

2025 Themes and Topics List

Theme A – Development
A.01. Neurogenesis and Gliogenesis
A.01.a. Proliferation, migration, and cell death
A.01.b. Mechanisms of cell fate
A.01.c. Neuronal differentiation
A.01.d. Glial development
A.01.e. Postnatal neurogenesis
A.02. Stem Cells and Reprogramming
A.02.a. Pluripotent stem cells – Disease models
A.02.b. Pluripotent stem cells – Differentiation and reprogramming
A.02.c. Neural stem cells
A.03. Axon and Dendrite Development
A.03.a. Axon growth and guidance
A.03.b. Dendritic growth and branching
A.04. Transplantation and Regeneration
A.04.a. Regeneration
A.05. Synaptogenesis and Activity-Dependent Development
A.05.a. Synapse and circuit formation
A.05.b. Synapse and circuit maturation and remodelling
A.06. Developmental Disorders
A.06.a. Autism – Behavioral analysis
A.06.b. Autism – Genetic models
A.06.c. Autism – Synaptic and cellular mechanisms
A.06.d. Autism – Physiology and systems
A.06.e. Rett syndrome
A.06.f. Fragile X syndrome
A.06.g. Down syndrome
A.06.h. Angelman and other developmental disorders
A.06.i. ADHD, SLI, dyslexia, and other specific disorders of neurobehavior
A.06.j. Animal models of autism
A.06.k. Animal models of developmental disorders other than autism
A.06.l. Molecular mechanisms underlying developmental disorders
A.07. Development of Neural Systems
A.07.a. Motor systems
A.07.b. Sensory systems
A.07.c. Other systems
A.08. Adolescent Development
A.08.a. Animal models
A.08.b. Human imaging
A.08.c. Mechanisms of vulnerability
A.09. Development and Evolution
A.09.a. Comparative anatomy
A.09.b. Comparative cellular and molecular mechanisms
A.10. Schizophrenia
A.10.a. Schizophrenia genetics, pathophysiology and mechanisms
A.10.b. Schizophrenia circuits

2025 Themes and Topics List

A.10.c. Schizophrenia therapeutics – Animal and human studies
Theme B – Neural Excitability, Synapses, and Glia
B.01. Transmitters, Transporters, and Other Signaling Molecules
B.01.a. Neurotransmitters
B.01.b. Neurotransmitter transport and degradation
B.01.c. Neuropeptides
B.01.d. Other signaling molecules
B.02. Transmitter Receptors and Ligand-Gated Ion Channels
B.02.a. Ligand-gated receptors and ion channels – Glutamate
B.02.b. Ligand-gated receptors and ion channels – Acetylcholine
B.02.c. Ligand-gated receptors and ion channels – GABA and glycine
B.02.d. G-protein coupled receptors and neurotransmission
B.03. Ion Channels
B.03.a. Voltage-gated sodium channels
B.03.b. Voltage-gated calcium channels
B.03.c. Voltage-gated potassium channels
B.03.d. Other ion channels
B.04. Synaptic Transmission
B.04.a. Presynaptic mechanisms, organization, and structure
B.04.b. Transsynaptic organization and structure
B.04.c. Postsynaptic organization and structure
B.04.d. Pre- and postsynaptic modulation
B.05. Synaptic Plasticity
B.05.a. LTP and LTD – Pre- and postsynaptic mechanisms
B.05.b. LTP and LTD – Kinases, phosphatases, and intracellular signaling
B.05.c. Short-term and spike-timing dependent plasticity
B.05.d. Homeostatic plasticity
B.05.e. Structural plasticity – Synapses
B.05.f. Structural plasticity – Neurons and networks
B.05.g. Transcription and translation in plasticity
B.06. Intrinsic Membrane Properties and Signal Integration
B.06.a. Intrinsic properties and modulation of neuronal firing
B.06.b. Somatic and dendritic integration
B.07. Network Interactions
B.07.a. Oscillations and synchrony – Unit studies
B.07.b. Oscillations and synchrony – EEG studies
B.07.c. Oscillations and synchrony – LFP studies
B.07.d. Network interactions – Other
B.07.e. Computational modelling of synaptic networks
B.08. Epilepsy
B.08.a. Channels and synaptic mechanisms
B.08.b. Networks and post-seizure modifications
B.08.c. In vivo and behavior
B.08.d. Animal models
B.08.e. Anticonvulsant and antiepileptic therapies
B.08.f. Human studies
B.09. Glial Mechanisms

