When citing an abstract from the 2016 annual meeting please use the format below.

[Authors]. [Abstract Title]. Program No. XXX.XX. 2016 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2016. Online.

Symposium

002. Synaptic Actin Dysregulation: A Convergent Mechanism of Mental Disorders?

Theme B: Neural Excitability, Synapses, and Glia

Location: SDCC 6B

Time: 11/12/2016 1:30:00 PM - 11/12/2016 4:00:00 PM

Synaptic actin polymerization governs activity-dependent modulation of excitatory synapses. Many candidate genes for psychiatric and neurodevelopmental disorders encode regulators of signaling to the actin cytoskeleton, suggesting that its disruption is a commonly affected pathway in brain disorders. This symposium will discuss recent experimental findings that strongly support genetic evidence linking the synaptic cytoskeleton to conditions such as schizophrenia and autism spectrum disorders.

Time: Sat. 1:30 PM - 4:00 PM

2.00. Chair

S. H. Soderling;
Cell Biology and Neurobiology, Duke University School of Medicine, Durham, NC.

Time: Sat. 1:30 PM - 4:00 PM

2.00. Co Chair

Z. Yan;
Dept Physiology and Biophysics, State University of New York at Buffalo, Buffalo, NY.

Time: Sat. 1:30 PM - 1:35 PM

2.01. Introduction

Time: Sat. 1:35 PM - 2:10 PM

2.02. Synaptic cytoskeletal disturbances that drive abnormal wiring and behavior

S. H. Soderling;
Cell Biology and Neurobiology, Duke University School of Medicine, Durham, NC.

Time: Sat. 2:10 PM - 2:45 PM

2.03. Targeting actin regulators for autism treatment

Z. Yan;
Physiology and Biophysics, State University of New York at Buffalo, Buffalo, NY.

Time: Sat. 2:45 PM - 3:20 PM

2.04. Altered regulation of actin dynamics and cortical dendritic spine deficits in schizophrenia

D. Lewis;
Director, Translational Neuroscience Program, University of Pittsburgh, Pittsburgh, PA.

Time: Sat. 3:20 PM - 3:55 PM

2.05. Actin cytoskeleton, NMDA receptor dysfunction, and autism spectrum disorders

E. Kim;
IBS and KAIST, Daejeon, KOREA, REPUBLIC OF.

Time: Sat. 3:55 PM - 4:00 PM

2.06. Closing Remarks

Symposium

003. Autophagy-Lysosomal Mechanism in Neurodegeneration

Theme C: Neurodegenerative Disorders and Injury

Location: SDCC 6A

Time: 11/12/2016 1:30:00 PM - 11/12/2016 4:00:00 PM

This symposium will present recent advances in autophagy research in neurons and major neurodegenerative diseases. It will provide insight into molecular mechanisms of autophagy control, particularly on subtypes of autophagy that regulate neuronal homeostasis via the clearance of disease protein aggregates and damaged mitochondria. The session will discuss how disease mutants disrupt the autophagy-lysosomal pathway, and strategies of harnessing neuroprotection of autophagy for therapeutic development.

Time: Sat. 1:30 PM - 4:00 PM

3.00. Chair

Z. Yue;
Neurology and Neuroscience, Icahn School of Medicine at Mount Sinai, New York, NY.

Time: Sat. 1:30 PM - 4:00 PM

3.00. Co Chair

A. Cuervo;
Developmental and Molecular Biology, Albert Einstein College of Medicine, Bronx, NY.

Time: Sat. 1:30 PM - 1:35 PM

3.01. Introduction

Time: Sat. 1:35 PM - 2:10 PM

3.02. Regulation of autophagy kinases in neurons and neurodegenerative diseases

Z. Yue;
Neurology and Neuroscience, Icahn School of Medicine at Mount Sinai, New York, NY.

Time: Sat. 2:10 PM - 2:45 PM

3.03. Emerging mechanism for neurodegenerative diseases: ubiquitin signals on cargo promote mitophagy via autophagy receptors

R. Youle;
Biochemistry Section, National Institutes of Health/NINDS, Bethesda, MD.

Time: Sat. 2:45 PM - 3:20 PM

3.04. Chaperone-mediated autophagy and neuronal homeostasis

A. Cuervo;
Developmental and Molecular Biology, Albert Einstein College of Medicine, Bronx, NY.

Time: Sat. 3:20 PM - 3:55 PM

3.05. Progressive deficits of autophagy-lysosome system in motor neuron degeneration

Z. Sheng;
Synaptic Function Section, National Institutes of Health/NINDS, Bethesda, MD.

Time: Sat. 3:55 PM - 4:00 PM

3.06. Closing Remarks

Symposium

004. Is the Prefrontal Cortex Special? Working Memory Across the Cortical Mantle: From Single Units to Neural Ensembles

Theme H: Cognition

Location: SDCC 6F

Time: 11/12/2016 1:30:00 PM - 11/12/2016 4:00:00 PM

Working memory (WM) is one of the pillars of cognition. This symposium will offer an updated view of WM coding in primates, with emphasis in the prefrontal cortex. Experts will discuss

WM coding in different brain areas of macaques, how the macaque prefrontal cortex encodes WM across the life span, how the prefrontal cortex integrates WMs from different modalities, and how to bridge WM studies in macaques and humans.

Time: Sat. 1:30 PM - 4:00 PM

4.00. Chair

J. C. Martinez-Trujillo;
Physiology, Pharmacology and Psychiatry, Western University, London, ON, CANADA.

Time: Sat. 1:30 PM - 4:00 PM

4.00. Co Chair

C. Constantinidis;
Department of Neurobiology and Anatomy, Wake Forest University School of Medicine, Winston-Salem, NC.

Time: Sat. 1:30 PM - 1:35 PM

4.01. Introduction

Time: Sat. 1:35 PM - 2:10 PM

4.02. Working memory representations by single neurons and neuronal ensembles in the primate brain: Is the prefrontal cortex special?

J. C. Martinez-Trujillo;
Physiology, Pharmacology and Psychiatry, Western University, London, ON, CANADA.

Time: Sat. 2:10 PM - 2:45 PM

4.03. Coding of spatial working memory: Specialization of prefrontal cortex and development through adulthood

C. Constantinidis;
Department of Neurobiology and Anatomy, Wake Forest University School of Medicine, Winston-Salem, NC.

Time: Sat. 2:45 PM - 3:20 PM

4.04. The Role of the Ventral Prefrontal Cortex in Auditory and Audiovisual Working Memory

L. M. Romanski;
Neurobiology and Anatomy, University of Rochester School of Medicine, Rochester, NY.

Time: Sat. 3:20 PM - 3:55 PM

4.05. Spatial and temporal distribution of visual working memory coding in prefrontal cortex: From monkey electrophysiology to human fMRI

N. Sigala;
Department of Psychiatry, Brighton and Sussex Medical School and Sackler Centre for Consciousness Science., Brighton, UNITED KINGDOM.

Time: Sat. 3:55 PM - 4:00 PM

4.06. Closing Remarks

Minisymposium

005. Neuronal Circuits Driving Behavior: Invertebrates to Vertebrates

Theme E: Motor Systems

Location: SDCC 28A

Time: 11/12/2016 1:30:00 PM - 11/12/2016 4:00:00 PM

This minisymposium will focus on how neuronal circuits control complex behaviors from invertebrates to vertebrates. The latest tools being utilized to quantitatively measure behavior and physiology in behaving animals will be discussed. Also, the session will present findings across animal models that may provide molecular, circuit, and neuromodulatory targets for future studies, with the potential to develop therapeutics to benefit those suffering from a wide range of neurological disorders.

Time: Sat. 1:30 PM - 4:00 PM

5.00. Chair

S. M. Wasserman;
Integrative Biology and Physiology, Wellesley College, Wellesley, MA.

Time: Sat. 1:30 PM - 1:35 PM

5.01. Introduction

Time: Sat. 1:35 PM - 1:55 PM

5.02. Perturbations to worm sleep, weak and strong

D. Biron;
Physics, University of Chicago, Chicago, IL.

Time: Sat. 1:55 PM - 2:15 PM

5.03. The neural basis of parasitic behaviors

E. A. Hallem;
Department of Microbiology, Immunology, and Molecular Genetics, University of California, Los Angeles, Los Angeles, CA.

Time: Sat. 2:15 PM - 2:35 PM

5.04. A neural module for threat display in *Drosophila*

B. J. Duistermars;
Biology and Biological Engineering, California Institute of Technology, Pasadena, CA.

Time: Sat. 2:35 PM - 2:55 PM

5.05. Thermoregulation: what the hungry flies tell us

F. N. Hamada;
Department of Pediatrics, Cincinnati Children's Hospital Medical Center, Cincinnati, OH.

Time: Sat. 2:55 PM - 3:15 PM

5.06. Cached and inferred prediction errors are computed in a common circuit

B. F. Sadacca;
Cellular Neurobiology and Behavioral Neurophysiology Research Branches, National Institute On Drug Abuse, Baltimore, MD.

Time: Sat. 3:15 PM - 3:35 PM

5.07. Behavioral characterization through motion sequencing

S. R. Datta;
Department of Neurobiology, Harvard University, Boston, MA.

Time: Sat. 3:35 PM - 4:00 PM

5.08. Closing Remarks

Minisymposium

006. Visceral Autonomic Nerves as Targets for Precision Bioelectronic Medicines

Theme F: Integrative Physiology and Behavior

Location: SDCC 6E

Time: 11/12/2016 1:30:00 PM - 11/12/2016 4:00:00 PM

The visceral autonomic nervous system is a largely untapped area to modulate pathophysiology. Many chronic diseases are driven by dysregulation of neural control of end organ function. Bioelectronic medicines are a new treatment modality that correct signals in peripheral nerves to reset feedback control of end organ function in disease. This session will highlight some of the new evidence that links peripheral autonomic nerves to disease and discuss neuromodulation approaches to treat these diseases.

