

**2019 Themes and Topics List****Theme A – Development****A.01. Neurogenesis and Gliogenesis**

- A.01.a. Nervous system patterning and developmental cell death
- A.01.b. Proliferation – Self-renewal and cell cycle
- A.01.c. Proliferation – Molecular mechanisms
- A.01.d. Cell lineage
- A.01.e. Mechanisms of cell fate
- A.01.f. Cell migration
- A.01.g. Neuronal differentiation
- A.01.h. Glial differentiation and interaction with neurons

**A.02. Postnatal Neurogenesis**

- A.02.a. Postnatal neurogenesis – Temporal and spatial patterns
- A.02 b. Postnatal neurogenesis – Molecular mechanisms
- A.02 c. Postnatal neurogenesis – Environmental and pharmacological regulation

**A.03. Stem Cells and Reprogramming**

- A.03.a. Pluripotent stem cells – Neurodegenerative disease models
- A.03.b. Pluripotent stem cells – Neurodevelopmental disease models
- A.03.c. Pluripotent stem cells – Neural differentiation
- A.03.d. Neural lineage reprogramming
- A.03.e. Neural stem cells – *In vitro* studies

**A.04. Transplantation and Regeneration**

- A.04.a. Transplantation
- A.04.b. Regeneration – PNS
- A.04.c. Regeneration – CNS

**A.05. Axon and Dendrite Development**

- A.05.a. Axon growth and guidance – Adhesion and cytoskeletal dynamics
- A.05.b. Axon growth and guidance – Axonal transport and trafficking
- A.05.c. Axon growth and guidance – Extrinsic mechanisms
- A.05.d. Dendritic growth and branching

**A.06. Synaptogenesis and Activity-Dependent Development**

- A.06.a. Synapse formation
- A.06.b. Synapse maturation and remodeling
- A.06.c. Neural circuit maturation and remodeling
- A.06.d. Synaptic dysfunction

**A.07. Developmental Disorders**

- A.07.a. Autism – Behavioral analysis
- A.07.b. Autism – Genetic models
- A.07.c. Autism – Synaptic and cellular mechanisms
- A.07.d. Autism – Environment and pathology
- A.07.e. Autism – Physiology and systems
- A.07.f. Rett syndrome
- A.07.g. Fragile X
- A.07.h. Down syndrome
- A.07.i. Angelman and other developmental disorders
- A.07.j. ADHD, SLI, dyslexia, and other specific disorders of neurobehavior
- A.07.k. Animal models of autism
- A.07.l. Animal models of developmental disorders other than autism
- A.07.m. Molecular Mechanisms

**A.08. Development of Motor, Sensory, and Limbic Systems**

- A.08.a. Motor systems
- A.08.b. Sensory systems

	A.08.c. Limbic system
<b>A.09. Adolescent Development</b>	
	A.09.a. Animal models
	A.09.b. Human imaging
	A.09.c. Mechanisms of vulnerability
<b>A.10. Development and Evolution</b>	
	A.10.a. Comparative anatomy
	A.10.b. Comparative cellular and molecular mechanisms
<b>Theme B – Neural Excitability, Synapses, and Glia</b>	
<b>B.01. Neurotransmitters, Transporters, and Signaling Molecules</b>	
	B.01.a. Glutamate
	B.01.b. Other small-molecule neurotransmitters
	B.01.c. Amino acids and other neurotransmitters
	B.01.d. Opiates, cytokines, and other neuropeptides
	B.01.e. Neurotrophins
<b>B.02. Ligand-Gated Ion Channels</b>	
	B.02.a. Nicotinic acetylcholine receptors in brain – Physiology and function
	B.02.b. Nicotinic acetylcholine receptors – Structure and regulation
	B.02.c. Ionotropic glutamate receptors
	B.02.d. GABA(A) and glycine receptors
<b>B.03. G-Protein Coupled Receptors</b>	
	B.03.a. Metabotropic glutamate and GABA B receptors
	B.03.b. Metabotropic receptors for other transmitters and peptides
<b>B.04. Ion Channels</b>	
	B.04.a. Sodium channels
	B.04.b. Calcium channels
	B.04.c. Potassium channels
	B.04.d. Non-selective cation channels
	B.04.e. Mechanosensitive and other ion channels
<b>B.05. Neurotransmitter Release</b>	
	B.05.a. Vesicle docking, fusion, recycling, biogenesis
	B.05.b. Presynaptic organization and structure
<b>B.06. Synaptic Transmission</b>	
	B.06.a. Postsynaptic organization and structure
	B.06.b. Synaptic integration
	B.06.c. Electrical synapses and gap junctions
	B.06.d. Modulation by neurotransmitters and peptides
	B.06.e. Modulation – Mechanisms of action
	B.06.f. Modulation – Pharmacology
	B.06.g. Transsynaptic organization and structure
<b>B.07. Synaptic Plasticity</b>	
	B.07.a. Short-term plasticity
	B.07.b. LTP – Kinases and intracellular signaling
	B.07.c. LTP – Pre- and Postsynaptic mechanisms
	B.07.d. Long-term depression (LTD)
	B.07.e. Spike-timing dependent plasticity
	B.07.f. Homeostatic plasticity
	B.07.g. Structural plasticity
	B.07.h. Transcription and translation in plasticity
	B.07.i. Other
<b>B.08. Intrinsic Membrane Properties</b>	
	B.08.a. Neural oscillators, dendritic properties, and plasticity

