch. of Med.*
- 2:00 T10 **425.02** Dendrite arrangement rather than soma locations define clusters of inferior olive neurons. N. VRIELER; B. TORBEN-NIELSEN; M. NEGRELLO; E. DE SCHUTTER; Y. YAROM; M. Y. UUSISAARI\*. *Hebrew Univ. of Jerusalem, Okinawa Inst. of Sci. and Technol., Erasmus MC.*
- 3:00 T11 **425.03** BDNF-induced post-lesion repair of the olivocerebellar path is mediated by PSA-NCAM and Pax3. A. M. LOHOF\*; J. S. JARA; H. X. AVCI; C. GOYENVALLE; J. MARIANI; R. M. SHERRARD. *Univ. P et M Curie, UMR8256, Biol. Adaptation and Aging.*
- 4:00 T12 **425.04** Withdrawn.
- 1:00 T13 **425.05** The commissure connecting both sides of turtle lateral cerebellum is myelinated and travels in the Purkinje Cell Layer. D. T. DALY; M. ARIEL\*. *St. Louis Univ. Sch. of Med., St. Louis Univ. Sch. of Med.*
- 2:00 T14 **425.06** ▲ Cerebellar inter-Purkinje soma distance in sexually experienced Wistar male rats. V. T. LANDERO\*; J. D. SAMAYOA; J. MANZO; E. HERNÁNDEZ-AGUILAR; L. GARCÍA-HERNÁNDEZ; L. LÓPEZ-MERAZ; R. TOLEDO-CÁRDENAS. *Univ. Veracruzana, Univ. Veracruzana.*
- 3:00 T15 **425.07** The interaction of mossy fiber excitation and inhibitory synchrony to set the timing and rate of action potentials in the cerebellar nuclei. Y. WU\*; I. M. RAMAN. *Northwestern Univ.*
- 4:00 T16 **425.08** No evidence for rebound firing in neurons of the deep cerebellar nuclei during cerebellar intensive tasks. D. REATO\*; E. TARA; K. KHODAKHAH. *Albert Einstein Col. of Med., Boğaziçi Univ.*
- 1:00 T17 **425.09** Heterogeneous organization of direct cerebellar nuclear projections to midbrain and forebrain structures. H. NEDELESCU\*; Y. LUO; I. SUGIHARA. *TMDU, Tokyo Med. and Dent. Univ.*
- 2:00 T18 **425.10** Selected serotonin reuptake inhibitor alters neural characteristics in the cerebellum. J. HUANG\*; R. CHIOU; R. CHEN; Y. PEI; R. CHEN. *Chang Gung Mem. Hosp., Cheng Gung Univ., Taipei Med. Univ., Tunghai Univ., Natl. Taiwan Univ.*

POSTER

426. Cerebellum: Plasticity and Climbing Fibers

**Theme D: Sensory and Motor Systems**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 T19 **426.01** Cerebellar dependent motor learning of predictive eye movements associated with velocity storage in human and fish. S. MIKI; R. BAKER\*; Y. HIRATA. *Chubu Univ. Grad. Sch. of Engin., NYU Med. Ctr., Chubu Univ. Col. of Engin.*
- 2:00 T20 **426.02** Both brighter visual stimuli and hyper-gravity promote oculomotor neural integrator learning in goldfish. K. URASE; S. MIKI; R. BAKER; Y. HIRATA\*. *Chubu Univ. Col. of Engin., Chubu Univ. Col. of Engin., New York Univ. Langone Med. Ctr.*
- 3:00 U1 **426.03** Topographical organization of physiologically distinct Purkinje cells in the larval zebrafish cerebellum and their contributions to learned movements. T. C. HARMON\*; D. L. MCLEAN; I. M. RAMAN. *Northwestern Univ.*
- 4:00 U2 **426.04** Inferior olivary projection to the zebrin II stripes in the flocculus of pigeons. D. WYLIE\*; D. J. GRAHAM; J. R. CORFIELD; I. CRACIUN. *Univ. of Alberta, Lervig Aktiebryggeri, Univ. of Alberta.*
- 1:00 U3 **426.05** Plasticity of endocannabinoid signaling at parallel fiber synapses. R. D. HOWELL\*; J. R. PUGH. *Univ. of Texas Hlth. Sci. Ctr. San Anto, Univ. of Texas Hlth. Sci. Ctr. San Antonio.*
- 2:00 U4 **426.06** Capturing graded climbing fiber bursts using calcium imaging. A. FANNING\*; H. NISHIYAMA. *The Univ. of Texas at Austin.*
- 3:00 U5 **426.07** Thin spines increase in cerebellar Purkinje cells of rats during the fast period of motor learning. D. GONZÁLEZ-TAPIA; M. M. GONZÁLEZ-RAMÍREZ; N. VÁZQUEZ-HERNÁNDEZ; M. HERNÁNDEZ-GONZÁLEZ; I. GONZÁLEZ-BURGOS\*. *Univ. Politécnica de la Zona Metropolitana de Guadalajara, Inst. Mexicano del Seguro Social, Univ. de Guadalajara.*
- 4:00 U6 **426.08** The role of potassium channels in generating timed purkinje cell responses in classical conditioning. J. F. JOHANSSON\*; H. A. E. CARLSSON; G. HESSLOW. *Lund Univ.*
- 1:00 U7 **426.09** Learning causes cerebellar granule cell representations to shift from sensation to action. A. GIOVANNUCCI\*; F. NAJAFI; I. OZDEN; B. DEVERETT; A. D. KLOTH; J. F. MEDINA; S. S. WANG. *Princeton Univ., Princeton Univ., Univ. of Pennsylvania, Cold Spring Harbor Lab., Brown Univ., Rutgers Robert Wood Johnson Med. Sch., Univ. of North Carolina, Univ. of Pennsylvania.*
- 2:00 U8 **426.10** Climbing fibers encode a temporal difference error signal during eyeblink conditioning in mice. S. OHMAE\*; J. F. MEDINA. *Univ. of Pennsylvania.*
- 3:00 U9 **426.11** Purkinje cell complex spikes provide an error signal when a monkey learns a sensorimotor association. A. E. IPATA\*; A. W. KING; M. E. GOLDBERG. *Columbia Univ., Columbia Univ.*

Mon. PM

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 4:00 U10 **426.12** Development of an eyeblink conditioning paradigm in young pigs. A. MUDD\*; H. BOELE; S. KOECKOEK; R. N. DILGER. *Univ. of Illinois At Urbana-Champaign, Erasmus MC.*
- 1:00 U11 **426.13** A possible implementation of stochastic gradient descent in the cerebellum. B. BARBOUR\*; G. BOUVIER; C. CLOPATH; C. BIMBARD; J. NADAL; N. BRUNEL; V. HAKIM. *Ecole Normale Supérieure, Imperial Col., Ecole Normale Supérieure, Chicago Univ., Chicago Univ.*
- 2:00 U12 **426.14** Purkinje cell death and cerebellar deficits resulting from experimental cardiac arrest and cardiopulmonary resuscitation. N. QUILLINAN\*; G. DENG; M. MORENO; P. HERSON. *Univ. of Colorado, Univ. of Colorado.*
- 1:00 U21 **427.09** A reinforcement signal in premotor and motor cortices. P. RAMKUMAR\*; S. COOLER; B. DEKLEVA; L. MILLER; K. KORDING. *Northwestern Univ., Northwestern Univ.*
- 2:00 U22 **427.10** Subthalamic deep brain stimulation decreases the extent of cortical movement-related beta desynchronization in Parkinson's disease: A magnetoencephalography study. M. J. RANDAZZO; A. ALHOURANI; E. D. KONDYLIS; W. J. LIPSKI; M. J. WARD; T. A. WOZNY; A. S. GHUMAN; M. RICHARDSON\*. *Univ. of Pittsburgh.*
- 3:00 U23 **427.11** Preferences for motor acts are matched for execution and observation in a subpopulation of F5 mirror neurons. J. K. POMPER\*; S. WEN; S. SPADACENTA; P. DICKE; P. THIER. *Hertie-Institute for Clin. Brain Research, Univ. of Tuebingen.*

## POSTER

### 427. Cortical Planning and Execution: Motor Cortex

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 U13 **427.01** Movement planning and execution in primary motor cortex and dorsal premotor cortex during motor learning. M. PERICH\*; P. N. LAWLOR; L. E. MILLER. *Northwestern Univ., Northwestern Univ., Northwestern Univ., Northwestern Univ.*
- 2:00 U14 **427.02** The Beta power suppression in early delay period reflects volatile state in updating action sequence in the primate medial motor complex. R. HOSAKA\*; T. NAKAJIMA; K. AIHARA; Y. YAMAGUCHI; H. MUSHIAKE. *Fukuoka Univ., Tohoku Univ. Sch. of Med., Univ. of Tokyo, RIKEN, Tohoku university school of medicine.*
- 3:00 U15 **427.03** Mirror neurons reflect hidden state progressions during a reach, grasp, and manipulate task. K. A. MAZUREK\*; M. H. SCHIEBER. *Univ. of Rochester.*
- 4:00 U16 **427.04** Microstimulation of putative premotor cortical areas in the intact, awake cat evokes phase-dependent responses during locomotion. N. YAHIAOUI\*; N. FORTIER-LEBEL; T. NAKAJIMA; T. DREW. *Univ. De Montréal.*
- 1:00 U17 **427.05** Characteristics of neuronal activity in putative premotor cortical areas of the cat during visually-guided locomotion. T. NAKAJIMA\*; N. FORTIER-LEBEL; N. YAHIAOUI; T. DREW. *Univ. de Montréal.*
- 2:00 U18 **427.06** Layer-specific inputs from the supplementary motor area and the dorsal premotor cortex to the primary motor cortex in macaques. T. NINOMIYA\*; E. HOSHI; M. TAKADA. *Kyoto Univ., Core Res. for Evolutional Sci. and Technol., Frontal Lobe Function Project.*
- 3:00 U19 **427.07** Medial prefrontal cortex is differentially engaged in multiple aspects of sensorimotor integration in a delayed choice task. A. MOHEBI; M. MANSY; E. K. PURCELL; D. MILLER; K. G. OWEISS\*. *Univ. of Michigan, Univ. of Florida, Michigan State Univ.*
- 4:00 U20 **427.08** Strong coding of grasp force planning and execution in macaque areas F5 and AIP. R. W. INTVELD\*; H. SCHERBERGER. *German Primate Ctr.*
- 4:00 U24 **427.12** Cortical control of object-specific grasp in a New World monkey, the common marmoset. B. TIA\*; M. TAKEMI; A. ANSALDO; E. CASTAGNOLA; D. RICCI; A. KOSUGI; T. NAKAMURA; J. USHIBA; L. FADIGA; A. IRIKI. *IIT, Ctr. For Translational Neurophysiol., Lab. for Symbolic Cognitive Development, RIKEN Brain Sci. Inst., Danish Res. Ctr. for Magnetic Resonance, Copenhagen Univ. Hosp., Grad. Sch. of Sci. and Technology, Keio Univ., Fac. of Sci. and Technology, Keio Univ., Dept. of Rehabil. Medicine, Keio Univ.*
- 1:00 U25 **427.13** Transient oscillations involved in ipsilateral and contralateral hand movements in the caudal cingulate motor area and supplementary motor area of monkeys. O. YOKOYAMA\*; Y. NAKAYAMA; E. HOSHI. *Tokyo Metropolitan Inst. of Med. Sci., CREST, JST.*
- 2:00 U26 **427.14** Effects of volitional modulation of beta oscillations on reaching tasks. P. KHANNA\*; J. M. CARMENA. *UC Berkeley.*
- 3:00 U27 **427.15** The influence of activating versus relaxing music on repetitive finger movement and associated motor cortical activity. E. L. STEGEMOLLER\*; P. HIBBING; A. BRINKMAN; J. TATZ; B. KLINEDINST; P. FRICK. *Iowa State Univ., Drake Univ.*
- 4:00 U28 **427.16** Functional transition between the dorsal premotor and primary motor cortex in macaque monkeys. M. DURET\*; Y. HAO; A. RIEHLE; T. BROCHIER. *AMU-CNRS-Inst. Des Neurosciences De La Timone, Zhejiang Univ., RIKEN Brain Sci. Inst., Res. Ctr. Juelich-INM6.*
- 1:00 U29 **427.17** Cortical basis of abnormal muscle synergies after stroke. J. M. GODLOVE\*; T. GULATI; B. DICHTER; E. CHANG; K. GANGULY. *Univ. California San Francisco.*
- 2:00 U30 **427.18** Motor cortex plasticity is not differentially modulated by skill and strength training. M. C. LEUNG\*; W. TEO; T. RANTALAINEN; D. J. KIDGELL. *Deakin Univ., La Trobe Univ.*
- 3:00 U31 **427.19** Corticospinal excitability during action observation is affected by the fluency of the observed movement. L. PEDULLÀ\*; A. BISIO; L. AVANZINO; A. TACCHINO; G. BRICHETTO; M. BOVE. *Univ. Di Genova, Fondazione Italiana Sclerosi Multipla.*
- 4:00 U32 **427.20** Development of hub network during planned behavior. J. CHOI\*; H. KWON. *Max Planck Florida Inst.*



- 1:00 U33 **427.21** Distinct thalamocortical activities in the motor cortex during voluntary movements. Y. H. TANAKA\*; Y. R. TANAKA; R. HIRA; M. KONDO; S. TERADA; Y. KAWAGUCHI; M. MATSUZAKI. *Natl. Inst. for Basic Biol., Natl. Inst. for Physiological Sci.*
- 2:00 U34 **427.22** Identification of (~20 Hz) beta spatiotemporal dynamics in motor cortex LFPs. M. E. RULE\*; C. VARGAS-IRWIN; J. DONOGHUE; W. TRUCCOLO. *Brown Univ.*
- 3:00 U35 **427.23** Greater involvement of ipsilateral sensorimotor cortices during strong muscle force production in aging. M. B. BAYRAM\*; H. ARGUNSAH BAYRAM; G. H. YUE. *Acibadem Univ., Kessler Fndn., Cleveland Clin., Rutgers, The State Univ. of New Jersey, Cleveland Clin.*
- 4:00 U36 **427.24** Variability characterization of motor evoked potentials before and after theta burst stimulation. R. WURZMAN; D. HARVEY; P. SHAH; F. LOHOFF; R. H. HAMILTON\*. *Univ. Pennsylvania, Univ. of Pennsylvania Perelman Sch. of Med., Univ. of Pennsylvania, NIH.*
- 1:00 U37 **427.25** Major differences between the rat and monkey in the cortical control of sympathetic output. R. P. DUM\*; D. J. LEVINTHAL; P. L. STRICK. *Univ. Pittsburgh, Univ. Pittsburgh, Veterans Affairs Med. Ctr.*
- 2:00 U38 **427.26** Determining the location of the primary motor cortex in children: A comparison of electroencephalogram (EEG) and transcranial magnetic stimulation (TMS) techniques. T. RICH\*; E. PEÑA; T. FEYMA; G. MEEKINS; N. SELL; B. GILLICK. *Univ. of Minnesota, Gillette Children's Specialty Healthcare.*

## POSTER

### 428. Sensorimotor Neuroprosthetics

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 U39 **428.01** Task specific sensory feedback via cortical stimulation in humans. J. A. CRONIN; K. L. COLLINS; D. SARMA; M. E. D'ASARO; J. H. LANG; R. P. N. RAO; J. G. OJEMANN; J. D. OLSON\*. *Univ. of Washington, Univ. of Washington, MIT, Univ. of Washington, Univ. of Washington Harborview Med. Ctr.*
- 2:00 U40 **428.02** ● Temporal correlation of voltage spikes with extracellular electrical stimulation in retinal bipolar cells. S. T. WALSTON\*; R. H. CHOW; J. D. WEILAND. *USC, USC, USC.*
- 3:00 U41 **428.03** Prediction of cortical responses to simultaneous electrical retinal stimulation using a linear-nonlinear model. K. J. HALUPKA\*; M. N. SHIVDASANI; S. L. CLOHERTY; D. B. GRAYDEN; A. N. BURKITT; M. R. IBBOTSON; H. MEFFIN. *The Univ. of Melbourne, Ctr. for Neural Engin., Bionics Inst., Australian Col. of Optometry, Victoria Res. Lab., The Univ. of Melbourne.*
- 4:00 U42 **428.04** ● Modulation of single unit firing rates during phoneme production from the speech area of an intact human. P. R. KENNEDY\*; A. J. CERVANTES. *Neural Signals Inc, Belize Healthcare Ctr.*
- 1:00 V1 **428.05** A corticospinal neuroprosthesis for lower limb neuromodulation therapies after spinal cord injury. M. BONIZZATO\*; A. PHILIPPIDES; F. DECECCO; G. PIDPRUZHNYKOVA; N. PAVLOVA; S. DUIS; J. DIGIOVANNA; G. COURTINE; S. MICERA. *École Polytechnique Fédérale de Lausanne, Pavlov Inst. of Physiology, Russian Acad. of Sci.*
- 2:00 V2 **428.06** Inducing ownership of an artificial limb through direct cortical stimulation in humans. K. L. COLLINS; A. GUTERSTAM; J. A. CRONIN; J. D. OLSON; H. H. EHRSSON; J. G. OJEMANN\*. *Univ. of Washington, Karolinska Institutet, Univ. of Washington, Univ. of Washington.*
- 3:00 V3 **428.07** Human perception of electrical cortical surface stimulation at the somatosensory cortex. S. V. HIREMATH\*; E. C. TYLER-KABARA; J. J. WHEELER; D. W. MORAN; R. A. GAUNT; J. L. COLLINGER; S. FOLDES; D. J. WEBER; W. CHEN; M. L. BONINGER; W. WANG. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, Washington Univ., Veterans Affairs Med. Ctr., Zhejiang Univ., Univ. of Pittsburgh.*
- 4:00 V4 **428.08** A brain spinal interface to alleviate lower limb deficits after neuromotor disorders. M. CAPOGROSSO; T. MILEKOVIC; D. BORTON; E. MARTIN MORAUD; G. GANDAR; F. WAGNER; C. LEGOFF; N. BUSE; P. DETEMPLE; T. DENISON; J. BLOCH; E. BEZARD; S. MICERA; G. COURTINE\*. *Ecole Polytechnique Federale De Lausanne, Brown Univ., Medtronic Neuromodulation, Fraunhofer ICT-IMM, Lausanne Univ. Hosp., Bordeaux Inst. of Neurosci., Scuola Superiore Sant'Anna, Ecole Polytechnique Federale De Lausanne EPFL.*
- 1:00 V5 **428.09** ● Neuroplasticity and cochlear implant use in rodents. J. KING\*; M. A. SVIRSKY; R. C. FROEMKE. *New York Univ. Sch. of Med., New York Univ. Sch. of Med., New York Univ. Sch. of Med.*
- 2:00 V6 **428.10** A non-human primate model of artificial vision. N. J. KILLIAN\*; M. VURRO; S. B. KEITH; M. J. KYADA; J. S. PEZARIS. *Massachusetts Gen. Hosp., Harvard Med. Sch., Northeastern Univ.*
- 3:00 V7 **428.11** Effect of sleep-related cortical stimulation on learning a BCI task. I. REMBADO\*; S. ZANOS; E. FETZ. *Inst. Italiano Di Tecnologia, Univ. of Washington.*
- 4:00 V8 **428.12** How can we measure the satisfaction of the sense of touch using a brain-computer interface? W. PARK\*; D. KIM; S. KIM; L. KIM. *Korea Inst. of Sci. and Technol., Korea Inst. of Sci. and Technol., Ulsan Natl. Inst. of Sci. and Technol.*
- 1:00 V9 **428.13** Using a confidence metric with biological reward signals in actor-critic reinforcement learning brain-machine interfaces. N. W. PRINS\*; J. C. SANCHEZ; A. PRASAD. *Univ. of Miami, Univ. of Miami, Univ. of Miami, Univ. of Miami.*
- 2:00 V10 **428.14** A general framework for optimal selection of the learning rate in closed-loop brain-machine interfaces. H. HSIEH\*; M. M. SHANECHI. *USC, USC.*
- 3:00 V11 **428.15** A serious game to improve myoelectric prosthetic handling. R. M. BONGERS\*; L. VAN DIJK; H. W. VAN DIJK; C. K. VAN DER SLUIS. *Univ. of Groningen, Univ. Med. Ctr. Groningen, Univ. of Groningen, Univ. Med. Ctr. Groningen, NHL Univ. of Applied Sci., Univ. of Groningen, Univ. Med. Ctr. Groningen.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

POSTER

429. Comparative Anatomy and Evolution

**Theme D: Sensory and Motor Systems**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 V12 **429.01** Astrocyte density and hypertrophy in aging chimpanzees. E. L. MUNGER\*; M. K. EDLER; W. D. HOPKINS; J. M. ERWIN; P. R. HOF; C. C. SHERWOOD; M. A. RAGHANTI. *Kent State Univ., Kent State Univ., Emory Univ., The George Washington Univ., Icahn Sch. of Med. at Mount Sinai.*
- 2:00 V13 **429.02** Subcortical connections of the posterior parietal cortex in tree shrews (*Tupaia Belangeri*). M. K. BALDWIN\*; M. S. DONALDSON; L. A. KRUBITZER. *Univ. of California Davis.*
- 3:00 V14 **429.03** Large scale comparisons of white matter morphology handedness differences in the Human Connectome Project (HCP). C. A. GREENE\*; M. CIESLAK; S. GRAFTON. *UC Santa Barbara, UCSB, UCSB.*
- 4:00 V15 **429.04** Fixing to collect? A validated brain tissue preservation method for mitigating the loss of neuroanatomical data in threatened biodiversity hotspots. D. F. HUGHES\*; P. M. GIGNAC; C. S. LIEB; E. GREENBAUM; A. M. KHAN. *Univ. of Texas At El Paso, Oklahoma State Univ. Ctr. for Hlth. Sci., Univ. of Texas At El Paso, Univ. of Texas At El Paso.*
- 1:00 V16 **429.05** Evolution of the ascending visual pathways in teleosts. H. HAGIO; M. SATOU; H. ABE; N. YAMAMOTO\*. *Lab. Fish Biol, Grad Sch. Bioagr Sci, Nagoya Univ.*
- 2:00 V17 **429.06** Differences in functional connectivity of the claustrum between conscious and anesthetized states in rats. J. B. SMITH\*; G. D. R. WATSON; Z. LIANG; K. D. ALLOWAY; N. ZHANG. *Pennsylvania State Univ.*
- 3:00 V18 **429.07** An anatomy ontology for mammalian oropharyngeal muscles. R. E. DRUZINSKY\*. *Univ. of Illinois at Chicago.*
- 4:00 V19 **429.08** Neuronal scaling rules for the brain of carnivores. D. J. ALVARENGA\*; K. LAMBERT; S. C. NOCTOR; M. F. BERTELSEN; P. R. MANGER; S. HERCULANO-HOUZEL. *UFRJ - Univ. Federal Do Rio De Janeiro, Randolph-Macon Col., UC Davis Hlth. Syst., København Zoo, Univ. of the Witwatersrand Johannesburg.*
- 1:00 V20 **429.09** Big Cat Coalitions: A comparative analysis of regional brain volumes in Felidae. A. E. HRISTOVA\*; E. J. YOON; B. M. ARSZNOV; B. L. LUNDRIGAN; S. T. SAKAI. *Michigan State Univ., Minnesota State Univ., Michigan State Univ.*
- 2:00 V21 **429.10** The centrifugal visual system of a palaeognathous bird, the Chilean Tinamou (*Nothoprocta perdicaria*). Q. KRABICHLER; T. VEGA-ZUNIGA; D. CARRASCO; C. GUTIERREZ-IBANEZ; G. J. MARIN; H. LUKSCH\*. *Technische Univ. München, Univ. de Chile, Univ. Finis Terrae.*
- 3:00 V22 **429.11** Study of spinal cord in non-human primate (*Sapajus* spp): Teneurins and classic neuromediators. K. R. TORRES DA SILVA\*; A. V. DA SILVA; N. O. BARIONI; G. W. L. TESSARIN; J. A. DE OLIVEIRA; J. A. C. HORTA-JUNIOR; C. A. CASATTI. *Dept. of Basic Sci. of Sao Paulo State Univ. of Araçatuba/ UNESP, Biosci. Inst. of Botucatu, Federal Univ. of Mato Grosso do Sul.*
- 4:00 V23 **429.12** The chemoarchitecture of the arcopallium / amygdala complex in pigeons (*Columba livia*). C. HEROLD\*; C. C. PAULITSCHKE; N. PALOMERO-GALLAGHER; O. GÜNTÜRKÜN; K. ZILLES. C. & O. *Vogt-Institute of Brain Res., Inst. of Neurosci. and Med. INM-1, Res. Ctr. Juelich, Dept. of Biopsychology, Inst. of Cognitive Neuroscience, Ruhr-University-Bochum, (2) Institute of Neurosci. and Med. INM-1, Res. Ctr. Juelich, (4) Department of Psychiatry, Psychotherapy and Psychosomatics, RWTH Aachen University, and JARA – Translational Brain Med.*
- 1:00 V24 **429.13** The amniote nucleus Pretectalis Principalis: A Hidden pretectal structure in the thalamus of mammals. A. DEICHLER; D. CARRASCO; G. MARIN; J. MPODOZIS\*. *Univ. de Chile, Univ. Finis Terrae, Univ. of Chile.*
- 2:00 V25 **429.14** Supralaryngeal vocal motor control is mediated by fast-twitch facial muscles in echolocating bats. S. TRENT\*; M. SMOTHERMAN. *Texas A&M Univ.*
- 3:00 V26 **429.15** Cortical neuron morphology in forebrain-specific Ctgf knockout mice. Y. LU\*; L. LEE. *Natl. Taiwan Univ., Natl. Taiwan Univ., Natl. Taiwan Univ.*
- 4:00 V27 **429.16** Mapping cortico-claustral connectivity in the mouse. G. ATLAN\*; A. TEREM; G. POZNER; A. CITRI. *Edmond & Lily Safra Ctr. For Brain Sci., Hebrew University, Inst. for Life Sci.*
- 1:00 V28 **429.17** Distribution of microvasculature in primate brains. N. PATZKE\*; T. RODRIGUES DA HORA; P. BALARAM; J. KAAS; S. HERCULANO-HOUZEL. *Univ. Federal Do Rio De Janeiro, Vanderbilt Univ.*
- 2:00 V29 **429.18** ● Ultrastructural characterization of parvalbumin synapses in human prefrontal cortex. J. R. GLAUSIER\*; D. A. LEWIS; R. C. ROBERTS. *Univ. Pittsburgh, Univ. of Alabama at Birmingham.*
- 3:00 V30 **429.19** Innervation investment and microanatomy of mystacial vibrissae in harp seals, *Pagophilus groenlandicus*. E. E. MATTSON\*; C. D. MARSHALL. *Texas A&M Univ. At Galveston.*
- 4:00 V31 **429.20** Like crumpled balls of paper: Explaining the degree of folding of the cerebellum, of the developing cerebral cortex, and of lissencephalic human brains. S. HERCULANO-HOUZEL\*; B. MOTA. *UFRJ, UFRJ.*
- 1:00 V32 **429.21** Profiling the circuitry of the primate innate fear network. C. E. WARNER\*; C. GROSS; J. A. BOURNE. *Australian Regenerative Med. Inst., EMBL Monterotondo.*
- 2:00 V33 **429.22** Organization of the connections between cortex and claustrum in the mouse. Q. WANG\*; L. NG; J. A. HARRIS; S. W. OH; J. J. ROYALL; A. BERNARD; S. SUNKIN; C. KOCH; H. ZENG. *The Allen Inst. For Brain Sci.*
- 3:00 V34 **429.23** ▲ Dissecting the evolution and functional organization of the basal ganglia in zebrafish. B. PORTER; G. STEVENS; T. MUELLER\*. *Kansas State Univ.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 4:00 V35 **429.24** ▲ Massive enlargement of the olfactory bulbs of the Turkey Vulture (*Cathartes aura*). N. GRIGG\*; J. M. KRILOW; G. R. GRAVES; A. N. IWANIUK. *Univ. of Lethbridge, Univ. of Lethbridge, Smithsonian Inst.*
- 1:00 V36 **429.25** Morphological investigation on the brain of the African Ostrich (*Struthio Camelus*). A. A. KARKOURA\*; M. ALSAFY; S. ELGENDY; F. ELDEFRAWY. *Alexandria Univ.*
- 2:00 V37 **429.26** Geometry of brain fiber pathways at axonal scales: Histological evidence of diffusion mri observations. F. MORTAZAVI\*; W. Z. MORRISON; A. L. OBLAK; J. D. SCHMAHMANN; E. H. STANELY; V. J. WEDEEN; D. L. ROSENE. *BU Sch. of Med., BU Sch. of Med., Indiana Univ. Sch. of Med., Harvard Med. School, Mass Gen. Hosp., Boston Univ., Harvard Med. School, Mass Gen.*
- 3:00 V38 **429.27** Gas 1 is expressed in the choroid plexus of the rat. A. AYALA-SARMIENTO; E. ESTUDILLO; G. PÉREZ-SÁNCHEZ; J. V. SEGOVIA-VILA\*. *Cinvestav-IPN.*
- 4:00 V39 **429.28** The minke whale brain in numbers. K. A. DE SOUZA\*; M. H. MOTA; J. BRITO; K. A. E. KARLSSON; P. R. MANGER; S. HERCULANO-HOUZEL. *Univ. Federal Do Rio De Janeiro, Univ. Federal Do Rio De Janeiro, Univ. of the Witwatersrand.*
- 1:00 V40 **429.29** Allometric scaling of the number and size of Purkinje cells in galliform birds. A. N. IWANIUK\*; J. NAHIRNEY; C. HEUSTON; D. R. WYLIE. *Univ. of Lethbridge, Univ. of Alberta.*
- 2:00 V41 **429.30** The evolution of brain structure in dragon lizards. D. HOOPS\*; J. ULLMANN; A. JANKE; S. KEOGH. *The Australian Natl. Univ., Univ. of Queensland.*
- 1:00 V46 **430.05** The dependence of stable network activity on bursting neurons is altered in chronic intermittent hypoxia. T. I. DASHEVSKIY\*; A. GARCIA; J. RAMIREZ. *Seattle Childrens Res. Inst., Seattle Childrens Res. Inst.*
- 2:00 V47 **430.06** Postinspiration: Generated by a third excitatory rhythmogenic network. T. ANDERSON\*; A. J. GARCIA, III; J. C. BLOOM; N. A. BAERTSCH; J. POLLAK; J. M. RAMIREZ. *Seattle Children's Res. Inst., Univ. of Washington, Univ. of Washington.*
- 3:00 V48 **430.07** Firing properties of medullary expiratory neurons during induced defecation in cats. S. SASAKI\*; K. MURAMATSU; M. NIWA. *Ibaraki Pref Univ. Hlth. Sci., Hlth. Sci. Univ., Kyorin Univ.*
- 4:00 W1 **430.08** Soluble TNF-alpha initiates inactivity-induced phrenic motor facilitation following prolonged reductions in respiratory neural activity. K. M. BRAEGELMANN; T. BAKER-HERMAN\*. *Univ. of Wisconsin.*
- 1:00 W2 **430.09** Carotid body mediate the cardiorespiratory and autonomic imbalance induced by intermittent hypoxia in a rat model of obstructive sleep apnea. R. A. ITURRIAGA\*; D. C. ANDRADE; R. DEL RIO. *Pontificia Univ. Catolica Chile, Univ. Autónoma de Chile.*
- 2:00 W3 **430.10** Hypercapnia-induced cFos activation in bullfrog brainstem across development. M. REED; K. ICEMAN; M. B. HARRIS\*; B. TAYLOR. *Univ. of Alaska Fairbanks, Univ. of South Florida, Univ. Alaska Fairbanks.*
- 3:00 W4 **430.11** Effects of carbachol microinjection in the commissural nucleus of the solitary tract on sympathetic and respiratory activities. W. I. FURUYA\*; M. BASSI; J. V. MENANI; E. COLOMBARI; D. B. ZOCCAL; D. S. A. COLOMBARI. *Sch. of Dent. - UNESP.*
- 4:00 W5 **430.12** Respiratory plasticity in the SOD1(G93A) mouse model of ALS. S. ROMER\*; S. M. TURNER; K. SEEDLE; K. SILNES; S. A. CRONE. *Cincinnati Children's Hosp. Med. Ctr.*
- 1:00 W6 **430.13** Neural signature of chronic obstructive pulmonary disease (COPD). R. W. ESSER\*; C. STOECKEL; A. KIRSTEN; H. WATZ; K. TAUBE; K. LEHMANN; C. BÜCHEL; H. MAGNUSSEN; A. VON LEUPOLDT. *Univ. Med. Ctr. Hamburg-Eppendorf, Pulmonary Res. Inst. at LungClinic Grosshansdorf, Airway Res. Ctr. North, Member of the German Ctr. for Lung Res., Atem-Reha GmbH, Univ. of Leuven.*
- 2:00 W7 **430.14** Orexinergic fibers are in contact with Kölliker-Fuse neurons projecting to the rostral ventral respiratory group and phrenic and hypoglossal nuclei in the rat. S. YOKOTA\*; Y. OKADA; T. OKA; H. ASANO; Y. YASUI. *Shimane Univ. Sch. of Med., Murayama Med. Ctr.*
- 3:00 W8 **430.15** Monosynaptic tracing of phrenic premotor neurons in the mouse. J. WU\*; P. CAPELLI; M. GOULDING; S. ARBER; G. FORTIN. *CNRS Paris-Saclay Inst. of Neurosci., Biozentrum Univ. of Basel, Friedrich Miescher Inst. for Biomed. Res., Salk Inst. for Biol. Sci.*
- 4:00 W9 **430.16** GABAergic and glutamatergic Kölliker-Fuse neurons derive from different developmental precursors and project to distinct targets. J. C. GEERLING\*; S. YOKOTA; I. RUKHADZE; P. A. GRAY; D. L. ROE; N. L. CHAMBERLIN. *BIDMC, Harvard Med. Sch., Shimane Univ. Sch. of Med., Dept. of Veterans Affairs, Greater Los Angeles Healthcare Syst., Washington Univ. in St. Louis, BIDMC, Harvard Med. Sch.*