Time: Sat. 1:30 PM - 4:00 PM

6.00. Chair

W. M. Grill;
Biomedical Engineering, Duke University, Durham, NC.

Time: Sat. 1:30 PM - 4:00 PM

6.00. Co Chair

A. Sridhar;
Bioelectronics R&D, GlaxoSmithKline, Stevenage, UNITED KINGDOM.

Time: Sat. 1:30 PM - 1:35 PM

6.01. Introduction

Time: Sat. 1:35 PM - 1:55 PM

6.02. Beyond sacral root modulation: How can one modulate the peripheral nerve to impact bladder function?

J. Hokanson;
Biomedical Engineering, Duke University, Durham, NC.

Time: Sat. 1:55 PM - 2:15 PM

6.03. Modulation of sympathetic nervous system for sleep apnea

Y. Hsieh;
Pediatrics, Respiratory Physiology and Immunology, Case Western Reserve University, Cleveland, OH.

Time: Sat. 2:15 PM - 2:35 PM

6.04. On demand modulation of vagal tone for COPD/Asthma

B. Canning;
Medicine, Johns Hopkins University, Baltimore, MD.

Time: Sat. 2:35 PM - 2:55 PM

6.05. Neural insulin sensing as a target for treatment of type 2 diabetes

S. Conde;
CEDOC, Centro Estudos Doenças Crónicas, NOVA University, Lisbon, PORTUGAL.

Time: Sat. 2:55 PM - 3:15 PM

6.06. Beyond the vagus anti-inflammatory reflex: Modulating neural signaling for treatment of immune function

P. Blancou;
l'Institut de Pharmacologie Moléculaire et Cellulaire, University of Nice, Sophia-Antipolis, FRANCE.

Time: Sat. 3:15 PM - 3:35 PM

6.07. Sympathetic modulation for treating cardiovascular disorders

J. Ardell;
Neurocardiology Center for Excellence, University of California Los Angeles, Los Angeles, CA.

Time: Sat. 3:35 PM - 4:00 PM

6.08. Closing Remarks

Minisymposium

007. Homeostasis Versus Motivation in the Battle to Control Food Intake

Theme G: Motivation and Emotion

Location: SDCC 29D

Time: 11/12/2016 1:30:00 PM - 11/12/2016 4:00:00 PM

Signals that regulate energy homeostasis interact closely with neural circuits of motivation to control food intake. An emerging hypothesis is that transition to maladaptive feeding behavior, as seen in anorexia or obesity, may arise from dysregulation of these interactions. This minisymposium will consider how signals that regulate homeostasis and motivation interact at

cellular, synaptic, and circuit levels, and how the outcome of this battle could have relevance for feeding disorders.

Time: Sat. 1:30 PM - 4:00 PM

7.00. Chair

E. C. O'Connor;
Department of Basic Neuroscience, University of Geneva, Geneva, SWITZERLAND.

Time: Sat. 1:30 PM - 1:35 PM

7.01. Introduction

Time: Sat. 1:35 PM - 1:55 PM

7.02. Glucose responsive neurons of the paraventricular thalamus control sucrose-seeking behavior

G. Labouebe;
Center for Integrative Genomics, University of Lausanne, Lausanne, SWITZERLAND.

Time: Sat. 1:55 PM - 2:15 PM

7.03. Why did I eat that? Differences in nucleus accumbens function and cue-triggered motivation that contribute to obesity

C. R. Ferrario;
Department of Pharmacology, University of Michigan Medical School, Ann Arbor, MI.

Time: Sat. 2:15 PM - 2:35 PM

7.04. Hypothalamic neuronal dynamics during hunger and eating

S. Xu;
Janelia Research Campus, Howard Hughes Medical Institute, Ashburn, VA.

Time: Sat. 2:35 PM - 2:55 PM

7.05. Lateral hypothalamus orexin glucose-inhibited (GI) neurons drive hedonic feeding during energy deficit

V. H. Routh;
Department of Pharmacology, Physiology and Neuroscience, Rutgers New Jersey Medical School, Newark, NJ.

Time: Sat. 2:55 PM - 3:15 PM

7.06. Lateral hypothalamic control of feeding and other motivated behaviors through the midbrain dopamine system

E. H. Nieh;
Picower Institute of Learning and Memory, Massachusetts Institute of Technology, Cambridge, MA.

Time: Sat. 3:15 PM - 3:35 PM

7.07. How insulin and diet modulate inputs to the ventral tegmental area

S. Liu;
Department of Physiology and Pharmacology, University of Calgary, Calgary, AB, CANADA.

Time: Sat. 3:35 PM - 4:00 PM

7.08. Closing Remarks

Symposium

099. Neuronal Cytoskeleton 2.0: A Revised View of an Ancient Edifice

Theme A: Development

Location: SDCC 6F

Time: 11/13/2016 8:30:00 AM - 11/13/2016 11:00:00 AM

The neuronal cytoskeleton is essential for trafficking molecules into axons and dendrites and also for maintaining the structural integrity of these elongated appendages. Recent advances in super-resolution, live imaging, and genetics have revealed a remarkable cytoskeletal organization in neurons, essentially revising canonical models. The goal of this symposium will be to inform the audience of these exciting new developments, present ongoing research, and foster cross-talk between participants.

Time: Sun. 8:30 AM - 11:00 AM

99.00. Chair

S. Roy;
Pathology, University of California, San Diego, La Jolla, CA.

Time: Sun. 8:30 AM - 11:00 AM

99.00. Co Chair

C. Hoogenraad;
Cell Biology, Utrecht University, Utrecht, NETHERLANDS.

Time: Sun. 8:30 AM - 8:35 AM

99.01. Introduction

Time: Sun. 8:35 AM - 9:10 AM

99.02. Superresolution microscopy reveals the intricate nanostructure of the neuronal cytoskeleton

C. Leterrier;
Axonal Domains Architecture Team, Aix Marseille University, Marseille, FRANCE.

Time: Sun. 9:10 AM - 9:45 AM

99.03. Actin rings and actin trails - a two-tier assembly in axons

S. Roy;
Pathology, University of California, San Diego, La Jolla, CA.

Time: Sun. 9:45 AM - 10:20 AM

99.04. Combining live imaging and model organism genetics to understand microtubule organization in dendrites

M. Rolls;
Biochemistry and Molecular Biology, The Pennsylvania State University, University Park, PA.

Time: Sun. 10:20 AM - 10:55 AM

99.05. Novel regulators of neuronal polarity and axon specification

C. Hoogenraad;
Cell Biology, Utrecht University, Utrecht, NETHERLANDS.

Time: Sun. 10:55 AM - 11:00 AM

99.06. Closing Remarks

Symposium

100. Neuroscience of Music: Novel Discoveries and Their Implications in the Understanding of Music and the Brain

Theme D: Sensory Systems

Location: SDCC 6B

Time: 11/13/2016 8:30:00 AM - 11/13/2016 11:00:00 AM

Recent developments in understanding the effects of music on the brain have revolutionized music therapy, musical neuroeducation, music perception, and music cognition. This symposium will highlight the neurological mechanisms and significance of music used in the clinical setting, neuroeducation, and daily experiences. Experts in the areas of neuroscience and music will speak on topics including music and neuroplasticity, music and neurochemistry, and the biology of auditory learning.

Time: Sun. 8:30 AM - 11:00 AM

100.00. Chair

E. Stegemöller;
Kinesiology, Iowa State University, Ames, IA.

Time: Sun. 8:30 AM - 11:00 AM

100.00. Co Chair

P. Izbicki;
Neuroscience, Iowa State University, Ames, IA.

Time: Sun. 8:30 AM - 8:35 AM

100.01. Introduction

Time: Sun. 8:35 AM - 9:10 AM

100.02. The neurochemistry of music

D. Levitin;
Department of Psychology, McGill University, Montreal, QC, CANADA.

Time: Sun. 9:10 AM - 9:45 AM

100.03. Unraveling the biology of auditory learning: What have we learned from music?

N. Kraus;
Communication Sciences, Neurobiology, and Physiology, Northwestern University, Evanston, IL.

Time: Sun. 9:45 AM - 10:20 AM

100.04. Rhythms in music, language, and brain

J. R. Iversen;
UC San Diego, La Jolla, CA.

Time: Sun. 10:20 AM - 10:55 AM

100.05. Music therapy and neuroplasticity

E. Stegemöller;
Kinesiology, Iowa State University, Ames, IA.

Time: Sun. 10:55 AM - 11:00 AM

100.06. Closing Remarks

Symposium

101. New Developments in Understanding the Complexity of Human Speaking

Theme E: Motor Systems

Location: SDCC 6A

Time: 11/13/2016 8:30:00 AM - 11/13/2016 11:00:00 AM

Speech is one of the most unique features of human existence and communication. Our ability to articulate our thoughts depends critically on the integrity of the motor cortex. Long thought to be a low-order brain region, exciting work in the past years is overturning this notion. In this symposium, speakers will highlight major experimental advances in speech motor control research and discuss emerging findings about the complexity of speech motor cortex organization and its large-scale networks.