	B.08.b. Modulation of neuronal firing properties
<b>B.09. Network interactions</b>	
	B.09.a. Signal propagation
	B.09.b. Oscillations and synchrony – Unit studies
	B.09.c. Oscillations and synchrony – EEG studies
	B.09.d. Oscillations and synchrony – LFP studies
	B.09.e. Network interactions – Other
<b>B.10. Epilepsy</b>	
	B.10.a. Genetics
	B.10.b. Channels
	B.10.c. Synaptic mechanisms
	B.10.d. Networks
	B.10.e. Post-seizure modifications
	B.10.f. <i>In vivo</i> and behavior
	B.10.g. Animal models
	B.10.h. Anticonvulsant and antiepileptic therapies
	B.10.i. Human studies
<b>B.11. Glial Mechanisms</b>	
	B.11.a. Astrocytes – Biology
	B.11.b. Astrocytes – Disease mechanisms
	B.11.c. Microglia – Biology
	B.11.d. Microglia – Disease mechanisms
	B.11.e. Oligodendrocytes
	B.11.f. Glia-neuron interactions – CNS
	B.11.g. Glia-neuron interactions – PNS
	B.11.h. Glia-neuronal interaction in energy homeostasis
<b>B.12. Demyelinating Disorders</b>	
	B.12.a. Molecular and cellular mechanisms
	B.12.b. Human and animal studies and therapeutics
<b>B.13. Neuro-Oncology</b>	
	B.13.a. Neuro-oncology
<b>Theme C – Neurodegenerative Disorders and Injury</b>	
<b>C.01. Brain Wellness and Aging</b>	
	C.01.a. Molecular mechanisms
	C.01.b. Metabolism, oxidative stress, and cellular mechanisms
	C.01.c. Pharmacological and non-pharmacological interventions
	C.01.d. Systemic factors and brain function
	C.01.e. Brain wellness – Mechanisms and biomarkers
<b>C.02. Alzheimer's Disease and Other Dementias</b>	
	C.02.a. Alzheimer's disease – Genetic analyses
	C.02.b. Alzheimer's disease – Omics approaches
	C.02.c. Alzheimer's disease – Neuroinflammation and immune actions – <i>In vitro</i> models
	C.02.d. Alzheimer's disease – Neuroinflammation and immune actions – <i>In vivo</i> models
	C.02.e. Mechanisms of synaptic dysfunction in Alzheimer's disease – <i>In vitro</i> models
	C.02.f. Mechanisms of synaptic dysfunction in Alzheimer's disease – <i>In vivo</i> models
	C.02.g. Clinical and pre-clinical imaging studies in Alzheimer's disease
	C.02.h. APP and metabolites – Function and processing
	C.02.i. Abeta mechanisms of toxicity
	C.02.j. APP/Abeta – Animal models
	C.02.k. APP/Abeta – Cellular models
	C.02.l. Abeta as a therapeutic target
	C.02.m. Tau – Biochemistry and physiology