## POSTER

### 430. Neural Control of Respiration

#### Theme D: Sensory and Motor Systems

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 V42 **430.01** Effect of initial conditions on adaptation time in adaptive control of ventilation. B. K. HILLEN\*; J. J. ABBAS; A. ZBRZESKI; S. RENAUD; R. JUNG. *Florida Intl. Univ., Arizona State Univ., Inst. Polytechnique de Bordeaux.*
- 2:00 V43 **430.02** Neuromuscular stimulation of respiratory muscles for respiratory pacing in the rat model. R. SIU\*; B. K. HILLEN; J. J. ABBAS; S. RENAUD; R. JUNG. *Florida Intl. Univ., Arizona State Univ., Inst. Polytechnique de Bordeaux.*
- 3:00 V44 **430.03** Gender influences the stability of rhythm generation from the preBötzing complex following chronic intermittent hypoxia. A. J. GARCIA\*, III; T. DASHEVSKIY; M. A. KHUU; J. M. RAMIREZ. *Seattle Childrens Res. Inst., Univ. of Washington.*
- 4:00 V45 **430.04** Disturbances in central respiratory rhythm generation may contribute to breathing disturbances in prematurity in mice. S. C. RAMIREZ\*; J. E. KOSCHNITZKY; T. M. ANDERSON; N. A. BAERTSCH; C. V. SMITH; J. M. RAMIREZ. *Seattle Childrens Res. Inst., Univ. of Washington.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 1:00 W10 **430.17** ● Obstructive sleep apnea is associated with white matter diffusion changes without grey matter loss. A. BARIL\*; K. GAGNON; C. BEDETTI; M. D. GAREAU; D. GILBERT; C. LAFOND; J. MONTPLAISIR; J. GAGNON; N. GOSELIN. *Hôpital Du Sacré-Coeur De Montréal.*
- 2:00 W11 **430.18** Progressive cell loss of FoxP2 expressing laryngeal adductor pre-motoneurons of the Kölliker-Fuse nuclei (KFN) in tauopathy driven neurodegeneration triggers clinically relevant laryngeal dysfunction in Tau-P301L mice. M. DUTSCHMANN\*; E. BONDARENKO; T. G. BAUTISTA; S. E. JONES; E. NALIVAICO; D. STANIC. *Florey Neurosci. Inst., Univ. of Newcastle.*
- 3:00 W12 **430.19** Effects of hypercapnia on respiratory motor activity in nerves innervating the neck and tongue muscles. S. TACHIKAWA; K. NAKAYAMA; A. MOCHIZUKI; S. NAKAMURA; M. KIYOMOTO; T. IJIMA; T. INOUE\*. *showa university school of dentistry, showa university school of dentistry, Showa Univ. Sch. Dent.*
- 4:00 W13 **430.20** Disordered breathing in a mouse model of developmental cerebellar Purkinje cell loss during recovery from hypercarbia: Implications for sudden unexplained death in epilepsy. M. A. CALTON\*; E. MCKIMM; M. M. MILLER; R. M. HARPER; D. GOLDOWITZ; G. MITTLEMAN. *Univ. of Memphis, UCLA David Geffen Sch. of Med., Univ. of British Columbia, Ball State Univ.*
- 1:00 W14 **430.21** Respiratory-sympathetic coupling and the peripheral chemoreflex. W. H. BARNETT; Y. YOO; S. FRESHOUR; A. P. ABDALA; J. F. R. PATON; D. B. ZOCCAL; Y. I. MOLKOV\*. *Indiana Univ. - Purdue Univ. Indianapolis, St. Edward's Univ., Univ. of Bristol, São Paulo State Univ.*
- 2:00 W15 **430.22** Intracerebroventricular injections of dronabinol, a cannabinoid receptor agonist, does not attenuate serotonin-induced apnea in Sprague-Dawley rats. M. W. CALIK\*; D. W. CARLEY. *Univ. of Illinois at Chicago.*
- 3:00 W16 **430.23** Effects of negative odors and auditory stimulation on breathing patterns and intracranial field potentials in humans and monkeys. J. L. HERRERO\*; M. CERF; P. MEGEVAND; E. YEAGLE; C. SCHROEDER; A. MEHTA. *Cushing Neurosci. Inst., Kellogg Sch. of Mgmt., Neurosci. Cushing Inst., Cushing Neurosci. Inst., Columbia Univ.*
- 4:00 W17 **430.24** Modulation of preBötzing Complex inspiratory rhythm by hydrogen sulfide. J. J. SABINO; G. S. F. DA SILVA; T. S. ALVARES; V. RAJANI; L. S. BRANCO; G. D. FUNK\*. *Fac. of Med. and Dentistry, Univ. of Alberta, Fac. of Dent.*
- 1:00 W18 **430.25** Urethane and ketamine/xylazine at sub-therapeutic levels cause a major depression of the HCVR in adult mice. C. A. MASSEY\*; C. K. THIRNBECK; G. B. RICHERSON. *Univ. of Iowa Hosp. and Clinics.*
- 2:00 W19 **430.26** State- and vagal-dependence of augmenting pattern of phrenic nerve discharge in the rat. M. G. GHALI\*. *Drexel Univ. Col. of Med.*
- 3:00 W20 **430.27** Relationships between brain changes and apnea and hypopnea index in patients with obstructive sleep apnea. S. TUMMALA\*; J. A. PALOMARES; B. PARK; D. W. KANG; M. A. WOO; R. M. HARPER; R. KUMAR. *Univ. of California at Los Angeles, Univ. of California at Los Angeles, Univ. of California at Los Angeles, Univ. of California at Los Angeles, Univ. of California at Los Angeles.*
- 4:00 W21 **430.28** Expiratory muscle recruitment in adult and juvenile rats across sleep states. J. K. SAINI; C. ANDREWS; S. PAGLIARDINI\*. *Univ. of Alberta.*

## POSTER

### 431. HPG Axis: Gonadotropin-Releasing Hormone Cells, Gonadotrophins and Neurosteroids

#### Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 W22 **431.01** Sexual dimorphism in the feedback loop between sea lamprey pheromones and the HPG axis. Y. CHUNG-DAVIDSON\*; U. BUSSY; W. LI. *Michigan State Univ.*
- 2:00 W23 **431.02** Transgenerational effects of Bisphenol A on embryogenesis, GnRH3 neural systems and locomotor behavior in Japanese medaka. T. INAGAKI\*; N. L. SMITH; K. M. SHERVA; S. RAMAKRISHNAN. *Univ. of Puget Sound, Univ. of Puget Sound.*
- 3:00 W24 **431.03** Neuromodulation of retino-tectal neurotransmission via extrahypothalamic GnRH neurons. C. UMATANI\*; R. MISU; S. OISHI; H. ABE; Y. OKA. *The Univ. of Tokyo, Kyoto Univ., Nagoya Univ.*
- 4:00 W25 **431.04** Changes in GnRH sensitivity of LH cells play a key role in seasonal regulation of reproduction. Y. ARAI\*; S. KANDA; T. KARIGO; M. HASEBE; Y. OKA. *Grad. Sch. of Sci. The Univ. of Tokyo.*
- 1:00 W26 **431.05** Glucose-sensitivity of GnRH1 neurons cause down-regulation of GnRH1 neuronal activity by fasting, leading to the inhibition of the HPG axis. M. HASEBE\*; S. KANDA; Y. OKA. *Grad. Sch. of Sci., The Univ. of Tokyo.*
- 2:00 W27 **431.06** Sexual dimorphism in gene expression of mouse GnRH neurons. C. VASTAGH\*; A. RODOLOSSE; N. SOLYMOSI; I. FARKAS; H. AUER; M. SÁRVÁRI; Z. LIPOSITS. *Inst. of Exptl. Medicine, Hungarian Acad. Functional Genomics Core, Inst. for Res. in Biomedicine, Szent István Univ., Inst. of Exptl. Med., Functional Genomics Consulting, Pázmány Péter Catholic Univ.*
- 3:00 W28 **431.07** Vasoactive intestinal peptide excites gonadotropin releasing hormone neurons in male mice. R. PIET\*; H. DUNCKLEY; K. LEE; A. E. HERBISON. *Otago Sch. of Med. Sci.*
- 4:00 W29 **431.08** Disruption of Gonadotropin-Releasing Hormone secretion in peripubertal female rat after early postnatal exposure to Bisphenol A and involvement of GPR151, a potential new Gonadotropin-Releasing Hormone regulator. D. FRANSSSEN\*; N. DUPUIS; A. GÉRARD; B. HENNUY; J. HANSON; J. BOURGUIGNON; A. PARENT. *Univ. of Liege, Univ. of Liege, Univ. of Liege.*
- 1:00 W30 **431.09** Androgen receptor binds to the promoter region of fibroblast growth factor 8 in gonadotropin-releasing hormone (GT1-7) hypothalamic neurons. M. LINSKOTT\*; W. C. J. CHUNG. *Kent State Univ., Kent State Univ.*

- 2:00 W31 **431.10** Expression and function of gonadotropin-releasing hormone (GnRH) enhancer-derived, long noncoding RNA in immortalized mouse hypothalamic GnRH neurons and the mouse hypothalamus. P. P. HUANG\*; L. E. BRUSMAN; A. K. IYER; M. J. BRAYMAN; P. L. MELLON. *UC San Diego.*
- 3:00 W32 **431.11** Role of KLB in the hypothalamic control of reproduction. A. MESSINA\*; C. XU; H. MIRAOU; E. SOMM; T. KINNUNEN; D. ANDREW; N. PREITNER; G. SYKIOTIS; S. SANTINI; R. QUINTON; L. PLUMMER; W. CROWLEY; M. HAUSCHILD; F. PHAN-HUG; Y. SIDIS; M. MOHAMMADI; N. PITTELOUD. *Lausanne Univ. Hosp. (CHUV-UNIL), Inst. of Integrative Biology, Univ. of Liverpool, United Kingdom, Inst. for Genet. Medicine, Univ. of Newcastle-on-Tyne, UK, Massachusetts Gen. Hospital, Boston, Massachusetts, U.S.A., New York Univ. Sch. of Medicine, New York, U.S.A.*
- 4:00 W33 **431.12** EP24.15 regulation of kisspeptin and neurokinin B within the neuroendocrine hypothalamus. N. C. WOITOWICH\*; K. D. PHILIBERT; M. R. DEJOSEPH; J. H. URBAN; M. J. GLUCKSMAN. *Rosalind Franklin Univ. of Med. and Scien, Rosalind Franklin Univ. of Med. and Sci.*
- 1:00 W34 **431.13** Estrogen receptors sensitive to ICI182,780 mediate rapid estradiol benzoate induced GnRH release from the stalk median eminence of ovariectomized female rhesus macaques *in vivo*. B. P. KENEALY\*; K. L. KEEN; J. P. GARCIA; E. TERASAWA. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*
- 2:00 W35 **431.14** Effect of 17 $\beta$ -estradiol and progesterone and its agonists-antagonists on neurons infected with t. gondii *in vitro*. M. GALVÁN RAMÍREZ; A. GUTIÉRREZ MALDONADO; J. M. DUENAS JIMENEZ\*; S. DUEÑAS JIMÉNEZ; L. RODRÍGUEZ PÉREZ. *Univ. of Guadalajara.*
- 3:00 W36 **431.15** Low dose bisphenol A alters acetylcholinesterase and butyrylcholinesterase gene expression levels. B. AYAZGOK; T. KUCUKKILINC\*. *Hacettepe Univ. Fac. of Pharm., Hacettepe Univ. Fac. of Pharm.*
- 4:00 W37 **431.16** Pre-treatment with a cyclooxygenase 2 (cox-2) inhibitor mitigates the injury-induced up-regulation of aromatase expression in the adult zebra finch brain. A. L. PEDERSEN\*; C. J. SALDANHA. *The American Univ.*
- 1:00 W38 **431.17** Novel actions of progesterone in the developing brain: Distribution of progesterone receptor membrane component 1 (PGRMC1) immunoreactivity in the postnatal rat forebrain. P. Q. MENNELLA\*; J. M. FAUSTINO. *Bay Path Univ.*
- 2:00 W39 **431.18** ER $\beta$  acutely regulates hippocampal synaptosomal protein phosphorylation in a sex-dependent manner. N. TABATADZE\*; R. M. MAY; C. S. WOOLLEY. *Northwestern Univ.*
- 3:00 W40 **431.19** ▲ Upregulation of androgen receptor expression, but not aromatase expression following injury in the Japanese quail brain. J. BALLON; K. BLACKSHEAR; K. S. HOLLOWAY; K. A. DUNCAN\*. *Vassar Col., Vassar Col., Vassar Col.*
- 4:00 W41 **431.20** ● Testosterone promotes peripheral myelination in a culture system through ERK signaling pathway. L. G. HERNANDEZ ARAGON\*; L. WANG; S. HOSSAIN; M. MARTÍNEZ-GÓMEZ; F. CASTELÁN; G. ALMAZAN. *Univ. Autonoma De Tlaxcala, McGill Univ., McGill Univ., Inst. de Investigaciones Biomédicas, Univ. Nacional Autónoma de México.*
- 1:00 W42 **431.21** Systemic aromatase inhibition strongly attenuates seizure progression during kainic acid-induced status epilepticus in rats. S. M. SATO\*; C. S. WOOLLEY. *Northwestern Univ.*
- 2:00 W43 **431.22** Tumor necrosis factor- $\alpha$ , but not interleukin 1 signaling is necessary for the induction of aromatase in the injured mammalian brain. C. J. MEHOS\*; K. BLACKSHEAR; K. A. DUNCAN; C. J. SALDANHA. *American Univ., Vassar Col.*

## POSTER

### 432. Cardiovascular Regulation

#### Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 W44 **432.01** Evaluation of metformin and one analogue of metformin on the vasopressor responses induced by adrenergic stimulation in rats with insulin resistance. E. J. GUTIÉRREZ\*; G. NAVARRETE-VÁZQUEZ; A. SANCHEZ-LOPEZ; D. CENTURION. *CINVESTAV, Univ. Autónoma del Estado de Morelos.*
- 2:00 W45 **432.02** Increased Heart Rate Variability predicts fatigue before and after sleep deprivation and might be related to compensatory mechanisms in the CNS. G. ERNST\*. *Kongsberg Hosp.*
- 3:00 W46 **432.03** Microglial alertness in rostral- and caudal-ventrolateral medullary nuclei is triggered by variations in neuronal activity in rat brainstem. K. KAPOOR\*; A. M. BHANDARE; S. MOHAMMED; M. M. J. FARNHAM; P. M. PILOWSKY. *Macquarie Univ., The Heart Res. Inst., Univ. of Sydney.*
- 4:00 W47 **432.04** Obstructive apnea due to laryngospasm during seizures, but not central apnea, causes hypoxic cardiac derangements in rats. M. G. STEWART\*; K. NAKASE; R. ORMAN; J. SILVERMAN; K. SUNDARAM; R. KOLLMAR. *SUNY Downstate Med. Ctr., SUNY Downstate Med. Ctr., SUNY Downstate Med. Ctr.*
- 1:00 W48 **432.05** Examining central and autonomic nervous system interaction with simultaneous fmri and impedance cardiography. S. T. GRAFTON\*; M. CIESLAK; W. RYAN; V. BABENKO; A. MACY; J. BLASCOVICH. *UCSB, Biopac Corp.*
- 2:00 X1 **432.06** Structural brain abnormalities in postural tachycardia syndrome: A VBM-DARTEL study. S. UMEDA\*; N. A. HARRISON; M. A. GRAY; C. J. MATHIAS; H. D. CRITCHLEY. *Keio Univ., Univ. of Sussex, The Univ. of Queensland, Imperial Col. London at St. Mary's Hosp.*
- 3:00 X2 **432.07** Hypoxia activates brainstem and hypothalamic neurons that express leptin receptors. M. BASSI\*; J. V. MENANI; D. S. A. COLOMBARI; D. B. ZOCCAL; J. DONATO, Jr.; E. COLOMBARI. *Sao Paulo State Univ., Univ. of Sao Paulo.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 4:00 X3 **432.08** Low-carbohydrate ketogenic diet increases sympathetic drive to the cardiovascular system. A. E. PACKARD\*; K. K. RYAN; R. J. SEELEY; Y. M. ULRICH-LAI. *Univ. of Cincinnati, Univ. of Cincinnati.*
- 1:00 X4 **432.09** Inhibition of commissural nucleus of solitary tract decreases blood pressure and diaphragm activity in 2K1C rats. M. R. MELO\*; S. GASPARINI; G. F. F. SPERETTA; J. V. MENANI; D. B. ZOCCAL; D. S. A. COLOMBARI; E. COLOMBARI. *Dept. Physiol. and Pathol., UNESP.*
- 2:00 X5 **432.10** Pathways mediating increase in brown adipose tissue nerve activity elicited by chemical stimulation of the hypothalamic arcuate nucleus. V. C. CHITRAVANSHI\*; H. N. SAPRU. *Rutgers-New Jersey Med. Sch, Rutgers, The State Univ. of New Jersey.*
- 3:00 X6 **432.11** ▲ Effect of a single exercise session during pregnancy on foetal cardiac autonomic modulation. J. P. ABAJI\*; R. D. MOORE; E. L. LEMOYNE; D. CURNIER; D. ELLEMBERG. *Univ. de Montréal.*
- 4:00 X7 **432.12** Transcutaneous vagal nerve stimulation: Tracing central terminations of sensory afferents from the tragus using transganglionic labelling with cholera toxin subunit B. M. K. MAHADI\*; S. A. DEUCHARS; J. DEUCHARS. *Univ. of Leeds, Universiti Kebangsaan Malaysia.*
- 1:00 X8 **432.13** Role of cholinesterases in mouse heart. A. HRABOVSKA\*; M. KUCERA; Z. KILIANOVA; E. KREJCI; D. DINGOVA. *Fac. of Pharmacy, Comenius Univ., Comenius Univ. in Bratislava, Fac. of Pharm., Univ. Paris Descartes, CNRS UMR 8257 MD 4, Comenius Univ. in Bratislava, Fac. of Pharm.*
- 2:00 X9 **432.14** Ionotropic glutamate receptors of the hypothalamic supraoptic nucleus modulates cardiovascular responses and vasopressin release evoked by osmotic stimulus in conscious rats. E. T. FORTALEZA\*, SR; C. BUSNARDO; A. FASSINI; J. RODRIGUES; F. M. A. CORRÊA. *Sch. of Med. of Ribeirão Preto.*
- 3:00 X10 **432.15** The differential changes on autonomic functions and sleep architectures during the younger and the older adult life span. J. LI\*; T. KUO; C. YANG. *Natl. Yang Ming Univ., Dept. of Hlth. and Leisure Management, Yuanpei Univ. of Med. Technol.*
- 4:00 X11 **432.16** Control of sympathetic activity by A5 noradrenergic neurons in the *in situ* rat preparations. D. B. ZOCCAL\*; C. L. TAXINI; L. H. GARGAGLIONI. *Sao Paulo State Univ., Sao Paulo State Univ.*
- 1:00 X12 **432.17** Quantification of stress, anxiety, and fear: Modified detrended fluctuation analysis of heartbeats, from crustacean animal models to humans. T. YAZAWA\*. *Tokyo Metropolitan Univ.*
- 2:00 X13 **432.18** Influence of visceral adiposity on cardiovascular autonomic function in type 2 diabetes. R. K. GOIT\*. *Nepalgunj Med. Col.*
- 3:00 X14 **432.19** Modulation of synchronous sympathetic firing behaviors by endogenous GABAA and glycine receptor-mediated activities in the neonatal rat spinal cord *in vitro*. C. SU\*. *Academia Sinica.*
- 4:00 X15 **432.20** The distinct transcriptional phenotype of single cardioprotective vagal neurons. J. GORKY; J. PARK; R. VADIGEPALLI; J. S. SCHWABER\*. *THOMAS JEFFERSON UNIVERSITY, Dir, Daniel Baugh Inst. Functional Genomics/Computat Biol.*
- 1:00 X16 **432.21** Investigating protein tyrosine phosphatase  $\sigma$  in axonal dieback of cardiac sympathetic neurons. D. JOHNSEN\*; A. OLIVAS; J. SILVER; B. T. LANG; B. A. HABECKER. *Oregon Hlth. & Sci. Univ., Case Western Reserve Univ. Sch. of Med.*
- 2:00 X17 **432.22** Susceptibility to hypertension emerges at peri-menopause and is accompanied by elevations in plasma membrane post-synaptic NMDA receptors and reactive oxygen species production in estrogen receptor  $\beta$ -containing neurons in the mouse paraventricular hypothalamic nucleus. J. MARQUES LOPES\*; E. TESHAYE; S. ISRAILOV; T. A. VAN KEMPEN; G. WANG; C. IADECOLA; E. M. WATERS; T. A. MILNER. *Weill Cornell Med. Col., Lab. of Neuroendocrinology, The Rockefeller Univ.*
- 3:00 X18 **432.23** Urocortin-1 in nucleus of the solitary tract attenuates baroreceptor reflex responses in the female. J. CIRIELLO\*. *Univ. Western Ontario.*
- 4:00 X19 **432.24** Ultradian rhythms in heart rate, mean arterial pressure, and activity are synchronized across time in male prairie voles. R. LEWIS\*; B. BENJAMIN; J. T. CURTIS. *Oklahoma State Univ. Ctr. For Hlth. Sci.*
- 1:00 X20 **432.25** Increased expression of macrophage migration inhibitory factor in the nucleus of solitary tract attenuates the renovascular hypertension. R. M. BARBOSA\*; G. F. F. SPERETTA; H. LI; C. SUMNERS; J. V. MENANI; E. COLOMBARI; D. S. A. COLOMBARI. *Dept. Physiol. and Pathol., UNESP, Southern Med. Univ., Dept. of Physiol. and Functional Genomics, Col. of Med.*
- 2:00 X21 **432.26** Cardiovascular autonomic dysfunction in seizure is caused by glutamatergic receptor activation in the rostral ventrolateral medulla; but not by pituitary adenylate cyclase activating polypeptide or microglia in rats. A. M. BHANDARE\*; K. KAPOOR; M. M. J. FARNHAM; P. M. PILOWSKY. *Australian Sch. of Advanced Med., The Heart Res. Inst., Univ. of Sydney.*
- 3:00 X22 **432.27** Blood pressure and fluid electrolyte balance in spontaneously hypertensive rats with chronic catalase blockade. M. R. LAUAR\*; G. F. F. SPERETTA; L. A. DE LUCA JR; P. M. DE PAULA; D. S. A. COLOMBARI; E. COLOMBARI; C. A. F. ANDRADE; J. V. MENANI. *Dept. Physiol. and Pathol., UNESP.*
- 4:00 X23 **432.28** Functional consequences of the "calcium paradox" discovery for the sympathetic regulation of the cardiovascular function. L. B. BERGANTIN\*; A. CARICATI-NETO. *Univ. Federal de São Paulo.*

POSTER

433. Peptides and Factors in Stress and Anxiety

**Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 X24 **433.01** Changes in expressions of CRH, NPY and endocannabinoid systems related genes in amygdala in response to electrical shock and stress reminder. L. I. SEROVA\*; E. NEWMAN; I. AKIRAV; N. ROSENBLAT; E. L. SABBAN. *New York Med. Col., University of Haifa, Univ. of Haifa.*
- 2:00 X25 **433.02** Diversity of CRH expression patterns in transgenic mouse lines of CRH expression neuron reporters. Y. CHEN\*; J. MOLET; B. G. GUNN; K. RESSLER; T. Z. BARAM. *Univ. Cal Irvine, Anatomy/Neurobiology, UC Irvine, Psychiatry and Behavioral Sci., Emory Univ.*
- 3:00 X26 **433.03** Characterizing CRH neurons in the central amygdala. B. HUNT\*; J. BAINS; K. A. SHARKEY; Q. PITTMAN. *Univ. of Calgary, Univ. of Calgary, Univ. of Calgary, Univ. of Calgary.*
- 4:00 X27 **433.04** Site-specific CpG methylation is required for glucocorticoid receptor (GR)-mediated repression of corticotropin releasing hormone (crh) gene. S. BHAVE\*; R. UHT. *Univ. of North Texas Hlth. Sci. Ctr., Univ. of North Texas Hlth. Sci. Ctr.*
- 1:00 X28 **433.05** Central amygdala CRF neurons regulate both anxiety and fear behaviors in rats. M. B. POMRENZE\*; R. MAIYA; A. BLASIO; F. W. HOPF; A. G. GORDON; J. DADGAR; K. C. RICE; M. MARINELLI; R. O. MESSING. *Univ. of Texas at Austin, Univ. of Texas at Austin, Univ. of Texas at Austin, Univ. of California San Francisco, NIH.*
- 2:00 X29 **433.06** Dual effects of serotonergic inputs on the local circuits regulating the corticotropin-releasing factor neurons in the paraventricular nucleus of the hypothalamus: An electrophysiological study using the CRF-VenusΔNeo mouse. T. SATO; T. SUGAYA; T. FUSE; K. UCHIDA; A. H. TALUKDER; J. KONO; N. SUGIMOTO; S. YAMAGATA; M. ABE; M. YAMAZAKI; A. FUKUDA; K. SAKIMURA; K. ITOI\*. *Tohoku Univ., Niigata Univ., Hamamatsu Med. Univ.*
- 3:00 X30 **433.07** PVN-CRF receptor type 1 in essential for intact HPA axis activity following chronic stress. A. RAMOT\*; N. J. JUSTICE; A. CHEN. *Weizmann Inst. of Sci., Max Planck Inst. of Psychiatry, Univ. of Texas.*
- 4:00 X31 **433.08** ▲ Stress effect on CRH/CHR-R1 system in the cerebellum and motor function. G. HARLÉ\*; R. LALONDE; A. ROPARS; J. FRIPPIAT; C. STRAZIELLE. *Univ. of Lorraine, Univ. of Normandy.*
- 1:00 X32 **433.09** Glucocorticoid receptor dependence of acute stress-induced desensitization of CRH neurons to norepinephrine. C. CHEN\*; Z. JIANG; J. G. TASKER. *Tulane Univ.*
- 2:00 X33 **433.10** CRH acts anxiolytic by modulating dopamine release through a subset of GABAergic long-range projection neurons. N. DEDIC\*; C. KUEHNE; K. GOMES; E. ANDERZHANOVA; A. KOLARZ; J. HARTMANN; A. M. VOGL; C. T. WOTJAK; V. GRINEVICH; A. CHEN; M. V. SCHMIDT; W. WURST; D. REFOJO; J. M. DEUSSING. *Max Planck Inst. of Psychiatry, Paulista State Univ., Max Planck Inst. for Med. Res., Weizmann Inst. of Sci., Helmholtz Zentrum.*
- 3:00 X34 **433.11** Chronic stress potentiates the endocrine response to pituitary adenylate cyclase-activating polypeptide (PACAP) infusion in the bed nucleus of the stria terminalis (BNST). S. B. KING\*; K. R. LEZAK; V. MAY; S. E. HAMMACK. *Univ. of Vermont, Univ. of Vermont Col. of Med.*
- 4:00 X35 **433.12** Regulation of medial prefrontal cortex pituitary adenylate cyclase-activating peptide by stress and microrna-320. R. A. MAKINSON\*; J. AZEVEDO; P. MAHBOD; T. KOZICZ; B. GEENEN; A. ASCHRAFI; R. THOMPSON; J. HERMAN. *Univ. of Cincinnati, Univ. of Michigan, Radbod Univ.*
- 1:00 X36 **433.13** Chronic social defeat stress produces profound alterations in the brain pituitary adenylate cyclase-activated polypeptide (PACAP)/PAC1 receptor system. C. VELAZQUEZ\*; A. FERRAGUD; D. TANG; C. SANTIAGO-MEDERO; P. COTTONE; V. SABINO. *Boston Univ.*
- 2:00 X37 **433.14** Members of corticotropin releasing factor (CRF) peptide family differentially modulate oxytocin release in the bed nucleus of the stria terminalis (BNST). D. MARTINON; J. A. DABROWSKA\*. *Chicago Med. Sch. RFUMS.*
- 3:00 X38 **433.15** The effects of oxytocin within the bed nucleus of the stria terminalis on anxiety-like behavior. M. MOADDAB\*; J. DABROWSKA. *Rosalind Franklin Univ. of Med. and Scien.*
- 4:00 X39 **433.16** Oxytocin-mediated tonic inhibition of CRF-synthesizing neurons of the hypothalamus and the amygdala following peripheral salt loading. D. PATI\*; J. A. SMITH; A. D. DE KLOET; E. G. KRAUSE; C. J. FRAZIER. *Univ. of Florida, Univ. of Florida.*
- 1:00 X40 **433.17** Effects of early life stress on motivational state and orexin (hypocretin) cell recruitment in adulthood. E. J. CAMPBELL\*; D. M. HODGSON; C. V. DAYAS. *Univ. of Newcastle.*
- 2:00 X41 **433.18** ● Orexin depolarizes neurons in rat central amygdala via activation of orexin 1 receptors. I. F. CALIMAN\*; D. H. ARENDT; C. S. BERNABE; L. M. FECERICI; B. T. SHIREMAN; P. BONAVENTURE; P. L. JOHNSON; A. I. MOLOSH; A. SHEKHAR. *Federal Univ. of Espirito Santo, Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med., Janssen Res. & Develop., Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med.*
- 3:00 X42 **433.19** ▲ Decision-making during social interaction in mice is not driven by aggression, but is related to ventral dentate gyrus expression of orexin receptors. M. A. PRINCE\*; J. K. ACHUA; J. P. SMITH; J. M. ROBERTSON; P. J. RONAN; T. R. SUMMERS; C. H. SUMMERS. *Univ. of South Dakota, Sanford Sch. of Medicine, USD, Inst. of Possibility, Sanford Hlth., Denver VA Med. Ctr., Sanford Sch. of Medicine, USD.*

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\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 4:00 X43 **433.20** The effect of acute swimming stress on plasma level of ACTH, CORT, leptin and ghrelin in male progeny according to neonatal social and physical stressors. A. HOLUBOVÁ\*; A. STOFKOVA; J. JURCOVICOVA; R. SLAMBEROVA. *Charles Univ. in Prague, Third Fac. of Med.*
- 1:00 X44 **433.21** Endocannabinoids in circuits of the extended amygdala: Impact for fear sustainment. M. D. LANGE\*; T. DALDRUP; F. REMMERS; H. J. SZKUDLAREK; J. LESTING; S. GUGGENHUBER; S. RÜHLE; K. JÜNGLING; B. LUTZ; H. PAPE. *Inst. of Physiol. I, Inst. of Physiol. I, Inst. of Physiological Chem.*
- 2:00 X45 **433.22** Stress-induced long-term depression of synaptic inhibition and anxiety are dependent on basolateral amygdala cannabinoid-1 receptors. S. DI\*; C. A. ITOGA; J. SOLOMONOW; E. A. ROLTSCH; N. W. GILPIN; J. G. TASKER. *Tulane Univ., Louisiana State Univ. Hlth. Sci. Ctr., Tulane Univ.*
- 3:00 X46 **433.23** Peptidomic characterization of peptide processing in the hippocampus of Wfs1 knockout mice. K. TEIN\*; S. KASVANDIK; A. TERASMAA; E. VASAR. *Tartu Univ., Univ. of Tartu, Tartu Univ.*
- 4:00 X47 **433.24** Modulation of anxiety by anandamide signaling in the amygdala is dependent on arousal state. M. MORENA\*; H. A. VECCHIARELLI; J. M. GRAY; P. CAMPOLONGO; M. N. HILL. *Univ. of Calgary, Sapienza Univ. of Rome.*
- 1:00 X48 **433.25** Fibroblast Growth Factor 8 regulates corticotropin-releasing hormone expression in the mouse paraventricular nucleus. K. M. RODRIGUEZ\*; E. STEVENSON; C. STEWART; W. CHUNG. *Kent State Univ., Kent State Univ.*
- 2:00 Y1 **433.26** Effects of exogenous cortisol on membrane properties of startle neurons in goldfish. D. R. BRONSON\*; T. PREUSS. *Hunter Col., The Grad. Ctr.*
- 3:00 Y2 **433.27** Allelic variation changes alternative splicing of corticotropin-releasing hormone receptor 1. C. SCHARTNER\*; H. WEBER; S. KOLLERT; E. WISCHMEYER; L. KENT; K. DOMSCHKE; J. DECKERT; A. REIF. *Univ. Hosp. Wuerzburg, Univ. of Wuerzburg, Inst. of Physiol., Univ. of St Andrews, Goethe-University.*
- 4:00 Y3 **433.28** The effect of stress on locomotion. A. KIRKBY\*; P. WHELAN. *Univ. of Calgary, Univ. of Calgary.*
- 3:00 Y6 **434.03** Anorexic response to rapamycin does not appear to involve a central mechanism. N. TUMER\*; H. Z. TOKLU; M. MATHENY; N. KIRICHENKO; Y. SAKARYA; E. BRUCE; C. S. CARTER; D. MORGAN; P. J. SCARPAGE. *Univ. Florida, Veterans Affairs Geriatric Res. Educ. and Clin. Ctr., Univ. Florida, Univ. Florida.*
- 4:00 Y7 **434.04** The nutrient sensor OGT in PVN neurons regulates feeding. O. LAGERLÖF\*; S. BLACKSHAW; G. W. HART; R. L. HUGANIR. *Johns Hopkins, Johns Hopkins Univ.*
- 1:00 Y8 **434.05** Estradiol increases glucagon-like peptide-1 (GLP-1) satiation in female rats. L. WHITING\*; T. BÄCHLER; T. LUTZ; L. ASARIAN. *Univ. of Zurich, Univ. of Zurich, Zurich Ctr. for Integrative Human Physiol.*
- 2:00 Y9 **434.06** Hypothalamic estrogen receptor alpha signaling modulates energy expenditure but not food intake in female mice. S. CORREA\*; W. C. KRAUSE; C. E. HERBER; H. A. INGRAHAM. *Univ. of California San Francisco.*
- 3:00 Y10 **434.07** Role of metabotropic glutamate receptors in mediating the anorexigenic and anti-dipsogenic effects of estradiol. J. SANTOLLO\*; D. DANIELS. *Univ. at Buffalo, SUNY.*
- 4:00 Y11 **434.08** Generation of new estrogen receptor (ER)- $\alpha$  expressing cells in the adult female mouse hypothalamus is influenced by diet. E. P. BLESS\*; J. YANG; Y. KIM; K. D. ACHARYA; M. J. TETEL. *Wellesley Col.*
- 1:00 Y12 **434.09** Paraventricular NUCB2/nesfatin1 is directly targeted by leptin and mediates its anorexigenic effect. D. GANTULGA\*; M. NAKATA; T. YADA. *Sch. of Pharm. and Biomedicine, Natl. Unive, Jichi Med. Univ.*
- 2:00 Y13 **434.10** The role of antioxidant systems in preventing impaired ventromedial hypothalamus (VMH) glucose sensing following recurrent hypoglycemia (RH) in diabetic rats. C. ZHOU\*; V. ROUTH. *Rutgers Univ., Grad. Sch. of Biomed. Sciences, Rutgers Univ.*
- 3:00 Y14 **434.11** The glucose sensitivity of lateral hypothalamic area (LHA) orexin glucose-inhibited (GI) neurons may link metabolic status and glutamate plasticity on ventral tegmental area (VTA) dopamine neurons. Z. SHENG; M. P. THOMAS; V. H. ROUTH\*. *RBHS: New Jersey Med. Sch., Univ. of Northern Colorado.*
- 4:00 Y15 **434.12** Direct monosynaptic inputs to melanin-concentrating hormone neurons revealed by new cre-dependent rabies tracing. N. M. SANATHARA\*; X. XU; O. CIVELLI. *Univ. of California, Irvine, Univ. of California, Irvine, Univ. of California, Irvine.*
- 1:00 Y16 **434.13** Creatine is crucial for central nervous system control of feeding behaviour via differential regulation of NPY/AgRP and POMC neurons. M. STOCKEBRAND\*; A. NEU; K. SAUTER; S. SCHILLEMEIT; D. ISBRANDT; C. CHOE. *German Ctr. For Neurodegenerative Diseases, DZNE, Univ. Med. Ctr. Hamburg-Eppendorf, Univ. Med. Ctr. Hamburg-Eppendorf, Univ. of Cologne, Univ. Med. Ctr. Hamburg-Eppendorf.*
- 2:00 Y17 **434.14** Loss of action via neurotensin-leptin receptor neurons disrupts adaptive energy balance. J. A. BROWN\*; R. BUGESCU; T. MAYOR; H. WOODWORTH; G. LEINNINGER. *Michigan State Univ.*