2025 Themes and Topics List

B.09.a. Astrocytes – Biology
B.09.b. Astrocytes – Disease mechanisms
B.09.c. Microglia – Biology
B.09.d. Microglia – Disease mechanisms
B.09.e. Oligodendrocytes – Biology
B.09.f. Oligodendrocytes – Disease mechanisms
B.10. Neuro-Oncology
B.10.a. Neuro-oncology
Theme C – Neural Aging and Degeneration
C.01. Brain Wellness and Aging
C.01.a. Brain wellness and aging – Molecular and cellular changes
C.01.b. Brain wellness and aging – Metabolism, oxidative stress, and cellular mechanisms
C.01.c. Brain wellness and aging – Pharmacological and non-pharmacological interventions
C.01.d. Brain wellness and aging – Systemic factors and brain function
C.01.e. Brain wellness – Mechanisms and biomarkers
C.01.f. Natural brain aging – Behavior and cognitive disorders
C.01.g. Natural brain aging – Neural mechanisms
C.01.h. Learning and memory in aging
C.02. Alzheimer's Disease and Other Dementias
C.02.a. Alzheimer's disease – Genetics
C.02.b. Alzheimer's disease – Genomics approaches
C.02.c. Alzheimer's disease – Proteomics and other omics approaches
C.02.d. Alzheimer's disease – Neuroinflammation and immune actions – In vitro models
C.02.e. Alzheimer's disease – Neuroinflammation and immune actions – In vivo models
C.02.f. Glial cells and Alzheimer's disease
C.02.g. Vasculature, BBB, and Alzheimer's disease
C.02.h. Mechanisms of synaptic dysfunction in Alzheimer's disease – In vitro models
C.02.i. Mechanisms of synaptic dysfunction in Alzheimer's disease – In vivo models
C.02.j. Neural circuits and Alzheimer's Disease
C.02.k. Clinical and pre-clinical imaging studies in Alzheimer's disease
C.02.l. Amyloid beta mechanisms
C.02.m. APP/Abeta pathway – Cellular and animal models
C.02.n. Tau – In vitro models
C.02.o. Tau – In vivo models
C.02.p. ApoE and associated pathways
C.02.q. Altered energy homeostasis in Alzheimer's disease
C.02.r. Alzheimer's disease therapeutic strategies – In vitro models
C.02.s. Alzheimer's disease therapeutic strategies – Amyloidosis in vivo models
C.02.t. Alzheimer's disease therapeutic strategies – Tau in vivo models
C.02.u. Alzheimer's disease therapeutic strategies – Other
C.02.v. Other dementias, proteinopathies, and pathologies
C.02.w. Alzheimer's disease biomarkers
C.03. Parkinson's Disease
C.03.a. Parkinson's disease – Cellular mechanisms
C.03.b. Dopamine, LRRK2, mitochondrial mechanisms in Parkinson's disease
C.03.c. Alpha-synuclein – Models
C.03.d. Alpha-synuclein – Mechanisms and transmission