	C.02.n. Tau – Animal and cellular models
	C.02.o. Tau – Preclinical and clinical pathology
	C.02.p. ApoE and associated pathways
	C.02.q. Altered energy homeostasis in Alzheimer's disease
	C.02.r. Therapeutic strategies – Preclinical cellular models
	C.02.s. Therapeutic strategies – Preclinical animal models and small molecule therapeutics
	C.02.t. Therapeutic strategies – Preclinical animal models and non-pharmacological therapeutic approaches
	C.02.u. Therapeutic strategies – Preclinical animal models and peptide-based therapeutics
	C.02.v. Therapeutic strategies – Clinical trials
	C.02.w. Proteinopathy and pathology other than Abeta/tau
	C.02.x. Other dementias
	C.02.y. Genetics and functional genomics
	C.02.z. Biomarkers
<b>C.03. Parkinson's Disease</b>	
	C.03.a. Cellular mechanisms
	C.03.b. Mitochondrial mechanisms and genetics
	C.03.c. Dopamine and non-dopamine pathways
	C.03.d. LRRK2 mechanisms, targets, and pathways
	C.03.e. Alpha-synuclein – Models
	C.03.f. Alpha-synuclein – Mechanisms and transmission
	C.03.g. Circuit mechanisms
	C.03.h. Rat and mouse toxin and behavior models
	C.03.i. Neuroprotective mechanisms
	C.03.j. Therapeutic strategies – Cellular models
	C.03.k. Therapeutic strategies – Preclinical animal models – Small molecule therapeutics
	C.03.l. Therapeutic strategies – Preclinical animal models – Other therapeutics
	C.03.m. Therapeutic strategies – Clinical trials
	C.03.n. Human studies – Genetics and diagnostic
<b>C.04. Movement Disorders other than Parkinson's Disease</b>	
	C.04.a. Huntington's disease – Molecular mechanisms
	C.04.b. Huntington's disease – Animal models
	C.04.c. Ataxias
	C.04.d. Dystonia
	C.04.e. Clinical trials for movement disorders other than Parkinson's
<b>C.05. Tauopathies, Tau-dementias, and Prion Diseases</b>	
	C.05.a. Cellular and molecular mechanisms
	C.05.b. Animal models
<b>C.06. Neuromuscular Diseases</b>	
	C.06.a. Motor neuron disease – Human genetics and cellular mechanisms
	C.06.b. Motor neuron disease – <i>In vitro</i> studies
	C.06.c. Motor neuron disease – Animal models
	C.06.d. Motor neuron disease – Therapeutics
	C.06.e. Other neuromuscular diseases
<b>C.07. Neurotoxicity, Inflammation, and Neuroprotection</b>	
	C.07.a. Cellular stress and death mechanisms
	C.07.b. Mechanisms of neurotoxicity
	C.07.c. Mechanisms of neurodegeneration
	C.07.d. Neuroprotective mechanisms – Preclinical – Small model therapeutics
	C.07.e. Neuroprotective mechanisms – Preclinical – Other therapeutics
	C.07.f. Neuroinflammation – Microglia
	C.07.g. Neuroinflammation – Beyond microglia
	C.07.h. Neuroinflammation – Neurodegeneration