## POSTER

### 434. Food Intake and Energy Balance: Integration of Peripheral Signals II

#### **Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 Y4 **434.01** Anorexic effects of D-chiro-inositol glycan on food intake. Y. JEON\*; S. AJA; J. LARNER; G. V. RONNETT; E. KIM. *DGIST, The Johns Hopkins Univ. Sch. of Med., Univ. of Virginia Sch. of Med., DGIST, The Johns Hopkins Univ. Sch. of Med., The Johns Hopkins Univ. Sch. of Med., DGIST.*
- 2:00 Y5 **434.02** Low glucose concentration influences subfornical organ responsiveness to cholecystokinin. N. M. CANCELLIERE\*; L. DAI; A. V. FERGUSON. *Queen's Univ.*



- 3:00 Y18 **434.15** Regulation of food intake by leptin receptors located in the raphe nuclei. C. A. GRILLO\*; V. A. MACHT; M. C. RISHER; A. L. BUMGARDNER; C. E. PETYAK; L. P. REAGAN; J. R. FADEL. *Univ. South Carolina.*
- 4:00 Y19 **434.16** ▲ The effect of yohimbine in the discrimination of hunger-satiety interoceptive states. E. JIMENEZ\*; E. M. GARCIA-PEREZ; K. S. SALDIVAR-MARES; J. C. MARTINEZ-VEGA; D. N. VELAZQUEZ-MARTINEZ. *Univ. Nacional Autónoma De México, Univ. Nacional Autónoma de México.*
- 1:00 Y20 **434.17** ▲ The role of ghrelin in a chronic corticosterone model of obesity. R. E. HAY\*; M. SMORENBURG; T. RODRIGUES; A. EDWARDS; M. KLEIN; L. HYLAND; H. MACKAY; I. KARATOSOREOS; M. HILL; A. ABIZAID. *Carleton Univ., Sao Paulo Univ., Washington State Univ., Univ. of Calgary.*
- 2:00 Y21 **434.18** ● ▲ Novel ghrelin receptor inverse agonists as possible therapeutics against obesity-related metabolic disease. K. ABEGG; M. HUTTER; L. WHITING; C. PIETRA; C. GIULIANO; T. A. LUTZ; T. RIEDIGER\*. *Univ. of Zurich, Helsinn SA.*
- 3:00 Y22 **434.19** The sleep-feed conflict: Understanding the integration through the analysis of desynchronized rats. R. C. SALGADO\*; C. ESCOBAR; N. SADERI; R. BUIJS. *Facultad De Ciencias, Univ. Autónoma De San Luis Potosí., UNAM, Facultad De Ciencias, Univ. Autónoma De San Luis Potosí., UNAM.*
- 4:00 Y23 **434.20** ▲ The gut microbiome of female mice is modified by estradiol and diet. P. RAM; X. GAO; M. K. NAGYAL; E. P. BLESS; V. KLEPAC-CERAJ; M. J. TETEL\*. *Wellesley Col., Wellesley Col.*
- 1:00 Y24 **434.21** Depression-like activity and leptin levels in female rats exposed to the activity-based anorexia model of anorexia nervosa. S. GALLANT\*; A. MAHMUD; M. PACHALA; F. SEDKI; S. AMIR; U. SHALEV. *Ctr. For Studies In Behavioral Neurobio. - Concordia Univ.*
- 2:00 Y25 **434.22** ▲ Is there such a thing as good and bad snacking during development from weaning to adulthood? A. L. MANER; T. E. WOLGEMUTH; A. O. DORSETT; H. I'ANSON\*. *Washington & Lee Univ.*
- 3:00 Y26 **434.23** The hypothalamic response to high-fat diet is sexually dimorphic. W. WEI\*; A. SMITH; K. O'CONNELL. *Univ. of Tennessee Hlth. Sci. Ctr.*
- 2:00 Y28 **435.02** High-fat diet impairs spatial memory after short-term but not long-term exposure: Sex-differences, receptor expression, hippocampal plasticity, and peripheral metabolism. E. L. UNDERWOOD\*; L. T. THOMPSON. *The Univ. of Texas At Dallas.*
- 3:00 Y29 **435.03** Set shifting ability of rats perinatally exposed to bisphenol and a high fat diet. B. A. CUENOD\*; L. M. WISE; J. M. JURASKA. *Univ. of Illinois At Urbana-Champaign.*
- 4:00 Y30 **435.04** High fat intake during pregnancy and lactation impairs maternal behavior and metabolic balance. M. O. KLEIN\*; C. N. TOBARUELA; A. C. I. KISS; L. F. FELICIO. *Univ. De São Paulo - Faculdade De Medicina Veterinária E Zootecnia, Univ. de São Paulo - Inst. de Ciências Biomédicas, Univ. do Estado de São Paulo - Inst. de Biociências.*
- 1:00 Y31 **435.05** Dietary choline supplementation during pregnancy and lactation mitigates the effects of prenatal stress on male offspring spatial memory. K. M. SCHULZ\*; M. E. ZAJKOWSKI; J. N. PEARSON; K. E. STEVENS. *Denver Veterans Admin. Med. Ctr., Univ. of Colorado Anschutz.*
- 2:00 Y32 **435.06** The effect of high fat and high sucrose diet on Tau, Amyloid Precursor Protein, Amyloid-Beta Peptide synthesis and the effect of enriched environment on Alzheimer's associated changes in rats. N. AKBABA\*; Y. SELVI; H. GERGERLIOGLU; M. OZ; A. KANDEGER; E. DEMIR; H. YERLIKAYA; E. NURULLAHOGLU ATALIK. *Selcuk Univ. Sch. of Med., Mevlana Univ., Necmettin Erbakan Univ. Sch. of Med.*
- 3:00 Y33 **435.07** Obesity-induced cognitive impairment is associated with activation of microglia. E. C. COPE\*; E. A. LAMARCA; L. B. OLSON; S. MARTINEZ; E. GOULD. *Princeton Univ.*
- 4:00 Y34 **435.08** Effects of perinatal bisphenol a and high-fat diet on concurrent maternal behavior and offspring adolescent play behavior in rats. L. M. WISE\*; S. M. BOAS; H. MULLINER; J. M. JURASKA. *Univ. of Illinois, Univ. of Illinois.*
- 1:00 Y35 **435.09** Adiponectin promotes adult hippocampal neurogenesis *in vivo* and reverses high fat diet-induced suppression of neurogenesis. D. ZHANG\*; X. WANG; X. LU. *UTHSCSA.*
- 2:00 Y36 **435.10** We are what we eat: Effects of nutrition on social behavior in health and in Autism. N. ZILKHA\*; T. KIMCHI. *Weizmann Inst. of Sci.*
- 3:00 Y37 **435.11** Effects of repeated voluntary or forced exercise on rat brain serotonergic systems. M. ARNOLD\*; B. GREENWOOD; J. MCARTHUR; P. CLARK; M. FLESHNER; C. LOWRY. *Univ. of Colorado, Univ. of Colorado, Univ. of Colorado.*

## POSTER

### 435. Diet and Exercise: Effects on Behavior and Cognition

#### **Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge**

Sat. 1:00 PM – McCormick Place, Hall A

- 1:00 Y27 **435.01** Calorie restriction increases adult hippocampal neurogenesis and remote contextual fear memory in a Ghr-dependent manner. J. S. DAVIES\*; K. AMSTALDEN; A. K. E. HORNSBY. *Swansea Univ., Texas A&M.*

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\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

**POSTER**

**436. Blood Brain Barrier**

**Theme E: Integrative Systems: Neuroendocrinology, Neuroimmunology, and Homeostatic Challenge**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 Y38 **436.01** Arachnoid and lymphatic transport and the effect of clathrin inhibitors. L. ROMANOVA; E. A. HANSEN; C. YUAN; C. H. LAM\*. *Univ. of Minnesota, VA Med. Ctr., Univ. of Minnesota.*
- 2:00 Y39 **436.02** Arachnoid behavior in fibroblast cocultures. E. A. HANSEN\*; L. ROMANOVA; C. YUAN; C. LAM. *VA Med. Ctr., Univ. of Minnesota, VA Med. Ctr.*
- 3:00 Y40 **436.03** Pericyte ablation in a pericyte-specific inducible Cre mouse. B. V. ZLOKOVIC\*; Z. ZHAO; A. M. NIKOLAKOPOULOU; P. KONG; A. P. SAGARE; J. MAKSHANOFF. *Keck Sch. of Med. of the Univ. of Southern California.*
- 4:00 Y41 **436.04** Involvements of ABCB1 and Mineralocorticoid receptor (MR) on blood-brain barrier impairment in a stroke-prone hypertensive model. B. WU\*; G. LIU. *The First Hosp. of China Med. Univ., The First Hosp. of China Med. Univ.*
- 1:00 Y42 **436.05** Dynamic vascular remodeling evoked by circulating inflammatory signals in the sensory circumventricular organs. S. T. MORITA\*; K. NAKAHARA; E. FURUBE; T. MANNARI; K. TATSUMI; H. OKUDA; S. MIYATA; A. WANAKA. *Nara Med. Univ., Kyoto Inst. of Technol.*
- 2:00 Y43 **436.06** Perivascular macrophages mediate the neurovascular dysfunction induced by slow-pressor angiotensin-II hypertension. G. FARACO\*; D. LANE; Y. SUGIYAMA; K. KOIZUMI; M. MURPHY; J. ANRATHER; C. IADECOLA. *Weill Med. Col. of Cornell Univ.*
- 3:00 Y44 **436.07** Increased cerebral endothelial transcytosis and blood-brain barrier permeability in "slow pressor" angiotensin-ii hypertension. D. A. LANE\*; G. FARACO; J. ANRATHER; C. IADECOLA. *Weill Cornell Med. Col., Weill Cornell Med. Col.*
- 4:00 Z1 **436.08** Superadditive neuromodulation induced by focused ultrasound-induced blood-brain barrier opening combined with intravenous GABA agonists. H. LAI\*; T. CHEN; P. CHU; H. LIU; Y. PEI. *Zhejiang Univ., Chang Gung Mem. Hosp. At Linkou, Chang Gung Univ., Chang Gung Univ.*
- 1:00 Z2 **436.09** The postpartum period of pregnancy presents an increase in blood-brain barrier permeability in the rat. H. ROSAS-HERNANDEZ\*; M. RAMIREZ; M. A. RAMIREZ-LEE; S. F. ALI; C. GONZALEZ. *Facultad De Ciencias Quimicas, Univ. Autonoma De San Luis Potosi, Natl. Ctr. for Toxicological Research/US FDA.*
- 2:00 Z3 **436.10** Low intensity focused ultrasound induced blood-brain barrier opening in rat: Preliminary results and troubleshooting. J. SHIN\*; J. PARK; O. CHA; J. LEE; W. CHANG; J. SEO; J. CHANG. *Yonsei Univ., Yonsei Univ.*
- 3:00 Z4 **436.11** microglia affect functional maturation and inflammation-induced breakdown of the blood brain barrier by modulating the dynamics of cytokines and chemokines. K. SATO\*; Y. SHIGEMOTO-MOGAMI; K. HOSHIKAWA; Y. SEKINO. *Natl. Inst. Hlth. Sci.*
- 4:00 Z5 **436.12** hCMC/D3 a blood brain barrier cell model expresses B2 kinin receptor in the nucleus. A. H. MARTINS\*; W. TORRES-RIVERA; X. ZHANG; N. ERCAL. *Univ. Central Del Caribe, Missouri Univ. of Sci. and Technol.*
- 1:00 Z6 **436.13** *In vitro* study of vascular dynamic and cellular network in chronically stressed mouse brain. K. HAN\*; A. JO; S. LEE; J. MIN; B. KANG; C. HEO; M. SUH. *CNIR, Inst. For Basic Sci. (IBS), Dept. of Hlth. Sci. and Technology, Samsung Advanced Inst. for Hlth. Sci. and Technol. (SAIHST), Sungkyunkwan Univ., Dept. of Global Biomed. Engineering, Sungkyunkwan Univ., 2 Dept. of Hlth. Sci. and Technology, Samsung Advanced Inst. for Hlth. Sci. and Technol. (SAIHST), Sungkyunkwan Univ.*
- 2:00 Z7 **436.14** Extracellular pathways involved in the delivery of macromolecules to the brain following intranasal administration. J. J. LOCHHEAD\*; A. B. SIEVERS; R. G. THORNE. *Univ. of Wisconsin, Univ. of Wisconsin, Univ. of Wisconsin, Univ. of Wisconsin.*
- 3:00 Z8 **436.15** Investigating distribution, stability and dose response following intranasal targeting of antibodies and their fragments to the central nervous system. N. KUMAR\*; J. J. LOCHHEAD; E. BRUNETTE; D. STANIMIROVIC; R. THORNE. *Univ. of Wisconsin Madison, Inst. for Biol. Sci. (National Res. Council of Canada), Univ. of Wisconsin Madison, Univ. of Wisconsin Madison, Univ. of Wisconsin Madison.*
- 4:00 Z9 **436.16** ● Attempts to study prompt post-lesion alterations resulting in blood-brain-barrier impairment: Immunohistochemistry and multiphoton microscopy in rats. K. MIHALY\*; L. TÓTH; D. SZÖLLÖSI; E. HORVÁTHNÉ OSZWALD; K. KIS PETIK. *Semmelweis Univ.*
- 1:00 Z10 **436.17** Pharmacological characterization of the mechanisms involved in the vasorelaxation induced by progesterone and 17β-stradiol on isolated canine basilar and internal carotid arteries. A. SACHEZ-LOPEZ\*; M. B. RAMÍREZ-ROSAS; L. E. COBOS-PUC; E. J. GUTIÉRREZ-LARA; D. CENTURIÓN. *Cinvestav-Coapa.*
- 2:00 Z11 **436.18** ● Impact of local inflammation and blood-brain barrier (BBB) impairment: Comparison of *in vivo* microdialysis and cerebral open flow microperfusion (cOFM) methods for the detection of cytokines. D. SONG; T. BIRNGRUBER; G. CHANDRASENA; F. SINNER; G. N. SMAGIN\*. *Lundbeck, JOANNEUM RESEARCH.*
- 3:00 Z12 **436.19** Investigating the whole brain distribution of intrathecally applied antibodies and antibody fragments using *ex vivo* fluorescence microscopy and *in vivo* magnetic resonance imaging. M. E. PIZZO\*; D. J. WOLAK; E. BRUNETTE; M. HANNOCKS; C. M. LEWIS; M. E. MEYERAND; L. SOROKIN; D. B. STANIMIROVIC; R. G. THORNE. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Natl. Res. Council of Canada, Muenster Univ., Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*
- 4:00 Z13 **436.20** Roles of Zic family zinc finger proteins in development and maintenance of the blood-brain-barrier. J. ARUGA\*; M. HATAYAMA; S. NAKAGAWA; R. TATSUMI. *Nagasaki Univ. Sch. of Med.*
- 1:00 Z14 **436.21** Estradiol improves energy balance independently of the blood-brain barrier-insulin-transport system. A. MAY\*; N. D. BEDEL; L. SHEN; S. C. WOODS; M. LIU. *Univ. of Cincinnati, Univ. of Cincinnati, Univ. of Cincinnati.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 2:00 Z15 **436.22** APOE modulates Amyloid- $\beta$  induced blood-brain barrier dysfunction. L. M. TAI\*; M. MAIENSCHHEIN-CLINE; P. KANABAR; B. HENDRICKSON; N. BAHROOS; S. J. GREEN; K. CAI. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*
- 3:00 Z16 **436.23** Vascular cell senescence contributes to blood-brain barrier breakdown. Y. YAMAZAKI\*; D. J. BAKER; C. LIU; J. M. VAN DEURSEN; T. G. BROTT; G. BU; T. KANEKIYO. *Mayo Clin., Mayo Clin., Mayo Clin.*
- 4:00 Z17 **436.24** The effects of epileptogenesis on cerebral vasculature and cellular structure. H. LIM\*; A. JO; J. KIM; B. KANG; M. SUH. *CNIR, Inst. For Basic Sci. (IBS), Dept. of Biol. Science, Sungkyunkwan Univ., Dept. of Global Biomed. Engineering, Sungkyunkwan Univ., Dept. of Hlth. Sci. and Technology, Samsung Advanced Inst. for Hlth. Sci. and Technol. (SAHST), Sungkyunkwan Univ.*
- 1:00 Z18 **436.25** Isoflurane attenuates stroke-mediated blood-brain barrier disruption without change in brain infarct volume. K. H. LIAO; H. WANG; T. W. LAI\*. *China Med. Univ., China Med. Univ. Hosp.*
- 2:00 Z19 **436.26** Embryonic mouse brain angiogenesis. S. OZSOY\*. *Inst. of Dent. Res.*
- 3:00 Z20 **436.27** Spatially heterogeneous choroid plexus transcriptomes encode positional identity and contribute to regional CSF production. M. LUN\*; M. B. JOHNSON; K. G. BROADBELT; M. WATANABE; Y. KANG; K. F. CHAU; M. W. SPRINGEL; A. MALESZ; A. M. M. SOUSA; M. PLETIKOS; T. ADELITA; M. L. CALICCHIO; H. G. W. LIDOV; N. SESTAN; H. STEEN; E. S. MONUKI; M. K. LEHTINEN. *Boston Children's Hosp., Boston Univ. Sch. of Med., Univ. of California Irvine Sch. of Med., Yale Sch. of Med., Federal Univ. of São Paulo.*

## POSTER

### 437. Human Memory: Medial Temporal Lobe

#### Theme F: Cognition and Behavior

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 Z21 **437.01** The neural representation of remembered subjective real-world experience. V. SREEKUMAR\*; D. NIELSON; T. SMITH; S. DENNIS; P. SEDERBERG. *Ohio State Univ., The Univ. of Newcastle.*
- 2:00 Z22 **437.02** Human hippocampal replay prioritizes weakly-learned information and predicts memory performance. A. C. SCHAPIRO\*; T. T. ROGERS; E. A. MCDEVITT; S. C. MEDNICK; K. A. NORMAN. *Princeton Univ., Univ. of Wisconsin-Madison, Univ. of California-Riverside.*
- 3:00 Z23 **437.03** Differential eye movements for old and new scenes under free viewing conditions reflect nondeclarative (unaware), hippocampus-independent memory. C. N. SMITH\*; L. R. SQUIRE. *Univ. of California San Diego, Veterans Affairs San Diego Healthcare Syst., Univ. of California San Diego, Univ. of California San Diego.*
- 4:00 Z24 **437.04** Triggers of entorhinal grid cell and hippocampal place cell remapping in humans. M. STANGL\*; T. MEILINGER; A. PAPE; J. SCHULTZ; H. H. BUELTHOFF; T. WOLBERS. *German Ctr. for Neurodegenerative Dis., Max Planck Inst. for Biol. Cybernetics.*
- 1:00 Z25 **437.05** Statistical learning in patients with focal bilateral hippocampal damage. N. V. COVINGTON\*; S. BROWN-SCHMIDT; M. C. DUFF. *Univ. of Iowa, Univ. of Illinois at Urbana-Champaign, Univ. of Iowa.*
- 2:00 Z26 **437.06** Dissociating verbal and nonverbal learning and recall after temporal lobe surgery. S. M. BUCK\*; E. ISAACS; T. BALDEWEG; C. E. POLKEY; M. MISHKIN; F. VARGHA-KHADEM. *Inst. of Child Hlth., Inst. of Child Hlth., Inst. of Child Hlth., King's Col. London, NIH/NIMH.*
- 3:00 Z27 **437.07** Intact response learning in amnesia: Hippocampal lesions do not disrupt the contribution of stimulus-response bindings to priming. E. RACE\*; K. BURKE; M. VERFAELLIE. *VA Boston Healthcare Syst. and Boston Univ. Sch. of Med.*
- 4:00 Z28 **437.08** The hippocampal response to familiar word stimuli is a confound of word abstractness. A. KAFKAS\*; A. MAYES; D. MONTALDI. *Univ. of Manchester.*
- 1:00 Z29 **437.09** Ageing effects on precise memory for objects and scenes in the medial temporal lobe. D. BERRON\*; K. NEUMANN; A. MAASS; H. SCHÜTZE; K. FLIESSBACH; V. KIVEN; M. SAUVAGE; D. KUMARAN; E. DÜZEL. *Otto-von-Guericke Univ., German Ctr. for Neurodegenerative Dis. (DZNE), Inst. of Cognitive Neurol. and Dementia Research, Otto-von-Guericke Univ., German Ctr. for Neurodegenerative Dis. (DZNE), Univ. Hosp. Bonn, Ruhr Univ. Bochum, Univ. Col. London.*
- 2:00 Z30 **437.10** Neural correlates of impairment on neuropsychological tests of memory: Using sparse principal components analysis and machine learning predictions to address problems in voxelwise lesion-symptom mapping. D. E. WARREN\*; J. BRUSS; D. TRANEL. *Carver Col. of Medicine, Univ. of Iowa.*
- 3:00 Z31 **437.11** Extra-hippocampal damage in patients with developmental amnesia and monkeys with hippocampal lesions. A. M. DZIECIOL\*; F. VARGHA-KHADEM; K. S. SALEEM; M. MISHKIN; R. C. SAUNDERS. *UCL Inst. of Child Hlth., Natl. Inst. of Hlth.*
- 4:00 Z32 **437.12** The impact of oral estrogen administration on emotional memory and its neural correlates in healthy naturally cycling women. J. BAYER\*; L. PHILIPP; L. H. SCHULTE; T. SOMMER. *Univ. Med. Ctr. Hamburg Eppendorf.*
- 1:00 Z33 **437.13** Are age-related pattern separation deficits restricted to the long-term memory domain? L. R. HOWARD\*; D. BERRON; F. SAMATIN; C. STREET; E. DÜZEL; T. WOLBERS. *German Ctr. For Neurodegenerative Dis., Univ. of British Columbia.*
- 2:00 Z34 **437.14** A granularity gradient exists along the anterior-posterior axis of the parahippocampal cortex. H. R. EVENSMOEN\*; A. HABERG. *NTNU, NTNU.*
- 3:00 Z35 **437.15** Examining the neural correlates of implicitly processed temporal durations during event sequences. S. THAVABALASINGAM; E. B. O'NEIL; A. C. LEE\*. *Univ. of Toronto, Baycrest Ctr. for Geriatric Care.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 4:00 Z36 **437.16** ● Brain activity in the default mode network during episodic prospection: Electrophysiological evidence implicating a medial fronto-temporal axis. C. HSU\*; E. SONUGA-BARKE. *York Univ., Univ. of Southampton, Ghent Univ.*
- 1:00 Z37 **437.17** Intracranial recordings of cortico-hippocampal activity during retrieval of temporal sequences. L. HSIEH\*; J. PARVIZI; C. RANGANATH. *Stanford Comprehensive Epilepsy Ctr., Stanford Univ., UC Davis.*

## POSTER

### 438. Human Decision Making and Reasoning

#### Theme F: Cognition and Behavior

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 Z38 **438.01** Distinct neural substrates underlie reward-based decisions in visual, auditory, and cognitive probabilistic environments learned via experience: An event-related fMRI study. F. FILIMON\*; A. KOTHIAL; J. D. NELSON; G. GIGERENZER. *Max Planck Inst. For Human Develop.*
- 2:00 Z39 **438.02** Probabilistic classification decisions in the perceptual domain rely on distinct neural activations when probabilities are learned from experience as opposed to description. J. D. NELSON\*; F. FILIMON; J. SCHIEBENER; M. BRAND; K. VOLZ. *Max Planck Inst. For Human Develop., Univ. of Duisburg-Essen, Univ. of Tuebingen.*
- 3:00 Z40 **438.03** Memory-guided perception: Sampling from past experience during perceptual inference. A. M. BORNSTEIN\*; M. ALY; S. F. FENG; K. A. NORMAN; N. B. TURK-BROWNE; J. D. COHEN. *Princeton Neurosci. Inst., Khalifa Univ.*
- 4:00 Z41 **438.04** A computational model of control allocation based on the expected value of control. S. MUSSLICK\*; A. SHENHAV; M. M. BOTVINICK; J. D. COHEN. *Princeton Univ.*
- 1:00 Z42 **438.05** Discrepancy between explicit and implicit sense of agency: Assessment of awareness of action in healthy population and in Parkinson's disease. N. SAITO\*; K. TAKAHATA; H. YAMAKADO; N. SAWAMOTO; S. SAITO; R. TAKAHASHI; T. MURAI; H. TAKAHASHI. *Grad. Sch. of Medicine, Kyoto Univ., Natl. Inst. of Radiological Sci.*
- 2:00 Z43 **438.06** Boosting insight by temporal alpha stimulation: Brain stimulation effects on convergent creativity. C. D. LUFT\*; N. M. THOMPSON; M. J. BANISSY; J. BHATTACHARYA. *Goldsmiths, Univ. of London.*
- 3:00 Z44 **438.07** Classifying food as healthy and unhealthy subjectively evokes different brain electrophysiological signals. M. DOMINGUEZ MARIN\*; A. E. RUIZ-CONTRERAS; M. MÉNDEZ-DÍAZ; J. A. FRANCO-RODRÍGUEZ; T. V. ROMÁN-LÓPEZ; Ó. PROSPERO-GARCÍA. *Univ. Nacional Autónoma de México, Univ. Nacional Autónoma de México.*
- 4:00 AA1 **438.08** ▲ Habits, action sequences and working memory from a behavioral and a computational perspective. V. MOENS\*; A. ZÉNON; E. OLIVIER. *UCL, UCL.*
- 1:00 AA2 **438.09** Effects of paced breathing on cognitive flexibility. B. J. FERGUSON\*; B. N. HERRIOTT; A. K. HALT; D. Q. BEVERSDORF. *Univ. of Missouri, Washington Col., Univ. of Missouri.*
- 2:00 AA3 **438.10** Listen to your gut: How satiety hormones influence dietary choice and ventromedial prefrontal value encoding in lean subjects. L. SCHMIDT\*; J. ARON-WISNEWSKI; N. MANOHARAN; M. CHABERT; A. LETURQUE; K. CLEMENT; H. PLASSMANN. *INSEAD, INSERM U960, Lab. de Neurosciences Cognitives, Economic-Decision-Making Group, Ecole Normale Supérieure, Inst. of Cardiometabolism and Nutrition, ICAN, Assistante Publique Hôpitaux de Paris, Pitié-Salpêtrière Hosp., INSERM and UPMC, UMRS1166, NutriOmics team, Faculté Pitié-Salpêtrière, INSEAD, Ctr. Multidisciplinaire de Sci. Comportementales SU-INSEAD, INSERM and UPMC, UMRS1138, Physiopathologies intestinales: nutrition et fonction de barrière, Dept. of Physiology, Metabolism, Differentiation, Ctr. de Recherche des Cordeliers, EPHE, Pharmacologie cellulaire et moléculaire, INSEAD, Dept. of Marketing, Europa Campus.*
- 3:00 AA4 **438.11** To simplify computations, subjects use a generative model of the environment. G. SULEM\*; M. ROUAULT; E. KOEHLIN. *Inserm U960, LNC, IEC, ENS.*
- 4:00 AA5 **438.12** Dynamics of neuronal networks during verbal and spatial mental operations. O. MARTYNOVA\*; G. PORTNOVA; V. BALAEV; A. IVANITSKII. *Inst. of Higher Nervous Activity, Natl. Res. Univ. "Higher Sch. of Economics".*
- 1:00 AA6 **438.13** Matter over mind (wandering): Electrophysiological predictors of task-unrelated decrements in performance. G. HAWKINS\*; M. MITTNER; A. HEATHCOTE; B. U. FORSTMANN. *Univ. of Amsterdam, Univ. of Tromso, Univ. of Tasmania.*
- 2:00 AA7 **438.14** Neural mechanisms for generation of emergent interpretations in metaphor comprehension. A. TERAI; M. NAKAGAWA; T. KUSUMI; M. SAKAGAMI; K. JIMURA\*. *Tokyo Inst. of Technol., Kyoto Univ., Tamagawa Univ., Keio Univ.*
- 3:00 AA8 **438.15** Evidence accumulation in changing environments. Z. P. KILPATRICK\*; K. JOSIC; A. VELIZ-CUBA. *Univ. of Houston.*
- 4:00 AA9 **438.16** tDCS modulates neuronal activity, dynamics and improves procedural learning and skill acquisition. J. CHOE; B. COFFMAN; M. ZIEGLER; R. BHATTACHARYYA; M. PHILLIPS\*. *HRL Labs.*
- 1:00 AA10 **438.17** Transcranial direct current stimulation supports cognitive training transfer by increasing the rate of evidence accumulation. H. L. FILMER\*; E. G. VARGHESE; G. E. HAWKINS; J. B. MATTINGLEY; P. E. DUX. *Univ. of Queensland, Univ. of Amsterdam.*
- 2:00 AA11 **438.18** A computational neurostimulation model of the nonlinear effects of tDCS. S. BESTMANN\*; J. BONAIUTO. *Inst. of Neurol., Inst. of Neurol.*
- 3:00 AA12 **438.19** A shared mechanism of metacognition in animals and humans. A. NIKKUNI\*; A. MIYAMOTO; K. NUMATA; Y. KOMURA. *AIST, Ibaraki Prefectural Univ. of Hlth. Sci., Res. Fellow of JSPS, PD, Univ. of Sussex.*
- 4:00 AA13 **438.20** The effects of methylphenidate on brain processes during cost/benefit decision-making. A. M. MOWINCKEL\*; M. L. PEDERSEN; S. ZIEGLER; M. FREDRIKSEN; T. ENDESTAD; G. P. BIELE. *Univ. of Oslo, Univ. of Oslo, Oslo Univ. Hosp., Univ. of Oslo, Vestfold Hosp. Trust, Norwegian Inst. of Publ. Hlth.*

- 1:00 AA14 **438.21** The latent factors structure for aesthetic judgments and their neural substrates. T. NAITO\*; M. WAKABAYASHI; M. KITAGUCHI; S. NISHIMOTO; E. MATSUMOTO; H. SATO. *Osaka University, Natl. Inst. of Info. and Comm. Technol., Osaka University, Kobe Univ.*
- 2:00 AA15 **438.22** Temporal evolution of the salience network activity: An EEG study. G. CHAND\*; M. DHAMALA. *Georgia State Univ.*
- 3:00 AA16 **438.23** What's behind an arithmetic sign? Neural basis of automated calculation procedures. R. MATHIEU\*; C. THEVENOT; J. PRADO. *Lab. Langage, Cerveau Et Cognition, Ctr. Natl. de la Recherche Scientifique (CNRS), Univ. Claude Bernard Lyon 1, Univ. de Genève.*
- 4:00 AA17 **438.24** Sequential integration of two simultaneous sources of evidence. Y. H. KANG\*; M. N. SHADLEN. *Columbia Univ. Med. Ctr., Columbia Univ., Howard Hughes Med. Inst.*
- 1:00 AA18 **438.25** Naïve Gaussian statisticians..until it's too late: Biased judgments in networked (heavy-tailed) contexts and an incentive compatible elicitation method for measuring individual perceptions of tail uncertainty. S. WESTON\*. *New York Univ.*
- 3:00 AA25 **439.07** ▲ Long-Range Temporal Correlations in neuronal oscillations as predictors of TMS effects in paired-pulse paradigms. E. D. BLAGOVESHCHENSKY\*; T. FEDELE; M. NAZAROVA; V. NIKULIN. *Higher Sch. of Econ., Ctr. for Cognition and Decision Making, Natl. Res. Univ. Higher Sch. of Econ., Charité - Univ. Med. Berlin.*
- 4:00 AA26 **439.08** Are stimulus durations of several seconds "too long" for children with autism: Behavioral and neural differences in the perception of time. A. PATHAK; J. T. HUCK; F. P. LOOMIS; M. J. ALLMAN\*. *Michigan State Univ.*
- 1:00 AA27 **439.09** Metrical structure makes discriminating intensity (but not pitch) targets more difficult. M. J. HENRY\*; S. I. RASHED; J. A. GRAHN. *The Univ. of Western Ontario, Univ. of Alexandria.*
- 2:00 AA28 **439.10** Accurate measurement of stimulus time offsets in EEG data collection affects results in a visual Nback task : A case study. J. SHATTUCK\*; C. S. MOLLOY. *Univ. of Nebraska, Lincoln.*
- 3:00 AA29 **439.11** Differentiating rhythm and temporal orienting during subjective rhythmization using auditory alpha power. C. OBERMEIER\*; M. SCHWARTZE; M. J. HENRY; S. A. KOTZ. *Max Planck Inst. for Human Cognitive and Brain Sci., Univ. of Manchester, Univ. of Western Ontario.*