Time: Sun. 8:30 AM - 11:00 AM

101.00. Chair

K. Simonyan;
Neurology, Icahn School of Medicine at Mount Sinai, New York, NY.

Time: Sun. 8:30 AM - 8:35 AM

101.01. Introduction

Time: Sun. 8:35 AM - 9:10 AM

101.02. Gestural encoding in human speech cortex

E. Chang;
Neurosurgery, University of California, San Francisco, San Francisco, CA.

Time: Sun. 9:10 AM - 9:45 AM

101.03. Multi-modal studies of human speech motor control: direct brain recording and manipulation

J. D. Greenlee;
Neurosurgery, University of Iowa, IOWA CITY, IA.

Time: Sun. 9:45 AM - 10:20 AM

101.04. Large-scale neural networks of speech production

K. Simonyan;
Neurology, Icahn School of Medicine at Mount Sinai, New York, NY.

Time: Sun. 10:20 AM - 10:55 AM

101.05. The contributions of the basal ganglia and the cerebellum to speech motor control

H. Ackermann;
Hertie Institute for Clinical Brain Research, University of Tuebingen, Tuebingen, GERMANY.

Time: Sun. 10:55 AM - 11:00 AM

101.06. Closing Remarks

Minisymposium

102. Second Generation AD Mouse Models for Reproducible Preclinical Studies

Theme C: Neurodegenerative Disorders and Injury

Location: SDCC 28A

Time: 11/13/2016 8:30:00 AM - 11/13/2016 11:00:00 AM

First-generation mouse models of AD overexpress mutant APP or APP and PS, resulting in artificial phenotypes due to overexpression of membrane proteins. This includes non-specific ER stress, perturbed axonal transport, destruction of genetic loci in host animals, and overproduction of non-Aβ APP fragments such as CTF-β, which is more toxic than Aβ. This minisymposium will introduce second-generation mouse models of AD exhibiting Aβ pathology without APP overexpression for more accurate disease studies.

Time: Sun. 8:30 AM - 11:00 AM

102.00. Chair

T. C. Saido;
Laboratory for Proteolytic Neuroscience, RIKEN Brain Science Institute, Wako, JAPAN.

Time: Sun. 8:30 AM - 11:00 AM

102.00. Co Chair

B. De Strooper;
Center for Human Genetics, VIB and KU Leuven, 3000 Leuven, BELGIUM.

Time: Sun. 8:30 AM - 8:35 AM

102.01. Introduction

Time: Sun. 8:35 AM - 8:55 AM

102.02. Using iPS-mice chimera to understand the cellular phase of Alzheimer Disease

B. De Strooper;
Center for Human Genetics, VIB and K U Leuven, Leuven, BELGIUM.

Time: Sun. 8:55 AM - 9:15 AM

102.03. Use of APP knock-in mice to study synaptic spine loss and calcium dysregulation in AD

I. Bezprozvanny;
Department of Physiology, University of Texas Southwestern Medical Center, Dallas, TX.

Time: Sun. 9:15 AM - 9:35 AM

102.04. Pathological impact of astrocyte-mediated proteolytic processing on amyloid-ß deposition

T. Tomita;
Laboratory of Neuropathology and Neuroscience, The University of Tokyo, Bunkyo-ku, JAPAN.

Time: Sun. 9:35 AM - 9:55 AM

102.05. Understanding GPCR dysfunction in AD with humanized APP mouse models

A. Thathiah;
Department of Neurobiology, University of Pittsburgh School of Medicine, Pittsburgh, PA.

Time: Sun. 9:55 AM - 10:15 AM

102.06. Analysis of APP knock-in mice crossed with mice transgenic for human P301S tau

J. Macdonald;
MRC Laboratory of Molecular Biology, Cambridge, UNITED KINGDOM.

Time: Sun. 10:15 AM - 10:35 AM

102.07. Biology of Time: Humanization of entire murine tau gene for a better model of AD

T. Saito;
Laboratory for Proteolytic Neuroscience, RIKEN Brain Science Institute, Wako, JAPAN.

Time: Sun. 10:35 AM - 11:00 AM

102.08. Closing Remarks

Minisymposium

103. Food for Thought: How Diet Influences Cognitive Function and Emotion

Theme F: Integrative Physiology and Behavior

Location: SDCC 6E

Time: 11/13/2016 8:30:00 AM - 11/13/2016 11:00:00 AM

Diet influences cognition and emotional behavior, but the neural mechanisms for these effects are not well understood. This minisymposium discusses recent work linking dietary fat intake and omega-3 dietary imbalance with inflammation in the brains of developing, adult, and aged rodents. Recent advances in understanding how microglia detect and integrate peripheral signaling patterns associated with diet and the role of dietary polyphenols in cognitive processes will also be discussed.

Time: Sun. 8:30 AM - 11:00 AM

103.00. Chair

S. Spencer;
School of Health and Biomedical Sciences, Royal Melbourne Institute of Technology University, Melbourne, AUSTRALIA.

Time: Sun. 8:30 AM - 11:00 AM

103.00. Co Chair

R. M. Barrientos;
Department of Psychology and Neuroscience, University of Colorado Boulder, BOULDER, CO.

Time: Sun. 8:30 AM - 8:35 AM

103.01. Introduction

Time: Sun. 8:35 AM - 8:55 AM

103.02. Role of essential nutrients and lipid metabolism in programming cognitive functions by early-life stress: potential for nutritional interventions

A. Korosi;
Swammerdam Institute for Life Sciences, Center for Neuroscience, University of Amsterdam, Amsterdam, NETHERLANDS.

Time: Sun. 8:55 AM - 9:15 AM

103.03. Perinatal overfeeding impairs learning and memory, an essential role for microglia

S. Spencer;
School of Health and Biomedical Sciences, Royal Melbourne Institute of Technology University, Melbourne, AUSTRALIA.

Time: Sun. 9:15 AM - 9:35 AM

103.04. Acute high-fat diet consumption sensitizes the neuroinflammatory response to a mild immune challenge causing long-term memory deficits

R. M. Barrientos;
Department of Psychology and Neuroscience, University of Colorado Boulder, BOULDER, CO.

Time: Sun. 9:35 AM - 9:55 AM

103.05. Dietary omega-3 and depression: How does it work?

S. Laye;
Bâtiment UFR de Pharmacie, University of Bordeaux, Bordeaux, FRANCE.

Time: Sun. 9:55 AM - 10:15 AM

103.06. Synaptic stripping by microglia impairs hippocampus-dependent memory in obesity

A. M. Stranahan;
Physiology, Medical College of Georgia, Augusta, GA.

Time: Sun. 10:15 AM - 10:35 AM

103.07. Dietary interventions with polyphenolic-rich foods can improve neuronal and behavior deficits associated with aging

B. Shukitt-Hale;
USDA, ARS, Human Nutrition Research Center On Aging, BOSTON, MA.

Time: Sun. 10:35 AM - 11:00 AM

103.08. Closing Remarks

Minisymposium

104. Spanning the Central-Peripheral Divide: Bridging the Gap to Find Novel Strategies to Target Depression

Theme G: Motivation and Emotion

Location: SDCC 29D

Time: 11/13/2016 8:30:00 AM - 11/13/2016 11:00:00 AM

Major depressive disorder (MDD) is among the most common of mental illnesses, yet many people prescribed antidepressants or non-pharmaceutical medications will relapse. MDD is increasingly being recognized as a disorder that spans the "central-peripheral divide," yet no SfN sessions have ever tackled this segregation of MDD research. This session will provide a cutting-edge, translational view of modern MDD research and relevant novel therapies to combat depression symptoms.

Time: Sun. 8:30 AM - 11:00 AM

104.00. Chair

A. J. Eisch;
Psychiatry, University of Texas Southwestern Medical Center, DALLAS, TX.

Time: Sun. 8:30 AM - 11:00 AM

104.00. Co Chair

S. Yun;
Psychiatry, University of Texas Southwestern Medical Center, Coppell, TX.

Time: Sun. 8:30 AM - 8:35 AM

104.01. Introduction

Time: Sun. 8:35 AM - 8:55 AM

104.02. A key role for 5-HT2A receptors in programming psychiatric vulnerability

V. A. Vaidya;
Department of Biological Science, Tata Institute of Fundamental Research, Mumbai, INDIA.

Time: Sun. 8:55 AM - 9:15 AM

104.03. Differential modulation of the reward circuit and encoding of depression related behaviours

D. Chaudhury;
Biology, New York University Abu Dhabi, Abu Dhabi, United Arab Emirates, UNITED ARAB EMIRATES.

Time: Sun. 9:15 AM - 9:35 AM

104.04. Molecular phenotyping of cortical circuits mediating antidepressant responses

E. F. Schmidt;
Lab Molecular Biology, Rockefeller University, NEW YORK, NY.

Time: Sun. 9:35 AM - 9:55 AM

104.05. Stimulation of entorhinal cortex-dentate gyrus circuitry is antidepressive

S. Yun;
Psychiatry, University of Texas Southwestern Medical Center, Dallas, TX.

Time: Sun. 9:55 AM - 10:15 AM

104.06. Skeletal muscle PGC-1a1 modulates kynurenine metabolism and mediates resilience to stress-induced depression

J. L. Ruas;
Department of Physiology and Pharmacology, Karolinska Institutet, Stockholm, SWEDEN.

Time: Sun. 10:15 AM - 10:35 AM

104.07. Coordinated messenger RNA/MicroRNA changes in fibroblasts of patients with major depression

K. A. Garbett;
Psychiatry, Vanderbilt University, NASHVILLE, TN.

Time: Sun. 10:35 AM - 11:00 AM

104.08. Closing Remarks

Symposium

190. Physical Activity Impacting Neuroplasticity in Aging and Disease

Theme F: Integrative Physiology and Behavior

Location: SDCC 6A

Time: 11/13/2016 1:30:00 PM - 11/13/2016 4:00:00 PM

This symposium will present translational research investigating physical activity-induced structural and functional alterations in brain circuits and synaptic function, and potential mechanisms underlying activity-dependent plasticity in aging and disease. Effects of exercise on structure and functional connectivity of the brain and alterations in gene and protein expression important for neuroplasticity will be discussed in the context of aging, neurodegenerative disorders, and schizophrenia.