	C.07.i. Neuroinflammation – Animal models
	C.07.j. Neuroinflammation – HIV and infections
<b>C.08. Ischemia</b>	
	C.08.a. Molecular mechanisms
	C.08.b. Cellular mechanisms
	C.08.c. Ischemia – Perinatal
	C.08.d. Ischemia – Recovery
	C.08.e. Ischemia and Hemorrhage – Animal models
	C.08.f. Therapeutic, interventional, and translational studies
<b>C.09. Stroke</b>	
	C.09.a. Stroke, damage, or disease – Assessment and treatment
	C.09.b. Stroke, damage, or disease – Mechanisms of abnormal movement
	C.09.c. Stroke imaging and diagnostic studies
	C.09.d. Stroke recovery – Pharmacological approaches to therapy
	C.09.e. Stroke recovery – Non-pharmacological approaches to therapy
<b>C.10. Brain Injury and Trauma</b>	
	C.10.a. Brain – Cellular and molecular mechanisms
	C.10.b. Brain – Histology and cellular markers of brain injury
	C.10.c. Brain – Animal models of brain injury – Molecular mechanism
	C.10.d. Brain – Animal models of brain injury – Biomarkers
	C.10.e. Brain – Human studies – Mechanisms
	C.10.f. Brain – Human studies – Biomarkers
	C.10.g. Brain – Pre-clinical therapeutic strategies
	C.10.h. Brain – Clinical therapeutic strategies
	C.10.i. Peripheral nerve trauma, crush, and toxic injury
<b>C.11. Spinal Cord Injury and Plasticity</b>	
	C.11.a. Spinal cord injury – Cellular and molecular mechanisms
	C.11.b. Spinal cord injury – Animal models and human studies
	C.11.c. Spinal cord injury – Therapeutic strategies – <i>In vivo</i> – Pharmacological
	C.11.d. Spinal cord injury – Therapeutic strategies – <i>In vivo</i> – Non-pharmacological
	C.11.e. Spinal cord injury – Posture and locomotion
	C.11.f. Spinal cord injury – Recovery
	C.11.g. Spinal cord injury – Training, rehabilitation, and repair
	C.11.h. Plasticity – Neurophysiology
<b>Theme D – Sensory Systems</b>	
<b>D.01. Sensory Disorders</b>	
	D.01.a. Visual and auditory
<b>D.02. Somatosensation</b>	
	D.02.a. Spinal circuits
	D.02.b. Itch
	D.02.c. Ion channels
<b>D.03. Somatosensation – Pain</b>	
	D.03.a. Nociceptors
	D.03.b. Trigeminal circuits and processing
	D.03.c. Headache and migraine
	D.03.d. Thalamic and cortical processing
	D.03.e. Descending modulation
	D.03.f. Treatments for persistent pain
	D.03.g. Pain models – Pharmacology
	D.03.h. Pain models – Behavior
	D.03.i. Pain models – Physiology
	D.03.j. Inflammatory pain

	D.03.k. Peripheral mechanisms of neuropathic pain
	D.03.l. Central mechanisms of neuropathic pain
	D.03.m. Deep tissue pain
	D.03.n. Pain imaging and perception
	D.03.o. Opioids
	D.03.p. Non-opioid treatments
<b>D.04. Somatosensation – Touch</b>	
	D.04.a. Transduction mechanisms
	D.04.b. Plasticity and reorganization
	D.04.c. Thalamic and cortical processing
	D.04.d. Barrel cortex
	D.04.e. Stimulus feature receptive fields and response properties
	D.04.f. Stimulus feature neural coding
<b>D.05. Olfaction and Taste</b>	
	D.05.a. Olfactory receptor cells and transduction
	D.05.b. Olfactory coding – Second order regions (olfactory bulb and antennal lobe)
	D.05.c. Olfaction – Higher-order circuits
	D.05.d. Olfaction – Behavior, perception, and its relation to neurophysiology
	D.05.e. Taste
<b>D.06. Auditory &amp; Vestibular Systems</b>	
	D.06.a. Hair cells and the periphery
	D.06.b. Auditory processing – Sound localization and binaural interactions
	D.06.c. Auditory processing – Temporal, frequency, and spectral processing
	D.06.d. Auditory processing – Vocalizations and natural sounds
	D.06.e. Auditory processing – Circuits, synapses, and neurotransmitters
	D.06.f. Auditory processing – Adaptation, learning, and memory
	D.06.g. Auditory processing – Neural coding, experiment, and theory
	D.06.h. Auditory processing – Perception, cognition, and action
	D.06.i. Vestibular central physiology and anatomy
	D.06.j. Vestibular perception, posture, and spatial orientation
<b>D.07. Vision</b>	
	D.07.a. Retina – Photoreceptors
	D.07.b. Retinal circuitry
	D.07.c. Subcortical visual pathways
	D.07.d. Visual cortex – Circuits
	D.07.e. Visual cortex – Populations
	D.07.f. Visual system – Responses during behavior
	D.07.g. Visual system – Response modulation and adaptation
	D.07.h. Higher visual areas – Primates
	D.07.i. Higher visual areas – Rodents
	D.07.j. Higher visual areas – Carnivores
	D.07.k. Visual cortex – Functional architecture and circuits
	D.07.l. Visual pathways – To and from the cortex
	D.07.m. Striate cortex – Plasticity
	D.07.n. Processing of contrast, form, and color
	D.07.o. Visual motion
	D.07.p. Representation of objects and scenes
	D.07.q. Representation of faces and bodies
	D.07.r. Visual learning, memory, and categorization
	D.07.s. Spatial and feature-based attention
	D.07.t. Visual cognition – Decision making
<b>D.08. Visual Sensory-motor Processing</b>	