## POSTER

### 439. Human Cognition: Temporal Processing

#### Theme F: Cognition and Behavior

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 AA19 **439.01** The role of motor areas in beat-based and non-beat-based timing. L. LEOW; C. RINCHON; J. A. GRAHN\*. *The Univ. of Queensland, Univ. of Western Ontario, Univ. of Western Ontario.*
- 2:00 AA20 **439.02** The spatial representation of time in visual cortex. D. BUETI\*; C. RETSA; T. KÉNEL-PIERRE; M. M. MURRAY. *Dept. of Clin. Neurosciences, BH07.81, Ecole Polytechnique Fédérale de Lausanne (EPFL), Univ. Hosp. of Lausanne.*
- 3:00 AA21 **439.03** Investigating the brain dynamics of impulsivity in gamblers and healthy volunteers using MEG. T. J. VAN HARTEVELT\*; P. ALVES DA MOTA; H. M. FERNANDES; H. MOHSENI; K. RØMER THOMSEN; M. JØNSSON; H. LOU; A. MØLLER; M. L. KRINGELBACH. *Univ. of Oxford, Univ. of Oxford, Aarhus Univ.*
- 4:00 AA22 **439.04** A theoretical model for robust representation of the passage of time by feedback signals. O. KATAKURA\*; T. YAMAZAKI. *The Univ. of Electro-Communications.*
- 1:00 AA23 **439.05** Neural substrates of temporal processing: Evidence from human intracranial recordings. Q. PIAO; W. ZHOU; Y. LI; T. YU; G. ZHANG; L. WANG\*. *Inst. of Psychology, Chinese Acad. of Sci., Tsinghua Univ. Yuquan Hosp., Beijing Haidian Hosp., Xuanwu Hospital, Capital Med. Univ., Aviation Gen. Hosp., CAS Ctr. for Excellence in Brain Sci.*
- 2:00 AA24 **439.06** Sensory measurement and motor planning are not separable in interval timing. E. D. REMINGTON\*; E. HOSSEINI; M. JAZAYERI. *MIT, MIT.*
- 4:00 AA30 **439.12** Differential effects of estradiol and testosterone on impulsive behavior in human adolescents. G. ALARCON\*; V. WILSON; S. H. MITCHELL; B. J. NAGEL. *Oregon Hlth. & Sci. Univ.*
- 1:00 AA31 **439.13** Predictive and relative coding of interval time revealed by fMRI. Y. MURAI\*; Y. YOTSUMOTO. *The Univ. of Tokyo.*
- 2:00 AA32 **439.14** Improved time perception via stochastic resonance. B. DE LA TORRE\*; N. HUIDOBRO; O. ARIAS-CARRION; E. MANJARREZ. *Benemerita Univ. Autonoma De Puebla, Hosp. Gen. Dr. Manuel Gea González/IFC-UNAM.*
- 3:00 AA33 **439.15** Neural correlates of tactile simultaneity judgment. T. KIMURA; H. KADOTA; T. D. FUNAI; T. KURODA; M. IWATA; T. KOCHIYAMA; M. MIYAZAKI\*. *Kochi Univ. of Technol., Hiroshima Univ., Shizuoka Univ., JSPS, ATR.*
- 4:00 AA34 **439.16** Power and phase synchronization underlie a left speech processing advantage in 7-month-old infants with active auditory experience. S. C. ORTIZ-MANTILLA\*; T. REALPE-BONILLA; C. P. ROESLER; N. CHOUDHURY; A. A. BENASICH. *Rutgers The State Univ. of New Jersey, Ramapo Col. of New Jersey.*
- 1:00 AA35 **439.17** Frontoparietal network synchronization predicts behavioral output during a cognitive flexibility task. K. B. STEELE\*; J. S. BUTLER; J. J. FOXE. *Albert Einstein Col. of Med., Trinity Col. Dublin, City Col. of the City Univ. of New York.*
- 2:00 AA36 **439.18** Task-positive and Task-negative brain regions display both cooperative and competitive dynamics. A. OSSOWSKI\*; S. C. MILLEVILLE; A. MARTIN; S. J. GOTTS. *Natl. Inst. of Mental Hlth.*
- 3:00 AA37 **439.19** Judgment of time interval of sounds reproduced by own action. K. MITANI\*; M. KASHINO. *Tokyo Inst. of Technol., NTT Communication Sci. Labs.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 4:00 AA38 **439.20** The neural correlates of spatiotemporal orienting in aging. S. G. HEIDEMAN\*; G. ROHENKOHL; C. PALMER; J. CHAUVIN; A. C. NOBRE. *Univ. of Oxford, Univ. of Oxford.*
- 1:00 AA39 **439.21** Are we conscious of our internal clock? H. TAJUDDIN; T. W. KONONOWICZ; C. ROGER; V. VAN WASSENHOVE\*. *CEA, DSV/I2BM, NeuroSpin; INSERM, Cognitive Neuroimaging Unit, U992; Univ. Paris-Sud, Univ. de Lille, CEA.DSV.I2BM.Neurospin.*
- 2:00 AA40 **439.22** Time distortions and neural modulations induced by temporally modulated multi-modal stimuli. K. YUASA\*; Y. YOTSUMOTO. *The Univ. of Tokyo, JSPS.*
- 3:00 AA41 **439.23** The role of theta phase during syllable processing: A 7T fMRI study using sensory entrainment. S. TEN OEVER\*; L. HAUSFELD; J. CORREIA; E. FORMISANO; N. VAN ATTEVELDT; A. T. SACK. *Maastricht Univ., VU Univ. Amsterdam.*
- 4:00 AA42 **439.24** Motor system excitability increases before the beat in auditory rhythms. D. CAMERON\*; V. WU; U. AZHAR; J. A. GRAHN. *Univ. of Western Ontario, Univ. of Western Ontario.*
- 1:00 AA43 **439.25** The role of pSTC and IFG in temporal gesture-speech integration. L. MORETT\*; Y. LI; M. WARD; B. LUNA; A. GHUMAN. *Univ. of Pittsburgh.*
- 2:00 AA44 **439.26** Acoustic envelope can be transferred by vision and touch below flicker frequencies. L. LEMUS\*. *Univ. Nacional Autonoma De Mexico.*
- 3:00 AA45 **439.27** Auditory-visual versus visual-auditory temporal integration: Common or distinct substrates? R. CECERE\*; J. GROSS; G. THUT. *Univ. of Glasgow.*
- 4:00 AA46 **439.28** Beta oscillation reflects temporal attention for sensory prediction during auditory rhythmic entrainment. A. CHANG\*; A. RICE; D. BOSNYAK; L. J. TRAINOR. *McMaster Univ.*
- 2:00 BB4 **440.06** Neural mechanisms supporting auditory differential fear conditioning. N. FERRARA\*; P. K. CULLEN; E. K. ROTONDO; F. J. HELMSTETTER. *Univ. of Wisconsin-Milwaukee.*
- 3:00 BB5 **440.07** Regulation of protein synthesis through proteolytic modulation of protein phosphatase 2A during fear memory consolidation. D. S. REIS\*; M. SEHGAL; E. K. ROTONDO; F. J. HELMSTETTER. *Univ. of Wisconsin - Milwaukee.*
- 4:00 BB6 **440.08** Changes in PTSD-associated brain regions in the absence of PTSD-like behavior following situational trauma. T. S. COTRONE; M. F. EHRICH; B. G. KLEIN\*. *Virginia Tech, Col. of Vet. Med.*
- 1:00 BB7 **440.09** Noradrenergic excitation mediated by OX1R plays an important role in cued fear memory retrieval and fear generalization. S. SOYA\*; T. MAEJIMA; T. MCHUGH; T. SAKURAI. *Kanazawa Univ., RIKEN Brain Sci. Inst.*
- 2:00 BB8 **440.10** The effects of genetic deletion and acute blockade of serotonin transporter function on emotional learning. J. LIMA\*; A. TAYLOR; T. SHARP; D. BANNERMAN; S. MCHUGH. *Univ. of Oxford, Univ. of Oxford.*
- 3:00 BB9 **440.11** Freezing behavior induced by activation of fear ensemble of neurons in lateral amygdala. S. LEE\*; B. KO; J. KIM. *Pohang Univ. of Sci. and Technol.*
- 4:00 BB10 **440.12** Collateralized basal amygdaloid projections to ventral striatopallidum and extended amygdala. R. A. REICHARD\*; M. T. DESTA; D. S. ZAHM. *St. Louis Univ. Med. Sch.*
- 1:00 BB11 **440.13** Acetylcholine and noradrenaline signaling interact in the amygdala to regulate behaviors related to anxiety and depression. Y. S. MINEUR\*; E. L. M. CAHUZAC; M. P. BENTHAM; M. PLATENGA; T. MOSE; S. A. MCKEE; M. R. PICCIOTTO. *Yale Univ. Sch. Med.*
- 2:00 BB12 **440.14** Value coding neurons in lateral amygdala are recruited by both unconditioned and learned emotional stimuli. A. GROSSO\*; M. CAMBIAGHI; A. RENNA; L. MILANO; G. R. MERLO; T. SACCO; B. SACCHETTI. *Univ. Di Torino, Univ. Di Torino, Univ. Di Torino.*
- 3:00 BB13 **440.15** A circuit connecting the amygdala and ventral striatum regulates fear extinction. S. CORREIA\*; A. M. GRAYBIEL; K. A. GOOSENS. *MIT McGovern Inst., MIT.*
- 4:00 BB14 **440.16** The emergence of context fear conditioning and the developmental status of basolateral amygdala afferents. A. J. SANTARELLI\*; A. M. POULOS. *The State Univ. of New York At Albany.*
- 1:00 BB15 **440.17** Disturbances induced by MK801 in acquisition and extinction during classical fear conditioning are associated with oscillatory changes in the basolateral amygdala. K. REJNIAK; M. OLSZEWSKI; A. WROBEL\*; S. KASICKI. *Nencki Inst. of Exptl. Biol.*
- 2:00 BB16 **440.18** Fear memory reactivation after extinction activates plasticity in the lateral amygdala. R. DAVIES; A. SHAROVA; H. BERGSTROM; R. URSANO; S. BARTLETT; L. R. JOHNSON\*. *IHBI QUT, USU Sch. of Med., NIH, Translational Res. Inst.*

## POSTER

### 440. Amygdala Circuits in Aversive Learning and Memory

#### Theme F: Cognition and Behavior

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 AA47 **440.01** ● Selective learning deficits in mice following low dose ketamine. C. A. GIANESSI\*; M. S. MONSEY; S. L. QUICK; P. R. CORLETT; J. R. TAYLOR. *Yale Interdepartmental Neurosci. Program, Yale Univ.*
- 2:00 AA48 **440.02** Withdrawn.
- 3:00 BB1 **440.03** Withdrawn.
- 4:00 BB2 **440.04** Common processes underlying synaptic destabilization in the amygdala during brief and prolonged memory retrieval. E. K. ROTONDO\*; D. S. REIS; J. CICHON; F. J. HELMSTETTER. *Univ. of Wisconsin-Milwaukee.*
- 1:00 BB3 **440.05** Neural activity in the lateral amygdala driven by auditory CS onset critically determines memory retrieval and behavioral expression of fear. P. K. CULLEN\*; N. C. FERRARA; S. E. PULLINS; F. J. HELMSTETTER. *Univ. of Wisconsin, Milwaukee.*

- 3:00 BB17 **440.19** Overexpression of GluN2A or GluN2B within neurons of the mouse basal and lateral amygdala alters amygdala dependent mnemonic processing. R. HOLEHONNUR\*; L. J. KIM; L. E. JONES; D. K. DAISON; D. T. VUONG; S. F. KHAKOO; J. E. PLOSKI. *The Univ. of Texas At Dallas*.
- 4:00 BB18 **440.20** Computational methods for dynamic 3-D mapping of synapses *in vivo* and application to learning. C. KESSELMAN\*; K. CZAJKOWSKI; W. DEMPSEY; T. TRUONG; D. ARNOLD; S. FRASER. *USC, USC*.
- 1:00 BB19 **440.21** Optogenetic dissection of corticotropin-releasing-factor cells in the extended amygdala during contextual fear conditioning. A. ASOK\*; J. SCHULKIN; J. B. ROSEN. *Univ. of Delaware, Georgetown Univ.*
- 2:00 BB20 **440.22** Basal cortisol is differentially associated with amygdala volume in trauma-exposed women and controls. S. YOON\*; J. K. RIEDER; M. R. WEIERICH. *The Grad. Center, City Univ. of New York, Hunter College, City Univ. of New York, The Grad. Center, City Univ. of New York*.
- 3:00 BB21 **440.23** The role of amygdalar glia in sleep-dependent consolidation of cued-fear memory and sleep architecture in the rat. T. KUMAR\*; S. K. JHA. *Jawaharlal Nehru Univ.*

**POSTER**

**441. Working Memory**

**Theme F: Cognition and Behavior**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 BB22 **441.01** Correlation dynamics of neuronal activity across widely distributed cortical areas during visual working memory in the macaque. N. M. DOTSON\*; S. J. HOFFMAN; T. LYNN; C. M. GRAY. *Montana State Univ.*
- 2:00 BB23 **441.02** A large-scale, distributed recording system for semi-chronic monitoring of cortical and sub-cortical neuronal activity in alert monkeys-VII. C. M. GRAY\*; N. DOTSON; S. HOFFMAN; B. GOODELL. *Montana State Univ.*
- 3:00 BB24 **441.03** Spectro-temporal organization of local field potentials across widely distributed cortical areas during visual working memory in the macaque macaque. S. J. HOFFMAN\*; N. M. DOTSON; T. LYNN; C. M. GRAY. *Montana State Univ.*
- 4:00 BB25 **441.04** Neural correlates of working memory in the mouse prefrontal cortex and ventral tegmental area. S. DUVARCI; T. SIGURDSSON\*; J. ROEPER. *Goethe Univ. Frankfurt*.
- 1:00 BB26 **441.05** Distribution of dopamine receptors in the prefrontal cortex and its relation to current models of attention and working memory modulation. A. L. MUELLER\*; T. MOORE. *Stanford Univ.*
- 2:00 BB27 **441.06** Persistent activity as a result of stimulus-driven network-wide re-organization of the pattern of firing rates. M. DURNEZ\*; C. CONSTANTINIDIS; S. FUNAHASHI; D. HANSEL; G. MONGILLO. *Univ. Paris Descartes, Wake Forest Univ. Sch. of Med., Kokoro Res. Ctr.*

- 3:00 BB28 **441.07** Availability of working memory affects rats' choice strategy and neuronal representation in the cortex and the striatum. M. ITO\*; T. YOSHIZAWA; K. DOYA. *Okinawa Inst. of Sci. and Technol. (OIST), Nara Inst. of Sci. and Technol. (NAIST)*.
- 4:00 BB29 **441.08** mGluR2/3 regulate working memory circuitry in the primate dorsolateral prefrontal cortex. L. E. JIN\*; M. WANG; S. YANG; Y. YANG; C. PASPALAS; A. F. T. ARNSTEN. *Yale Univ., Yale Univ., Pennsylvania State Univ.*
- 1:00 BB30 **441.09** Stable and dynamic coding for working memory in primate prefrontal cortex. E. SPAAK\*; K. WATANABE; S. FUNAHASHI; M. STOKES. *Oxford Univ., Oxford Univ., Kyoto Univ.*
- 2:00 BB31 **441.10** Neuronal activity driven by the VTA modulates information coding capacity in the prefrontal cortex. C. MININNI; C. CAIAFA; S. ZANUTTO; S. E. LEW\*. *Inst. de Medicina y Biología Exptl. - CONICET, CONICET, Inst. de Medicina y Biología Exptl. - CONICET, Inst. de Ingeniería Biomédica, UBA, Univ. de Buenos Aires*.
- 3:00 BB32 **441.11** A biophysical neural network model for visual working memory that accounts for memory binding errors. J. BARBOSA; A. COMPTE\*. *IDIBAPS*.

**POSTER**

**442. Executive Function: Behavior and Pharmacology**

**Theme F: Cognition and Behavior**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 BB33 **442.01** The effect of MK-801 on a cognitive flexibility in gradually impeding variants of the spatial reversal task on the rotating arena (Carousel). A. STANKOVA; S. KUBIK\*; M. ENTLEROVA; J. SVOBODA; A. STUCHLIK. *Inst. of Physiol. Acad. of Sci. of the Czech Republic, v.v.i.*
- 2:00 BB34 **442.02** Pubertal status affects cognitive flexibility on a water maze task in male and female rats. J. M. JURASKA; C. M. DRZEWIECKI; B. A. CUENOD; L. R. CORTES; J. WILLING\*. *Univ. of Illinois*.
- 3:00 BB35 **442.03** Enriched environment effects on remote object recognition memory retrieval. R. MELANI\*; G. CHELINI; T. PIZZORUSSO; M. CENNI; N. BERARDI. *Florence Univ., Natl. Res. Council - CNR*.
- 4:00 BB36 **442.04** Effects of pre-limbic versus infra-limbic cortex lesions on detecting object novelty. W. E. DECOTEAU\*; S. MILLER; B. CARLSON; A. KOWALCZYK; M. HANNAH. *St. Lawrence Univ., St. Lawrence Univ.*
- 1:00 BB37 **442.05** Lateral Habenular involvement in working memory. V. MATHIS\*; B. COSQUER; J. CASSEL; L. LECOURTIER. *CNRS, UMR 7364, Univ. De Strasbourg*.
- 2:00 BB38 **442.06** Effect of NMDA receptor blockade on attention and episodic spatial memory during aging. A. KUMAR\*; M. GUIDI; A. RANI; S. KARIC; B. SEVERANCE; T. C. FOSTER. *Univ. of Florida, Noldus Information Technol., Univ. of Florida, Univ. of Florida*.

• Indicated a real or perceived conflict of interest, see page 160 for details.  
 ▲ Indicates a high school or undergraduate student presenter.  
 \* Indicates abstract's submitting author

- 3:00 BB39 **442.07** ● Arc/arg3.1 knockout mice exhibit impaired behavioral flexibility in a serial reversal learning task. H. OKUNO\*; T. ENDO; R. KIM; K. MINATOHARA; A. ARAKI; M. ABE; M. KAKEYAMA; K. SAKIMURA; H. BITO. *Kyoto Univ. Grad Sch of Med., Univ. of Tokyo Grad Sch. of Med., Niigata Univ. Brain Res. Inst., Waseda Univ. Fac. of Human Sci., JST.*
- 4:00 BB40 **442.08** Inactivation of rat dorsomedial prefrontal cortex impairs delayed response performance under head fixation. C. LO\*; Y. TATEYAMA; K. OYAMA; T. IJIMA; K. TSUTSUI. *Tohoku Univ.*
- 1:00 BB41 **442.09** ▲ Prior alcohol consumption does not impair go/no-go discrimination learning, but causes over-responding on go-trials, in rats. M. H. RAY\*; N. BRIGHT; M. GALLO; M. JANTSCH; C. L. PICKENS. *Kansas State Univ.*
- 2:00 BB42 **442.10** Effects of acute atomoxetine administration on visual working memory in the macaque monkey. L. THURSTON\*; C. CRANDALL; M. PARE. *Queen's Univ.*
- 3:00 BB43 **442.11** Cell-type specific modulation of behaviorally relevant and distracting stimuli by prefrontal dopamine D1 receptors. S. N. JACOB\*; W. STALTER; A. NIEDER. *Technische Univ. München, Univ. Tübingen.*
- 4:00 BB44 **442.12** Chemogenetic silencing of prefrontal neurons delays inhibition during negative occasion setting. H. C. MEYER\*; D. J. BUCCI. *Dartmouth Col., Dartmouth Col.*
- 1:00 BB45 **442.13** Behavioral strategies in a multiple-choice spatial task of the mouse. H. IGATA\*; T. SASAKI; Y. IKEGAYA. *The Univ. of Tokyo, Ctr. for Information and Neural Networks.*
- 2:00 BB46 **442.14** ● Dorsomedial and dorsolateral striatum have important roles in distinct learning phases of conditional discrimination. K. NISHIZAWA\*; Y. TSUTSUI; K. KOBAYASHI. *Dept Mol Genet, Fukushima Med. Univ., Fac. of Symbiotic Systems Science, Fukushima Univ.*
- 3:00 BB47 **442.15** A mouse navigation and accumulation of visual evidence task. S. KOAY\*; B. DEVERETT; S. Y. THIBERGE; C. D. BRODY; D. W. TANK. *Princeton Neurosci. Inst., Princeton Univ., Princeton Univ., Rutgers Robert Wood Johnson Med. Sch., Princeton Univ., Princeton Univ.*
- 4:00 BB48 **442.16** Representation of audio-visual and visuo-auditory associations in the corvid nidopallium caudo-laterale. F. W. MOLL; A. NIEDER\*. *Univ. Tuebingen.*
- 1:00 BB49 **442.17** Comparing the impact of online and low-frequency offline rTMS over the unilateral dorsolateral prefrontal cortex on the delayed response task performance. K. OGAWA\*; S. NAKAMURA; T. HOSOKAWA; T. IJIMA; K. TSUTSUI. *Lab. of Systems Neuroscience, Tohoku Univ.*
- 2:00 BB50 **442.18** The administration of peptide A $\beta$ 25-35 on CA1 of hippocampus modify the neurogenesis and long-term memory. E. RAMIREZ\*; I. MARTINEZ; I. LIMON. *Benemérita Univ. Autónoma De Puebla, Benememrita Univ. Autonoma de Puebla, Benememrita Univ. Autonoma de Puebla.*
- 3:00 BB51 **442.19** Structural and functional network changes associated with cognitive training in memory. C. G. DAMATAC\*; J. R. J. NAGY; L. FLEYSHER; R. L. O'HALLORAN; P. L. CROXSON. *Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. At Mount Sinai.*
- 4:00 BB52 **442.20** Prefrontal and amygdala contributions to conditioned stimulus-associated representations during trace eyeblink conditioning in mice. J. J. SIEGEL\*; W. TAYLOR; R. GRAY; B. V. ZEMELMAN; N. S. DESAI; D. JOHNSTON; R. A. CHITWOOD. *Univ. of Texas at Austin.*
- 1:00 BB53 **442.21** Deficits in cognitive flexibility in oxytocin receptor knockout mice following subchronic phencyclidine treatment. M. E. RICH\*; H. K. CALDWELL. *Kent State Univ.*
- 2:00 BB54 **442.22** Corticosterone elicits "pessimism" in rats in a novel cognitive bias task. K. WANG\*; K. OSSENKOPP; M. KAVALIERS. *Western Univ.*
- 3:00 BB55 **442.23** Effect of absence of Irf2bp2 on microglial activation and its implication on behavior. A. HARI\*; Z. QIN; X. ZHOU; A. F. R. STEWART; H. CHEN. *Ottawa Hosp. Res. Institute/University of O, Ottawa Hosp. Res. Inst., Univ. of Ottawa Heart Inst.*
- 4:00 BB56 **442.24** Effects of music induced emotion on social economical decision-making. H. CHUNG\*; E. LEE; S. KIM. *Korea Univ., Korea Univ.*
- 1:00 BB57 **442.25** High- frequency rTMS facilitates response inhibition training to reduce chocolate snack consumption. H. AHN\*; S. KIM; E. LEE; S. KIM. *Korea Univ.*

## POSTER

### 443. Neuronal Mechanisms of Memory Consolidation

#### Theme F: Cognition and Behavior

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 BB58 **443.01** Persistent associative plasticity at an identified synapse underlying a form of classical conditioning becomes labile with short-term homosynaptic activation. J. HU\*; S. SCHACHER. *Columbia Univ. Med. Ctr. & NYSPi.*
- 2:00 BB59 **443.02** Sleep reactivation predicts awake reinstatement of hippocampal cell assemblies. G. M. VAN DE VEN\*; C. G. MCNAMARA; S. TROUCHE; Á. TEJERO-CANTERO; N. CAMPO-URRIZA; K. ALLEN; D. DUPRET. *MRC Brain Network Dynamics Unit At the Univ., Med. Fac. of Heidelberg Univ. and German Cancer Res. Ctr. (DKFZ).*
- 3:00 BB60 **443.03** Posttraining optogenetic modulation of basolateral amygdala projections to the medial entorhinal cortex disrupt memory consolidation of a modified contextual fear conditioning task. M. L. HUFF\*; C. RYAN; R. T. LALUMIERE. *Univ. of Iowa, Univ. of Iowa.*
- 4:00 BB61 **443.04** Synergistic activity during retrieval of neuronal ensembles between two distinct memory traces generates cross-modal linkage. J. YOKOSE\*; M. NOMOTO; R. OKUBO-SUZUKI; N. OHKAWA; H. NISHIZONO; M. MATSUO; A. SUZUKI; Y. TAKAHASHI; M. NAGASE; A. M. WATABE; F. KATO; K. INOKUCHI. *Univ. of Toyama, CREST, Japan Sci. and Technol. Agency, Univ. of Toyama, Jikei Univ. Sch. of Med.*
- 1:00 BB62 **443.05** Overlapping in two cellular ensembles in the hippocampal CA1 region is important for behavioral tagging. M. NOMOTO\*; N. OHKAWA; H. NISHIZONO; M. MATSUO; J. YOKOSE; Y. TAKAHASHI; M. NAGASE; A. SUZUKI; A. M. WATABE; F. KATO; K. INOKUCHI. *Univ. of Toyama, CREST, Japan Sci. and Technol. Agency, Div. of Animal Exptl. Laboratory, Life Sci. Res. Center, Univ. of Toyama, Jikei Univ. Sch. of Med.*



- 2:00 BB63 **443.06** Enhancing memory destabilization through protein degradation induction. M. H. SHEHATA\*; Q. ZHAO; K. ABDOU; R. OKUBO-SUZUKI; Y. SAITOH; T. KITAMURA; H. NISHIZONO; M. MATSUO; N. OHKAWA; K. INOKUCHI. *Dept. of Biochem., Fac. of Med., Univ. of Toyama, Japan Sci. and Technol. Agency, CREST, RIKEN-MIT Ctr. for Neural Circuit Genet. at the Picower Inst. for Learning and Memory, Dept. of Biol. and Dept. of Brain and Cognitive Sciences, Massachusetts Inst. of Technol., Div. of Animal Exptl. Laboratory, Life Sci. Res. Center, Univ. of Toyama.*
- 3:00 BB64 **443.07** Adult neurogenesis modulates the hippocampal learning capacity. M. ALAM\*; T. KITAMURA; Y. SAITOH; N. OHKAWA; T. KONDO; K. INOKUCHI. *Univ. of Toyama, CREST, Japan Sci. and Technol. Agency, RIKEN-MIT Ctr. for Neural Circuit Genet., Univ. of Toyama.*
- 4:00 BB65 **443.08** Generating an artificial CS-US associative memory by manipulation of parietal association cortex. A. SUZUKI\*; S. KOSUGI-USHIJIMA; N. OHKAWA; M. MATSUO; H. NISHIZONO; K. INOKUCHI. *Univ. of Toyama, CREST, Japan Sci. and Technol. Agency, Univ. of Toyama.*
- 1:00 BB66 **443.09** Cortico-cortical top-down pathways for tactile memory consolidation during NREM sleep. D. MIYAMOTO\*; A. INUTSUKA; A. KAMOSHIDA; R. BOEHRINGER; M. ODAGAWA; N. MATSUKI; T. MCHUGH; A. YAMANAKA; M. MURAYAMA. *Behav. Neurophysiol. Lab., RIKEN Brain Sci. Inst., JSPS Res. Fellow PD, Dep. of Neurosci. II Res. Inst. of Envrn. Medicine, Nagoya Univ., Lab. Chem Pharmacol, Grad Sch. of Pharm Sci, the Uni of Tokyo, Lab. for Circuit and Behav Physiol, BSI, RIKEN.*
- 2:00 BB67 **443.10** Histamine in the basolateral amygdala promotes inhibitory avoidance learning independently of hippocampus. F. BENETTI\*; C. R. G. FURINI; J. C. MYSKIW; I. IZQUIERDO; G. PROVENSÍ; M. B. PASSANI; E. BALDI; C. BUCHERELLI; L. MUNARI; P. BLANDINA. *Univ. Federal Do Rio Grande Do Sul, Pontifical Catholic Univ. of Rio Grande do Sul, Univ. di Firenze.*
- 3:00 BB68 **443.11** Consolidation of the long-term memory for sensitization in *Aplysia* requires protein synthesis during, but not after, sensitization training. K. PEARCE; D. CAI\*; S. CHEN; M. KIMBROUGH; X. ZHAO; T. DEGHANI; E. MOC; V. KONG; D. ENAYATI; S. BENTLEY; D. GLANZMAN. *Univ. California LA, Univ. California LA, David Geffen Sch. of Med. at UCLA, David Geffen Sch. of Med. at UCLA, David Geffen Sch. of Med. at UCLA.*
- 4:00 BB69 **443.12** Early cortical tagging is required for the formation and expression of remote fear memories: Interactions with memory reconsolidation and nucleus reuniens activity. R. O. SIERRA\*; SR; L. PEDRAZA; F. SANTANA; F. Z. BOOS; A. CRESTANI; L. DE OLIVEIRA; J. QUILLFELDT. *UFRGS.*
- 1:00 BB70 **443.13** Mechanisms of object recognition memory destabilization: An exploration of muscarinic receptor subtypes and targeted synaptic protein degradation. M. L. STIVER\*; N. NIGHTINGALE; B. D. WINTERS. *Univ. of Guelph, Univ. of Guelph.*
- 2:00 BB71 **443.14** Teasing apart the contribution of the PER, POR, LEC, MEC, CA1 and CA3 to the familiarity process. E. ATUCHA TREVINO\*; T. KITSUKAWA; M. SAUVAGE. *Ruhr-Universität Bochum, Osaka Univ.*
- 3:00 BB72 **443.15** Neural mechanisms of pattern separation in the monkey hippocampus. J. J. SAKON\*; W. A. SUZUKI. *NYU CNS.*
- 4:00 BB73 **443.16** Targeting dorsal and ventral CA1 as a novel lesion approach to studying memory consolidation in rats. A. C. OCAMPO; J. B. HALES; S. SATURDAY; L. R. SQUIRE; R. E. CLARK\*. *U C San Diego, U C San Diego, VAMCSD, San Diego, CA.*
- 1:00 BB74 **443.17** Resting state functional connectivity reveals the interaction between dorsal hippocampus and medial prefrontal cortex in memory consolidation of inhibitory avoidance task. K. CHEN\*; D. CHEN; K. LIANG. *Dept. of Psychology, Natl. Taiwan Univ., Natl. Cheng Kung Univ., Neurobio. and Cognitive Sci. Center, Natl. Taiwan Univ.*
- 2:00 BB75 **443.18** Localization of activated mTOR activity following predator stress. J. WHITEMAN; N. RALPH; K. GALLANT; S. WALLING; J. J. BLUNDELL\*. *Mem. Univ., Mem. Univ.*
- 3:00 BB76 **443.19** Time-dependent effects of rapamycin on pavlovian fear memory consolidation and reconsolidation. P. E. MAC CALLUM\*; T. KENNY; S. CLARKE; J. BLUNDELL. *Mem. Univ. of Newfoundland.*
- 4:00 BB77 **443.20** Sharp wave ripple complexes contribute to context-dependent separation of memories in a rodent reconsolidation task. S. NAGL\*; L. CROWN; B. JONES; M. TATSUNO; J. FELLOUS. *Univ. of Arizona, Univ. of Massachusetts, Amherst, Univ. of Lethbridge, Univ. of Arizona.*
- 1:00 BB78 **443.21** Changes in mammalian-like sleep structure during memory consolidation of auditory classification learning in European starlings. T. P. BRAUN\*; H. C. NUSBAUM; D. MARGOLIASH. *Univ. of Chicago.*
- 2:00 BB79 **443.22** Impaired synchronization of hippocampal brain-derived neurotrophic factor and clock genes in 'night owls'. C. A. MARTIN-FAIREY\*; B. BOSTIC; A. STRANAHAN; A. NUNEZ. *Washington Univ., Michigan State Univ., Med. Col. of Georgia, Michigan State Univ.*
- 3:00 BB80 **443.23** Changes in orbitofrontal cortex activation following expected versus unexpected fear memory reactivation. J. L. PIERSON\*; L. R. BRADY; E. A. FRICKE; D. E. KOCHLI; A. F. POSTLE; J. J. QUINN. *Miami Univ.*
- 4:00 BB81 **443.24** Changes in neurotransmitters release within amygdala are differentially involved in taste aversion memory retrieval and updating. D. OSORIO-GÓMEZ\*; K. R. GUZMÁN-RAMOS; F. BERMUDEZ-RATTONI. *Inst. de Fisiología Celular - UNAM, Univ. Autónoma Metropolitana-Lerma.*
- 1:00 BB82 **443.25** Neural plasticity and replay in motor cortex associated with functional recovery after stroke. D. RAMANATHAN\*; C. WONG; T. VEUTHEY; R. MALZYNER; S. J. WON; T. GULATI; R. SWANSON; K. GANGULY. *Univ. California, San Francisco, San Francisco VA Med. Ctr.*
- 2:00 BB83 **443.26** Microstructure of replay events predicts motor cortical rescaling. T. GULATI\*; D. S. RAMANATHAN; K. GANGULY. *San Francisco VA Med. Center/ UCSF.*
- 3:00 BB84 **443.27** Effects of blood pressure reductions on working memory task performance in spontaneously hypertensive rats (SHR): A preliminary study. T. SATO\*. *Tohoku Bunka Gakuen Univ.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