Time: Sun. 1:30 PM - 4:00 PM

190.00. Chair

G. Petzinger;
Neurology, University of Southern California, Los Angeles, CA.

Time: Sun. 1:30 PM - 4:00 PM

190.00. Co Chair

S. McEwen;
Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles, Los Angeles, CA.

Time: Sun. 1:30 PM - 1:35 PM

190.01. Introduction

Time: Sun. 1:35 PM - 2:10 PM

190.02. Aging, exercise and brain plasticity

K. Erickson;
Department of Psychology, University of Pittsburgh, Pittsburgh, PA.

Time: Sun. 2:10 PM - 2:45 PM

190.03. Functional and structural alterations in cognitive circuitry induced by physical activity in first-episode Schizophrenia patients

S. McEwen;
Department of Psychiatry & Biobehavioral Sciences, University of California, Los Angeles, Los Angeles, CA.

Time: Sun. 2:45 PM - 3:20 PM

190.04. Mechanisms signaling exercise induced neuroplasticity in Parkinson's Disease

G. Petzinger;
Department of Neurology, University of Southern California, Los Angeles, CA.

Time: Sun. 3:20 PM - 3:55 PM

190.05. Physical activity regulates transcriptional patterns in the rodent and human hippocampus.

N. Berchtold;
Institute for Memory Impairment and Neurobiological Disorders, University of California Irvine, Irvine, CA.

Time: Sun. 3:55 PM - 4:00 PM

190.06. Closing Remarks

Minisymposium

191. Building the Cerebral Cortex: Mechanisms That Mediate Migration, Specification, and Axonal Outgrowth

Theme A: Development

Location: SDCC 29D

Time: 11/13/2016 1:30:00 PM - 11/13/2016 4:00:00 PM

Over the past decade, we have learned that the movement and differentiation of newly born neurons in the developing cerebral cortex are orchestrated through a close interplay between cell intrinsic signaling events and nonautonomous cues from the environment. Recent studies have uncovered novel aspects of this cellular interplay in regulating both migration and the initial stages of differentiation. In this minisymposium, we will discuss several emerging key players in this process and how perturbation in these specific signaling hubs can contribute to a number of neural pediatric disorders.

Time: Sun. 1:30 PM - 4:00 PM

191.00. Chair

J. M. Weimer;
Children's Health Research Center, Sanford Research, Sioux Falls, SD.

Time: Sun. 1:30 PM - 4:00 PM

191.00. Co Chair

J. Newbern;
School of Life Sciences, Arizona State University, Tempe, AZ.

Time: Sun. 1:30 PM - 1:35 PM

191.01. Introduction

Time: Sun. 1:35 PM - 1:55 PM

191.02. Cellular environment: Implications for brain development and maldevelopment

L. Cancedda;
Neuroscience and Brain Technologies & Dulbecco Telethon Institute, Istituto Italiano di Tecnologia, Genova, ITALY.

Time: Sun. 1:55 PM - 2:15 PM

191.03. Intracellular signals directing cortical interneuron migration

E. S. Tucker;
Neurobiology and Anatomy, West Virginia University, Morgantown, WV.

Time: Sun. 2:15 PM - 2:35 PM

191.04. CRMP2 and CLN6 mediate a novel mechanism for distal axonal transport in developing neurons

J. M. Weimer;
Children's Health Research Center, Sanford Research, Sioux Falls, SD.

Time: Sun. 2:35 PM - 2:55 PM

191.05. Traffic signals: Intracellular signaling and brain morphogenesis

A. P. Barnes;
Department of Pediatrics, Oregon Health and Science University, PORTLAND, OR.

Time: Sun. 2:55 PM - 3:15 PM

191.06. Epigenetic regulation of cortical development

K. Kwan;
Molecular and Behavioral Neuroscience Institute and Department of Human Genetics, University of Michigan, Ann Arbor, MI.

Time: Sun. 3:15 PM - 3:35 PM

191.07. Distinct functions of ERK/MAPK signaling during cortical excitatory and inhibitory neuron development

J. Newbern;
School of Life Sciences, Arizona State University, Tempe, AZ.

Time: Sun. 3:35 PM - 4:00 PM

191.08. Closing Remarks

Minisymposium

192. Astrocytes as Active Participants in Neural Circuits: From Cells to Systems

Theme B: Neural Excitability, Synapses, and Glia

Location: SDCC 6B

Time: 11/13/2016 1:30:00 PM - 11/13/2016 4:00:00 PM

Astrocyte-neuron interactions are essential to neural circuit assembly and function. This minisymposium will present research at the forefront of circuit neurobiology from *in vivo* and *in situ* systems. The session will explore multiple levels at which astrocytes exert highly specific control of neural circuits and discuss their relevance to brain function and disease. The session aims to describe the dynamic interplay of these two cell types and address issues that are critical to all neuroscientists.

Time: Sun. 1:30 PM - 4:00 PM

192.00. Chair

K. Poskanzer;
Biochemistry and Biophysics, University of California, San Francisco, San Francisco, CA.

Time: Sun. 1:30 PM - 4:00 PM

192.00. Co Chair

A. V. Molofsky;
Psychiatry, University of California, San Francisco, San Francisco, CA.

Time: Sun. 1:30 PM - 1:35 PM

192.01. Introduction

Time: Sun. 1:35 PM - 1:55 PM

192.02. Control of synaptic connectivity by astrocytes

C. Eroglu;
Cell Biology Department, Duke University Medical Center, Durham, NC.

Time: Sun. 1:55 PM - 2:15 PM

192.03. Astrocyte-encoded cues in developmental synapse refinement

A. V. Molofsky;
Psychiatry, University of California, San Francisco, San Francisco, CA.

Time: Sun. 2:15 PM - 2:35 PM

192.04. Circuit-specific synaptic regulation by astrocytes

A. Araque;
Department of Neuroscience, University of Minnesota, Minneapolis, MN.

Time: Sun. 2:35 PM - 2:55 PM

192.05. Astrocytic regulation of cortical state switching

K. Poskanzer;
Biochemistry and Biophysics, University of California, San Francisco, San Francisco, CA.

Time: Sun. 2:55 PM - 3:15 PM

192.06. Subcellular calcium responses in visual cortical astrocytes

J. Schummers;
Neuroscience, Max Planck Florida Institute, Jupiter, FL.

Time: Sun. 3:15 PM - 3:35 PM

192.07. Diverse astrocyte populations selectively contribute to synaptogenesis and glioma pathophysiology

B. Deneen;
Baylor College of Medicine, Houston, TX.

Time: Sun. 3:35 PM - 4:00 PM

192.08. Closing Remarks

Minisymposium

193. Dysregulation of mRNA Localization and Translation in Genetic Disease

Theme C: Neurodegenerative Disorders and Injury

Location: SDCC 28A

Time: 11/13/2016 1:30:00 PM - 11/13/2016 4:00:00 PM

This minisymposium will highlight recent discoveries on molecular mechanisms of mRNA localization and translation, the dysregulation of mRNA in genetic diseases, and therapeutic strategies. The session integrates diverse topics and mechanisms, including the roles of several mRNA binding proteins in axonal growth, synapse development, synaptic function, learning, and memory. Mechanisms of neurodevelopmental, neuropsychiatric, and neurodegenerative diseases will be discussed. Diverse approaches include use of genome-wide transcriptomics, super-resolution microscopy, animal models, human patient cells, and postmortem tissue.

Time: Sun. 1:30 PM - 4:00 PM

193.00. Chair

G. J. Bassell;
Cell Biology, Emory University, ATLANTA, GA.

Time: Sun. 1:30 PM - 4:00 PM

193.00. Co Chair

E. Wang;
Center for Neurogenetics, University of Florida, Gainesville, FL.

Time: Sun. 1:30 PM - 1:35 PM

193.01. Introduction

Time: Sun. 1:35 PM - 1:55 PM

193.02. Global approaches for studying RNA dysregulation in myotonic dystrophy

E. Wang;
Center for Neurogenetics, University of Florida, Gainesville, FL.

Time: Sun. 1:55 PM - 2:15 PM

193.03. Distal alternative last exons localize mRNAs in neurons and impairments in myotonic dystrophy and fragile x syndrome

M. Taliaferro;
Biology, Massachusetts Institute of Technology, Cambridge, MA.

Time: Sun. 2:15 PM - 2:35 PM

193.04. Regulation of synaptic and autism-related genes by Rbfox1 in the cytoplasm of neurons

J. Lee;
Department of Biological Chemistry, University of California, Los Angeles, Los Angeles, CA.

Time: Sun. 2:35 PM - 2:55 PM

193.05. Role of FMRP and Ataxin-2 in RNA granules, synapse function and behavior

I. Sudhakaran;
Tata Institute of Fundamental Research, National Center for Biological Sciences, Bangalore, INDIA.

Time: Sun. 2:55 PM - 3:15 PM

193.06. Ribonucleoprotein assembly, mRNA localization, and local translation in spinal muscular atrophy

W. Rossoll;
Department of Cell Biology, Emory University School of Medicine, ATLANTA, GA.

Time: Sun. 3:15 PM - 3:35 PM

193.07. PI3K subunit expression in fragile x syndrome and other autism spectrum disorders

C. Gross;
Neurology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH.

Time: Sun. 3:35 PM - 4:00 PM

193.08. Closing Remarks

Minisymposium

194. Neural Mechanisms of Economic Choice

Theme H: Cognition

Location: SDCC 6F

Time: 11/13/2016 1:30:00 PM - 11/13/2016 4:00:00 PM

Despite their central importance in psychology, economics, and ecology, the neural mechanisms of economic choice have long been mysterious. This timely minisymposium will highlight recent empirical and theoretical advances towards understanding the neural execution of economic choice. The speakers will focus on the role of the frontal lobe across species, particularly the

orbitofrontal and ventromedial prefrontal cortex, in the mediation of economic-based decision-making processes.