2025 Themes and Topics List

C.03.e. Parkinson's disease – Circuit mechanisms
C.03.f. Parkinson's disease – Animal models
C.03.g. Parkinson's disease – Neuroprotective mechanisms
C.03.h. Parkinson's disease therapeutic strategies – Cellular models
C.03.i. Parkinson's disease therapeutic strategies – Preclinical animal models – Small molecule therapeutics
C.03.j. Parkinson's disease therapeutic strategies – Preclinical animal models – Other therapeutics
C.03.k. Parkinson's disease therapeutic strategies – Clinical trials
C.03.l. Parkinson's disease human studies – Genetics and diagnostic
C.03.m. Parkinson's disease – Neuroinflammation and immune actions – In vitro models
C.03.n. Parkinson's disease – Neuroinflammation and immune actions – In vivo models
C.04. Movement Disorders Other Than Parkinson's Disease
C.04.a. Huntington's disease – Molecular mechanisms
C.04.b. Huntington's disease – Preclinical and clinical trials
C.04.c. Ataxias and dystonia
C.04.d. Other movement disorders – Cellular and molecular mechanisms
C.05. Tauopathies, Synucleinopathies, and Other Related Diseases
C.05.a. Tauopathies, synucleinopathies, and other related diseases – Cellular and molecular mechanisms
C.05.b. Tauopathies, synucleinopathies, and other related diseases – Animal models
C.06. Neuromuscular Diseases
C.06.a. ALS and motor neuron diseases – Human genetics and cellular mechanisms
C.06.b. ALS and motor neuron diseases – In vitro studies
C.06.c. ALS and motor neuron diseases – Animal models
C.06.d. ALS and motor neuron diseases – Therapeutics
C.06.e. Neuromuscular diseases – Neuroinflammation and immune actions
C.06.f. Peripheral nerve biology, injury, and other diseases
C.06.g. Other neuromuscular diseases
Theme D – Neuroimmunity, Neurovasculature, and Neural Injury
D.01. Neurotoxicity, Inflammation, and Neuroprotection
D.01.a. Mechanisms of cellular stress and degeneration
D.01.b. Neuroprotective mechanisms – Preclinical – Small model therapeutics
D.01.c. Neuroprotective mechanisms – Preclinical – Other therapeutics
D.01.d. Neuroinflammation – Microglia
D.01.e. Neuroinflammation – Beyond microglia
D.01.f. Neuroinflammation – Animal models
D.01.g. Neuroinflammation – HIV and infections
D.01.h. Neuroinvasive viruses
D.02. Ischemia
D.02.a. Ischemia – Molecular and cellular mechanisms
D.02.b. Ischemia – Therapeutic, interventional, and translational studies
D.03. Stroke
D.03.a. Stroke, damage, or disease – Imaging and assessment
D.03.b. Stroke, damage, or disease – Mechanisms of abnormal movement
D.03.c. Stroke recovery – Pharmacological approaches to therapy
D.03.d. Stroke recovery – Non-pharmacological approaches to therapy
D.04. Brain Injury and Trauma
D.04.a. Brain injury – Cellular and molecular mechanisms

2025 Themes and Topics List

D.04.b. Brain injury – Animal models – Mechanisms
D.04.c. Brain injury – Animal models – Biomarkers and histology
D.04.d. Brain injury – Human studies
D.04.e. Brain injury – Therapeutic strategies
D.05. Spinal Cord Injury and Plasticity
D.05.a. Spinal cord injury – Molecular mechanisms
D.05.b. Spinal cord injury – Cellular mechanisms
D.05.c. Spinal cord injury – Animal models and human studies
D.05.d. Spinal cord injury – Therapeutic strategies – In vivo – Pharmacological
D.05.e. Spinal cord injury – Therapeutic strategies – In vivo – Non-pharmacological
D.05.f. Spinal cord injury – Recovery
D.05.g. Spinal cord injury – Training, rehabilitation, and repair
D.05.h. Spinal cord injury – Plasticity and recovery
D.06. Multiple Sclerosis and Other Demyelinating Diseases
D.06.a. Molecular and cellular mechanisms
D.06.b. Human and animal studies and therapeutics
Theme E – Sensory Systems
E.01. Somatosensation – Pain and Itch
E.01.a. Nociceptors and pruitoceptors
E.01.b. Headache, migraine, and trigeminal circuits
E.01.c. Pain – Spinal circuits
E.01.d. Pain – Subcortical circuits
E.01.e. Pain – Cortical processing
E.01.f. Pain – Descending modulation
E.01.g. Pain models
E.01.h. Inflammatory pain
E.01.i. Peripheral mechanisms of persistent pain
E.01.j. Brain mechanisms of persistent pain
E.01.k. Pain imaging and perception
E.01.l. Pain and itch – Opioids
E.01.m. Non-opioid treatments for persistent pain
E.01.n. Itch
E.02. Somatosensation – Touch
E.02.a. Peripheral mechanisms and spinal circuits
E.02.b. Plasticity and reorganization
E.02.c. Thalamic and cortical processing
E.02.d. Barrel cortex
E.02.e. Stimulus feature receptive fields and response properties
E.02.f. Stimulus feature neural coding
E.03. The Chemical Senses
E.03.a. Olfaction – Peripheral mechanisms
E.03.b. Olfaction – Higher-order circuits
E.03.c. Olfaction – Behavior, perception, and its relation to neurophysiology
E.03.d. Taste
E.04. Interoception
E.04.a. Peripheral mechanisms – Mechanosensation
E.04.b. Peripheral mechanisms – Proprioception