**POSTER**

**444. Cortical and Hippocampal Circuits: Spatial Navigation and Head Direction Cells**

**Theme F: Cognition and Behavior**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 BB85 **444.01** Place recognition and heading retrieval have dissociable effects on hippocampal spatial representations. J. B. JULIAN\*; A. T. KEINATH; R. A. EPSTEIN; I. A. MUZZIO. *Univ. of Pennsylvania*.
- 2:00 BB86 **444.02** Spatial geometry orients hippocampal spatial representations in disoriented mice. A. T. KEINATH\*; J. B. JULIAN; R. A. EPSTEIN; I. A. MUZZIO. *Univ. of Pennsylvania*.
- 3:00 BB87 **444.03** Extracting grid characteristics from spatially distributed place-cell inputs using non-negative PCA. Y. DORDEK\*; D. DERDIKMAN; R. MEIR. *Technion, Technion – Israel Inst. of Technol.*
- 4:00 BB88 **444.04** Entorhinal head-direction cells shift directional tuning following disorientation. S. WEISS\*; G. TALHAMI; D. EILAM; D. DERDIKMAN. *Tel-Aviv Univ., Technion institute*.
- 1:00 BB89 **444.05** Evidence for a pivot in grid cell firing patterns. R. ISMAKOV; O. BARAK; D. DERDIKMAN\*. *Technion - Israel Inst. of Technol.*
- 2:00 BB90 **444.06** The encoding of head direction and landmark-orientation in the insect central complex. A. G. VARGA\*; R. E. RITZMANN. *Case Western Reserve Univ.*
- 3:00 BB91 **444.07** The dorsomedial striatum and medial precentral cortex receive robust projections from the limbic head direction circuit. M. L. MEHLMAN\*; S. S. WINTER; J. S. TAUBE. *Dartmouth Col.*
- 4:00 BB92 **444.08** Shifting the neural compass: Reversible optical disruption of the head direction signal *in vivo*. W. N. BUTLER\*; K. S. SMITH; J. S. TAUBE. *Dartmouth Col.*
- 1:00 BB93 **444.09** Comparison of head direction cell tuning in entorhinal cortex, postsubiculum, and parasubiculum. S. S. WINTER\*; M. L. MEHLMAN; B. J. CLARK; J. S. TAUBE. *Dartmouth Col., Dartmouth Col., Univ. of New Mexico*.
- 2:00 CC1 **444.10** Gravity sensing neurons in the Macaque Anterior Thalamus. J. LAURENS\*; B. KIM; D. DICKMAN; D. ANGELAKI. *Baylor Col. of Med.*
- 3:00 CC2 **444.11** Head direction tuned cells in the macaque anterior thalamus. B. KIM\*; J. D. DICKMAN; J. S. TAUBE; D. E. ANGELAKI. *Baylor Col. of Med., Dartmouth Col., Baylor Col. of Med.*
- 4:00 CC3 **444.12** The effects of lesions to the head direction cell system (lateral mammillary nuclei) on spatial cognition and place cell representations. B. HARLAND; R. M. GRIEVES; E. R. WOOD; P. A. DUDCHENKO\*. *Univ. Stirling, Univ. of Edinburgh*.
- 1:00 CC4 **444.13** Medial entorhinal cortex lesions disrupt hippocampal place cell stability with respect to distal, but not proximal, landmarks in mice. E. ALLISON; J. THOMAS; P. DUDCHENKO; E. R. WOOD\*. *Univ. of Edinburgh, Univ. of Stirling*.
- 2:00 CC5 **444.14** Increased grid scale following entorhinal HCN1 knockdown is associated with impaired spatial navigation. C. S. MALLORY\*; L. WILLMORE; L. M. GIOCOMO. *Stanford Univ., Stanford Univ.*
- 3:00 CC6 **444.15** Gradients in Na current kinetics across excitatory cell types in layer II of MEC. J. S. BANT\*; L. M. GIOCOMO. *Stanford Univ.*
- 4:00 CC7 **444.16** Integration of self-motion and visual signals in the entorhinal cortex. M. G. CAMPBELL; L. M. GIOCOMO\*. *Stanford Univ.*
- 1:00 CC8 **444.17** Response of head direction cells in medial entorhinal cortex to environmental deformation. R. G. MUNN\*; C. S. MALLORY; M. G. CAMPBELL; D. CHETKOVICH; L. M. GIOCOMO. *Stanford Univ., Northwestern Univ.*
- 2:00 CC9 **444.18** Error accumulation across grid scale. K. HARDCASTLE\*; S. GANGULI; L. GIOCOMO. *Stanford Univ., Stanford Univ.*
- 3:00 CC10 **444.19** Absence of light-dependent magnetic field modulation of the head direction cell circuitry. I. A. PASTOR; I. YBARRA; L. E. BERKOWITZ; J. L. CALTON\*. *California State Univ.*
- 4:00 CC11 **444.20** Head direction cell recordings following reversible inactivation of the superior colliculus. A. M. RODRIGUEZ\*; M. E. AMATO; J. L. CALTON. *California State Univ.*
- 1:00 CC12 **444.21** ● Calcium-imaging of neural ensemble activity in the prefrontal cortex of freely behaving mice during a strategy-shifting task. F. WANG\*; T. H. KIM; H. INAN; J. R. MAXEY; B. F. GREWE; M. J. SCHNITZER. *Stanford Univ.*
- 2:00 CC13 **444.22** Optogenetic identification of granule cell activity in the dentate gyrus of free behaving mice. V. CNOPS; S. ZAFERANLOUEI; S. LEE; L. COBAR; A. TASHIRO\*. *Nanyang Technological Univ., Univ. of Warwick, Nanyang Technological Univ.*
- 3:00 CC14 **444.23** Enhanced theta- and gamma-band coherence within the primate hippocampus predicts spatial recall on a virtual water maze task. M. J. JUTRAS\*; Y. BROWNING; M. K. MCKINLEY; K. L. MORRISROE; C. M. LEWIS; P. FRIES; T. STIEGLITZ; E. A. BUFFALO. *Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington, Ernst Strüngmann Inst. For Neurosci., Inst. for Microsystem Technol. (IMTEK)*.
- 4:00 CC15 **444.24** A virtual water maze task to study spatial memory and navigation in monkeys. Y. BROWNING\*; M. J. JUTRAS; K. L. MORRISROE; M. K. MCKINLEY; A. L. FAIRHALL; E. A. BUFFALO. *Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington*.

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

## POSTER

### 445. Learning and Memory: Hippocampal Circuits

#### Theme F: Cognition and Behavior

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 CC16 **445.01** Retrosplenial cortical neurons differentiate left and right trials on the stem of a T-maze during continuous but not delayed spatial alternation. D. M. SMITH\*; A. M. MILLER; H. LI; W. MAU; K. YU; S. PARAUDA. *Cornell Univ.*
- 2:00 CC17 **445.02** Genetic architecture and connectivity of the mouse hippocampus. M. S. BIENKOWSKI\*; M. Y. SONG; H. HINTIRYAN; L. GOU; M. BAY; I. BOWMAN; N. N. FOSTER; S. YAMASHITA; M. ZHU; A. W. TOGA; H. W. DONG. *USC.*
- 3:00 CC18 **445.03** The extracellular matrix proteoglycan biglycan in fructose-induced central and peripheral metabolic disease. E. NOBLE\*; Q. MENG; Z. YING; Y. ZHUANG; X. YANG; F. GOMEZ-PINILLA. *UCLA, Univ. of California, Univ. of California.*
- 4:00 CC19 **445.04** A non-invasive approach to deep brain *in vivo*-imaging in mice. S. KUMAR\*; A. DAS; A. SINGH; S. SHRIDHAR; V. SINGH; V. SINGH; J. BALAJI. *Indian Inst. of Sci.*
- 1:00 CC20 **445.05** Long-term effects of galactic cosmic radiation on synaptic plasticity, learning and memory. O. MIRY\*; K. R. GOPAUL; G. SUBAH; J. A. MONCASTER; L. R. VOSE; X. ZHANG; L. E. GOLDSTEIN; P. K. STANTON. *New York Med. Col., Boston Univ. Sch. of Med.*
- 2:00 CC21 **445.06** Altered cysteine/glutamate transport, NMDA expression and spatial memory impairment due to gestational arsenic exposure. L. A. RAMOS\*; M. GONSEBATT; C. RENDÓN-LÓPEZ; A. ZEPEDA; D. SILVA-ADAYA; L. DEL-RAZO. *Univ. Nacional Autónoma De México, Univ. Nacional Autónoma de México, Inst. Nacional de Neurología y Neurocirugía, Ctr. de Investigación y de Estudios Avanzados.*
- 3:00 CC22 **445.07** Thalamic and retrosplenial afferents excite pyramidal neurons and interneurons in superficial layers of mouse presubiculum. M. NASSAR; B. MATHON; J. SIMONNET; C. MAUTHE; I. COHEN; L. HUANG; A. FRICK; R. MILES; D. FRICKER\*. *CRICM, UPMC, Neurocentre Magendie.*
- 4:00 CC23 **445.08** Neural coordination within the hippocampus place cell network during active place avoidance tasks in wild-type mice. Z. N. TALBOT\*; F. T. SPARKS; D. DVORAK; A. A. FENTON. *NYULMC, New York Univ. Sch. of Med., New York Univ., SUNY Downstate Med. Ctr.*
- 1:00 CC24 **445.09** Altered synaptic glutamate receptor expression is required for contextual fear memory updating. S. BHATTACHARYA; D. BHATTACHARYA; M. BUABAI; J. BLOEMER; A. ALHOWAIL; M. DHANASEKHARAN; M. ESCOBAR; V. D. SUPPIRAMANIAM\*. *Auburn Univ., Auburn Univ.*
- 2:00 CC25 **445.10** Molecular mechanisms of anthracycline-induced memory dysfunction. A. H. ALHOWAIL\*; S. BHATTACHARYA; D. BHATTACHARYA; J. BLOEMER; F. ALJADANI; M. DHANASEKHARAN; M. ESCOBAR; R. ARNOLD; V. SUPPIRAMANIAM. *Auburn Univ., Auburn Univ.*

- 3:00 CC26 **445.11** ILK signaling deficiency impairs hippocampal long term potentiation and memory in fast rat model. D. BHATTACHARYA\*; E. P. DUNAWAY; S. BHATTACHARYA; J. BLOEMER; M. ESCOBAR; V. SUPPIRAMANIAM; D. MURALI. *Auburn Univ., Auburn Univ.*
- 4:00 CC27 **445.12** Spatial learning following environmental enrichment increases density of mature spines positive for GluA2/PSD-95 clustering within hippocampus CA1. A. AUBRY\*; A. ALLIGER; D. MUSHEYEV; P. A. SERRANO. *Hunter Col.*
- 1:00 CC28 **445.13** Basal forebrain cholinergic neurons mediate adult hippocampus neurogenesis and learning. Y. HUANHUAN\*; Y. LU. *Huazhong Univ. of Sci. and Technol., Tongji Med. Col.*
- 2:00 CC29 **445.14** Does sex matter? An analysis of sex differences in higher cognitive function. J. NAGY\*; C. G. DAMATAC; M. G. BAXTER; P. H. RUDEBECK; P. L. CROXSON. *Mount Sinai Sch. of Med.*
- 3:00 CC30 **445.15** Functional dissection of a radial subdivision among hippocampal pyramidal cells. A. LOSONCZY\*; N. B. DANIELSON; J. D. ZAREMBA; P. KAIFOSH. *Columbia Univ.*
- 4:00 CC31 **445.16** Altered stability and remapping of hippocampal area CA1 place cells during a spatial learning task in the Df(16)A mouse model of schizophrenia. J. ZAREMBA\*; A. DIAMANTOPOULOU; N. DANIELSON; P. KAIFOSH; J. GOGOS; A. LOSONCZY. *Columbia Univ., Columbia Univ., Columbia Univ., Columbia Univ.*
- 1:00 CC32 **445.17** Anterograde examination of the projections of the hippocampal formation and basal amygdala to the ventral tegmental area in the macaque monkey. D. HERNANDEZ-MOMBIELA\*; M. UBERO; R. INSAUSTI; N. LOGOTHETIS; D. AMARAL; H. EVRARD. *Max Planck Inst. For Biol. Cybernetics, Max Planck Inst. for BioCybernetics, Univ. of Castilla-La Mancha, Med. Investigation of Neurodevelopmental Disorders Inst., Ctr. for Integrative Neurosci.*
- 2:00 CC33 **445.18** Hippocampal formation and amygdalar projections to the locus coeruleus in the macaque monkey. M. UBERO MARTINEZ\*; D. HERNANDEZ MOMBIELA; D. G. AMARAL; R. INSAUSTI; N. K. LOGOTHETIS; H. C. EVRARD. *Max Planck Inst. for Biol. Cybernetics, UC Davis, MIND Inst., Univ. of Castilla-La Mancha.*
- 3:00 CC34 **445.19** Ventral, but not dorsal hippocampus inactivation impairs contextual biconditional discrimination memory retrieval. S. RIAZ; R. ITO\*. *Univ. of Toronto Scarborough.*

## POSTER

### 446. Reward: Neuropharmacology

#### Theme F: Cognition and Behavior

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 CC35 **446.01** Self-administration of nicotine into dorsal but not ventral hippocampus. M. J. FARQUHAR\*; P. WINN. *Univ. of Strathclyde.*

Mon. PM

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 2:00 CC36 **446.02** The appetite suppressant D-norpseudoephedrine (Cathine) acts inhibiting the spiking activity of the nucleus accumbens shell via activation of D1/D2 dopamine receptors. K. BALASUBRAMANIAN\*; A. LUNA; M. G. MORENO; S. A. SIMON; R. GUTIERREZ. *DEPARTMENT OF PHARMACOLOGY, CINVESTAV-IPN, Duke Univ. Med. Ctr.*
- 3:00 CC37 **446.03** Opposite effects of ventral tegmental area and rostromedial tegmental nucleus muscarinic cholinergic receptor antagonism on morphine-induced locomotion in mice. S. STEIDL\*; E. S. DHILLON; N. SHARMA. *Loyola Univ. Chicago.*
- 4:00 CC38 **446.04** NMDA receptors in dopaminergic neurons are essential for drug-induced conditioned place preference. J. RODRIGUEZ PARKITNA\*; M. SIKORA; K. TOKARSKI; K. ŁOPATA; P. E. CIEŚLAK; M. ZYGMUNT; J. SOWA; M. KUSEK; J. ZAJDEL; D. ENGBLOM; R. PRZEWLOCKI; G. HESS. *Inst. of Pharmacol. PAS, Linköping Univ.*
- 1:00 CC39 **446.05** Morphine effects on monetary reward processing: An fMRI study. S. O. LIE\*; M. EIKEMO; T. JOHNSTONE; A. S. NILSEN; V. VINDENES; S. LEKNES. *Univ. of Oslo, Oslo Univ. Hosp., Univ. of Oslo, Univ. of Reading, Norwegian Inst. of Publ. Hlth., Oslo Univ. Hosp.*
- 2:00 CC40 **446.06** ● Blockade of uptake for dopamine, but not norepinephrine or 5-HT, increases selection of high effort instrumental activity: Implications for treatment of effort-related motivational symptoms in psychopathology. J. D. SALAMONE\*; S. E. YOHN; E. L. ERRANTE; K. E. TOKARSKI; M. A. ROWLAND; B. WILSON; M. JONES; L. CLEARY; Y. ARIF; L. LOPEZ CRUZ; M. CORREA. *Univ. Connecticut, Univ. of Connecticut, Univ. of Jaume I.*
- 3:00 CC41 **446.07** Dopamine modulates ethanol consumption only when effort is required: Impact of tetrabenazine, bupropion and caffeine. N. SAN MIGUEL\*; L. LÓPEZ-CRUZ; C. CARRATALÁ; J. CAMAÑES; J. M. PEREZ-GARCÍA; L. MONFERRER; J. D. SALAMONE; M. CORREA. *Univ. Jaume I, Univ. Jaume I, Univ. of Connecticut.*
- 4:00 CC42 **446.08** The dopamine uptake inhibitor PRX-14040 increases selection of high-effort alternatives in animal models of effort-related decision making. L. LOPEZ-CRUZ\*; S. E. YOHN; M. CORREA; P. BASKIN; J. D. SALAMONE. *Univ. Jaume I, Univ. of Connecticut, Prexa Pharmaceuticals.*
- 1:00 CC43 **446.09** Impact of habitual exercise or sucrose intake on preference for active versus sedentary sources of reinforcement under choice situations: Modulation by dopamine depletion. M. CORREA\*; L. LOPEZ-CRUZ; N. SANMIGUEL; X. ROS; R. OLIVARES; C. CARRATALA; L. MONFERRER; J. D. SALAMONE. *Psicobiologia. Univ. Jaume I, Univ. Jaume I, Univ. Jaume I, Univ. of Connecticut.*
- 2:00 CC44 **446.10** ● Not all antidepressants are created equal: Identification of a dopaminergic component involved in effort-related aspects of motivation in animal models. S. E. YOHN\*; E. L. ERRANTE; A. GOGOJ; S. L. COLLINS; H. M. CONTRERAS-MORA; L. LOPEZ-CRUZ; M. CORREA; J. D. SALAMONE. *Univ. of Connecticut, Univ. Jaume I.*
- 3:00 CC45 **446.11** Striatal GABAergic control of human reward anticipation. A. VAN NULAND\*; D. G. NORRIS; R. COOLS; H. E. M. DEN OUDEN. *Donders Institute, Radboud Univ. Nijmegen, Radboud Univ.*
- 4:00 CC46 **446.12** Contrasting influences of prefrontal-cortical D1 and D2 receptor signaling on behaviors elicited by  $\mu$ -opioid receptor stimulation: Studies of food motivation, food impulsivity, and spontaneous motor behaviors. R. A. SELLECK\*; B. D. BUCHHOLTZ; C. LAKE; K. SADEGHIAN; B. A. BALDO. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*
- 1:00 CC47 **446.13** ● Alpha-1 adrenergic receptor mediation of cocaine primed reinstatement. K. T. SCHMIDT; J. P. SCHROEDER\*; K. E. HENRY; D. WEINSHENKER. *Emory Univ.*
- 2:00 CC48 **446.14** The selective dopamine D3 receptor antagonist, SR 21502, reduces cue-induced reinstatement of heroin seeking and heroin conditioned place preference in rats. E. J. PAWUL\*; M. MANUSZAK; S. BABIC; R. RANALDI. *The Grad. Ctr., City Univ. of New York, Queens College/CUNY.*
- 3:00 CC49 **446.15** Contrasting effects of 5-HT3 receptor stimulation of the nucleus accumbens or ventral tegmentum on food intake in the rat. W. E. PRATT\*; A. O. ILESANMI; P. LIN; Z. PIERCE-MESSICK. *Wake Forest Univ.*
- 4:00 CC50 **446.16** Orexinergic input to the midline thalamus in the rat, with an emphasis on the rhomboid nucleus. M. M. GALLO\*; S. B. LINLEY; R. P. VERTES. *Florida Atlantic Univ.*
- 1:00 CC51 **446.17** Affective ultrasonic communication in rats lacking the serotonin transporter: Enhanced behavioral responses to amphetamine but reduced 5-HT2C receptor functioning. T. M. KISKO\*; K. OETZEL; M. WILLADSEN; K. J. VÖRCKEL; D. SEFFER; R. K. W. SCHWARTING; J. R. HOMBERG; M. WÖHR. *Philipps Univ. Marburg, Donders Institute, Raboud Univ.*
- 2:00 CC52 **446.18** Small conductance calcium-activated potassium (SK, KCa) channels modulate the expression of behavioral sensitization to nicotine in male C57BL/6J mice. R. W. STACKMAN\*, JR; D. CINALLI; C. RICE-KUCHERA; X. TAO; G. PANG; X. WU; G. ZHANG. *Florida Atlantic Univ., Anhui Med. Univ., Florida Atlantic Univ.*

## POSTER

### 447. Basal Ganglia and Error Detection in Songbirds

#### Theme F: Cognition and Behavior

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 CC53 **447.01** Modular computation of performance error in birdsong learning. D. LIPKIND\*; A. HANUSCHKIN; A. ZAI; O. TCHERNICHOVSKI; R. H. HAHNLOSER. *Hunter Col., Inst. of Neuroinformatics Univ. of Zurich and ETH Zurich.*
- 2:00 CC54 **447.02** Mutant huntingtin disrupts temporal patterning of cortico-basal ganglia activity to destabilize vocal sequences in songbirds. M. TANAKA\*; J. S. ALVARADO; M. MURUGAN; R. MOONEY. *Duke Univ. Sch. of Med., Princeton Univ.*
- 3:00 CC55 **447.03** Basal ganglia contribute to rapid context-dependent motor fluctuations that can serve as motor exploration. S. KOJIMA\*; M. H. KAO; M. S. BRAINARD; A. J. DOUPE. *Korea Brain Res. Inst., Univ. of California, San Francisco.*

- 4:00 CC56 **447.04** ▲ The effect of auditory feedback on a learned vocal motor sequence. S. W. EVANS\*; T. W. TROYER. *UTSA, UTSA*.
- 1:00 CC57 **447.05** Imaging error-signal-related activity in the songbird basal ganglia. J. E. MARKOWITZ\*; J. SHEN; W. LIBERTI; D. LIBERTI; T. GARDNER. *Boston Univ., Boston Univ., Boston Univ.*
- 2:00 CC58 **447.06** Maintenance and premotor control of temporal properties of birdsong. S. CAVÉ-LOPEZ\*; A. T. ZAI; A. L. VYSSOTSKI; R. H. R. HAHNLOSER. *Univ. of Zurich/ETH Zurich*.
- 3:00 CC59 **447.07** Catecholaminergic projections to song system nuclei in the Bengalese finch. A. N. WOOD\*; S. J. SOBER. *Emory Univ., Emory Univ.*
- 4:00 CC60 **447.08** Vocal generalization during reinforcement learning in songbirds. V. SARAVANAN\*; L. A. HOFFMANN; S. J. SOBER. *Emory Univ., Emory Univ.*
- 1:00 CC61 **447.09** Examining the interaction between syllable structure and sequencing by selective manipulation of syllable pitch in Bengalese finches. A. S. KULKARNI\*; T. W. TROYER. *Univ. of Texas At San Antonio*.
- 2:00 CC62 **447.10** Disynaptic pathways from the cerebellum to the cortex and basal ganglia in a songbird. D. A. NICHOLSON\*; S. SOBER. *Emory Univ.*
- 3:00 CC63 **447.11** Dopaminergic contributions to vocal learning. L. A. HOFFMANN\*; V. SARAVANAN; S. SOBER. *Emory Univ., Emory Univ.*
- 4:00 CC64 **447.12** The basal ganglia influence synaptic organization in a cortical region that encodes a learned motor pattern. K. C. ELLIOTT\*; W. WU; R. BERTRAM; R. HYSON; F. JOHNSON. *Florida State Univ.*
- 1:00 CC65 **447.13** Intrinsic plasticity set point, network stability, and sensory feedback processing as an early error detection mechanism in the HVC of zebra finches. A. DAOU\*; P. MALONIS; D. MARGOLIASH. *Univ. Chicago*.
- 2:00 CC66 **447.14** Neurons in a circuit parallel to the song system encode head and body movements but not vocal errors. M. E. STETNER\*; M. S. FEE. *MIT, MIT*.
- 3:00 CC69 **448.03** Investigating the dynamics of a coupled oscillator model of vocal turn-taking using a Turing-like test with marmoset monkeys. D. Y. TAKAHASHI\*; A. A. GHAZANFAR. *Princeton Neurosci. Inst.*
- 4:00 CC70 **448.04** The role of initial conditions in the production of babbling-like vocal sequences by developing marmoset monkeys. Y. S. ZHANG\*; A. GHAZANFAR. *Princeton Neurosci. Inst.*
- 1:00 CC71 **448.05** Cardiorespiratory dynamics of vocal production in marmoset monkeys. J. I. BORJON\*; D. Y. TAKAHASHI; D. C. CORDERO; A. A. GHAZANFAR. *Princeton Neurosci. Inst.*
- 2:00 CC72 **448.06** A novel approach reveals first molecular networks in the bat brain: Implications for vocal communication. S. CHEN; P. RODENAS-CUADRADO; L. WIEGREBE; U. FIRZLAFF; S. VERNES\*. *Max Planck Inst. For Psycholinguistics, Ludwig-Maximilians-Universität, TU München*.
- 3:00 CC73 **448.07** Observational fear learning in the rodent Octodon Degus depends on social relationship. N. LIDHAR; J. DONG; P. BANERJEE; A. D. DOBRZANSKI; A. SALEHI; K. TAKEHARA-NISHIUCHI; N. INSEL\*. *Univ. of Toronto, Univ. of Toronto*.
- 4:00 CC74 **448.08** Production of mouse courtship vocalizations drives Fos expression in nucleus retroambiguus. K. A. TSCHIDA\*; R. MOONEY; F. WANG. *Duke Univ.*
- 1:00 CC75 **448.09** Relative contributions of dopaminergic and noradrenergic input to auditory and vocal-acoustic circuitry in the plainfin midshipman fish. J. PERELMUTER\*; P. M. FORLANO. *City Univ. of New York Grad. Ctr., Brooklyn Col., City Univ. of New York Grad. Ctr.*
- 2:00 CC76 **448.10** Serotonergic differences in vocal motor circuitry and the caudal raphe of male midshipman fish morphotypes. M. TIMOTHY\*; Z. N. GHAHRAMANI; M. GORBONOSOV; M. FERRARI; P. M. FORLANO. *Brooklyn College, City Univ. of New York (CUNY), CUNY Grad. Ctr., Edward R. Murrow High Sch., Brooklyn College, City Univ. of New York (CUNY), CUNY Grad. Ctr., CUNY Grad. Ctr.*
- 3:00 CC77 **448.11** Ultrasonic courtship communication in the moth *Empyrea pugione*: Sound production and tympanic organ response. Y. FERNANDEZ\*; M. PÉREZ; E. C. MORA. *Univ. of Havana*.

## POSTER

### 448. Vocal/social Communication in Non-Avian Models

#### Theme F: Cognition and Behavior

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 CC67 **448.01** The effects of prefrontal cortex lesions on social behavior in the monogamous titi monkey (*Callicebus cupreus*). B. J. RAGEN\*; S. P. MENDOZA; J. PADBERG; W. A. MASON; L. KRUBITZER; K. L. BALES. *New York Univ. Med. Ctr., Univ. of California, Davis, California Natl. Primate Res. Ctr., Univ. of Central Arkansas*.
- 2:00 CC68 **448.02** A unique central pattern generator for every vocalization? Exploring the roles of arousal and biomechanics on vocal diversity in marmoset monkeys. D. A. LIAO\*; Y. S. ZHANG; L. X. CAI; A. A. GHAZANFAR. *Princeton Neurosci. Inst.*

## POSTER

### 449. Combining Optogenetics with Electrophysiology or Functional Magnetic Resonance Imaging

#### Theme G: Novel Methods and Technology Development

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 CC78 **449.01** "Multi-Linc" - an optogenetic/electrophysiological method to reveal information flows among multiple brain areas. A. SAIKI\*; Y. SAKAI; R. FUKABORI; S. SOMA; J. YOSHIDA; H. YAWO; K. KOBAYASHI; M. KIMURA; Y. ISOMURA. *Tamagawa Univ. Brain Sci. Inst., JST-CREST, Brain/MINDS, Inst. of Biomed. Sci., Fukushima Med. Univ., Grad. Sch. Life Sci., Tohoku Univ.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

- 2:00 DD1 **449.02** *In vitro* validation of silicon multi electrode-optrode arrays for optogenetics. M. WELKENHUYSEN\*; L. D. L. HOFFMAN; Z. LUO; A. ANDREI; O. KRYLYCHINA; L. LAGAE; D. BRAEKEN. *Imec, KULeuven, Univ. Strasbourg, KULeuven.*
- 3:00 DD2 **449.03** Mapping optogenetic activation of the non-human primate brain using MEG. G. ALBERTO\*; D. KLORIG; I. MCGOWIN; J. STAPLETON-KOTLOSKI; G. POPLI; C. CONSTANTINIDIS; J. B. DAUNAIS; D. W. GODWIN. *Wake Forest Sch. of Med., Wake Forest Sch. of Med., Wake Forest Sch. of Med., Wake Forest Sch. of Med.*
- 4:00 DD3 **449.04** Optogenetic control of dopamine release in rodents and novel opto-dopamine probes for *in vivo* experiments. Y. LU\*; Z. YU; N. DRISCOLL; I. OZDEN; J. LEE; A. V. NURMIKKO. *Brown Univ., Brown Univ., Brown Univ., Brown Univ., Brown Univ.*
- 1:00 DD4 **449.05** • Multiwell optogenetic stimulation for MEA-based disease modeling and drug discovery. I. P. CLEMENTS; D. C. MILLARD; A. M. NICOLINI; A. J. PREYER; R. A. BLUM; J. ROSS\*. *Axion Biosystems.*
- 2:00 DD5 **449.06** Modulation of network activity in the prefrontal cortex by burst activity of dopamine neurons. S. LOHANI\*; A. MARTIG; I. WITTEN; K. DEISSEROTH; B. MOGHADDAM. *Univ. of Pittsburgh, Princeton Univ., Stanford Univ.*
- 3:00 DD6 **449.07** Spatio-temporal characterization of somatosensory and motor cortical responses to optogenetics stimulation in non-human primates. A. YAZDAN-SHAHMORAD\*; P. N. SABES. *Univ. of California San Francisco.*
- 4:00 DD7 **449.08** Optogenetic stimulation of the pathway from the frontal eye field to the superior colliculus evokes neuronal and behavioral modulations in monkeys. K. INOUE\*; M. TAKADA; M. MATSUMOTO. *Primate Res. Inst., Kyoto Univ., Univ. of Tsukuba.*
- 1:00 DD8 **449.09** Functional identification of primate lateral geniculate nucleus projections to visual cortex using optogenetics and electrical stimulation. C. KLEIN\*; H. C. EVRARD; K. SHAPCOTT; S. HAVERKAMP; N. K. LOGOTHETIS; M. C. SCHMID. *Max Planck Inst. For Biol. Cybernetics, Ernst Strüngmann Inst. (ESI) for Neurosci., Grad. Sch. of Neural & Behavioural Sciences, Intl. Max Planck Res. Sch., Werner Reichardt Ctr. for Integrative Neurosci., Max Planck Inst. for Brain Res., Univ. of Newcastle, Inst. of Neurosci.*
- 2:00 DD9 **449.10** Modulation of Channelrhodopsin-2 mediated currents by complex femtosecond pulse shaping. K. PAUL\*; E. D. ARK; H. TU; Y. ZHAO; P. SENGUPTA; S. A. BOPPART. *Univ. Illinois, Urbana-Champaign.*
- 3:00 DD10 **449.11** Spatially controlled light stimulation and recording via imaging fiber bundles. J. I. SUAREZ\*; P. SENGUPTA; J. GUO-HAN MUN; J. RHODES; S. A. BOPPART. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign.*
- 4:00 DD11 **449.12** MRI compatible optrodes for simultaneous EEG and optogenetic fMRI investigation of seizure-like afterdischarges. B. A. DUFFY\*; M. CHOY; M. CHUAPOCO; J. LEE. *Stanford Univ.*
- 1:00 DD12 **449.13** Comparison of fMRI analysis methods for accurate detection of heterogeneous hemodynamic responses. J. LIU\*; Z. FANG; D. BERNAL-CASAS; J. LEE. *UCLA, Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*
- 2:00 DD13 **449.14** Dynamic causal modeling of whole brain circuit function driven by basal ganglia pathways. D. BERNAL-CASAS\*; H. LEE; A. WEITZ; J. LEE. *Stanford Univ.*
- 3:00 DD14 **449.15** Whole-brain, functional interrogation of graft-host interactions in an intact animal. A. WEITZ\*; B. BYERS; H. J. LEE; J. LIU; P. LIN; P. ZHANG; A. SHCHEGLOVITOV; R. DOLMETSCH; R. REIJO PERA; J. H. LEE. *Stanford Univ., Stanford Univ., Stanford Univ., Univ. of Utah, Stanford Univ.*
- 4:00 DD15 **449.16** Hsparse - a compressed sensing based high spatial resolution fmri method. Z. FANG\*; N. LE; M. CHOY; J. LEE. *Stanford Univ., Stanford Univ.*
- 1:00 DD16 **449.17** Mapping frontal-parietal functional connectivity with functional MRI during optogenetic stimulation in macaque monkey. R. SHEWCRAFT\*; K. A. BROWN; P. VELASCO; B. PESARAN. *New York Univ., New York Univ.*
- 2:00 DD17 **449.18** Optogenetic fMRI investigation of the spatiotemporal characteristics of the somatosensory thalamocortical circuit. A. T. LEONG\*; R. W. CHAN; P. P. GAO; S. J. FAN; Y. S. CHAN; W. H. YUNG; K. K. TSIA; E. X. WU. *The Univ. of Hong Kong, The Univ. of Hong Kong, The Univ. of Hong Kong, The Chinese Univ. of Hong Kong.*
- 3:00 DD18 **449.19** Low frequency stimulation of hippocampus evoked large-scale cortical and subcortical responses: An optogenetic functional MRI study. R. W. CHAN\*; A. T. L. LEONG; S. J. FAN; P. P. GAO; Y. S. CHAN; W. H. YUNG; K. K. TSIA; E. X. WU. *The Univ. of Hong Kong, The Univ. of Hong Kong, The Univ. of Hong Kong, The Chinese Univ. of Hong Kong.*
- 4:00 DD19 **449.20** Dynamic control of forebrain by central thalamus. J. LEE\*; J. LIU; H. LEE; A. WEITZ; Z. FANG; P. LIN; R. FISHER; V. PINSKIY; A. TOLPYGO; P. MITRA; N. SCHIFF. *Stanford Univ., Cold Spring Harbor Labs, Weill Cornell Med. Ctr.*

## POSTER

### 450. Computation: Tools

#### Theme G: Novel Methods and Technology Development

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 DD20 **450.01** FPGA based multi-channel bidirectional neural interface system. J. PARK\*; G. KIM; A. KIM; Y. KIM; S. JUNG. *Electronics and Telecommunications Res. Instit.*
- 2:00 DD21 **450.02** Workflow for mapping tracer injection studies of the common marmoset into a reference template. P. MAJKA\*; T. A. CHAPLIN; H. YU; A. TOLPYGO; P. P. MITRA; D. K. WÓJCIK; M. G. P. ROSA. *Monash Univ., Nencki Inst. of Exptl. Biol. PAS, Australian Res. Council Ctr. of Excellence for Integrative Brain Function, Monash Vision Group, Monash Univ., Cold Spring Harbor Lab.*