	D.08.a. Eye movements and perception
	D.08.b. Sensorimotor transformation – Behavior and whole animal
	D.08.c. Sensorimotor transformation – Neuroprocessing
	D.08.d. Visually-guided reaching
<b>D.09. Multisensory Integration</b>	
	D.09.a. Cross-modal processing – Spatial and temporal factors
	D.09.b. Cross-modal processing – Neural circuitry and development
	D.09.c. Cross-modal processing – In humans
<b>Theme E – Motor Systems</b>	
<b>E.01. Eye Movements</b>	
	E.01.a. Eye movements – Central mechanisms
	E.01.b. Eye movements – Saccades
	E.01.c. Eye movements – Perception and neural mechanisms
<b>E.02. Cerebellum</b>	
	E.02.a. Cerebellum – Cortex and nuclei
	E.02.b. Cerebellum – Plasticity and climbing fibers
	E.02.c. Cerebellum – Human studies
<b>E.03. Basal Ganglia</b>	
	E.03.a. Transmitters and neuromodulation
	E.03.b. Cellular physiology
	E.03.c. Systems physiology and plasticity
	E.03.d. Systems behavior
<b>E.04. Voluntary Movements</b>	
	E.04.a. Finger and grasp control – Normal human behavior
	E.04.b. Finger and grasp control – Age, pathology, and physiology
	E.04.c. Reaching control – Action and sensation
	E.04.d. Reaching control – Movement selection and strategy
	E.04.e. Reaching control – Motor learning – Human
	E.04.f. Reaching control – Motor learning – Animal
	E.04.g. Interlimb and bimanual control
	E.04.h. Cortical planning and execution – Behavior
	E.04.i. Cortical planning and execution – Neurophysiology – Human
	E.04.j. Cortical planning and execution – Neurophysiology – Animal
	E.04.k. Cortical planning and execution – Neuroimaging
	E.04.l. Oral motor and speech
	E.04.m. Plasticity
<b>E.05. Brain-Machine Interface</b>	
	E.05.a. Neurophysiology – Non-invasive techniques
	E.05.b. Neurophysiology – Implanted electrodes and other direct interactions with neurons
	E.05.c. Neurophysiology – Neural processing
	E.05.d. Neuroprosthetics – Control of real and artificial arm, hand, other grasping devices
	E.05.e. Neuroprosthetics – Other motor sensory interfaces (e.g. artificial vision)
<b>E.06. Posture and Gait</b>	
	E.06.a. Posture and gait – Kinematics, muscle activity, exercise and fatigue, and biomechanics
	E.06.b. Posture and gait – Afferent control
	E.06.c. Posture and gait – Higher order control, multi-task integration, and theory
	E.06.d. Posture and gait – Aging, injury, and disease
	E.06.e. Reflexes and reflex modulation
<b>E.07. Rhythmic Motor Pattern Generation</b>	
	E.07.a. Cellular properties – Interneurons and motor neurons
	E.07.b. Connectivity
	E.07.c. Neuromodulation of neuronal and synaptic properties