2025 Themes and Topics List

E.04.c. Peripheral mechanisms – Chemosensation
E.04.d. Peripheral mechanisms – Vagal afferents
E.04.e. Central pathways
E.05. Auditory and Vestibular Systems
E.05.a. Hair cells and the periphery
E.05.b. Auditory processing – Sound localization and binaural interactions
E.05.c. Auditory processing – Temporal, frequency, and spectral processing
E.05.d. Auditory processing – Vocalizations and natural sounds
E.05.e. Auditory processing – Circuits, synapses, and neurotransmitters
E.05.f. Auditory processing – Adaptation, learning, and memory
E.05.g. Auditory processing – Neural coding, experiment, and theory
E.05.h. Auditory processing – Perception, cognition, and action
E.05.i. Vestibular processing and perception
E.06. Vision
E.06.a. Photoreceptors and retinal circuitry
E.06.b. Visual pathways – Subcortical and other
E.06.c. Visual cortex – Circuits
E.06.d. Visual cortex – Populations
E.06.e. Visual system – Responses during behavior
E.06.f. Visual system – Response modulation and adaptation
E.06.g. Higher visual areas
E.06.h. Visual cortex – Functional architecture and circuits
E.06.i. Visual system – Plasticity
E.06.j. Processing of contrast, form, and color
E.06.k. Visual motion
E.06.l. Category-selective cortical processing
E.06.m. Visual learning, memory, and categorization
E.06.n. Spatial and feature-based attention
E.06.o. Visual cognition – Decision making
E.07. Visual Sensory-Motor Processing
E.07.a. Sensorimotor transformation – Behavior and whole animal
E.07.b. Sensorimotor transformation – Neuroprocessing
E.08. Multisensory Integration
E.08.a. Cross-modal processing – Spatial and temporal factors
E.08.b. Cross-modal processing – Neural circuitry and development
E.08.c. Cross-modal processing – In humans
Theme F – Motor Systems
F.01. Eye Movements
F.01.a. Eye movements – Central mechanisms, perception, and cognition
F.01.b. Eye movements – Saccades
F.02. Cerebellum
F.02.a. Cerebellum – Cell types and circuit physiology
F.02.b. Cerebellum – Sensorimotor and learning
F.02.c. Cerebellum – Interactions with other brain areas
F.02.d. Cerebellum – Non-motor functions
F.02.e. Cerebellum – Human studies
F.03. Basal Ganglia