- 3:00 DD22 **450.03** High-throughput identification of retinal ganglion cell types based on their light-evoked spiking patterns. R. DIGGELMANN\*; M. FISCELLA; A. DRINNENBERG; F. FRANKE; B. ROSKA; A. HIERLEMANN. *ETH Zurich, Friedrich-Miescher-Institute.*
- 4:00 DD23 **450.04** ▲ Wavelet transforms in EEG analysis: Pitfalls and potential solutions. L. PHAM\*; A. LAM; E. L. OHAYON. *NeuroInx Res. Inst., Univ. of Toronto Epilepsy Res. Program.*
- 1:00 DD24 **450.05** ▲ Multi-Objective Evolutionary Algorithms for the analysis of adaptive modulation in spinal motor neurons. K. M. MILETTI; K. T. FORSON; J. LOMBARDO; M. A. HARRINGTON; T. G. SMOLINSKI\*. *Delaware State Univ., Delaware State Univ.*
- 2:00 DD25 **450.06** Optothermal effects in the brain: Implications to optogenetics. H. M. PEIXOTO\*; R. M. S. CRUZ; R. N. LEAO. *Federal Univ. of Rio Grande Do Norte - UFRN, Federal Inst. of Paraiba - IFPB.*
- 3:00 DD26 **450.07** Code generator for spatial neuron model simulation with graphics processing units. T. YAMAZAKI\*. *The Univ. of Electro-Communications, RIKEN Brain Sci. Inst.*
- 4:00 DD27 **450.08** Image-based analysis of the mouse aberrant motor functions with a neuro-musculoskeletal model developed by high-resolution X-ray CT scanning data. S. OOTA\*; Y. IKEGAMI; K. AYUSAWA; A. MURAI; Y. OKAMURA-OHO; H. YOKOTA; A. YOSHIKI; Y. NAKAMURA. *RIKEN Bioresource center, The Dept. of Mechano-Informatics, Univ. of Tokyo, Intelligent Systems Res. Institute, Natl. Inst. of Advanced Industrial Sci. and Technol., Image Processing Res. Team, Extreme Photonics Res. Group, Ctr. for Advanced Photonics, RIKEN.*
- 1:00 DD28 **450.09** Poisson-Fermi model of the ion-exchange mechanism of the sodium/calcium exchanger NCX. R. EISENBERG\*; J. LIU. *Rush Univ. Med. Ctr., Natl. Hsinchu Univ. of Educ.*
- 2:00 DD29 **450.10** SEED - A virtual test tube for Parkinson's disease research. A. D. LEE\*; J. RYAN; L. SCHAPPELL; K. INMAN; J. MORRISON; A. GREEN; B. BEHROUZ. *Neuroinitiative.*
- 3:00 DD30 **450.11** Automated cortical thickness analysis pipeline of large-scale, multicenter longitudinal human MRI studies using high performance computing resources. D. G. ELLIS\*; I. OGUZ; R. E. Y. KIM; J. PAULSEN; D. WELCH; H. JOHNSON. *Univ. of Iowa.*
- 4:00 DD31 **450.12** A method to account for spatial biases in comparing eeg/meg with fmri. N. J. HEUGEL\*; E. LIEBENTHAL; S. BEARDSLEY. *Marquette Univ., Med. college of Wisconsin, Brigham & Women's Hospital, Harvard Med. Sch., Marquette Univ., Boston Univ., Med. college of Wisconsin.*
- 1:00 DD32 **450.13** Seamless integration of neuroscience models and tools with high performance computing. N. T. CARNEVALE\*; A. MAJUMDAR; S. SIVAGNANAM; K. YOSHIMOTO; P. GLEESON; R. A. SILVER. *Yale Univ. Sch. Med., San Diego Supercomputer Center, UCSD, Univ. Col. London.*
- 2:00 DD33 **450.14** Imagining and feature extraction of autonomic nervous system function estimators at unconstrained high joint time-frequency resolution. C. M. WELZIG\*. *Med. Col. of Wisconsin.*
- 3:00 DD34 **450.15** Real-time 200 channel broadband neural data collection and analysis in an embedded mobile data processing system. J. KOMAR\*; C. HEELAN; C. E. VARGAS-IRWIN; J. D. SIMERAL; A. NURMIKKO. *Brown Univ., Brown Univ., Brown Univ., Rehab R&D Service, Dept. of VA Med. Ctr., Brown Univ., Brown Univ.*
- 4:00 DD35 **450.16** Investigating the use of earth mover's distance in cortical surface pattern-based similarity analysis. X. WANG\*; R. D. RAIZADA. *Univ. of Rochester.*
- 1:00 DD36 **450.17** Neural circuit models on emulated hardware. F. ROTHGANGER\*; J. B. AIMONE. *Sandia Natl. Labs.*
- 2:00 DD37 **450.18** Soundcard voltammetry: Testing FSCV electrodes with any computer and a simple circuit. E. RAMSSON\*; T. EVANS. *Grand Valley State Univ., Grand Valley State Univ.*
- 3:00 DD38 **450.19** 1-D current-source density estimation revisited: A unified framework for higher-order spectral regularization of quadrature and expansion type CSD methods. P. S. KROPF\*; A. SHMUEL. *McGill Univ.*
- 4:00 DD39 **450.20** Efficient and extensible pipeline: A reliable whole brain automated segmentation for large-scale multicenter longitudinal mri analysis using high performance/throughput computing resources. R. E. KIM\*; J. S. PAULSEN; P. NOPOULOS; E. UC; H. J. JOHNSON. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa, Univ. of Iowa.*
- 1:00 DD40 **450.21** Development of a simple, open-hardware wearable device to quantifying gait features. M. A. LANDA-JIMENEZ\*; P. GONZALEZ-GASPAR; F. M. MONTES-GONZALEZ; C. MORGADO-VALLE; L. BELTRAN-PARRAZAL. *Univ. Veracruzana, Univ. Veracruzana.*
- 2:00 DD41 **450.22** Inference of neural signals from a proposed dual-polymerase error-encoded recording system. T. CYBULSKI\*; E. BOYDEN; G. CHURCH; K. TYO; K. KORDING. *Northwestern, MIT, MIT, Harvard Med. Sch., Harvard Univ., Northwestern Univ., Northwestern Univ., Northwestern Univ.*
- 3:00 DD42 **450.23** Application of a Kalman filter to model intelligent computational and decision processes. H. C. YUAN\*; M. V. CHAO. *Independent Lab., Independent Lab.*
- 4:00 DD43 **450.24** Hybrid modeling of the sensory feedback in human lower limb nerve for bidirectional transfemoral prosthesis. S. RASPOPOVIC\*; F. PETRINI; S. MICERA. *Ecole Polytechnique Federale De Lausanne, Scuola Superiore Sant Anna.*
- 1:00 DD44 **450.25** Modifying a large-scale neural model of cortical processing of objects to improve the match between experimental and simulated data. Q. LIU; A. ULLOA; B. HORWITZ\*. *NIDCD, NIH, Univ. of Maryland, Neural Bytes LLC.*
- 2:00 DD45 **450.26** A method for embedding task-based neural models into a connectome-based model of the cerebral cortex. A. ULLOA\*; B. HORWITZ. *VSLB / NIDCD / NIH, Neural Bytes LLC.*
- 3:00 DD46 **450.27** Visualizing, editing and simulating neuronal models with the Open Source Brain 3D explorer. P. GLEESON\*; A. QUINTANA; B. MARIN; M. CANTARELLI; R. A. SILVER. *Univ. Col. London, MetaCell Ltd.*

\* Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author

**POSTER**

**451. Computation: Tools (Other)**

**Theme G: Novel Methods and Technology Development**

Mon. 1:00 PM – McCormick Place, Hall A

- 1:00 DD47 **451.01** ● Characterization of novel inhibitors for analog-specific protein kinase c delta. V. KUMAR\*; G. WANG; Y. WENG; W. CHOU. *Kent State Univ.*
- 2:00 DD48 **451.02** Three dimensional cellular scale profiling of brain tissue surrounding implanted devices. M. MEGJHANI\*; Y. LU; W. SHAIN; B. ROYSAM. *Univ. Of Houston, Seattle Children's Hosp.*
- 3:00 DD49 **451.03** Recording capacity of chronically implanted electrode in the peripheral nervous system: A human computational model. B. JEHENNE\*; S. RASPOPOVIC; M. CAPOGROSSO; A. ARLEO; S. MICERA. *EPFL STI CPN TNE, institut de la vision, Ecole doctorale Frontieres du Vivant (ED474), Univ. Paris Descartes.*
- 4:00 DD50 **451.04** A novel computer vision method for automated human intracranial electrode localization and anatomical labeling. Z. GREENBERG\*; E. CHANG. *Chang Lab, Univ. of California, San Francisco, Univ. of California, San Francisco.*
- 1:00 DD51 **451.05** The NEST neuronal network simulator: Performance optimization techniques for high performance computing platforms. A. PEYSER\*; W. SCHENCK. *Forschungszentrum Jülich.*
- 2:00 DD52 **451.06** ● Biosimulation of neurotrophin signaling pathways in schizophrenia. C. F. PHELIX\*; J. MORRIS; G. PERRY. *The Univ. of Texas San Antonio, The Univ. of Texas San Antonio.*
- 3:00 DD53 **451.07** Wavelet based analysis as a tool to evaluate the degree of neuronal insult in animal model of ischemic stroke. S. PAUL\*; T. K. SINHA; P. BHATTACHARYA; A. K. PANDEY; R. PATNAIK. *North-Eastern Hill Univ. (NEHU), Indian Inst. of Technology, BHU, Computer Ctr. (NEHU), Leonard M. Miller Sch. of Med.*
- 4:00 DD54 **451.08** ● Evidence-based safety limits for transcranial direct current stimulation: State-of-the-art 2015. D. Q. TRUONG\*; M. BIKSON; C. THOMAS; P. TOSHEV; A. MOURDOUKOUTAS. *City Col. of New York, CUNY.*
- 1:00 DD55 **451.09** Efficacy of an automated spike detection algorithm for processing *in vivo* multichannel recordings. E. RODRIGUEZ MANYARI\*; D. GUGGENMOS; A. AVERNA; C. DUNHAM; G. VAN ACKER; R. NUDO; M. CHIAPPALONE. *Univ. of Kansas Med. Ctr., Univ. of Kansas, Univ. of Kansas Med. Ctr., Inst. Italiano di Tecnologia.*
- 2:00 DD56 **451.10** NeuronStitcher: A suite for stitching neuron fragments in serial 3D sections. H. CHEN\*; Z. ZHOU; N. DA COSTA; L. LI; S. SORENSEN; H. ZENG; M. HAWRYLYCZ; E. LEIN; T. LI; H. PENG. *The Univ. of Georgia, Allen Inst. for Brain Sci.*
- 3:00 DD57 **451.11** Finding cortical patches of shared representations: A comparison of clustering algorithms on representational geometries, and the effect of cross-validation to reduce physiological noise. M. VISCONTI DI OLEGGIO CASTELLO\*; S. A. NASTASE; M. I. GOBBINI; J. V. HAXBY; Y. O. HALCHENKO. *Dartmouth Col., Univ. of Bologna, Univ. of Trento.*
- 4:00 DD58 **451.12** The Myriad simulator: Parallel computation for densely integrated models. P. RITTNER; A. J. DAVIES; T. A. CLELAND\*. *Cornell Univ.*
- 1:00 DD59 **451.13** Reliable quantal analysis from short recordings of synaptic responses. G. S. BHUMBRA\*; M. BEATO. *UCL.*
- 2:00 DD60 **451.14** A neuromuscular system simulation tool for optimizing rehabilitative therapies for walking. I. PEREZ\*; L. TONG; N. CARUSETTA; J. NATARAJ; G. DANESHGARAN; D. S. WON. *California State University, Los Angeles, UCLA.*
- 3:00 DD61 **451.15** Impact of TMS coil modeling detail on FEM simulation accuracy of the induced electrical field. P. PETROV\*; B. NEGGERS; S. MANDIJA; N. VAN DEN BERG. *Univ. Med. Ctr. Utecht, Ctr. for Image Sci. Univ. Med. Ctr. Utrecht.*
- 4:00 DD62 **451.16** ▲ An improved algorithm for nociceptive signal identification in a closed-loop wireless neurostimulation system. G. GUPTA\*; C. M. NGUYEN; X. YANG; J. C. CHIAO; Y. B. PENG. *Univ. of Texas At Arlington, Univ. of Texas At Arlington, Huazhong Univ. of Sci. and Technol., Univ. of Texas At Arlington.*
- 1:00 DD63 **451.17** A phase-locked loop oscillatory memory model for characterizing canine seizure electrocorticography data. K. M. HORECKA\*; P. WATSON; R. RATNAM; N. COHEN. *Univ. of Illinois Urbana-Champaign, Beckman Inst. of Advance Sci. and Technology, Univ. of Illinois at Urbana-Champaign.*
- 2:00 DD64 **451.18** ICBM-NY: A highly detailed volume conductor model for EEG source localization and TCS targeting. Y. HUANG\*; L. C. PARRA; S. HAUF. *The City Col. of New York, Columbia Univ., Technische Univ. Berlin.*
- 3:00 DD65 **451.19** Assessing granger causality in electrophysiology: Unipolar vs. bipolar signals. B. NANDI\*; A. TRONGNETRPUNYA; D. KANG; B. KOCSIS; C. SCHROEDER; M. DING. *Univ. of Florida, Gainesville, Harvard Med. Sch., Nathan S. Kline Inst. for Psychiatric Res.*
- 4:00 DD66 **451.20** Visualization and utilization of medical imaging atlas correction tools. J. L. FORBES\*; R. E. KIM; J. S. PAULSEN; H. J. JOHNSON. *Univ. of Iowa, Univ. of Iowa.*
- 1:00 DD67 **451.21** An optimized C++ library for the design, simulation, and parameter tuning of biologically detailed spiking neural networks. M. BEYELER\*; K. D. CARLSON; T. CHOU; N. DUTT; J. L. KRICHMAR. *Univ. of California, Irvine.*
- 2:00 DD68 **451.22** A processing pipeline for large-scale, multi-site diffusion MRI analysis. A. GHAYOOR\*; H. JOHNSON. *The Univ. of Iowa.*
- 3:00 DD69 **451.23** Decoding and reconstructing movement direction using fMRI. S. NAM\*; J. JUN; D. KIM. *Korea Advanced Inst. of Sci. and Technol.*
- 4:00 DD70 **451.24** ▲ Finite element method studies of electric field distributions in extracerebral structures by non-invasive stimulation techniques. A. MOURDOUKOUTAS\*; M. BIKSON. *The City Col. of New York of the City Universit.*

• Indicated a real or perceived conflict of interest, see page 160 for details.

▲ Indicates a high school or undergraduate student presenter.

\* Indicates abstract's submitting author



1:00 DD71 **451.25** MEMORY, A SBML based Multiscale simulation platform integrating both parametric and non-parametric modeling methodologies. J. C. BOUTEILLER\*; E. Y. HU; E. T. SOMOGYI; Y. GUO; D. ROUSSO; Y. ZHANG; C. CHEN; J. VENKATESH; D. SONG, PhD; T. W. BERGER. *USC, Indiana Univ., USC.*

Mon. PM

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• Indicated a real or perceived conflict of interest, see page 160 for details.  
▲ Indicates a high school or undergraduate student presenter.  
\* Indicates abstract's submitting author

# Conflict of Interest Statements

The following presenters, signified by a dot (•) in the program, indicated a real or perceived conflict of interest. Presenters listed without a dot in the program had no financial relationships to disclose.

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
282.01	<b>N. Brandon:</b> A. Employment/Salary (full or part-time); AstraZeneca.		Psychology. <b>J. Rossignol:</b> Other; Field Neurosciences Institute Laboratory for Restorative Neurology, Program in Neuroscience, Department of Psychology, College of Medicine, Central Michigan University. <b>G.L. Dunbar:</b> Other; Field Neurosciences Institute Laboratory for Restorative Neurology, Program in Neuroscience, Department of Psychology, Field Neurosciences Inst., 4677 Towne Centre Rd. Suite 101 Saginaw, MI.
286.04	<b>P. Van Slyke:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Named inventor on granted and submitted patents relating to Vasculotide. <b>D. Dumont:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Named inventor on granted and submitted patents relating to Vasculotide.	295.20	<b>H. Zhang:</b> A. Employment/Salary (full or part-time); Miltenyi Biotec GmbH. <b>M. Jungblut:</b> A. Employment/Salary (full or part-time); Miltenyi Biotec GmbH. <b>S. Reiss:</b> A. Employment/Salary (full or part-time); Miltenyi Biotec GmbH. <b>L. Zatrieb:</b> A. Employment/Salary (full or part-time); Miltenyi Biotec GmbH. <b>S. Rüberg:</b> A. Employment/Salary (full or part-time); Miltenyi Biotec GmbH. <b>L. Willnow:</b> A. Employment/Salary (full or part-time); Miltenyi Biotec. <b>S. Wild:</b> A. Employment/Salary (full or part-time); Miltenyi Biotec GmbH. <b>J. Kollet:</b> A. Employment/Salary (full or part-time); Miltenyi Biotec GmbH. <b>S. Tomiuk:</b> A. Employment/Salary (full or part-time); Miltenyi Biotec GmbH. <b>R. Fekete:</b> A. Employment/Salary (full or part-time); Fluidigm Corporation. <b>A. Bosio:</b> A. Employment/Salary (full or part-time); Miltenyi Biotec GmbH.
288.11	<b>T.M. Fowler:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder. <b>M.L. Roukes:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Holder.	295.22	<b>S. Sutton:</b> A. Employment/Salary (full or part-time); Janssen Research & Development, LLC. <b>Y. He:</b> A. Employment/Salary (full or part-time); Janssen Research & Development, LLC. <b>N. Taylor:</b> A. Employment/Salary (full or part-time); Janssen Research & Development, LLC. <b>N. Derecki:</b> A. Employment/Salary (full or part-time); Janssen Research & Development, LLC. <b>A. Bhattacharya:</b> A. Employment/Salary (full or part-time); Janssen Research & Development, LLC. <b>P. Bonaventure:</b> A. Employment/Salary (full or part-time); Janssen Research & Development, LLC.
290.02	<b>Y. Ren:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rehabtek LLC. <b>L. Zhang:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rehabtek LLC.	296.05	<b>Y. Chen:</b> A. Employment/Salary (full or part-time); Genentech Inc. <b>M. Weber:</b> A. Employment/Salary (full or part-time); Genentech Inc. <b>F. Chu:</b> A. Employment/Salary (full or part-time); Genentech Inc. <b>Z. Modrusan:</b> A. Employment/Salary (full or part-time); Genentech Inc. <b>J. Kaminker:</b> A. Employment/Salary (full or part-time); Genentech Inc. <b>M. Sheng:</b> A. Employment/Salary (full or part-time); Genentech Inc.
292.08	<b>J. Miwa:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ophidion Inc.	296.27	<b>R. Enger:</b> A. Employment/Salary (full or part-time); 2Department of Neurology, Oslo University Hospital, Rikshospitalet, Oslo, Norway.
292.09	<b>V.A. Eterovic:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Universidad Central del Caribe. <b>P.A. Ferchmin:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Universidad Central del Caribe. <b>K.A. El sayed:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ULM College of Pharmacy.	297.13	<b>Y. Tang:</b> Other; This work was supported by National Natural Science Foundation of China (No. 81072242 and No. 81272576).
292.16	<b>M. Grupe:</b> A. Employment/Salary (full or part-time); H. Lundbeck A/S. <b>K. Frederiksen:</b> A. Employment/Salary (full or part-time); H. Lundbeck A/S. <b>M. Jessen:</b> A. Employment/Salary (full or part-time); H. Lundbeck A/S. <b>J. Fullerton Støier:</b> A. Employment/Salary (full or part-time); H. Lundbeck A/S. <b>A. Parachikova:</b> A. Employment/Salary (full or part-time); H. Lundbeck A/S. <b>C. Bundgaard:</b> A. Employment/Salary (full or part-time); H. Lundbeck A/S. <b>A. Mittoux:</b> A. Employment/Salary (full or part-time); H. Lundbeck A/S. <b>J. Bastlund:</b> A. Employment/Salary (full or part-time); H. Lundbeck A/S.	298.09	<b>E.A. Old:</b> A. Employment/Salary (full or part-time); ncRNA Pain FP7 grant. <b>M. Malcangio:</b> A. Employment/Salary (full or part-time); ncRNA Pain FP7 grant.
292.17	<b>M.W. Decker:</b> A. Employment/Salary (full or part-time); AbbVie, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AbbVie, Inc.	298.21	<b>H.G. Badie:</b> A. Employment/Salary (full or part-time); Physiology and Pharmacology Department, Pasteur Institute of Iran, Tehran, Iran.
295.04	<b>M. Choi:</b> A. Employment/Salary (full or part-time); Brain Korea 21 plus. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Korea Healthcare Technology R&D project A111230, National Research Foundation of Korea 2011-0021866.	299.04	<b>K. Takahama:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; TAISHO PHARMACEUTICAL CO., LTD.
295.09	<b>S.T. Peruzzaro:</b> Other; Field Neurosciences Institute Laboratory for Restorative Neurology, Program in Neuroscience. <b>S.M. Raupp:</b> Other; Program in Neuroscience. <b>M.M. Andrews:</b> Other; Field Neurosciences Institute Laboratory for Restorative Neurology, Program in Neuroscience, Department of Psychology. <b>M. Lu:</b> Other; Field Neurosciences Institute Laboratory for Restorative Neurology, Program in Neuroscience, Department of Psychology. <b>Z. Nan:</b> Other; Field Neurosciences Institute Laboratory for Restorative Neurology, Program in Neuroscience, Department of	299.08	<b>J. Misik:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; GACR project P303/12/0611.
		299.12	<b>M. Stoiljkovic:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship

- even if those funds come to an institution.; FORUM Pharmaceuticals Inc., Watertown, MA. **D. Nagy:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; FORUM Pharmaceuticals Inc., Watertown, MA. **G.P. Hajos:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; FORUM Pharmaceuticals Inc., Watertown, MA. **C. Kelley:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; FORUM Pharmaceuticals Inc., Watertown, MA. **G. Koenig:** A. Employment/Salary (full or part-time); FORUM Pharmaceuticals Inc., Watertown, MA. **T. Piser:** A. Employment/Salary (full or part-time); FORUM Pharmaceuticals Inc., Watertown, MA. **L. Leventhal:** A. Employment/Salary (full or part-time); FORUM Pharmaceuticals Inc., Watertown, MA. **M. Hajós:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; FORUM Pharmaceuticals Inc., Watertown, MA.
- 302.13 **M.M. McCarthy:** A. Employment/Salary (full or part-time); Boston University.
- 303.13 **S.M. Massa:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); University of North Carolina, University of California, San Francisco. **F.M. Longo:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pharmatrophix, University of North Carolina, University of California, San Francisco.
- 303.24 **T. Ren:** A. Employment/Salary (full or part-time); Beijing Tiantan Hospital, Capital Medical University. **H. Lu:** A. Employment/Salary (full or part-time); National Institute on Drug Abuse, NIH. **Q. Li:** A. Employment/Salary (full or part-time); Johns Hopkins University School of Medicine. **P. Qi:** A. Employment/Salary (full or part-time); Johns Hopkins University School of Medicine. **J. Zhang:** A. Employment/Salary (full or part-time); Johns Hopkins University School of Medicine. **Y. Yang:** A. Employment/Salary (full or part-time); National Institute on Drug Abuse, NIH. **W. Duan:** A. Employment/Salary (full or part-time); Johns Hopkins University School of Medicine.
- 304.02 **W. Jia:** A. Employment/Salary (full or part-time); University of British Columbia. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; University of British Columbia. **M.S. Cynader:** A. Employment/Salary (full or part-time); University of British Columbia. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; University of British Columbia.
- 304.21 **A. Conforto:** A. Employment/Salary (full or part-time); Hospital Israelita Albert Einstein, Hospital das Clinicas/ Sao Paulo University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Hospital Israelita Albert Einstein, Fundação de Amparo à Pesquisa do Estado de São Paulo, Conselho Nacional de Desenvolvimento Científico e Tecnológico, Consultant, Pfizer/BMS. **G.**

- do Prado:** A. Employment/Salary (full or part-time); 2. Universidade Federal de São Paulo. **E. Amaro Jr.:** A. Employment/Salary (full or part-time); Hospital Israelita Albert Einstein, Universidade de São Paulo. **A. Eckeli:** A. Employment/Salary (full or part-time); Universidade de São Paulo - Ribeirão Preto. **S. Magalhães:** A. Employment/Salary (full or part-time); Hospital Israelita Albert Einstein.
- 304.23 **M. Okun:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); royalties from book publications.
- 304.26 **O. Samotus:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; MITACS grant in collaboration with Merz Pharma. **M. Jog:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Merz Pharma. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent pending PCT/CA2013/000804 to MDDT Inc. and patent PCT/CA2014/050893 pending to MDDT inc. F. Consulting Fees (e.g., advisory boards); Allergan Inc, Teva Pharma, AbbVie.
- 305.14 **J.C. Lauterborn:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Holder: The University of California (JL inventor). **C.M. Gall:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Holder: The University of California (CG inventor). **G. Lynch:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Holder: The University of California (GL inventor).
- 306.02 **E.B. Torres:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NJ Governor's Council for Autism Research and Treatments, The Nancy Lurie Marks Family Foundation Early Career Award.
- 306.07 **L. Kenworthy:** D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Psychological Assessment Resources.
- 306.08 **C. Grundschober:** A. Employment/Salary (full or part-time); F. Hoffmann-La Roche Ltd. **T. Mueggler:** A. Employment/Salary (full or part-time); F. Hoffmann-La Roche Ltd. **F. Knoflach:** A. Employment/Salary (full or part-time); F. Hoffmann-La Roche Ltd. **C. Risterucci:** A. Employment/Salary (full or part-time); F. Hoffmann-La Roche Ltd. **P. Schneider:** A. Employment/Salary (full or part-time); F. Hoffmann-La Roche Ltd. **B. Biemans:** A. Employment/Salary (full or part-time); F. Hoffmann-La Roche Ltd.
- 306.09 **E. Torres:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NJ Governor's Council for Autism Research and Treatments, The Nancy Lurie Marks Family Foundation Early Career Award.
- 306.12 **S. Huemer:** A. Employment/Salary (full or part-time); Loyola Marymount University.
- 308.11 **N.C. Manley:** A. Employment/Salary (full or part-time); Asterias Biotherapeutics, Inc. **C.C. case:** A. Employment/Salary (full or part-time); Asterias Biotherapeutics, Inc. **E. Wirth:** A. Employment/Salary (full or part-time); Asterias Biotherapeutics, Inc. **S.T. Carmichael:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Asterias Biotherapeutics, Inc.
- 309.02 **Y. Ning:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if

- those funds come to an institution.; Grants from National Natural Science Foundation of China (No. 81201461), the Natural Science Foundation of Chongqing, China (No. CSTC2012jjA10107).
- 309.14 **J. Cui:** Other; Department of Pathology and Anatomical Sciences, University of Missouri School of Medicine, Columbia, Missouri 65212, USA, Center for Translational Neuroscience, Center for Botanical Interaction Studies, University of Missouri, Columbia, MO, USA. **S. Mobashery:** Other; Department of Chemistry and Biochemistry, University of Notre Dame, Notre Dame, Indiana 46556, USA. **M. Chang:** Other; Department of Chemistry and Biochemistry, University of Notre Dame, Notre Dame, Indiana 46556, USA. **Z. Gu:** Other; Department of Pathology and Anatomical Sciences, University of Missouri School of Medicine, Columbia, Missouri 65212, USA, Center for Translational Neuroscience, Center for Botanical Interaction Studies, University of Missouri, Columbia, MO, USA.
- 309.19 **K. Hensley:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Xonovo.
- 309.24 **M. Groenendijk:** A. Employment/Salary (full or part-time); Nutricia Research. **M.C. de Wilde:** A. Employment/Salary (full or part-time); Nutricia Research.
- 310.11 **O. Bloom:** F. Consulting Fees (e.g., advisory boards); ad hoc reviewer, Craig Neilsen Foundation. **A. Stein:** F. Consulting Fees (e.g., advisory boards); consultant, Craig Neilsen Foundation, member, Data Monitoring Safety Committee, StemCells, Inc.
- 311.12 **R. Gil-Da-Costa:** A. Employment/Salary (full or part-time); Neuroverse, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuroverse, Inc. F. Consulting Fees (e.g., advisory boards); Neuroverse, Inc. **R. Fung:** A. Employment/Salary (full or part-time); Neuroverse, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuroverse, Inc. **M. Caswell:** A. Employment/Salary (full or part-time); Neuroverse, Inc. **T.P. Coleman:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neuroverse, Inc. **G. Light:** F. Consulting Fees (e.g., advisory boards); Neuroverse, Inc.
- 311.19 **D. Koshiyama:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Brain/MINDS, AMED, Japan. **T. Nagai:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Brain/MINDS, AMED, Japan. **K. Kirihara:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Brain/MINDS, AMED, Japan. **M. Tada:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Brain/MINDS, AMED, Japan. **S. Koike:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Brain/MINDS, AMED, Japan. **M. Suga:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Brain/MINDS, AMED, Japan. **T. Araki:** B. Contracted Research/Research Grant

- (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Brain/MINDS, AMED, Japan. **K. Kasai:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Brain/MINDS, AMED, Japan.
- 311.20 **K. Watson Lin:** A. Employment/Salary (full or part-time); Stanford University. **T. Wroolie:** A. Employment/Salary (full or part-time); Stanford University. **N.L. Rasgon:** A. Employment/Salary (full or part-time); Stanford University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Magceutics Inc., Corcept. F. Consulting Fees (e.g., advisory boards); Shire Pharmaceuticals, Shire Pharmaceuticals.
- 313.03 **D.H. Malin:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Acadia Pharmaceuticals. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Acadia Pharmaceuticals.
- 313.04 **J.A. Stitzel:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Pfizer, Inc.
- 315.03 **C.J. Hillard:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH grant DA038663. **J.R. Mantsch:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH grant DA038663.
- 316.07 **P. Vezina:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH grant R01 DA09397.
- 319.05 **C.F. Ferris:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ekam Imaging, Animal Imaging Research. **P. Kulkarni:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ekam Imaging.
- 319.09 **P.J. Wellman:** A. Employment/Salary (full or part-time); Texas A&M Univ. **S. Eitan:** A. Employment/Salary (full or part-time); Texas A&M Univ.
- 319.11 **C. Xu:** A. Employment/Salary (full or part-time); University of Minnesota. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIDA DA031442-03. **P. Law:** A. Employment/Salary (full or part-time); University of Minnesota. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIDA DA031442-03.
- 319.15 **J.K. DaSilva:** A. Employment/Salary (full or part-time); Pfizer, Inc.

PRESENTATION NUMBER	STATEMENT
321.10	<b>I. Liao:</b> A. Employment/Salary (full or part-time); Chang Gung University. <b>B. Contracted Research/Research Grant</b> (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Chang Gung Memorial Hospital at Keelung Branch. <b>E. Ownership Interest</b> (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Chang Gung University. <b>J. Chen:</b> A. Employment/Salary (full or part-time); Chang Gung University. <b>B. Contracted Research/Research Grant</b> (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Chang Gung Memorial Hospital at Keelung Branch. <b>E. Ownership Interest</b> (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Chang Gung University.
322.01	<b>S.E. Jordt:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Amgen Pharmaceuticals.
322.02	<b>R.O. Messing:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inventor on patent held by University of California.
323.12	<b>M. Wolfe:</b> A. Employment/Salary (full or part-time); Ferring Research Institute, Inc. <b>H. Wisniewski:</b> A. Employment/Salary (full or part-time); Ferring Research Institute, Inc. <b>G. Ibanez:</b> A. Employment/Salary (full or part-time); Ferring Research Institute, Inc. <b>H. Tariga:</b> A. Employment/Salary (full or part-time); Ferring Research Institute, Inc. <b>D. Hargrove:</b> A. Employment/Salary (full or part-time); Ferring Research Institute, Inc. <b>B.F. Lindstrom:</b> A. Employment/Salary (full or part-time); Ferring Research Institute, Inc.
323.13	<b>M.L. Scotti:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NIH. <b>A.J. Grippo:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); NIH.
324.04	<b>M. Endres:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; F. Hoffmann-La Roche. <b>U.K. Dirnagl:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; F. Hoffmann-La Roche. <b>K. Gertz:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; F. Hoffmann-La Roche.
324.10	<b>L.M. Broersen:</b> A. Employment/Salary (full or part-time); Nutricia Research. <b>P. Kamphuis:</b> A. Employment/Salary (full or part-time); Nutricia Research.
324.28	<b>A.D. Ruiz:</b> A. Employment/Salary (full or part-time); University of Texas at Dallas. <b>C. Other Research Support</b> (receipt of drugs, supplies, equipment or other in-kind support); Michael J Fox Foundation. <b>S.A. Hays:</b> A. Employment/Salary (full or part-time); University of Texas at Dallas. <b>C. Other Research Support</b> (receipt of drugs, supplies, equipment or other in-kind support); Michael J Fox Foundation. <b>D.R. Hulsey:</b> A. Employment/Salary (full or part-time); University of Texas at Dallas. <b>N. Khodaparast:</b> A. Employment/Salary (full or part-time); University of Texas at Dallas. <b>R.L. Rennaker:</b> A. Employment/Salary (full or part-time); University of Texas at Dallas. <b>M.P. Kilgard:</b> A. Employment/Salary (full or part-time); University of Texas at Dallas.
327.17	<b>R. Gutierrez:</b> A. Employment/Salary (full or part-time); CINVESTAV. <b>B. Contracted Research/Research Grant</b> (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a

PRESENTATION NUMBER	STATEMENT
	PI for a drug study, report that research relationship even if those funds come to an institution.; CONACYT 179484, Productos Medix 0001275, ICYTDF-PICSA12-126, Salud2010-02-151001.
328.09	<b>J. Dyhrfeld-Johnsen:</b> A. Employment/Salary (full or part-time); Sensorion. <b>M. Petremann:</b> A. Employment/Salary (full or part-time); Sensorion. <b>V. Briec:</b> A. Employment/Salary (full or part-time); Sensorion. <b>A. Broussy:</b> A. Employment/Salary (full or part-time); Sensorion.
329.13	<b>V. Aluru:</b> F. Consulting Fees (e.g., advisory boards); Mirrored Motion Works. <b>P. Raghavan:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Mirrored Motion Works.
329.18	<b>J.P. Culver:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Cephalogics LLC.
330.24	<b>R.E. Marc:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Signature Immunologics, Inc.
335.11	<b>G.P. Siegmund:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MEA Forensic Engineers & Scientists.
336.09	<b>P.L. Durham:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; DOD, Banyon Group, Allergan, IDF, GelStat.
336.12	<b>S. Hitomi:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Tsumura & Co. <b>K. Ono:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Tsumura & Co. <b>K. Terawaki:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Kyushu Dental University. <b>Y. Omiya:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Kyushu Dental University. <b>K. Inenaga:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Tsumura & Co.
336.15	<b>P.L. Durham:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; DOD, Banyon Group, Allergan, IDF, GelStat.
336.16	<b>C. Lenglet:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Partly supported by NIH grants P41 EB015894 & P30 NS076408.
336.18	<b>P.L. Durham:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; GelStat; IDF; Allergan; DOD, Banyon Group.