	E.07.d. Afferent and descending control
	E.07.e. Respiratory rhythm and pattern generation
<b>E.08. Respiratory Regulation</b>	
	E.08.a. Respiratory control
<b>E.09. Motor Neurons and Muscle</b>	
	E.09.a. Motor neurons – Activity, sensory, and central control – Exercise, injury, and disease
	E.09.b. Motor neurons – Development, identification, intrinsic properties, and modulation
	E.09.c. Motor unit recordings, kinematics, and EMG
	E.09.d. Motorneuron-muscle interface and muscle physiology/biochemistry
<b>Theme F – Integrative Physiology and Behavior</b>	
<b>F.01. Neuroethology</b>	
	F.01.a. Sensory and motor systems
	F.01.b. Vocal/social communication – Avian
	F.01.c. Vocal/social communication – Non-avian
<b>F.02. Behavioral Neuroendocrinology</b>	
	F.02.a. Sexual behavior
	F.02.b. Parental behavior
	F.02.c. Social behavior
	F.02.d. Defensive behavior and aggression
	F.02.e. Hormones and cognition
<b>F.03. Neuroendocrine Processes</b>	
	F.03.a. HPG axis
	F.03.b. Neuroendocrine anatomy and physiology
	F.03.c. Sexual differentiation
<b>F.04. Stress and the Brain</b>	
	F.04.a. Stress and neuroimmunology
	F.04.b. Cellular actions of stress
	F.04.c. Early-life Stress – Neural, neurochemical, and physiologic effects
	F.04.d. Early-life Stress – Molecular mechanisms and cellular effects
	F.04.e. Early-life Stress – Effects on anxiety, social function, and depression
	F.04.f. Early-life Stress – Adolescence
	F.04.g. Stress-modulated pathways – Cortex, hippocampus, and striatum
	F.04.h. Stress-modulated pathways – Hypothalamus, amygdala, and bed nucleus
	F.04.i. Stress-modulated pathways – Brainstem and other
	F.04.j. Stress and cognition
<b>F.05. Neuroimmunology</b>	
	F.05.a. Regulating systems
	F.05.b. Behavioral effects
<b>F.06. Brain Blood Flow, Metabolism, and Homeostasis</b>	
	F.06.a. Energy metabolism
	F.06.b. Blood flow
	F.06.c. Blood brain barrier
	F.06.d. Functional imaging
<b>F.07. Autonomic Regulation</b>	
	F.07.a. Cardiovascular regulation
	F.07.b. Gastrointestinal, renal, urinary, and reproductive regulation
	F.07.c. Thermoregulation and other
<b>F.08. Biological Rhythms and Sleep</b>	
	F.08.a. Entrainment and phase shifts
	F.08.b. Molecular biology and physiology of clocks
	F.08.c. Sleep – Molecular, cellular, and pharmacology
	F.08.d. Sleep – Regulators



	F.08.e. Sleep – Systems
	F.08.f. Sleep – Behavior
	F.08.g. SCN anatomy, physiology, neurochemistry
<b>F.09. Thirst and Water Balance</b>	
	F.09.a. Thirst and water balance
<b>F.10. Food Intake and Energy Balance</b>	
	F.10.a. Integration of peripheral signals – Regulators
	F.10.b. Integration of peripheral signals – Systems
	F.10.c. Central pathways – Anatomy and development
	F.10.d. Neuropeptide regulators
	F.10.e. Monoamines, amino acids, and other regulators
<b>Theme G – Motivation and Emotion</b>	
<b>G.01. Appetitive and Aversive Learning</b>	
	G.01.a. Appetitive and incentive learning and memory
	G.01.b. Fear and aversive learning and memory – Acquisition
	G.01.c. Fear and aversive learning and memory – Modulation
	G.01.d. Fear and aversive learning and memory – Extinction
	G.01.e. Fear and aversive learning and memory – Neural circuitry
<b>G.02. Motivation</b>	
	G.02.a. Reward – Dopamine
	G.02.b. Reward – Cell signaling
	G.02.c. Reward – Neurophysiology
	G.02.d. Reward – Neuropharmacology
	G.02.e. Motivation – Subcortical neurocircuitry
	G.02.f. Motivation – Cortical neurocircuitry
	G.02.g. Motivation – Social communication and behavior
<b>G.03. Emotion</b>	
	G.03.a. Human Emotion
	G.03.b. Emotion – Neurocircuitry
	G.03.c. Emotion – Fear, anxiety, and pain
	G.03.d. Emotion – Positive and negative emotional states
<b>G.04. Mood Disorders – Depression and Bipolar Disorders</b>	
	G.04.a. Depression – Human imaging and behavioral studies
	G.04.b. Depression – Treatment and drug discovery
	G.04.c. Depression – Animal models – Behavioral mechanism
	G.04.d. Depression – Animal models – Neural mechanisms
	G.04.e. Depression – Animal models of therapeutics
	G.04.f. Bipolar disorders
<b>G.05. Anxiety Disorders</b>	
	G.05.a. Human studies & therapeutic approaches
	G.05.b. Preclinical models
	G.05.c. Therapeutic approaches
<b>G.06. Post-traumatic Stress Disorder</b>	
	G.06.a. Human studies
	G.06.b. Preclinical models
<b>G.07. Other Psychiatric Disorders</b>	
	G.07.a. Other psychiatric disorders
<b>G.08. Drugs of Abuse and Addiction</b>	
	G.08.a. Addictive drugs – Developmental effects
	G.08.b. Addictive drugs – Drug tolerance, dependence, and toxicity
	G.08.c. Addiction – Genetics
	G.08.d. Addiction treatment – Translational and clinical studies