Time: Sun. 1:30 PM - 4:00 PM

194.00. Chair

B. Y. Hayden;
Brain and Cognitive Sciences, University of Rochester, Rochester, NY.

Time: Sun. 1:30 PM - 4:00 PM

194.00. Co Chair

E. L. Rich;
Helen Wills Neuroscience Institute, University of California Berkeley, Berkeley, CA.

Time: Sun. 1:30 PM - 1:35 PM

194.01. Introduction

Time: Sun. 1:35 PM - 1:55 PM

194.02. Orbitofrontal cortex gating of choice control

C. Gremel;
Psychology, University of California San Diego, La Jolla, CA.

Time: Sun. 1:55 PM - 2:15 PM

194.03. Distributed mechanisms of evaluation and comparison

B. Y. Hayden;
Brain and Cognitive Sciences, University of Rochester, Rochester, NY.

Time: Sun. 2:15 PM - 2:35 PM

194.04. Reward-guided information search and choice in prefrontal cortex

L. T. Hunt;
Institute of Neurology, University College London, London, UNITED KINGDOM.

Time: Sun. 2:35 PM - 2:55 PM

194.05. Computational and neural mechanisms for attentional modulation of value

C. Hutcherson;
Department of Psychology, University of Toronto Scarborough, Toronto, ON, CANADA.

Time: Sun. 2:55 PM - 3:15 PM

194.06. Orbitofrontal value signals during a free-viewing decision-making task

V. B. McGinty;
Neurobiology, Stanford University, Stanford, CA.

Time: Sun. 3:15 PM - 3:35 PM

194.07. Dynamic encoding of choice in the orbitofrontal cortex

E. L. Rich;
Helen Wills Neuroscience Institute, University of California Berkeley, Berkeley, CA.

Time: Sun. 3:35 PM - 4:00 PM

194.08. Closing Remarks

Minisymposium

195. Using Miniature Microscopes to Probe the Neural Ensemble Correlates of Innate and Learned Behaviors in Freely Moving Mice

Theme I: Techniques

Location: SDCC 6E

Time: 11/13/2016 1:30:00 PM - 11/13/2016 4:00:00 PM

Advances in freely moving Ca2+ imaging techniques have empowered a detailed understanding of how defined neuronal populations encode diverse animal behaviors. However, the successful implementation of mobile calcium imaging poses challenges for many researchers, ranging from technical to analytical. Focusing on the use of miniaturized microscopes, this minisymposium will present the most recent progress in imaging neural ensembles in widely used behavioral assays and preclinical disease models.

Time: Sun. 1:30 PM - 4:00 PM

195.00. Chair

B. F. Grewe;
Applied Physics and Biology, ETH Swiss Federal Institute of Technology, Zurich, SWITZERLAND.

Time: Sun. 1:30 PM - 4:00 PM

195.00. Co Chair

J. G. Parker;
CNC Program and Neuroscience and Pain Research Unit, Stanford University and Pfizer Research and Development, Palo Alto, CA.

Time: Sun. 1:30 PM - 1:35 PM

195.01. Introduction

Time: Sun. 1:35 PM - 1:55 PM

195.02. Distinct striatal pathway changes in spontaneous and movement-related activity define the parkinsonian state

J. G. Parker;
Biology (M. Schnitzer), Stanford University, Palo Alto, CA.

Time: Sun. 1:55 PM - 2:15 PM

195.03. A deep brain search for unique network dynamics

J. H. Jennings;
Bioengineering (K. Deisseroth), Stanford University, Palo Alto, CA.

Time: Sun. 2:15 PM - 2:35 PM

195.04. Social representation by large neuronal ensembles in the medial amygdala of behaving mice

Y. Li;
Department of Molecular and Cellular Biology, Center for Brain Science, Harvard University, HHMI, Cambridge, MA.

Time: Sun. 2:35 PM - 2:55 PM

195.05. Multiplexing information about where and when in hippocampal neural codes for long term memory

Y. Ziv;
Neurobiology, Weizmann Institute of Science, Rehovot, ISRAEL.

Time: Sun. 2:55 PM - 3:15 PM

195.06. Deconstructing ventral hippocampal control of anxiety-related behavior and learned fear

M. Kheirbek;
Center for Integrative Neuroscience Department of Psychiatry, University of California, San Francisco, San Francisco, CA.

Time: Sun. 3:15 PM - 3:35 PM

195.07. A role for the hypothalamus in social learning

R. Remedios;
Biology and Biological Engineering, California Institute of Technology, Pasadena, CA.

Time: Sun. 3:35 PM - 4:00 PM

195.08. Closing Remarks

Symposium

274. Microtubule and Tau-Based Therapy for Alzheimer's Disease and Other Brain Disorders

Theme C: Neurodegenerative Disorders and Injury

Location: SDCC 6A

Time: 11/14/2016 8:30:00 AM - 11/14/2016 11:00:00 AM

The microtubule subunit, tubulin, is a major brain protein. Microtubule associated proteins like tau are key regulatory elements of neuronal and glial health. Microtubule dysfunction leads to blockade of axonal transport, glial impairment, and synaptic dysfunction/loss, which are hallmarks of brain diseases. This symposium will focus on microtubules in different cell types for a better understanding of brain function in health and disease, and toward improved diagnostics and therapeutics.

Time: Mon. 8:30 AM - 11:00 AM

274.00. Chair

I. Gozes;
Human Molecular Genetics and Biochemistry, Sackler School of Medicine, Tel Aviv University, Tel Aviv, ISRAEL.

Time: Mon. 8:30 AM - 11:00 AM

274.00. Co Chair

E. Mandelkow;
German Center for Neurodegenerative Diseases(DZNE), Bonn, GERMANY.

Time: Mon. 8:30 AM - 8:35 AM

274.01. Introduction

Time: Mon. 8:35 AM - 9:10 AM

274.02. Common microtubule associated genes regulating autism, schizophrenia and Alzheimer's disease: Toward new diagnostics and therapies

I. Gozes;
Human Molecular Genetics and Biochemistry, Sackler School of Medicine, Tel Aviv University, Tel Aviv, ISRAEL.

Time: Mon. 9:10 AM - 9:45 AM

274.03. Mechanisms of microtubule loss during Alzheimer's Disease

P. W. Baas;
Neurobiology and Anatomy, Drexel University College of Medicine, PHILADELPHIA, PA.

Time: Mon. 9:45 AM - 10:20 AM

274.04. Inclusion body formation in oligodendrocytes: New horizons for microtubule based-therapies in multiple system atrophy

C. Richter-Landsberg;
Molecular Neurobiology, University Oldenburg, Oldenburg, GERMANY.

Time: Mon. 10:20 AM - 10:55 AM

274.05. Microtubule-associated protein Tau: Drug design and frontotemporal dementias

E. M. Mandelkow;
German Center for Neurodegenerative Diseases(DZNE), Bonn, GERMANY.

Time: Mon. 10:55 AM - 11:00 AM

274.06. Closing Remarks

Symposium

275. Current Topics in Chronic Pain: From Molecules to Medicine

Theme D: Sensory Systems

Location: SDCC 6B

Time: 11/14/2016 8:30:00 AM - 11/14/2016 11:00:00 AM

Chronic pain is a persistent, debilitating condition stemming from a variety of etiologies and diseases. Over 1.5 billion people worldwide suffer from chronic pain that is only partially alleviated by current therapies and treatments. Recent studies have elucidated novel molecular and cellular players that drive chronic pain in animal models and human conditions. This

symposium will review these advances and discuss their implications for the diagnosis and treatment of chronic pain patients.

Time: Mon. 8:30 AM - 11:00 AM

275.00. Chair

C. L. Stucky;
Cell Biology, Neurobiology & Anatomy, Medical College of Wisconsin, MILWAUKEE, WI.

Time: Mon. 8:30 AM - 11:00 AM

275.00. Co Chair

X. Dong;
Dept. of Neuroscience, Johns Hopkins University School of Medicine, Baltimore, MD.

Time: Mon. 8:30 AM - 8:35 AM

275.01. Introduction

Time: Mon. 8:35 AM - 9:10 AM

275.02. The contribution of Mrgpr GPCRs to persistent pain

X. Dong;
Dept. of Neuroscience, Johns Hopkins University School of Medicine, Baltimore, MD.

Time: Mon. 9:10 AM - 9:45 AM

275.03. Dissecting chronic pain mechanisms in animal models of disease

C. L. Stucky;
Cell Biology, Neurobiology & Anatomy, Medical College of Wisconsin, MILWAUKEE, WI.

Time: Mon. 9:45 AM - 10:20 AM

275.04. Nav1.7: Closing in on personalized pharmacotherapy for pain

S. G. Waxman;
Neurology, Yale University School of Medicine and VA Connecticut, West Haven, CT.

Time: Mon. 10:20 AM - 10:55 AM

275.05. Exploring pain pathophysiology in patients

C. L. Sommer;
University of Wuerzburg, 97080 Wuerzburg, GERMANY.

Time: Mon. 10:55 AM - 11:00 AM

275.06. Closing Remarks

Symposium

276. Fronto-Subthalamic Circuits for Control of Action and Cognition

Theme H: Cognition

Location: SDCC 6F

Time: 11/14/2016 8:30:00 AM - 11/14/2016 11:00:00 AM

This session will report new findings about the cognitive functions and computational properties of the circuit linking frontal cortex and subthalamic nucleus (STN) of the basal ganglia. Diverse and novel technical approaches in humans are taken to record cortical and STN electrophysiology at the same time, to record single-unit human STN activity, to use 7T fMRI, and to stimulate STN optogenetically in mice. The role of the circuit is highlighted for stopping and pausing behavior and cognition.