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
337.23	<b>R. Roy:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurorecovery Technologies. <b>Y. Gerasimenko:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurorecovery Technologies. <b>V. Edgerton:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurorecovery Technologies.		Wayne State University. <b>D.M. Kuhn:</b> A. Employment/Salary (full or part-time); Department of Psychiatry, School of Medicine, Wayne State University.
338.09	<b>G. Mendizabal Ruiz:</b> A. Employment/Salary (full or part-time); University of Guadalajara. <b>I. Jiménez Estrada:</b> A. Employment/Salary (full or part-time); CINVESTAV-IPN. <b>J. Bañuelos Pineda:</b> A. Employment/Salary (full or part-time); University of Guadalajara. <b>S.H. Dueñas Jiménez:</b> A. Employment/Salary (full or part-time); University of Guadalajara.	353.02	<b>E. McAuley:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Abbott Nutrition. <b>A.F. Kramer:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Abbott Nutrition. <b>N.J. Cohen:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Abbott Nutrition.
339.05	<b>L.D. Gangwani:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Filed a patent application on use of JNK inhibitors for treatment of SMA.	354.02	<b>V. Tan:</b> A. Employment/Salary (full or part-time); Full time employee. <b>A. Ankrom:</b> A. Employment/Salary (full or part-time); Part-time consultant. <b>C. Berka:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); stock holder, owner. <b>R. Johnson:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); stock holder.
341.23	<b>H. Obata:</b> A. Employment/Salary (full or part-time); The University of Tokyo. <b>S. Sasagawa:</b> A. Employment/Salary (full or part-time); Kanagawa University. <b>M. Shinya:</b> A. Employment/Salary (full or part-time); The University of Tokyo. <b>A. Yamamoto:</b> A. Employment/Salary (full or part-time); Kobe University. <b>K. Nakazawa:</b> A. Employment/Salary (full or part-time); The University of Tokyo.	355.26	<b>M.B. Milienne-Petiot:</b> A. Employment/Salary (full or part-time); UCSD. <b>M.A. Geyer:</b> A. Employment/Salary (full or part-time); UCSD. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Intracellular Therapeutics, Johnson & Johnson, NIDA, NIMH, U.S. Veteran's Administration VISN 22 Mental Illness Research, Education, and Clinical Center. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); San Diego Instruments. F. Consulting Fees (e.g., advisory boards); Abbott, Dart, Lundbeck, Neurocrine, Omeros, Otsuka, Sunovion. <b>J.W. Young:</b> A. Employment/Salary (full or part-time); UCSD. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Cerca, Omeros, Lundbeck Ltd, NIMH, U.S. Veteran's Administration VISN 22 Mental Illness Research, Education, and Clinical Center. F. Consulting Fees (e.g., advisory boards); Amgen, Arena Pharmaceuticals.
343.11	<b>K.A. Caulfield:</b> A. Employment/Salary (full or part-time); Beth Israel Deaconess Medical Center. <b>M.A. Smith:</b> A. Employment/Salary (full or part-time); Harvard University. <b>D. Press:</b> A. Employment/Salary (full or part-time); Beth Israel Deaconess Medical Center.	356.01	<b>M. Tamura:</b> A. Employment/Salary (full or part-time); Mitsubishi Tanabe Pharma Corporation.
346.06	<b>V.W. Yong:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; AIHS-CRIO Team program.	358.02	<b>E. Thiels:</b> A. Employment/Salary (full or part-time); National Science Foundation.
348.04	<b>A. Sridhar:</b> A. Employment/Salary (full or part-time); GlaxoSmithKline.	358.06	<b>J.W. Aldridge:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); J Wayne Aldridge, Marc Bradshaw, Andrew Klein.
348.06	<b>M.A. Vizzard:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH-NIDDK. <b>V. May:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH.	364.04	<b>E. Van Cauter:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Philips Respironics. F. Consulting Fees (e.g., advisory boards); Philips Respironics.
348.13	<b>M. Klinger:</b> A. Employment/Salary (full or part-time); Catamount Research and Development. <b>M.M. McGill:</b> A. Employment/Salary (full or part-time); Catamount Research and Development. <b>N.M. Wighton:</b> A. Employment/Salary (full or part-time); Catamount Research and Development. <b>S.R. Bruno:</b> A. Employment/Salary (full or part-time); Catamount Research and Development. <b>G.M. Herrera:</b> A. Employment/Salary (full or part-time); Catamount Research and Development.	366	<b>C. Zuker:</b> Other; Scientific Co-founder of Senomyx and Elcelyx Therapeutics.
348.14	<b>X. Su:</b> A. Employment/Salary (full or part-time); Medtronic, plc. <b>J.E. Agran:</b> A. Employment/Salary (full or part-time); Medtronic, plc. <b>D.E. Nelson:</b> A. Employment/Salary (full or part-time); Medtronic, plc.	367	<b>B.A. Stevens:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Annexon. F. Consulting Fees (e.g., advisory boards); Annexon.
348.23	<b>A. Sridhar:</b> A. Employment/Salary (full or part-time); GlaxoSmithKline.	368.04	<b>J.W. Fawcett:</b> F. Consulting Fees (e.g., advisory boards); Acorda Therapeutics, Vertex Pharmaceuticals.
350.07	<b>M. Angoa-Perez:</b> A. Employment/Salary (full or part-time); Department of Psychiatry, School of Medicine, Wayne State University. <b>J.G. Granneman:</b> A. Employment/Salary (full or part-time); Department of Pathology, Wayne State University. <b>R.G. MacKenzie:</b> A. Employment/Salary (full or part-time); Department of Psychiatry, School of Medicine,	370.02	<b>M. Janeczek:</b> A. Employment/Salary (full or part-time); Northwestern University. <b>M. Samimi-Gharai:</b> A. Employment/Salary (full or part-time); Northwestern University. <b>S. Weintraub:</b> A. Employment/Salary (full or part-time); Northwestern University. <b>E. Rogalski:</b> A. Employment/Salary (full or part-time); Northwestern University. <b>E. Bigio:</b> A. Employment/Salary (full or part-time); Northwestern University. <b>M. Mesulam:</b> A.

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	Employment/Salary (full or part-time); Northwestern University. <b>C. Geula:</b> A. Employment/Salary (full or part-time); Northwestern University.
370.05	<b>E.D. Roberson:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); E.D.R. owns intellectual property related to tau.
370.11	<b>S.M. Catalano:</b> A. Employment/Salary (full or part-time); Cognition Therapeutics Inc. <b>N. Izzo:</b> A. Employment/Salary (full or part-time); Cognition Therapeutics Inc. <b>C. Rehak:</b> A. Employment/Salary (full or part-time); Cognition Therapeutics Inc. <b>R. Yurko:</b> A. Employment/Salary (full or part-time); Cognition Therapeutics Inc. <b>K. Mozzoni:</b> A. Employment/Salary (full or part-time); Cognition Therapeutics Inc. <b>C. Silky:</b> A. Employment/Salary (full or part-time); Cognition Therapeutics Inc. <b>G. Look:</b> A. Employment/Salary (full or part-time); Cognition Therapeutics Inc. <b>G. Rishton:</b> A. Employment/Salary (full or part-time); Cognition Therapeutics Inc. <b>H. Safferstein:</b> A. Employment/Salary (full or part-time); Cognition Therapeutics Inc.
371.07	<b>T.M. Dawson:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Valted, LLC.
371.11	<b>T. Wu:</b> A. Employment/Salary (full or part-time); National Institute on Aging.
374.11	<b>F.B. Horak:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); APDM, Inc.
374.12	<b>D.D. Rumble:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; American Heart Association. <b>D.A. Brown:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); HDT.
374.13	<b>M. Mihara:</b> Other; Japan Agency for Medical Research and development, AMED. <b>N. Hattori:</b> Other; Japan Agency for Medical Research and development, AMED. <b>Y. Watanabe:</b> Other; Japan Agency for Medical Research and development, AMED. <b>I. Miyai:</b> Other; Japan Agency for Medical Research and development, AMED. <b>H. Mochizuki:</b> Other; Japan Agency for Medical Research and development, AMED.
380.03	<b>M. Fuqua:</b> A. Employment/Salary (full or part-time); Allen Institute for Brain Science.
380.26	<b>V.M. Lee:</b> A. Employment/Salary (full or part-time); STEMCELL Technologies. <b>L. Chew:</b> A. Employment/Salary (full or part-time); STEMCELL Technologies. <b>J. Yoon:</b> A. Employment/Salary (full or part-time); STEMCELL Technologies. <b>S. Lloyd-Burton:</b> A. Employment/Salary (full or part-time); STEMCELL Technologies. <b>A.C. Eaves:</b> A. Employment/Salary (full or part-time); STEMCELL Technologies. <b>T.E. Thomas:</b> A. Employment/Salary (full or part-time); STEMCELL Technologies. <b>S.A. Louis:</b> A. Employment/Salary (full or part-time); STEMCELL Technologies.
381.08	<b>A.M. Taylor:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Xona Microfluidics, LLC.
383.05	<b>S.J. Mannerick:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Sage Therapeutics.
383.24	<b>N. Sachs:</b> A. Employment/Salary (full or part-time); Merck & Co., Inc. <b>V. Kuzmick Graufelds:</b> A. Employment/Salary (full or part-time); Merck & Co., Inc. <b>J.J. Renger:</b> A. Employment/Salary (full or part-time); Merck & Co., Inc. <b>M.J. Marino:</b> A. Employment/Salary (full or part-time); Merck & Co., Inc.
384.02	<b>S. Kaja:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Experimentica Ltd.

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387.15	<b>C.W. Atcherley:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Knowmad LLC. <b>M.L. Heien:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Knowmad LLC.
390.01	<b>M.R. Heaven:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Vulcan Analytical, LLC.
390.14	<b>X. Chen:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); supported by NINDS and NIBIB intramural program.
390.23	<b>F. Zhang:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Founder of Editas Medicine. F. Consulting Fees (e.g., advisory boards); Scientific advisor for Horizon Discovery.
392.13	<b>F.L.W. Liebl:</b> A. Employment/Salary (full or part-time); Southern Illinois University Edwardsville. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; National Institutes of Health.
392.23	<b>F.L.W. Liebl:</b> A. Employment/Salary (full or part-time); Southern Illinois University Edwardsville. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; National Institutes of Health, National Science Foundation.
393.17	<b>M.R. Boyle:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The UNC conflict of interest office has determined that there is no conflict of interest for this study. UNC has filed a nonprovisional patent on tACS-related technology with Flavio Frohlich as the PI. <b>F. Frohlich:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The UNC conflict of interest office has determined that there is no conflict of interest for this study. UNC has filed a nonprovisional patent on tACS-related technology with Flavio Frohlich as the PI.
393.23	<b>K. Phillips:</b> A. Employment/Salary (full or part-time); Eli Lilly.
395.01	<b>S. Lim:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; ONO Pharmaceutical CO., LTD. <b>Z. Kieu:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; ONO Pharmaceutical CO., LTD. <b>M. Kitazawa:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; ONO Pharmaceutical CO., LTD.
395.02	<b>R. Krishnan:</b> A. Employment/Salary (full or part-time); Neurophage Pharmaceuticals. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurophage Pharmaceuticals. <b>E. Asp:</b> A. Employment/Salary (full or part-time); Neurophage Pharmaceuticals. <b>M. Proschitsky:</b> A. Employment/Salary (full or part-time); Neurophage Pharmaceuticals. <b>C.H. Chung:</b> A. Employment/Salary (full or part-time); Neurophage Pharmaceuticals. <b>J.C. Carroll:</b> A. Employment/Salary (full or part-time); Neurophage Pharmaceuticals. <b>H. Tsubery:</b> A. Employment/Salary (full or part-time); Neurophage Pharmaceuticals. <b>M. Lulu:</b> A. Employment/Salary (full

- or part-time); Neurophage Pharmaceuticals. **S. Gilead:** A. Employment/Salary (full or part-time); Neurophage Pharmaceuticals. **M. Gartner:** A. Employment/Salary (full or part-time); Neurophage Pharmaceuticals. **J.M. Levenson:** A. Employment/Salary (full or part-time); Neurophage Pharmaceuticals. **J. Wright:** A. Employment/Salary (full or part-time); Neurophage Pharmaceuticals. **K.S. Gannon:** A. Employment/Salary (full or part-time); Neurophage Pharmaceuticals. **R. Fisher:** A. Employment/Salary (full or part-time); Neurophage Pharmaceuticals.
- 395.13 **A. Rentsendorj:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); The Coins for Alzheimer's Research Trust (C.A.R.T) Fund, The BrightFocus Foundation, The National Center for Advancing Translational Sciences through CTSI Grant, Maurice Marciano and Saban Family foundations.
- 396.14 **T. Maes:** A. Employment/Salary (full or part-time); ORYZON GENOMICS S.A. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ORYZON GENOMICS S.A. **C. Mascaró:** A. Employment/Salary (full or part-time); ORYZON GENOMICS S.A. **F. Cavalcanti:** A. Employment/Salary (full or part-time); ORYZON GENOMICS S.A. **D. Rotllant:** A. Employment/Salary (full or part-time); ORYZON GENOMICS S.A. **A. Ortega:** A. Employment/Salary (full or part-time); ORYZON GENOMICS. **M. Pallàs:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; ORYZON GENOMICS S.A. **C. Buesa:** A. Employment/Salary (full or part-time); ORYZON GENOMICS S.A. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); ORYZON GENOMICS S.A.
- 396.17 **B.A. Friedman:** A. Employment/Salary (full or part-time); Genentech, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Genentech, Inc. **K. Srinivasan:** A. Employment/Salary (full or part-time); Genentech, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Genentech, Inc. **D. Hansen:** A. Employment/Salary (full or part-time); Genentech, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Genentech, Inc.
- 398.08 **H. Lee:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; KIST Institutional Program (2E25540 and 2E25600). **L. Feng:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; KIST Institutional Program (2E25540 and 2E25600). **H. Jeon:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; KIST Institutional Program (2E25540 and 2E25600). **J. Kim:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; KIST Institutional Program (2E25540 and 2E25600).

- 398.14 **P. Kulkarni:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ekam Imaging. **M. Nedelman:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ekam Imaging. **C. Ferris:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ekam Imaging, Animal Imaging Research.
- 398.22 **C. Buddhala:** A. Employment/Salary (full or part-time); Washington University in Saint Louis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Michael J. Fox Foundation, National Institute of Neurological Disorders and Stroke. **S.K. Loftin:** A. Employment/Salary (full or part-time); Washington University in Saint Louis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Michael J. Fox Foundation, National Institute of Neurological Disorders and Stroke. **B. Kuley:** A. Employment/Salary (full or part-time); Washington University in Saint Louis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Michael J. Fox Foundation, National Institute of Neurological Disorders and Stroke. **N.J. Cairns:** A. Employment/Salary (full or part-time); Washington University in Saint Louis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Michael J. Fox Foundation, National Institute of Neurological Disorders and Stroke. **M.C. Campbell:** A. Employment/Salary (full or part-time); Washington University in Saint Louis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Michael J. Fox Foundation, National Institute of Neurological Disorders and Stroke. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); In addition, Dr. Campbell has a patent "A2a antagonists as cognition and motor function enhancers" licensed to Biotie Therapies. **J.S. Perlmutter:** A. Employment/Salary (full or part-time); Washington University in Saint Louis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Michael J. Fox Foundation, National Institute of Neurological Disorders and Stroke, grants from Barnes-Jewish Hospital Foundation, grants from American Parkinson Disease Association. F. Consulting Fees (e.g., advisory boards); personal fees from medical legal consultations, personal fees from Parkinson disease Foundation, personal fees from Universities, other from American parkinson disease association. **P.T. Kotzbauer:** A. Employment/Salary (full or part-time); Washington University in Saint Louis. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Michael J. Fox Foundation, National Institute of Neurological Disorders and Stroke, grants from Retrophin. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Kotzbauer has a patent Neurturin and Related Growth Factors issued. F. Consulting Fees (e.g., advisory boards); personal fees from Abbvie, personal fees from Ono Pharmaceutical.
- 400.12 **S. Paul:** A. Employment/Salary (full or part-time); University of Utah. **W. Dansithong:** A. Employment/Salary (full or part-time); University of Utah. **K.P. Figueroa:** A. Employment/Salary (full or part-time); University of Utah. **D.R. Scoles:** A. Employment/Salary (full or part-time); University of Utah. **S.M. Pulst:** A. Employment/Salary (full or part-time); University of Utah. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Athena Diagnostics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Progenitor Life Sciences. F. Consulting Fees (e.g., advisory boards); Ataxion Therapeutics.
- 402.10 **M. Schroeter:** D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g.,



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	speakers' bureaus); Mlitenyi, Genzyme, Novartis. F. Consulting Fees (e.g., advisory boards); Bencard Allergy. <b>J. Hucklenbroich:</b> A. Employment/Salary (full or part-time); Qiagen, Germany.
404.10	<b>G.P. Eckert:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Fresenius Kabi.
406.10	<b>P. Chiu:</b> A. Employment/Salary (full or part-time); Vertex Pharmaceuticals (Europe) Ltd. <b>S. Gladwell:</b> A. Employment/Salary (full or part-time); Vertex Pharmaceuticals (Europe) Ltd. <b>S. Cummings:</b> A. Employment/Salary (full or part-time); Vertex Pharmaceuticals (Europe) Ltd. <b>J. Jones:</b> A. Employment/Salary (full or part-time); Vertex Pharmaceuticals (Europe) Ltd. <b>A. Lindquist:</b> A. Employment/Salary (full or part-time); Vertex Pharmaceuticals. <b>S. Hughes:</b> A. Employment/Salary (full or part-time); Vertex Pharmaceuticals (Europe) Ltd. <b>J. Francois:</b> A. Employment/Salary (full or part-time); Vertex Pharmaceuticals (Europe) Ltd.
406.13	<b>L.D. Walensky:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aileron Therapeutics. F. Consulting Fees (e.g., advisory boards); Aileron Therapeutics.
407.11	<b>V.G. Pinelis:</b> A. Employment/Salary (full or part-time); full time. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; research grant.
408.02	<b>V.L. Reinhart:</b> A. Employment/Salary (full or part-time); Pfizer Inc.
408.11	<b>J. Quan:</b> A. Employment/Salary (full or part-time); Pfizer, Inc. <b>H. Xi:</b> A. Employment/Salary (full or part-time); Pfizer, Inc. <b>C. Schubert:</b> A. Employment/Salary (full or part-time); Pfizer, Inc.
409.04	<b>R. Muller:</b> A. Employment/Salary (full or part-time); Cortera Neurotechnologies, Inc. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Cortera Neurotechnologies, Inc. <b>B. Johnson:</b> A. Employment/Salary (full or part-time); Cortera Neurotechnologies, Inc. <b>I. Izyumin:</b> A. Employment/Salary (full or part-time); Cortera Neurotechnologies, Inc.
409.11	<b>T.L. Greer:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH, NARSAD. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); H. Lundbeck A/S. F. Consulting Fees (e.g., advisory boards); H. Lundbeck A/S. <b>M.S. Toups:</b> D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Otsuka Pharmaceuticals. <b>M.H. Trivedi:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Agency of Healthcare Research Quality (AHRQ), Corcept Therapeutics, Cyberonics Inc., Merck, National Alliance for Research in Schizophrenia and Depression, National Institute of Mental Health, Nationa. D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Axon Advisors, Bristol-Myers Squibb Company, Eli Lilly & Company, Forest Pharmaceuticals, GlaxoSmithKline, Lundbeck, Meade Johnson, MedAvante, Otsuka Pharmaceuticals, Pamlab, Pfizer Inc, PgxHealth, Re. F. Consulting Fees (e.g., advisory boards); Abbott Laboratories, Inc., Abdi

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	Ibrahim, Akzo (Organon Pharmaceuticals Inc.), Alkermes, AstraZeneca, Axon Advisors, Bristol-Myers Squibb Company, Cephalon, Inc., Cerecor, CME Institute of Physicians.
409.12	<b>F. Sambataro:</b> A. Employment/Salary (full or part-time); Fabio Sambataro is a full time employee of Hoffmann-La Roche, Ltd. Basel, Switzerland.
409.14	<b>W. Drevets:</b> A. Employment/Salary (full or part-time); Johnson & Johnson, Inc.
410.10	<b>A. Frazer:</b> F. Consulting Fees (e.g., advisory boards); Lundbeck Pharmaceutical Company.
410.12	<b>H. Yamagata:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Integrated Research on Neuropsychiatric Disorders" carried out under the Strategic Research Program for Brain Sciences by the Ministry of Education, Culture, Sports, Science and Technology of Japan, JSPS KAKENHI Grant Number 26670542, GSK Japan Research Grant.
410.15	<b>E. Coccaro:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Azevan Pharmaceuticals, Inc. <b>R. Lee:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Azevan Pharmaceuticals, Inc.
410.17	<b>G. Smagin:</b> A. Employment/Salary (full or part-time); Lundbeck Research USA. <b>C. Sánchez:</b> A. Employment/Salary (full or part-time); Lundbeck Research USA. <b>D.A. Morilak:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Lundbeck. F. Consulting Fees (e.g., advisory boards); Lundbeck.
410.20	<b>D. Virley:</b> A. Employment/Salary (full or part-time); Transpharmation Ltd. <b>M. Bianchi:</b> A. Employment/Salary (full or part-time); Transpharmation Ireland. <b>N. Upton:</b> A. Employment/Salary (full or part-time); Transpharmation Ltd.
410.23	<b>J.V. Schweimer:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Lundbeck Research USA. <b>Y. Li:</b> A. Employment/Salary (full or part-time); Lundbeck Research USA. <b>C. Sánchez:</b> A. Employment/Salary (full or part-time); Lundbeck Research USA. <b>T. Sharp:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Lundbeck Research USA.
410.26	<b>M. Riva:</b> D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Servier, Eli Lilly, Lundbeck, Sumitomo Dainippom Pharma Co. Ltd and Sunovion.
412.03	<b>M. Cole:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); La Jolla Alcohol Research, Inc.
414.01	<b>K. Zhou:</b> A. Employment/Salary (full or part-time); Siemens. <b>A. Stemmer:</b> A. Employment/Salary (full or part-time); Siemens.
414.09	<b>R.C. Dobb:</b> A. Employment/Salary (full or part-time); PhD funded by Philips.
416.16	<b>A. Beckett:</b> A. Employment/Salary (full or part-time); Advanced MRI Technologies. <b>L. Chen:</b> A. Employment/Salary (full or part-time); Advanced MRI Technologies. <b>D. Feinberg:</b> A. Employment/Salary (full or part-time); Advanced MRI Technologies.

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
417.15	<b>Y.P. Danilov:</b> A. Employment/Salary (full or part-time); University of Wisconsin Madison. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Helius Medical Technologies, Inc. <b>M. Tyler:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Helius Medical technologies, Inc. <b>K. Kaczmarek:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Helius Medical technologies, Inc.		McGill University Associate Member, Department of Biology, McGill University Associate Member, Department of Obstetrics and Gynecology, McGill University.
418.05	<b>P.A. Smith:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; CIHR MOP 81089.	433.18	<b>B.T. Shireman:</b> A. Employment/Salary (full or part-time); Janssen R&D. <b>P. Bonaventure:</b> A. Employment/Salary (full or part-time); Janssen R&D. <b>P.L. Johnson:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Janssen R&D. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Janssen R&D. <b>A.I. Molosh:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Janssen R&D. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Janssen R&D. <b>A. Shekhar:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Janssen R&D. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Janssen R&D.
420.15	<b>T. Brookings:</b> A. Employment/Salary (full or part-time); Q-State Biosciences.	434.18	<b>C. Pietra:</b> A. Employment/Salary (full or part-time); Employee of Helsinn SA, Lugano, Switzerland. <b>C. Giuliano:</b> A. Employment/Salary (full or part-time); Employee of Helsinn SA, Lugano, Switzerland. <b>T. Riediger:</b> A. Employment/Salary (full or part-time); C. Pietra and C. Giuliano are employees of the company Helsinn SA, Lugano, Switzerland.
424.08	<b>N.P. Issa:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Medical Resource Group, LLC.	436.16	<b>K. Mihaly:</b> A. Employment/Salary (full or part-time); Semmelweis University, Budapest, Hungary. <b>L. Tóth:</b> A. Employment/Salary (full or part-time); student, Semmelweis University, Budapest, Hungary. <b>D. Szöllösi:</b> A. Employment/Salary (full or part-time); student, Semmelweis University, Budapest, Hungary. <b>E. Horváthné Oszwald:</b> A. Employment/Salary (full or part-time); Semmelweis University, Budapest, Hungary. <b>K. Kis Petik:</b> A. Employment/Salary (full or part-time); Semmelweis University, Budapest, Hungary.
424.09	<b>S. Jee:</b> Other; Grant of the Korean Health & Medical Technology R&D Program of Health & Welfare, Republic of Korea (HI10C2020). <b>M. Sohn:</b> Other; Grant of the Korean Health & Medical Technology R&D Program of Health & Welfare, Republic of Korea (HI10C2020).	436.18	<b>D. Song:</b> A. Employment/Salary (full or part-time); Lundbeck. <b>T. Birngruber:</b> A. Employment/Salary (full or part-time); JOANNEUM RESEARCH. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Lundbeck. <b>G. Chandrasena:</b> A. Employment/Salary (full or part-time); Lundbeck. <b>F. Sinner:</b> A. Employment/Salary (full or part-time); JOANNEUM RESEARCH. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Lundbeck. <b>G.N. Smagin:</b> A. Employment/Salary (full or part-time); Lundbeck.
424.17	<b>S.V. Duff:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Section on Pediatrics - APTA.	437.16	<b>E. Sonuga-Barke:</b> D. Fees for Non-CME Services Received Directly from Commercial Interest or their Agents (e.g., speakers' bureaus); Shire, Janssen Cilag.
424.21	<b>P. Caviedes:</b> Other; Patent protection for RCMH cell line.	440.01	<b>P.R. Corlett:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Janssen Rising Star Translational Research Award. F. Consulting Fees (e.g., advisory boards); Otsuka, Pfizer.
428.02	<b>J.D. Weiland:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Second Sight Medical Products, Inc.	442.07	<b>H. Okuno:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Shionogi & Co., Ltd. <b>K. Minatohara:</b> B. Contracted Research/Research Grant
428.04	<b>P.R. Kennedy:</b> E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neural Signals Inc.		
428.09	<b>J. King:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Cochlear Americas. <b>M.A. Svirsky:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Cochlear Americas. <b>R.C. Froemke:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Cochlear Americas.		
429.18	<b>D.A. Lewis:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Pfizer. F. Consulting Fees (e.g., advisory boards); Autifony, Bristol-Myers Squibb, Concert Pharmaceuticals, Sunovion.		
430.17	<b>J. Montplaisir:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Sanofi-Aventis, Boehringer Ingelheim, The W. Garfield Weston Foundation. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); GlaxoSmithKline, Sanofi-Aventis, Boehringer Ingelheim. F. Consulting Fees (e.g., advisory boards); Boehringer Ingelheim, Servier, Merck Serono. <b>J. Gagnon:</b> B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; The W. Garfield Weston Foundation.		
431.20	<b>L.G. Hernandez aragon:</b> C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Teruko Taketo, Professor, Department of Surgery,		

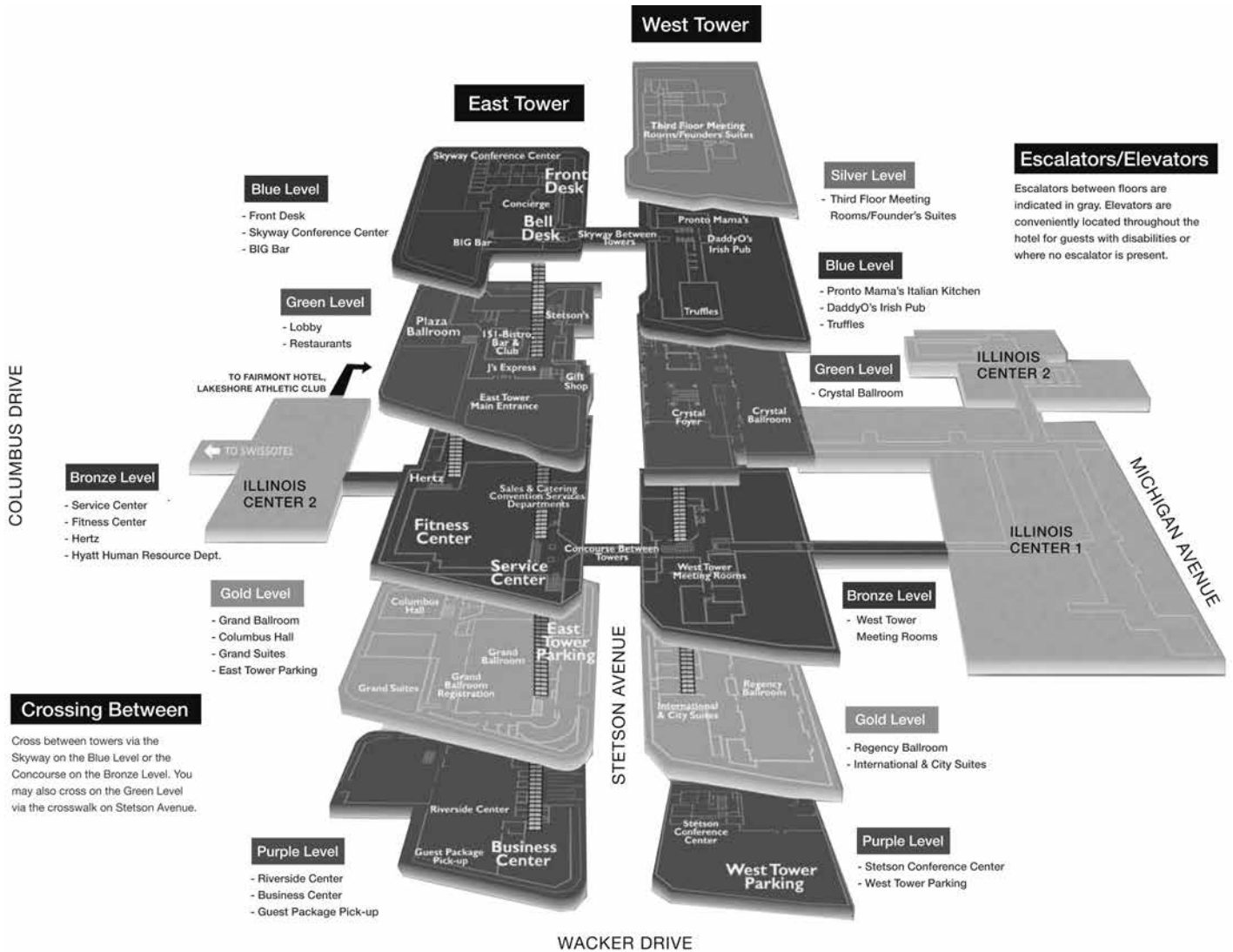
- (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Shionogi & Co., Ltd.
- 442.14 **K. Nishizawa:** A. Employment/Salary (full or part-time); assistant professor. **Y. Tsutsui:** A. Employment/Salary (full or part-time); professor. **K. Kobayashi:** A. Employment/Salary (full or part-time); professor.
- 444.21 **M.J. Schnitzer:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inscopix, Inc.
- 446.06 **J.D. Salamone:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Pfizer, Shire, Prexa.
- 446.10 **J.D. Salamone:** B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Prexa.
- 446.13 **D. Weinshenker:** C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Nopicastat provided by Synosia and Biotie. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent number US-2013-0274302-A1.
- 449.05 **I.P. Clements:** A. Employment/Salary (full or part-time); Axion Biosystems. **D.C. Millard:** A. Employment/Salary (full or part-time); Axion Biosystems. **A.M. Nicolini:** A. Employment/Salary (full or part-time); Axion Biosystems. **A.J. Preyer:** A. Employment/Salary (full or part-time); Axion Biosystems. **R.A. Blum:** A. Employment/Salary (full or part-time); Axion Biosystems. **J. Ross:** A. Employment/Salary (full or part-time); Axion Biosystems.
- 451.01 **V. Kumar:** A. Employment/Salary (full or part-time); 23000.00.
- 451.06 **C.F. Phelix:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AL Phahelix Biometrics, Inc.
- 451.08 **M. Bikson:** E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Soterix Medical Inc.