2025 Themes and Topics List

F.03.a. Basal ganglia – Transmitters and neuromodulation
F.03.b. Basal ganglia – Physiology and plasticity
F.03.c. Basal ganglia – Systems behavior
F.04. Voluntary Movements
F.04.a. Finger and grasp control – Normal human behavior
F.04.b. Reaching control – Action and sensation
F.04.c. Reaching control – Movement selection and strategy
F.04.d. Reaching control – Motor learning – Human psychophysics
F.04.e. Reaching control – Motor learning – Human neurophysiology
F.04.f. Reaching control – Motor learning – Animal
F.04.g. Interlimb and bimanual control
F.04.h. Cortical planning and execution – Behavior
F.04.i. Cortical planning and execution – Neurophysiology – Human
F.04.j. Cortical planning and execution – Neurophysiology
F.04.k. Cortical planning and execution – Neuroimaging
F.04.l. Motor planning and execution – Behavior and neurophysiology
F.04.m. Oral motor and speech
F.05. Brain-Machine Interface
F.05.a. BMI – Non-invasive neurophysiology
F.05.b. BMI neurophysiology – Implanted electrodes and other direct interactions with neurons
F.05.c. BMI neurophysiology – Decoding and neural processing
F.05.d. Neuroprosthetics – Control of real and artificial arm, hand, other grasping devices
F.05.e. Neuroprosthetics – Other motor sensory interfaces (e.g. artificial vision)
F.06. Posture and Gait
F.06.a. Posture and gait – Kinematics, muscle activity, exercise and fatigue, and biomechanics
F.06.b. Posture and gait – Sensory control
F.06.c. Posture and gait – Higher order control, multi-task integration, and theory
F.06.d. Posture and gait – Aging, injury, and disease
F.06.e. Reflexes and reflex modulation
F.07. Rhythmic Pattern Generation
F.07.a. Rhythmic pattern generation – Cellular properties – Interneurons and motor neurons
F.07.b. Rhythmic pattern generation – Connectivity
F.07.c. Rhythmic pattern generation – Neuromodulation of neuronal and synaptic properties
F.07.d. Rhythmic pattern generation – Afferent and descending control
F.08. Respiratory Regulation
F.08.a. Respiratory control
F.09. Motor Neurons and Muscle
F.09.a. Motor neurons – Activity, sensory, and central control – Exercise, injury, and disease
F.09.b. Motor neurons – Development, identification, intrinsic properties, and modulation
F.09.c. Motor unit recordings, kinematics, and EMG
F.09.d. Motoneuron-muscle interface and muscle physiology/biochemistry
Theme G – Integrative Physiology and Behavior
G.01. Neuroethology
G.01.a. Sensory systems
G.01.b. Sensory motor systems
G.01.c. Vocal/social communication
G.02. Neuroendocrine Processes and Behavior

2025 Themes and Topics List

G.02.a. Social, sexual, and parental behaviors
G.02.b. Defensive behavior and aggression
G.02.c. Hormones and cognition
G.02.d. Neuroendocrine anatomy and physiology
G.03. Stress and the Brain
G.03.a. Stress and neuroimmunology
G.03.b. Cellular actions of stress
G.03.c. Early-life Stress – Neuronal circuit and physiology
G.03.d. Early-life Stress – Molecular and cellular
G.03.e. Early-life Stress – Effects on behavior
G.03.f. Adolescent stress – Behavior and physiology
G.03.g. Stress-modulated pathways – Cognition, learning, and memory circuits
G.03.h. Stress-modulated pathways – Reward and motivational drive circuits
G.03.i. Stress and cognition – Molecular, cellular, genetic
G.03.j. Stress-modulated pathways – Anatomy, physiology, neurochemistry
G.04. Neuroimmunology and Neurovirology
G.04.a. Regulating systems
G.04.b. Behavioral effects
G.05. Brain Blood Flow, Metabolism, and Homeostasis
G.05.a. Energy metabolism
G.05.b. Blood flow
G.05.c. Blood brain barrier
G.05.d. Functional imaging
G.06. Autonomic Regulation
G.06.a. Cardiovascular regulation
G.06.b. Gastrointestinal, renal, urinary, and reproductive regulation
G.06.c. Thermoregulation, respiratory regulation, other
G.07. Biological Rhythms and Sleep
G.07.a. Physiology of biological clocks and rhythms
G.07.b. Sleep regulation – Molecular, cellular, and pharmacological
G.07.c. Sleep regulation – Anatomy, physiology, neurochemistry
G.07.d. Sleep – Systems
G.07.e. Sleep – Behavior
G.08. Food and Water Intake and Energy Balance
G.08.a. Integration of peripheral signals
G.08.b. Central pathways – Anatomy and development
G.08.c. Neuropeptide regulators
G.08.d. Monoamines, amino acids, and other regulators
Theme H – Motivation and Emotion
H.01. Fear and Aversive Learning and Memory
H.01.a. Acquisition and memory modification
H.01.b. Neural circuits
H.01.c. Neural mechanisms
H.02. Reward and Appetitive Learning and Memory
H.02.a. Acquisition and memory modification
H.02.b. Neural circuits
H.02.c. Neural mechanisms