Time: Mon. 8:30 AM - 11:00 AM

276.00. Chair

A. R. Aron;
Psychology, University of California, San Diego, San Diego, CA.

Time: Mon. 8:30 AM - 8:35 AM

276.01. Introduction

Time: Mon. 8:35 AM - 9:10 AM

276.02. Electrophysiological correlates of dynamic decision thresholds in humans

P. Brown;
Department of Clinical Neurology, University of Oxford, Oxford, UNITED KINGDOM.

Time: Mon. 9:10 AM - 9:45 AM

276.03. Dorsomedial frontal cortex and subthalamic nucleus during decision-making with multiple alternatives

B. U. Forstmann;
Department for Psychology, University of Amsterdam, Amsterdam, NETHERLANDS.

Time: Mon. 9:45 AM - 10:20 AM

276.04. A subthalamic-nucleus-mediated interrupt has broad motor and non-motor effects

A. Aron;
Psychology, University of California, San Diego, San Diego, CA.

Time: Mon. 10:20 AM - 10:55 AM

276.05. Single unit activity in human subthalamic nucleus during decision conflict, adaptation, and memory

K. A. Zaghloul;
National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD.

Time: Mon. 10:55 AM - 11:00 AM

276.06. Closing Remarks

Minisymposium

277. Human Brain Development and Maturation: Animal Brain Mapping, Human Brain Imaging, and Computer Simulation

Theme A: Development

Location: SDCC 28A

Time: 11/14/2016 8:30:00 AM - 11/14/2016 11:00:00 AM

The fundamental goal of neuroscience is to understand the human brain. With this goal in mind, comprehensive data collection and analysis have begun in each scientific area and in countries around the world. However, these datasets need to be connected to one another beyond the methodological principles to reach the final goal. This session will discuss a proposal for a symposium in which investigators from representative nation-level projects can meet and discuss how to work together for the future of neuroscience.

Time: Mon. 8:30 AM - 11:00 AM

277.00. Chair

K. Ishizuka;
Department of Psychiatry, Johns Hopkins University, BALTIMORE, MD.

Time: Mon. 8:30 AM - 11:00 AM

277.00. Co Chair

T. Shimogori;
Brain Science Institute, RIKEN, Saitama, JAPAN.

Time: Mon. 8:30 AM - 8:35 AM

277.01. Introduction

Time: Mon. 8:35 AM - 8:55 AM

277.02. Conserved molecular mechanism of early life experience dependent circuit development: mouse to marmoset

T. Shimogori;
Brain Science Institute, RIKEN, Saitama, JAPAN.

Time: Mon. 8:55 AM - 9:15 AM

277.03. Transcriptomic features of primate brain development

J. Miller;
Human Cell Types, Allen Institute for Brain Science, Seattle, WA.

Time: Mon. 9:15 AM - 9:35 AM

277.04. Autism-like behaviors and germline transmission of transgenic monkeys overexpressing MeCP2

Z. Qiu;
Institute of Neuroscience, Shanghai Institutions for Biological Sciences, Shanghai, CHINA.

Time: Mon. 9:35 AM - 9:55 AM

277.05. Molecular signature to brain structure and function in neurodevelopmental disorders

K. Ishizuka;
Department of Psychiatry, Johns Hopkins University, BALTIMORE, MD.

Time: Mon. 9:55 AM - 10:15 AM

277.06. The UNC early brain development study: New insights into human postnatal brain development

J. H. Gilmore;
Department of Psychiatry, University of North Carolina School of Medicine, CHAPEL HILL, NC.

Time: Mon. 10:15 AM - 10:35 AM

277.07. Bridging the gap - from genes to cognition

S. Grillner;
Department of Neuroscience, Karolinska Institute, S-171 77 Stockholm, SWEDEN.

Time: Mon. 10:35 AM - 11:00 AM

277.08. Closing Remarks

Minisymposium

278. Neurogenetic Insights Into Speech and Language From Birds and Bats

Theme F: Integrative Physiology and Behavior

Location: SDCC 6E

Time: 11/14/2016 8:30:00 AM - 11/14/2016 11:00:00 AM

Language and speech are core human traits. Comprehension of their neurological and genetic basis is rapidly advancing by studying relevant traits, such as vocal learning and acoustic communication in mammalian and non-mammalian models. This session will highlight these advances, with emphasis on emerging studies in songbirds and bats. The session will consider benefits of integrating findings across species to understand the neurogenetic mechanisms of vocal learning to ultimately shed light on human spoken language.

Time: Mon. 8:30 AM - 11:00 AM

278.00. Chair

S. C. Vernes;
Neurogenetics of Vocal Communication Group, Max Planck Institute for Psycholinguistics, Nijmegen, NETHERLANDS.

Time: Mon. 8:30 AM - 11:00 AM

278.00. Co Chair

M. M. Yartsev;
Department of Bioengineering, University of California, Berkeley, Berkeley, CA.

Time: Mon. 8:30 AM - 8:35 AM

278.01. Introduction

Time: Mon. 8:35 AM - 8:55 AM

278.02. Dopaminergic error signals in birdsong support a general model of trial and error learning

J. H. Goldberg;
Department of Neurobiology and Behavior, Cornell University, Ithaca, NY.

Time: Mon. 8:55 AM - 9:15 AM

278.03. MicroRNA miR-9 regulates vocal learning and performance in zebra finches

X. Li;
LSUHSC Neuroscience Center of Excellence, Louisiana State University Health Sciences Center, New Orleans, LA.

Time: Mon. 9:15 AM - 9:35 AM

278.04. Vocal production learning in bats - a perspective from behavioral ecology

M. Knörnschild;
Institute of Biology, Freie Universität Berlin & Smithsonian Tropical Research Institute, Berlin, GERMANY.

Time: Mon. 9:35 AM - 9:55 AM

278.05. Studying the neurobiology of vocal communication and learning in bats

M. M. Yartsev;
Department of Bioengineering, University of California, Berkeley, Berkeley, CA.

Time: Mon. 9:55 AM - 10:15 AM

278.06. The genetic basis of vocal learning: what can we learn from bat genomes

S. Vernes;
Neurogenetics of Vocal Communication Group, Max Planck Institute for Psycholinguistics, Nijmegen, NETHERLANDS.

Time: Mon. 10:15 AM - 10:35 AM

278.07. Parallels between bird's song and human speech at the genetic and epigenetic level

M. Wirthlin;
Computational Biology, Carnegie Mellon University, Pittsburgh, PA.

Time: Mon. 10:35 AM - 11:00 AM

278.08. Closing Remarks

Minisymposium

279. Mesoscale Imaging of Cortical Function and Dysfunction in Mice

Theme I: Techniques

Location: SDCC 29D

Time: 11/14/2016 8:30:00 AM - 11/14/2016 11:00:00 AM

The skulls of mice are relatively transparent, permitting relatively non-invasive optical access to the neocortex. This minisymposium presents six recent studies that have leveraged optical access and activity-dependent indicators and opsins to probe the function and dysfunction of the neocortex at the "mesoscale" recording and modulating the activities of cortical areas in mice performing behavioral tasks.

Time: Mon. 8:30 AM - 11:00 AM

279.00. Chair

J. Waters;
Allen Institute For Brain Science, Seattle, WA.

Time: Mon. 8:30 AM - 8:35 AM

279.01. Introduction

Time: Mon. 8:35 AM - 8:55 AM

279.02. Mesoscale imaging of cortical visual areas and visually-guided behaviors

J. Waters;
Allen Institute For Brain Science, Seattle, WA.

Time: Mon. 8:55 AM - 9:15 AM

279.03. Mesoscale flow of cortical activity during vision, behavior and epilepsy

M. Carandini;
UCL Institute of Ophthalmology, University College London, London, UNITED KINGDOM.

Time: Mon. 9:15 AM - 9:35 AM

279.04. Widefield calcium imaging across neocortex during whisker-based tactile discrimination

F. Helmchen;
University of Zurich, Brain Research Institute, Zurich, SWITZERLAND.

Time: Mon. 9:35 AM - 9:55 AM

279.05. The role of cortex in skilled motor actions

A. Hantman;
Janelia Research Campus, Howard Hughes Medical Institute, Ashburn, VA.

Time: Mon. 9:55 AM - 10:15 AM

279.06. Optical mapping of functional connectivity from mouse to man.

J. P. Culver;
Radiology, Washington University in St Louis, Saint Louis, MO.

Time: Mon. 10:15 AM - 10:35 AM

279.07. Functional and structural connectivity of the default mode network in wild type and Alzheimer's mice

J. D. Whitesell;
Allen Institute for Brain Science, Seattle, WA.

Time: Mon. 10:35 AM - 11:00 AM

279.08. Closing Remarks

Symposium

371. Mechanisms of Object Organization in the Visual Cortex

Theme D: Sensory Systems

Location: SDCC 6F

Time: 11/14/2016 1:30:00 PM - 11/14/2016 4:00:00 PM

How does the visual cortex organize elementary features to objects? This symposium will provide a comprehensive picture of recent findings on object-based coding at low and intermediate cortical levels (V1-V2-V4), its possible mechanisms, and its hypothetical role in vision. The session will also question where the organizing influence comes from, what its time course is relative to other stages of visual processing, and how the organizing influence relates to object individuation, awareness, recognition, and selective attention.

Time: Mon. 1:30 PM - 4:00 PM

371.00. Chair

R. von der Heydt;
Department of Neuroscience, Johns Hopkins University, Baltimore, MD.

Time: Mon. 1:30 PM - 1:35 PM

371.01. Introduction

Time: Mon. 1:35 PM - 2:10 PM

371.02. Figuring out objects from background and the modulation by fixational saccades

H. Slovin;
Bar Ilan University, Gonda Brain Research Center, Ramat Gan, ISRAEL.

Time: Mon. 2:10 PM - 2:45 PM

371.03. Parallel processing of surfaces and borders in early visual cortex

A. V. Maier;
Department of Psychology, Vanderbilt University, Nashville, TN.

Time: Mon. 2:45 PM - 3:20 PM

371.04. Border-ownership coding and the emergence of early object representations in the visual cortex

R. von der Heydt;
Neuroscience, The Johns Hopkins University, Baltimore, MD.

Time: Mon. 3:20 PM - 3:55 PM

371.05. Segmentation and discrimination of partially occluded shapes: Insights from visual and frontal cortex

A. K. Pasupathy;
Biological Structure, University of Washington, SEATTLE, WA.

Time: Mon. 3:55 PM - 4:00 PM

371.06. Closing Remarks

Symposium

372. Facilitation of Recovery of Motor Function After Paralysis With Noninvasive Spinal Cord Stimulation

Theme E: Motor Systems

Location: SDCC 6A

Time: 11/14/2016 1:30:00 PM - 11/14/2016 4:00:00 PM

This symposium describes changes of the physiological state of spinal networks using noninvasive spinal cord stimulation combined with step training in an exoskeleton. The speakers will demonstrate recovery of voluntary movement, posture, and locomotor function in individuals that have been paralyzed for over one year, a time which historically has been considered beyond the critical period for motor recovery. A subject that has received these interventions will share his experiences.