# Hotel Floor Plans

## HYATT REGENCY CHICAGO DOWNTOWN

(not connected to McCormick Place)

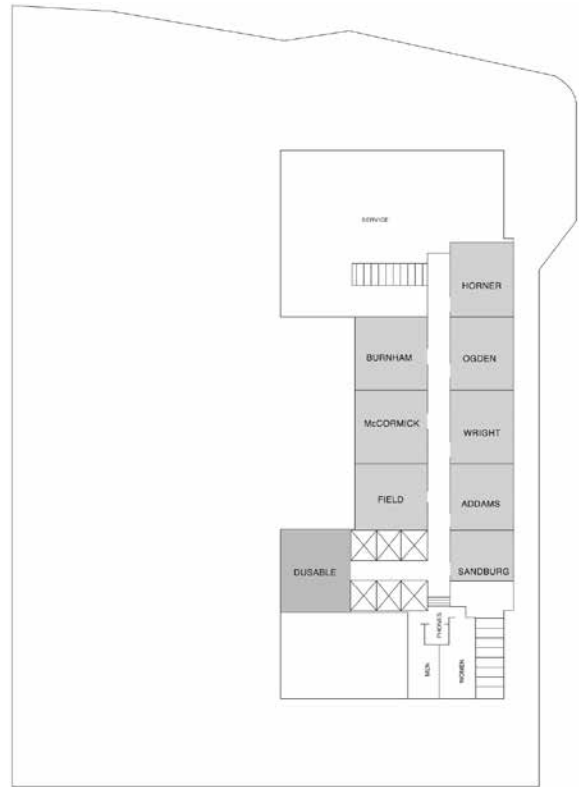
151 E. Wacker Drive  
Chicago, IL 60601



# HYATT REGENCY CHICAGO DOWNTOWN

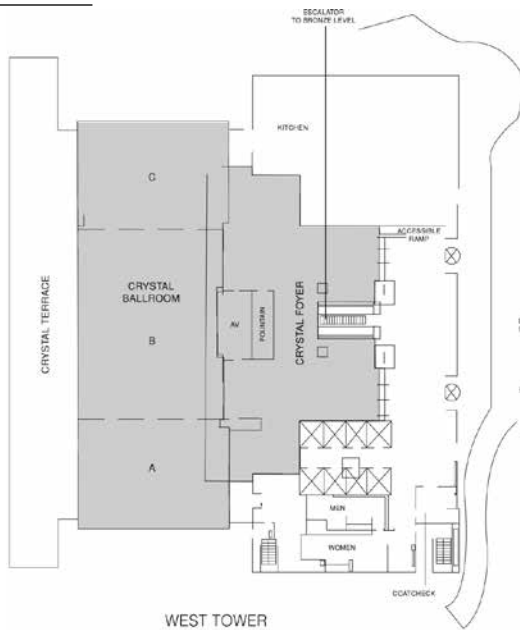
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## SILVER LEVEL

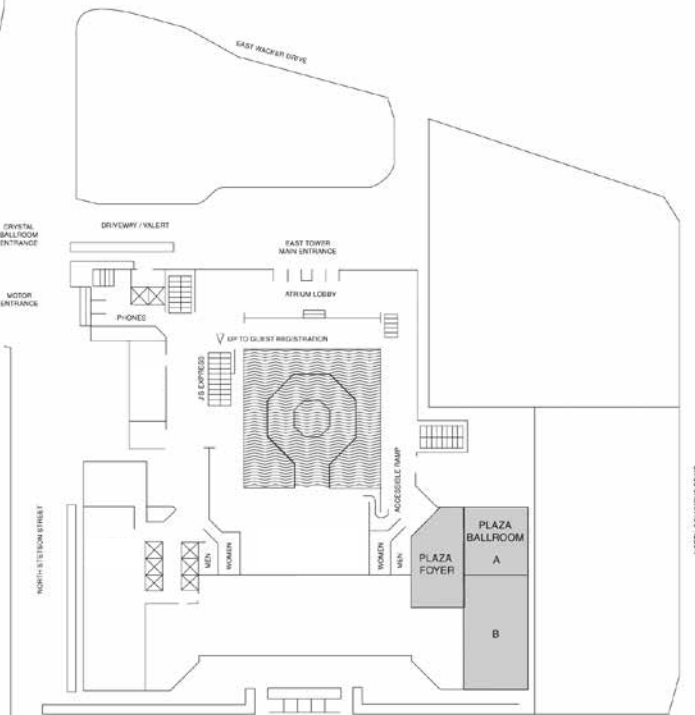


WEST TOWER

## GREEN LEVEL



WEST TOWER

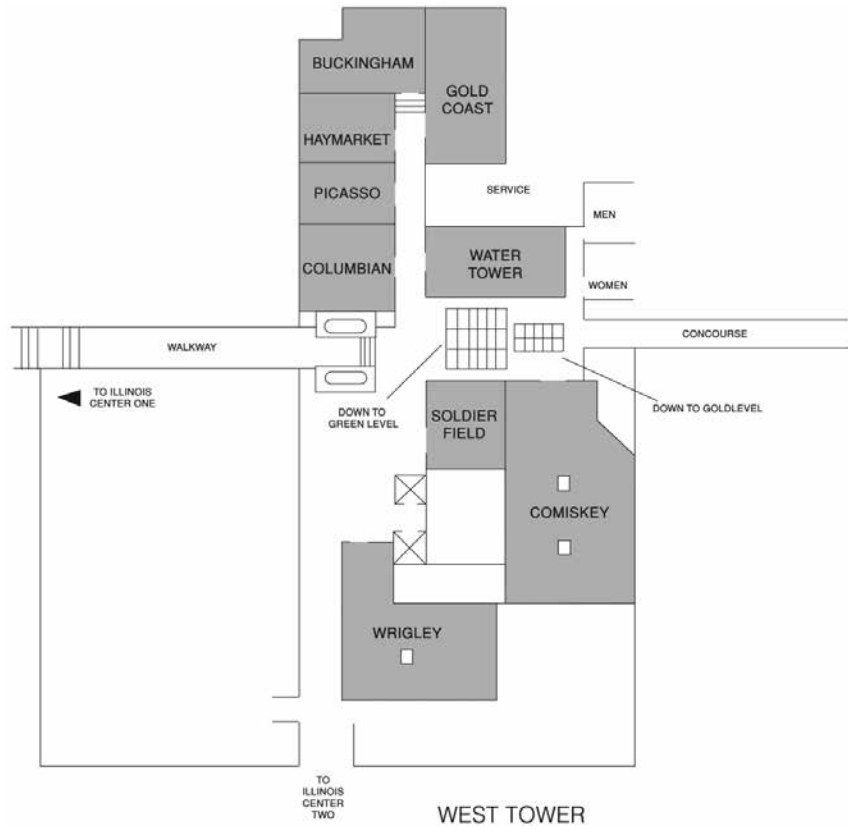


EAST TOWER

# HYATT REGENCY CHICAGO DOWNTOWN

(continued)

## BRONZE LEVEL

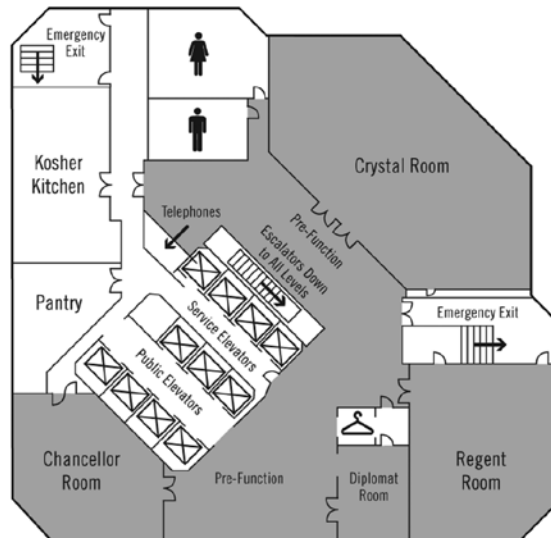
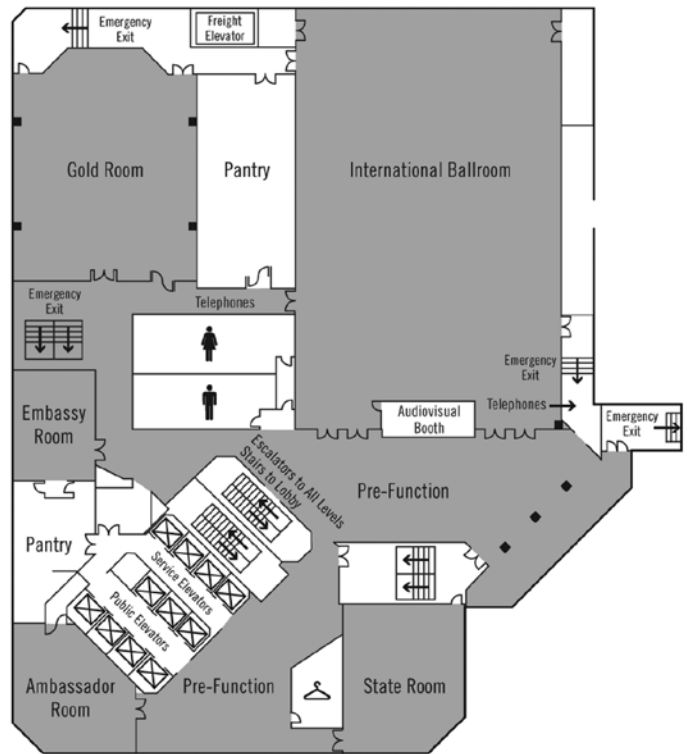
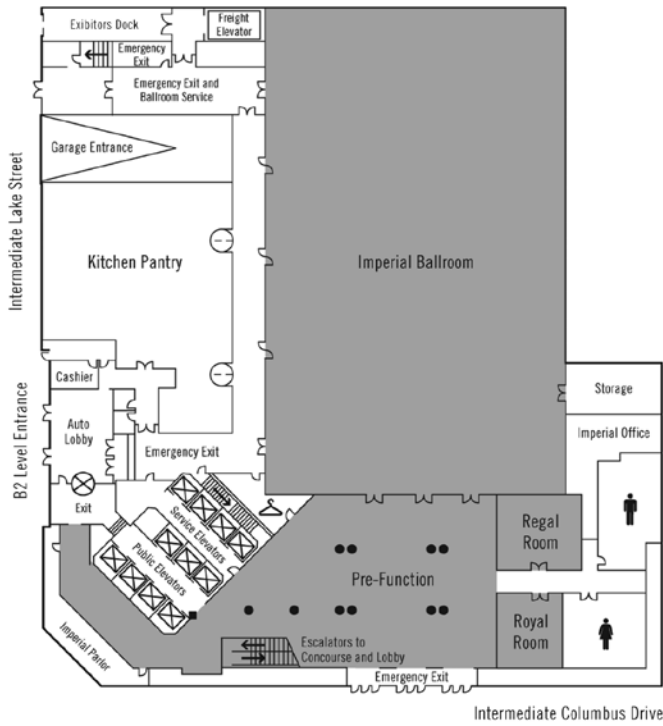


## GOLD LEVEL



# FAIRMONT CHICAGO, MILLENNIUM PARK

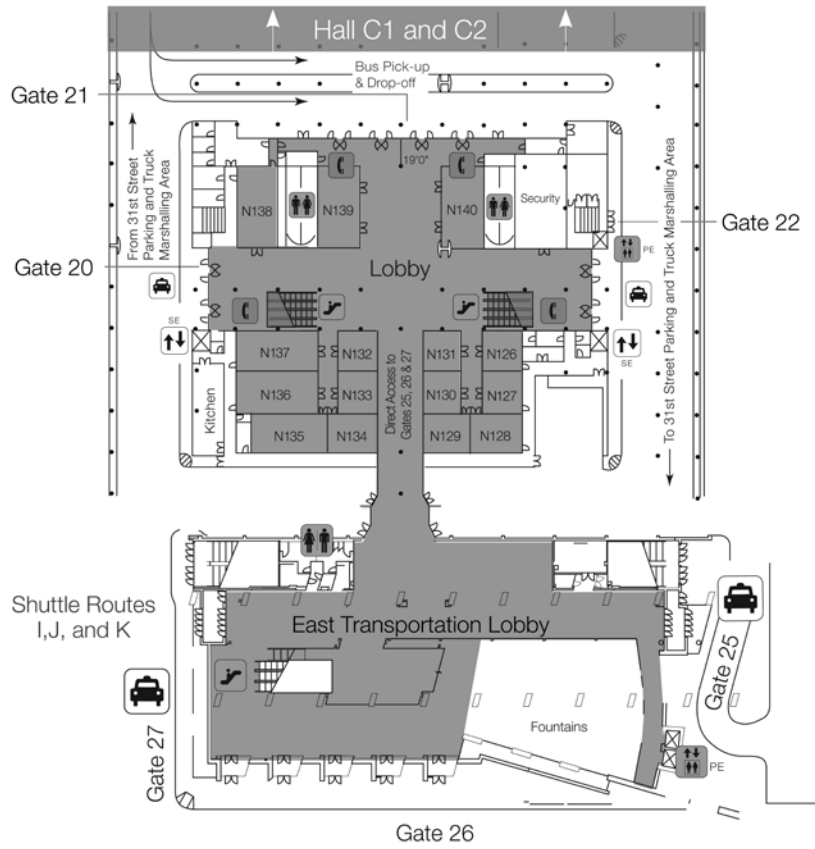
200 N. Columbus Drive  
Chicago, IL 60601



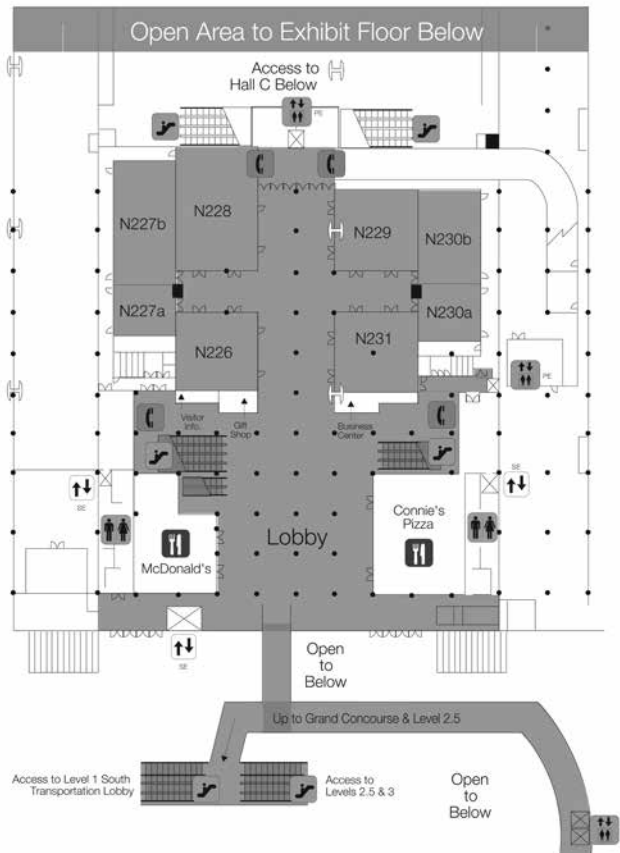
# McCORMICK PLACE

2301 S. Martin Luther King Drive  
Chicago, IL 60616

## LEVEL 1 NORTH



## LEVEL 2 NORTH

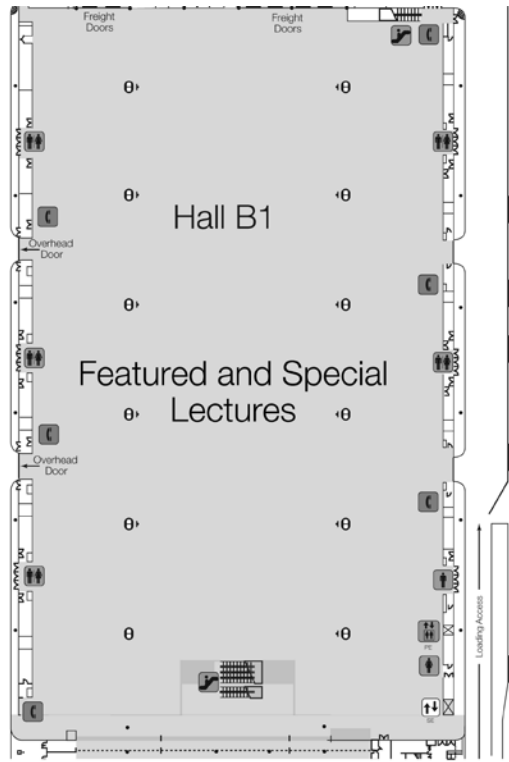




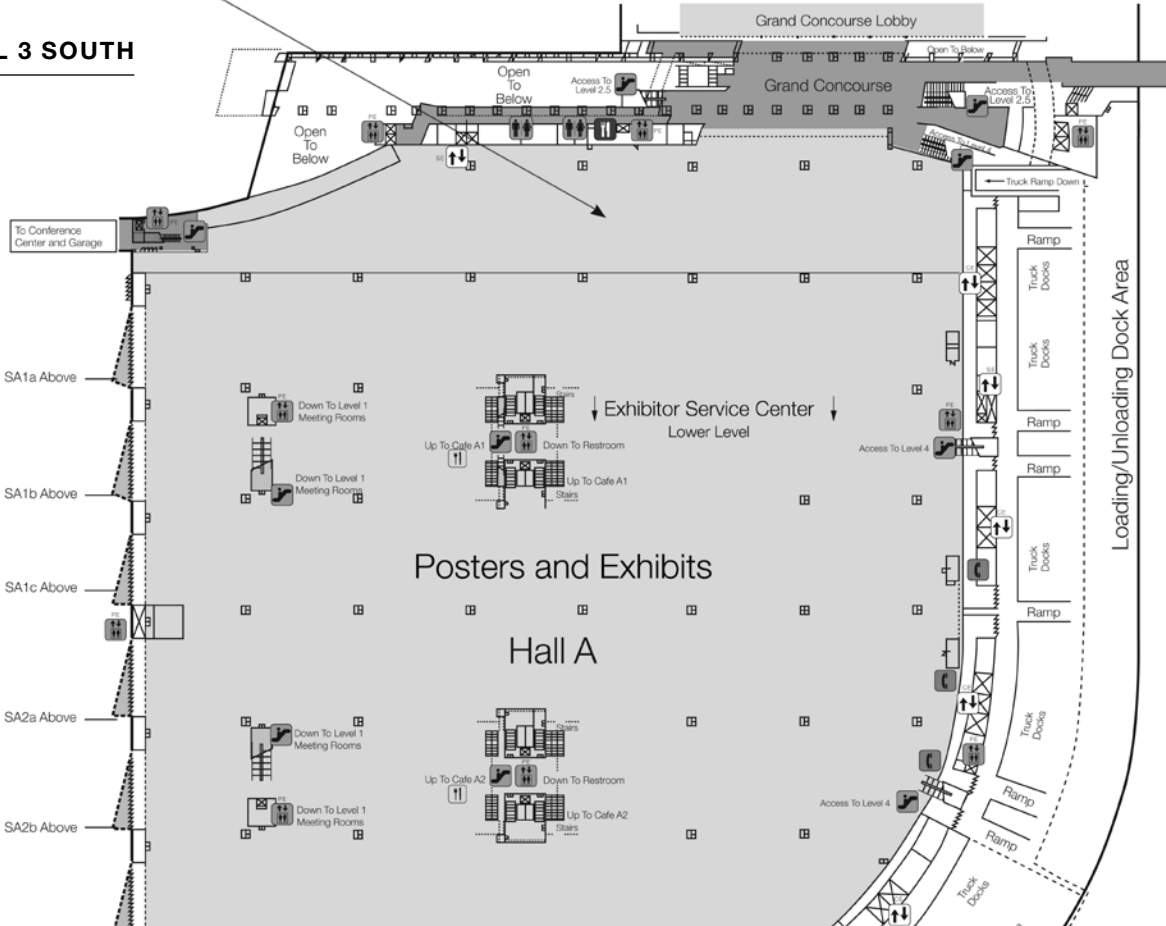
**LEVEL 3 NORTH**

Registration and Attendee Resources Located in Hall A:

- Certificates of Attendance
- Express Badge Pick-up
- Graduate School Fair
- Headquarters-Logistics and Programming
- Housing Desk
- Lost and Found
- Membership
- Mobile App Help Center
- NeuroJobs
- Neuroscience Meeting Planner Viewing Area
- Program and Exhibit Guide Pick-up
- Registration
- SfN Information Booth
- Wireless Assistance



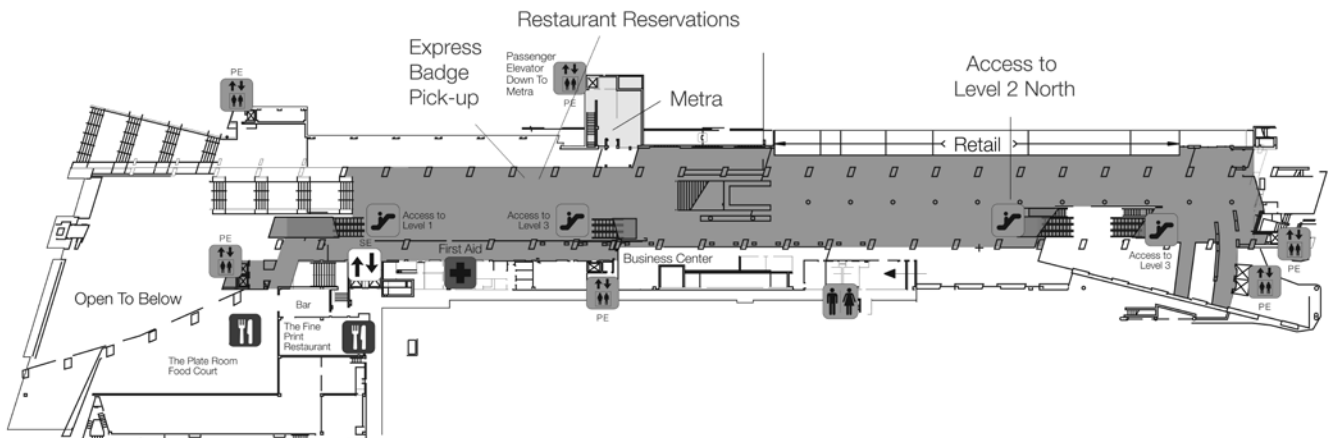
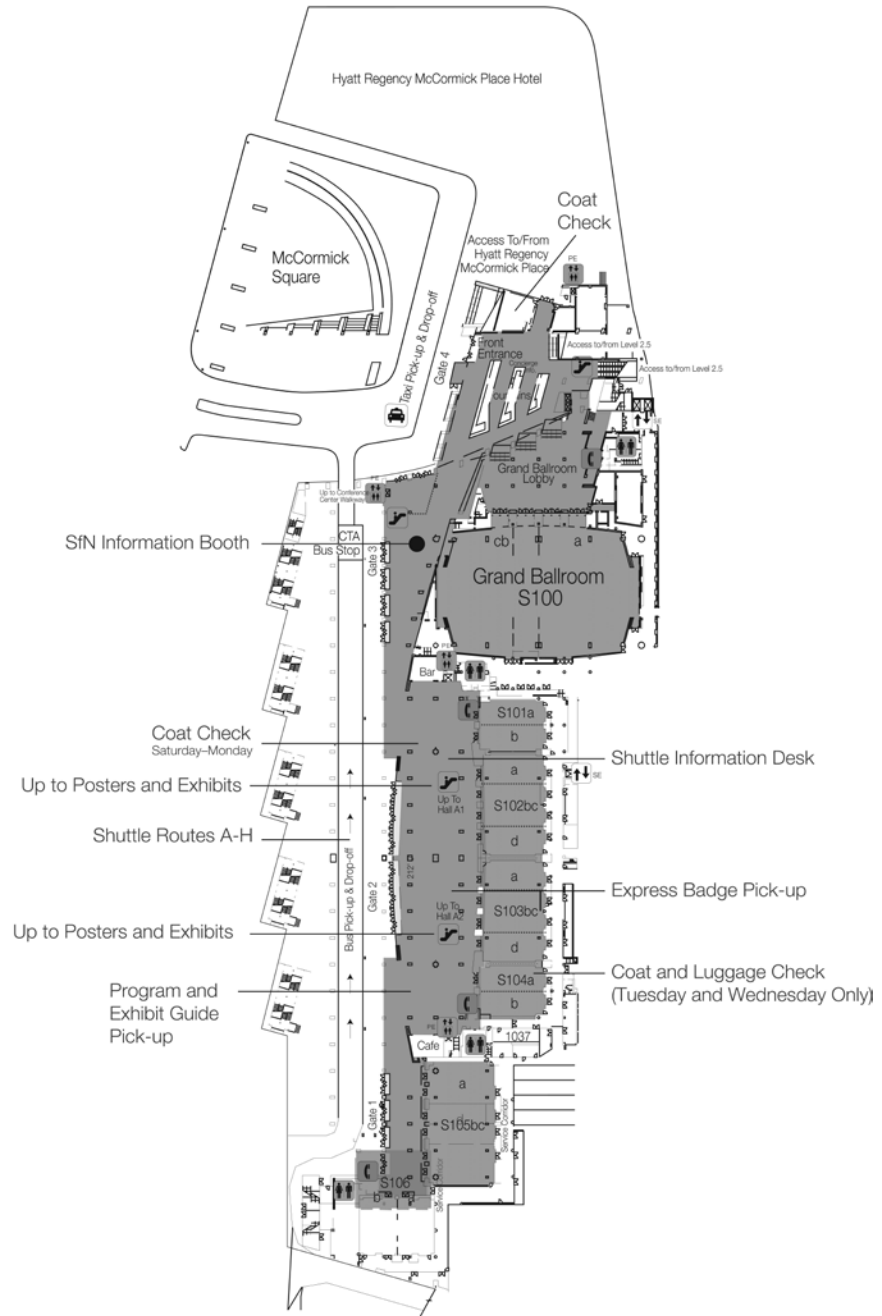
**LEVEL 3 SOUTH**



# McCORMICK PLACE

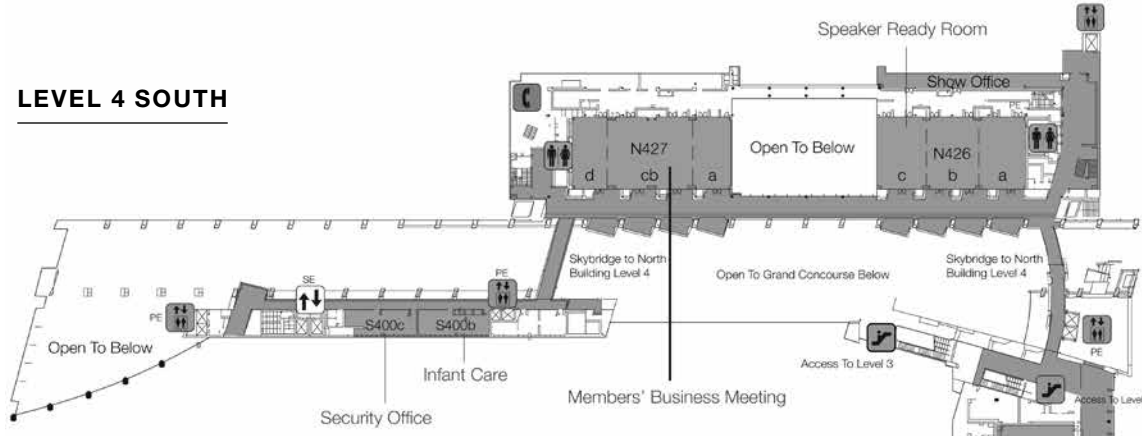
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## LEVEL 1 SOUTH

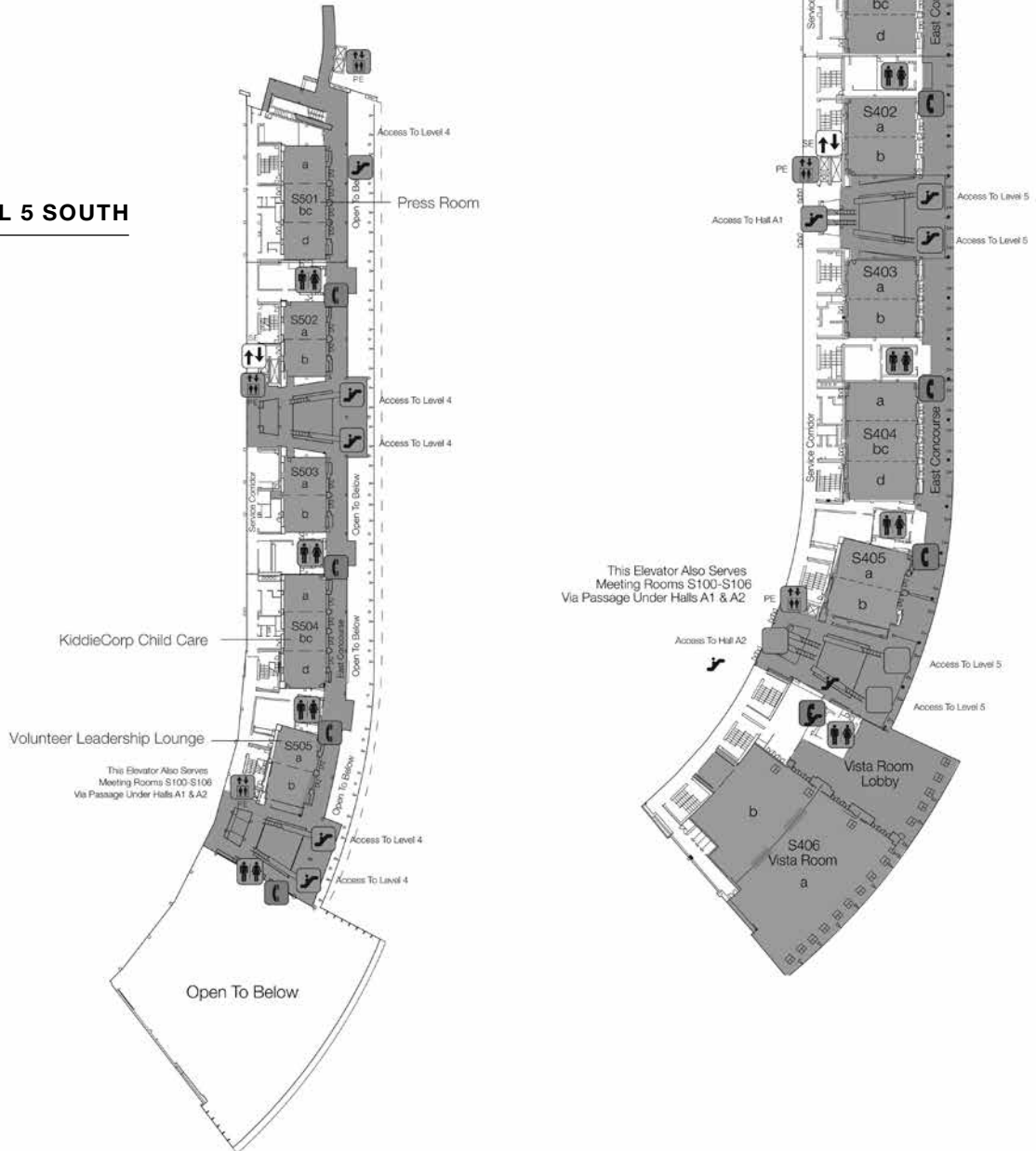


# LEVEL 4 NORTH

## LEVEL 4 SOUTH



## LEVEL 5 SOUTH





# Neuroscience 2015

## Exhibits and Poster Sessions

McCormick Place, South Building

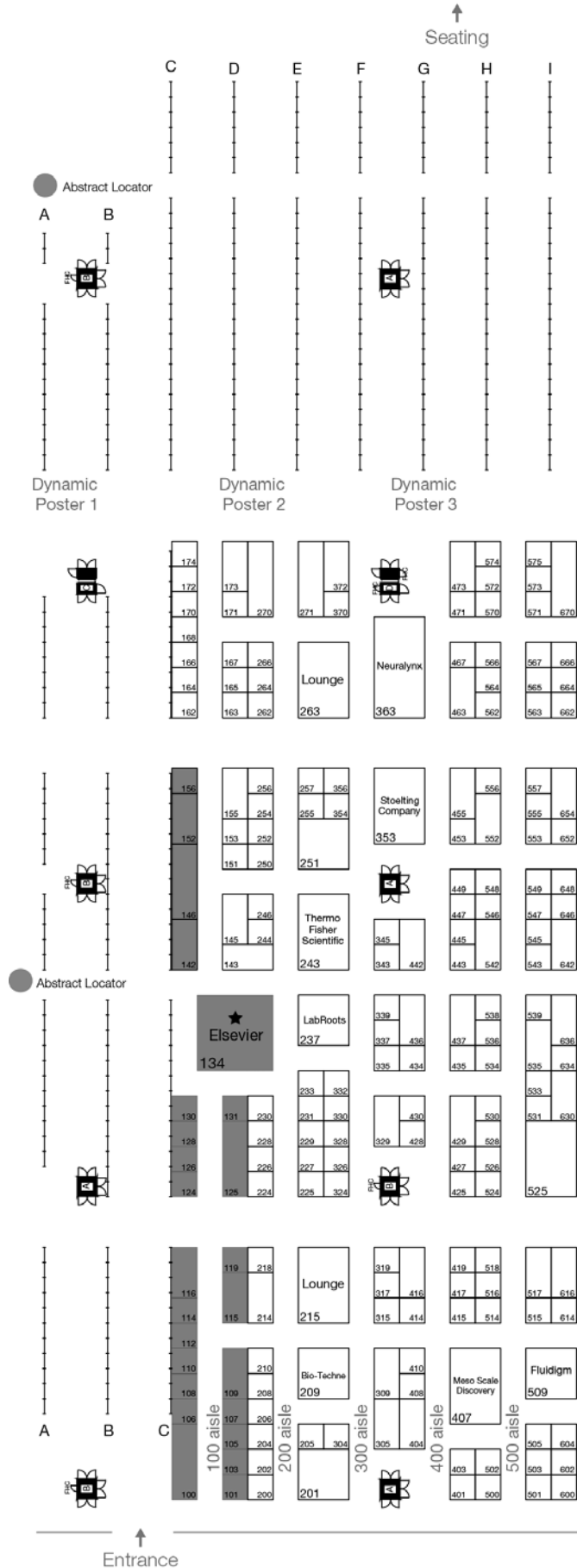
Meeting Dates: Oct. 17–21

Exhibit Dates: Oct. 18–21

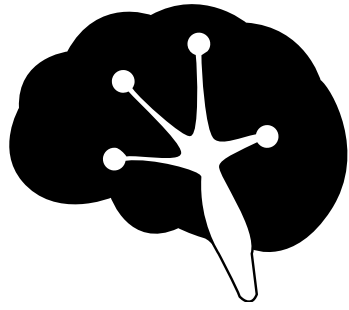
**Note:** Entrances will open at noon on Saturday and at 7 a.m. Sunday through Wednesday for poster presenter setup only. Poster sessions are open for all attendees at 1 p.m. on Saturday and 8 a.m. Sunday through Wednesday.

Floor plans subject to change.  
For current floor plan, visit [SfN.org/exhibits](http://SfN.org/exhibits).

- Publisher's Row
- Nonprofit / Institutes
- SfN
- Exhibitor Service Center
- Sustaining Associate Members
- Food Court
- Abstract Locator
- Column / Fire Hydrant (FHC)







Neuroscience  

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