	G.08.e. Learning, memory, and addiction
	G.08.f. Alcohol – Intake and preference
	G.08.g. Alcohol – Other behavioral effects
	G.08.h. Alcohol – Neural mechanisms
	G.08.i. Amphetamines – Behavioral mechanisms of addiction
	G.08.j. Amphetamines – Neural mechanisms of addiction
	G.08.k. Cannabinoids – Neural mechanisms and addiction
	G.08.l. Cocaine reinforcement
	G.08.m. Cocaine seeking and reinstatement
	G.08.n. Cocaine – Other behavioral studies
	G.08.o. Cocaine – Circuitry and neurophysiology of addiction
	G.08.p. Cocaine – Cell signaling and addiction
	G.08.q. Opioid reinforcement, seeking, and reinstatement
	G.08.r. Opioids – Neural mechanisms of addiction
	G.08.s. Nicotine – Reinforcement, seeking, and reinstatement
	G.08.t. Nicotine – Neural mechanisms of addiction
<b>Theme H – Cognition</b>	
<b>H.01. Animal Cognition and Behavior</b>	
	H.01.a. Functional mechanisms of attention
	H.01.b. Decision making – Lateral prefrontal cortex
	H.01.c. Decision making – Medial prefrontal cortex
	H.01.d. Decision making – Orbitofrontal cortex
	H.01.e. Decision making – Corticolimbic circuits
	H.01.f. Executive function – Learning and memory
	H.01.g. Executive function – Network activity
	H.01.h. Executive function – Models of disorders
	H.01.i. Executive function – Inhibitory control
	H.01.j. Working memory
	H.01.k. Social memory and cognition
	H.01.l. Memory consolidation and reconsolidation – Behavior
	H.01.m. Memory consolidation and reconsolidation – Molecular mechanisms
	H.01.n. Memory consolidation and reconsolidation – Neural circuit mechanisms
	H.01.o. Learning and memory – Cortical-hippocampal interactions
	H.01.p. Learning and memory – Subcortical-hippocampal interactions
	H.01.q. Learning and memory – Intrinsic hippocampal circuits
	H.01.r. Learning and memory – Dentate gyrus
	H.01.s. Learning and memory – Rhinal cortex circuits
	H.01.t. Learning and memory – Molecular mechanisms
	H.01.u. Learning and memory – Neural circuit mechanisms
	H.01.v. Learning and memory – The role of oscillations
	H.01.w. Learning and memory – Genes and signaling
	H.01.x. Learning and memory – Physiology
	H.01.y. Learning and memory – Pharmacology
	H.01.z. Learning and memory – Aging
	H.01.aa. Learning and memory – Invertebrates
	H.01.bb. Cortical and hippocampal circuits – Episodic and episodic-like memory
	H.01.cc. Cortical and hippocampal circuits – Timing and temporal processing
	H.01.dd. Intrinsic hippocampal circuits – Spatial navigation
	H.01.ee. Cortical and cortico-hippocampal circuits – Spatial navigation
	H.01.ff. Cortical and hippocampal circuits – Place cells
	H.01.gg. Thalamic and brainstem circuits
	H.01.hh. Cortical and striatal circuits