2025 Themes and Topics List

H.02.d. Neuropharmacology
H.03. Motivation
H.03.a. Motivation – Regulation of aversive behavior
H.03.b. Motivation – Circuit regulation of reward-related behavior
H.03.c. Motivation – Cellular and molecular regulation of reward-related behavior
H.03.d. Motivation – Higher cognitive processing
H.03.e. Motivation – Social communication and behavior
H.04. Emotion
H.04.a. Human emotion
H.04.b. Emotion – Neural circuitry
H.04.c. Emotion – Fear, anxiety, and pain
H.04.d. Emotion – Positive and negative emotional states
H.05. Mood Disorders
H.05.a. Human imaging and behavioral studies
H.05.b. Treatment and drug discovery
H.05.c. Animal models – Behavioral paradigms and processes
H.05.d. Animal models – Neural mechanisms
H.05.e. Animal models of therapeutics
H.06. Anxiety Disorders
H.06.a. Human studies and therapeutic approaches
H.06.b. Preclinical models
H.07. Post-Traumatic Stress Disorder and Other Psychiatric Disorders
H.07.a. Human studies and therapeutic approaches
H.07.b. Preclinical models
H.08. Drugs of Abuse and Addiction
H.08.a. Addictive drugs – Developmental effects, drug tolerance, dependence, and toxicity
H.08.b. Addictive drugs - Neural mechanism
H.08.c. Addiction – Genetics, translational, and clinical studies
H.08.d. Addiction – Learning and memory
H.08.e. Alcohol – Neural circuits and neurophysiology
H.08.f. Alcohol – Cognitive and behavioral effects
H.08.g. Alcohol – Molecular mechanisms
H.08.h. Drug discovery and treatment
H.08.i. Amphetamines – Mechanisms of addiction
H.08.j. Cannabinoids – Behavioral and neural mechanisms and addiction
H.08.k. Cocaine – Reinforcement, seeking, reinstatement, and other behavioral effects
H.08.l. Cocaine – Cell signaling, circuitry, and neurophysiology
H.08.m. Opioids – Reinforcement, seeking, and reinstatement
H.08.n. Opioids – Cell signaling, circuitry, and neurophysiology
H.08.o. Nicotine – Behavioral and cognitive effects
H.08.p. Nicotine – Neural mechanisms
H.08.q. Hallucinogens – Neural mechanisms
Theme I – Cognition
I.01. Attention
I.01.a. Mechanisms of attention – Human studies
I.01.b. Mechanisms of attention – Animal models
I.02. Perception and Imagery