Time: Mon. 1:30 PM - 4:00 PM

372.00. Chair

V. Edgerton;
Department of Integrative Biology and Physiology, University of California, Los Angeles, LOS ANGELES, CA.

Time: Mon. 1:30 PM - 1:35 PM

372.01. Introduction

Time: Mon. 1:35 PM - 2:10 PM

372.02. Recovery of voluntary movement and postural control after paralysis

Y. Gerasimenko;
Integrative Biology and Physiology, University of California, Los Angeles, Los Angeles, CA.

Time: Mon. 2:10 PM - 2:45 PM

372.03. Transcutaneous spinal cord stimulation for modification of spasticity and motor control

U. Hofstoetter;
Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, AUSTRIA.

Time: Mon. 2:45 PM - 3:20 PM

372.04. Modeling of intensity and spatial distribution of currents using noninvasive spinal stimulation

J. Burdick;
Bioengineering, California Institute of Technology, Pasadena, CA.

Time: Mon. 3:20 PM - 3:55 PM

372.05. Use of noninvasive spinal stimulation combined with exoskeleton training to facilitate recovery of locomotor function

P. Gad;
Integrative Biology and Physiology, University of California, Los Angeles, Los Angeles, CA.

Time: Mon. 3:55 PM - 4:00 PM

372.06. Closing Remarks

Symposium

373. Advances in Noninvasive Brain Stimulation Along the Space-Time Continuum

Theme G: Motivation and Emotion

Location: SDCC 6B

Time: 11/14/2016 1:30:00 PM - 11/14/2016 4:00:00 PM

Noninvasive brain stimulation (NBS) is a key tool for probing neural circuit function and is being tested to ameliorate a host of neurological and psychiatric conditions. Recent studies suggest that specific spatial and temporal NBS parameters are critical for achieving effective modulation of intact neural circuitry. This symposium will highlight several studies that explore the importance and physiological relevance of specific spatial or temporal patterns using different forms of NBS.

Time: Mon. 1:30 PM - 4:00 PM

373.00. Chair

C. Goddard;
R&D, Tal Medical, Boston, MA.

Time: Mon. 1:30 PM - 4:00 PM

373.00. Co Chair

S. H. Lisanby;
Division of Translational Research, National Institute of Mental Health, Bethesda, MD.

Time: Mon. 1:30 PM - 1:35 PM

373.01. Introduction

Time: Mon. 1:35 PM - 2:10 PM

373.02. Optimizing seizure therapy: Sculpting the temporal and spatial aspects of therapeutic seizures

S. H. Lisanby;
Division of Translational Research, National Institute of Mental Health, Rockville, MD.

Time: Mon. 2:10 PM - 2:45 PM

373.03. Shaping the TMS waveform for selective neural recruitment and enhanced neuromodulation

A. Peterchev;
Psychiatry and Behavioral Sciences, Duke University, Durham, NC.

Time: Mon. 2:45 PM - 3:20 PM

373.04. From biophysics to treatment: rational design of non-invasive brain stimulation to modulate thalamo-cortical oscillations

F. Frohlich;
Psychiatry, University of North Carolina, Chapel Hill, NC.

Time: Mon. 3:20 PM - 3:55 PM

373.05. Informing clinical transcranial brain stimulation spatial and temporal parameters by preclinical research *In vivo* and *In vitro*

A. Rotenberg;
Neurology, Boston Children's Hospital, BOSTON, MA.

Time: Mon. 3:55 PM - 4:00 PM

373.06. Closing Remarks

Minisymposium

374. Casting a Wide Net: Role of Perineuronal Nets in Neural Plasticity

Theme B: Neural Excitability, Synapses, and Glia

Location: SDCC 29D

Time: 11/14/2016 1:30:00 PM - 11/14/2016 4:00:00 PM

Perineuronal nets (PNN) are specialized extracellular matrices surrounding certain central nervous system (CNS) neurons that stabilize synapses during development. Removal of PNNs in adults can restore juvenile-like plasticity. At this minisymposium, speakers will describe details of the assembly and specific components of PNNs, and the role PNNs play in schizophrenia, bipolar disorder, aging, Alzheimer's disease, and in plasticity associated with memory and drugs of abuse.

Time: Mon. 1:30 PM - 4:00 PM

374.00. Chair

B. A. Sorg;
Integrative Physiology and Neuroscience, Washington State University, Vancouver, WA.

Time: Mon. 1:30 PM - 1:35 PM

374.01. Introduction

Time: Mon. 1:35 PM - 1:55 PM

374.02. Targeting perineuronal nets to restore function after damage, neurodegeneration and ageing

J. W. Fawcett;
Center for Brain Repair, Cambridge University, Cambridge, UNITED KINGDOM.

Time: Mon. 1:55 PM - 2:15 PM

374.03. The molecular complexity of perineuronal net as a controller in CNS plasticity

J. Kwok;
School of Biomedical Sciences, University of Leeds, Leeds, UNITED KINGDOM.

Time: Mon. 2:15 PM - 2:35 PM

374.04. Cerebellar perineuronal nets in drug addiction: Brain tattoos or temporary stickers?

M. Miquel;
Psychobiology Division, Universitat Jaume I, Avenida Sos Baynat, Castellon de la Plana, SPAIN.

Time: Mon. 2:35 PM - 2:55 PM

374.05. Perineuronal nets in tatters: Current findings in psychiatric disorders

S. Berretta;
Department of Psychiatry, Harvard Medical School, Boston, MA.

Time: Mon. 2:55 PM - 3:15 PM

374.06. Chondroitin 6-sulfation regulates perineuronal net formation and neural plasticity

H. Kitagawa;
Department of Biochemistry, Kobe Pharmaceutical University, Kobe, JAPAN.

Time: Mon. 3:15 PM - 3:35 PM

374.07. Perineuronal net contribution to cocaine-induced plasticity

J. M. Blacktop;
Program in Neuroscience, Washington State University, Vancouver, WA.

Time: Mon. 3:35 PM - 4:00 PM

374.08. Closing Remarks

Minisymposium

375. Object Encoding, Semantic Representation, and Memory Formation by Single Neurons in the Human Medial Temporal Lobe

Theme H: Cognition

Location: SDCC 28A

Time: 11/14/2016 1:30:00 PM - 11/14/2016 4:00:00 PM

This minisymposium will compare and contrast recent results examining object encoding, semantic representation, and memory formation by single neurons in the human medial temporal lobe. Speakers from different single-unit recording centers across the world will examine the level of sparsity present in the representations, whether they exclusively reflect semantic properties of the stimuli, and the role of these representations in memory encoding, retrieval, and consolidation.

Time: Mon. 1:30 PM - 4:00 PM

375.00. Chair

F. Mormann;
Department of Epileptology, University of Bonn, Bonn, GERMANY.

Time: Mon. 1:30 PM - 4:00 PM

375.00. Co Chair

P. N. Steinmetz;
Nakamoto Brain Research Institute, Nakamoto Brain Research Institute, Tempe, AZ.

Time: Mon. 1:30 PM - 1:35 PM

375.01. Introduction

Time: Mon. 1:35 PM - 1:55 PM

375.02. Effects of non-semantic stimulus properties on the responses of medial temporal lobe neurons

P. N. Steinmetz;
Nakamoto Brain Research Institute, Nakamoto Brain Research Institute, Tempe, AZ.

Time: Mon. 1:55 PM - 2:15 PM

375.03. Sparse coding of emotions and concepts and volitional control in human single neurons

M. Cerf;
Department of Neurosurgery, Northwestern University, Chicago, IL.

Time: Mon. 2:15 PM - 2:35 PM

375.04. Learning of anticipatory responses in single neurons of the human MTL

L. Reddy;
Centre de Recherche Cerveau et Cognition, Centre National de la Recherche Scientifique, Toulouse, FRANCE.

Time: Mon. 2:35 PM - 2:55 PM

375.05. Stimulus-selective, sparsely coded episodic memory and non-specific novelty detection in single units of the human hippocampus

J. T. Wixted;
Psychology, University of California, San Diego, La Jolla, CA.

Time: Mon. 2:55 PM - 3:15 PM

375.06. Single-neuron representation of location in human spatial navigation and memory

J. Jacobs;
Department of Biomedical Engineering, Columbia University, New York, NY.

Time: Mon. 3:15 PM - 3:35 PM

375.07. Sparse and not-so-sparse semantic coding in the human MTL and its role in memory consolidation during sleep

F. Mormann;
Department of Epileptology, University of Bonn, Bonn, GERMANY.

Time: Mon. 3:35 PM - 4:00 PM

375.08. Closing Remarks

Minisymposium

376. Mammalian Nervous System Cell Types: CNS Diversity Through the Lens of Single-Cell RNA Sequencing (RNA-seq)

Theme I: Techniques

Location: SDCC 6E

Time: 11/14/2016 1:30:00 PM - 11/14/2016 4:00:00 PM

The brain contains a myriad of highly specialized cells, but comprehension of the gene expression programs that produce this cell-type diversity is incomplete at best. This session highlights pioneering work from multiple groups using single-cell RNA-seq approaches to characterize cells from the developing and adult CNS in mice and humans. These studies lay the groundwork for a new taxonomy of nervous system cells and create new opportunities for investigating CNS function and development.