	H.01.ii. Associative, nonassociative, and skill learning
<b>H.02. Human Cognition and Behavior</b>	
	H.02.a. Perception and imagery
	H.02.b. Human learning – Perceptual and spatial learning
	H.02.c. Human learning – Motor and sequence learning
	H.02.d. Human learning – Feedback, reinforcement, and reward
	H.02.e. Human long-term memory – Medial temporal lobe
	H.02.f. Human long-term memory – Retrieval
	H.02.g. Human long-term memory – Encoding
	H.02.h. Human long-term memory – Encoding-retrieval interactions and reconsolidation
	H.02.i. Functional mechanisms of attention
	H.02.j. Attentional networks
	H.02.k. Executive function – Prefrontal mechanisms
	H.02.l. Executive function – Subcortical-cortical interactions
	H.02.m. Language – Normal acquisition and usage
	H.02.n. Language – Language disorders
	H.02.o. Working memory – Prefrontal mechanisms
	H.02.p. Working memory – Distributed mechanisms
	H.02.q. Decision making and reasoning – Cognition and computational models
	H.02.r. Decision making and reasoning – Neural mechanisms
	H.02.s. Cognitive development
	H.02.t. Cognitive aging – Natural aging
	H.02.u. Cognitive aging – Disorders
	H.02.v. Individual differences
	H.02.w. Timing and temporal processing
	H.02.x. Social cognition – Behavior, neural processes, and disorders
<b>H.03. Schizophrenia</b>	
	H.03.a. Neuropathology, genetics, and genomics
	H.03.b. Behavior and symptoms
	H.03.c. Circuits and systems
	H.03.d. Animal models – Developmental
	H.03.e. Animal models – Pharmacological
	H.03.f. Biochemical studies
<b>Theme I – Techniques</b>	
<b>I.01. Molecular, Biochemical, and Genetic Techniques</b>	
	I.01.a. Biochemical techniques
	I.01.b. Molecular techniques
	I.01.c. Genetic, genomic, and transcriptomic techniques
<b>I.02. Systems Biology and Bioinformatics</b>	
	I.02.a. Genomics, proteomics, and systems biology
	I.02.b. Bioinformatics and connectomics
<b>I.03. Anatomical Methods</b>	
	I.03.a. Staining, tracing, and imaging techniques – Sample preparation
	I.03.b. Staining, tracing, and imaging techniques – Image acquisition
	I.03.c. Staining, tracing, and imaging techniques – Circuit tracing
	I.03.d. Staining, tracing, and imaging techniques – Electron microscopy
	I.03.e. Staining, tracing, and imaging techniques – Novel probes
<b>I.04. Physiological Methods</b>	
	I.04.a. Optical methodology – Development
	I.04.b. Optical methodology – Application
	I.04.c. Optical methodology – Probes
	I.04.d. Electrophysiology – Cellular

	I.04.e. Electrophysiology – Neural networks
	I.04.f. Electrophysiology – Electrode arrays
	I.04.g. Novel assays
<b>I.05. Biomarker and Drug Discovery</b>	
	I.05.a. Affective disorders and schizophrenia
	I.05.b. Neurodegenerative diseases (AD, PD, MS, stroke)
	I.05.c. Drug delivery
<b>I.06. Computation, Modeling, and Simulation</b>	
	I.06.a. Cellular models
	I.06.b. Network models – Theory
	I.06.c. Network models – Experimentation
	I.06.d. Computational tools – Experimental
	I.06.e. Computational tools – Analytical
<b>I.07. Data Analysis and Statistics</b>	
	I.07.a. Data analysis and statistics – Human data
	I.07.b. Data analysis and statistics – Neuronal networks
	I.07.c. Software Tools
<b>I.08. Methods to Modulate Neural Activity</b>	
	I.08.a. Electrical
	I.08.b. Optogenetic
	I.08.c. Other
<b>Theme J – History, Education, and Society</b>	
<b>J.01. History of Neuroscience</b>	
	J.01.a. History of neuroscience
<b>J.02. Teaching of Neuroscience</b>	
	J.02.a. K-12
	J.02.b. College
	J.02.c. Graduate and professional
<b>J.03. Public Awareness of Neuroscience</b>	
	J.03.a. Outreach activities
<b>J.04. Ethical and Policy Issues in Neuroscience</b>	
	J.04.a. Ethical and policy issues in neuroscience