2025 Themes and Topics List

I.02.a. Human perception, imagery, and imagination
I.03. Decision Making
I.03.a. Computational models
I.03.b. Prefrontal cortex
I.03.c. Orbitofrontal cortex
I.03.d. Corticolimbic circuits
I.03.e. Neural mechanisms – Adaptive choice
I.03.f. Neural mechanisms – Maladaptive choice
I.03.g. Neural mechanisms – Choice in reward
I.03.h. Neural mechanisms – Choice in punishment
I.03.i. Neural mechanisms – Value
I.03.j. Neural mechanisms - Risk and ambiguity
I.04. Executive Functions
I.04.a. Prefrontal mechanisms
I.04.b. Network activity
I.04.c. Effects on learning and memory
I.04.d. Inhibitory control
I.04.e. Disorders of executive functions and inhibitory control
I.05. Working Memory
I.05.a. Central and prefrontal mechanisms
I.05.b. Distributed mechanisms
I.05.c. Behavioral studies
I.06. Social Cognition
I.06.a. Human behavior, disorders, and mechanisms
I.06.b. Animal behavior
I.06.c. Circuits and neural mechanisms
I.07. Long-Term Memory
I.07.a. Consolidation and reconsolidation
I.07.b. Human LTM – Medial temporal lobe
I.07.c. Human LTM – Encoding and retrieval
I.07.d. Episodic and episodic-like memory
I.08. Learning and Memory
I.08.a. Prefrontal cortex networks
I.08.b. Other cortical and subcortical circuits
I.08.c. Striatal and corticostriatal circuits
I.08.d. Hippocampal – Formation circuitry
I.08.e. Hippocampal – Cortical interactions
I.08.f. Hippocampal – Subcortical interactions
I.08.g. Intrinsic hippocampal circuits
I.08.h. Dentate gyrus
I.08.i. The role of oscillations
I.08.j. Genes and molecular mechanisms
I.08.k. Physiology
I.08.l. Pharmacology
I.08.m. Invertebrates
I.08.n. Timing and temporal processing
I.09. Spatial Navigation

2025 Themes and Topics List

I.09.a. Cortical and hippocampal circuits
I.09.b. Cortico-hippocampal interactions
I.09.c. Place cells
I.09.d. Grid cells and other spatially modulated cells
I.09.e. Human navigation
I.09.f. Animal navigation
I.10. Human Learning and Cognition
I.10.a. Relational and spatial learning
I.10.b. Motor and skill learning
I.10.c. Feedback, reinforcement, and reward
I.10.d. Associative learning
I.10.e. Timing and temporal processing
I.11. Language
I.11.a. Language – Acquisition, usage, and disorders
I.11.b. Neural circuits and mechanisms
Theme J – Techniques
J.01. Molecular, Biochemical, and Genetic Techniques
J.01.a. Biochemical and molecular techniques
J.01.b. Genetic techniques
J.01.c. Genomic and transcriptomic techniques
J.01.d. Single-cell techniques
J.02. Systems Biology and Bioinformatics
J.02.a. Genomics, proteomics, and bioinformatics
J.02.b. Systems biology and multiomics approaches
J.03. Anatomical Methods
J.03.a. Sample preparation and novel probes
J.03.b. Light and electron microscopy
J.03.c. Circuit tracing
J.03.d. Connectomics
J.04. Physiological Methods
J.04.a. Optical methodology – Development
J.04.b. Optical methodology – Application
J.04.c. Probe design and engineering
J.04.d. Electrophysiology – Cellular
J.04.e. Electrophysiology – Neural networks
J.04.f. Electrophysiology – Electrode arrays
J.05. Biomarker, Drug Discovery, and Experimental Therapeutics
J.05.a. Neuropsychiatric disorders
J.05.b. Neurodegenerative diseases (AD, PD, MS, stroke)
J.05.c. Drug delivery
J.05.d. Gene, protein, or cell based approaches
J.06. Computation, Modeling, and Simulation
J.06.a. Cellular models
J.06.b. Network models
J.06.c. Network computations – Theory and modeling
J.06.d. Network computations – Data analytics and statistics
J.06.e. Computational tools – Experimental

2025 Themes and Topics List

J.06.f. Computational tools – Analytical
J.07. Data Analysis and Statistics
J.07.a. Data analysis and statistics – Human data
J.07.b. Software Tools
J.08. Methods to Modulate Neural Activity
J.08.a. Electrical
J.08.b. Optogenetic
J.08.c. Other
Theme K – History, Education, and Society
K.01. History of Neuroscience
K.01.a. History of neuroscience
K.02. Teaching of Neuroscience
K.02.a. K-12 teaching and outreach
K.02.b. College
K.02.c. Graduate and professional
K.03. Public Awareness of Neuroscience
K.03.a. Outreach activities
K.04. Ethical and Policy Issues in Neuroscience
K.04.a. Ethical and policy issues in neuroscience