Time: Mon. 1:30 PM - 4:00 PM

376.00. Chair

B. Tasic;
Cell and Circuit Genetics, Allen Institute For Brain Science, Seattle, WA.

Time: Mon. 1:30 PM - 1:35 PM

376.01. Introduction

Time: Mon. 1:35 PM - 1:55 PM

376.02. Cellular diversity of human neocortical germinal zones

A. Pollen;
Department of Regeneration Medicine, University of California, San Francisco, San Francisco, CA.

Time: Mon. 1:55 PM - 2:15 PM

376.03. Reconstructing neurogenesis using single-cell RNA-seq

B. Treutlein;
Department of Evolutionary Genetics, Max-Planck-Institute for Evolutionary Anthropology, Leipzig, GERMANY.

Time: Mon. 2:15 PM - 2:35 PM

376.04. A census of cell types across the adult mouse brain by high-throughout single-cell RNA-seq

E. Macosko;
Department of Genetics, Broad Institute of MIT and Harvard, Cambridge, MA.

Time: Mon. 2:35 PM - 2:55 PM

376.05. Cellular taxonomy of visual thalamus and cortex by single cell transcriptomics

B. Tasic;
Cell and Circuit Genetics, Allen Institute For Brain Science, Seattle, WA.

Time: Mon. 2:55 PM - 3:15 PM

376.06. Telencephalic interneurons: A single cell transcriptome comparison

A. B. Muñoz Manchado;
MBB, Karolinska Institutet, Stockholm, SWEDEN.

Time: Mon. 3:15 PM - 3:35 PM

376.07. Electrophysiological, transcriptomic and morphologic profiling of single neurons using patch-seq.

C. R. Cadwell;
Department of Neuroscience, Baylor College of Medicine, Houston, TX.

Time: Mon. 3:35 PM - 4:00 PM

376.08. Closing Remarks

Symposium

472. Neuroepigenetics

Theme A: Development

Location: SDCC 6A

Time: 11/15/2016 8:30:00 AM - 11/15/2016 11:00:00 AM

The aim of the symposium is to discuss the role of epigenetic mechanisms of neuronal diversity, the plasticity of neuronal networks, and their alteration during various neurological disorders. The symposium will focus on the chromatin-based mechanism of neuronal gene expression regulation, as well as on the epigenetic foundations of memory and social behavior, and how pharmacological compounds that target specific epigenetic processes can interfere with the diseases.

Time: Tue. 8:30 AM - 11:00 AM

472.00. Chair

L. Tsai;
Department of Brain and Cognitive Sciences, Picower Institute for Learning and Memory, Massachusetts Institute of Technology and Broad Institute of Harvard, Cambridge, MA.

Time: Tue. 8:30 AM - 8:35 AM

472.01. Introduction

Time: Tue. 8:35 AM - 9:10 AM

472.02. Epigenetic mechanisms regulating activity-dependent gene expression

L. Tsai;
Department of Brain and Cognitive Sciences, Picower Institute for Learning and Memory,Massachusetts Institute of Technology, Broad Institute of Harvard and MIT, Cambridge, MA.

Time: Tue. 9:10 AM - 9:45 AM

472.03. Role of epigenetic DNA modifications in synaptic plasticity and brain disorders

H. Song;
Institute for Cell Engineering, Departments of Neurology and Neuroscience, Johns Hopkins University School of Medicine, BALTIMORE, MD.

Time: Tue. 9:45 AM - 10:20 AM

472.04. PRC2 couples neuronal identity to survival in the adult brain

A. Schaefer;
Department of Neuroscience Department of Psychiatry, Icahn School of Medicine at Mount Sinai, Friedman Brain Institute, New York, NY.

Time: Tue. 10:20 AM - 10:55 AM

472.05. DNA methylation and the molecular basis of Rett syndrome

A. Bird;
Wellcome Trust Centre for Cell Biology, University of Edinburgh, Edinburgh, UNITED KINGDOM.

Time: Tue. 10:55 AM - 11:00 AM

472.06. Closing Remarks

Symposium

473. Spike Timing Codes for Motor Control

Theme E: Motor Systems

Location: SDCC 6F

Time: 11/15/2016 8:30:00 AM - 11/15/2016 11:00:00 AM

Neurons emit spike trains that vary in both the rate and precise timing patterns of spikes. Whereas there is substantial evidence that sensory systems can use millisecond-scale spike timing patterns to encode information, studies of motor control have focused almost exclusively on spike rates. This session will present emerging work from a wide range of species (insects, songbirds, and mice) showing that brains can control behavior by precisely regulating spike timing patterns.

Time: Tue. 8:30 AM - 11:00 AM

473.00. Chair

S. J. Sober;
Biology, Emory University, Atlanta, GA.

Time: Tue. 8:30 AM - 8:35 AM

473.01. Introduction

Time: Tue. 8:35 AM - 9:10 AM

473.02. A spike timing code for vocal control in the songbird

S. J. Sober;
Biology, Emory University, Atlanta, GA.

Time: Tue. 9:10 AM - 9:45 AM

473.03. Precise spike timing in the cerebellum influences eye movements in mice

J. L. Raymond;
Neurobiology, Stanford University School of Medicine, Stanford, CA.

Time: Tue. 9:45 AM - 10:20 AM

473.04. Precision time-dependent encoding of flight control in the hawk moth

S. Sponberg;
Physics, Applied Physiology, Georgia Institute of Technology, Atlanta, GA.

Time: Tue. 10:20 AM - 10:55 AM

473.05. A spike-timing mechanism for action selection in *Drosophila*

G. M. Card;
Janelia Farm Research Campus, Howard Hughes Medical Institute, Ashburn, VA.

Time: Tue. 10:55 AM - 11:00 AM

473.06. Closing Remarks

Symposium

474. The Lateral Habenula Circuitry: Reward Processing and Cognitive Control

Theme G: Motivation and Emotion

Location: SDCC 6B

Time: 11/15/2016 8:30:00 AM - 11/15/2016 11:00:00 AM

This symposium will present novel concepts from animal studies of the lateral habenula that have been recently tested with causal methods, with a goal to dissect the role of specific inputs and outputs of the LHb in processing of reward and aversion. Because dysfunctions in reward processing have been implicated in psychiatric illnesses and drug abuse, the symposium will increase our mechanistic understanding of how aberrant activity in the LHb circuits may contribute to these disorders.

Time: Tue. 8:30 AM - 11:00 AM

474.00. Chair

A. Vicentic;
Division of Neuroscience and Basic Behavioral Science, National Institute of Mental Health, ROCKVILLE, MD.

Time: Tue. 8:30 AM - 11:00 AM

474.00. Co Chair

B. Li;
Neuroscience, Cold Spring Harbor Lab, COLD SPG HBR, NY.

Time: Tue. 8:30 AM - 8:35 AM

474.01. Introduction

Time: Tue. 8:35 AM - 9:10 AM

474.02. Dissecting the role of the habenula-projecting globus pallidus in behavioral reinforcement

B. Li;
Neuroscience, Cold Spring Harbor Lab, COLD SPG HBR, NY.

Time: Tue. 9:10 AM - 9:45 AM

474.03. Habenula-mesencephalic roles in opponent processes of motivated behavior

T. C. Jhou;
Neuroscience, Medical University of South Carolina, Charleston, SC.

Time: Tue. 9:45 AM - 10:20 AM

474.04. A role for the lateral habenula in behavioral flexibility

S. J. Mizumori;
Psychology, University of Washington, SEATTLE, WA.

Time: Tue. 10:20 AM - 10:55 AM

474.05. The contribution of the lateral habenula and anterior cingulate cortex in outcome monitoring and choice behavior

M. Matsumoto;
Faculty of Medicine, University of Tsukuba, Tsukuba, Ibaraki, JAPAN.

Time: Tue. 10:55 AM - 11:00 AM

474.06. Closing Remarks

Minisymposium

475. Role of Tau in Neural Network Dysfunction: From Mechanisms to Therapeutics

Theme B: Neural Excitability, Synapses, and Glia

Location: SDCC 29D

Time: 11/15/2016 8:30:00 AM - 11/15/2016 11:00:00 AM

This minisymposium will focus on the functions of the microtubule-associated protein tau and its role in neurological diseases. Multiple neurodegenerative disorders are associated with an abnormal neuronal accumulation of tau. Recent studies suggest that tau enables network hyperexcitability in disorders as diverse as childhood epilepsy and Alzheimer's disease. The presenters will discuss potential mechanisms underlying pathogenic tau activities and novel therapeutic strategies to block them.

Time: Tue. 8:30 AM - 11:00 AM

475.00. Chair

L. Mucke;
Neurology, Gladstone Institutes, University of California, San Francisco, San Francisco, CA.

Time: Tue. 8:30 AM - 11:00 AM

475.00. Co Chair

J. L. Noebels;
Neurology, Baylor College of Medicine, HOUSTON, TX.

Time: Tue. 8:30 AM - 8:35 AM

475.01. Introduction

Time: Tue. 8:35 AM - 8:55 AM

475.02. Therapeutic potential of Tau reduction

E. D. Roberson;
Neurology and Neurobiology, University of Alabama, Birmingham, BIRMINGHAM, AL.

Time: Tue. 8:55 AM - 9:15 AM

475.03. Tau loss decreases network excitability in genetic models of epilepsy

J. Holth;
Developmental Neurogenetics Laboratory, Department of Neurology, Baylor College of Medicine, Houston, TX.

Time: Tue. 9:15 AM - 9:35 AM

475.04. Reducing Tau prevents Aß-induced axonal transport deficits by blocking activation of GSK3ß

K. Vossel;
Neurology, University of California San Francisco and Gladstone Institute of Neurological Disease, San Francisco, CA.

Time: Tue. 9:35 AM - 9:55 AM

475.05. Discovery of Tau antisense oligonucleotides for the treatment of tauopathy and epilepsy disorders

A. Cacace;
Research & Development, Bristol-Myers Squibb, Wallingford, CT.

Time: Tue. 9:55 AM - 10:15 AM

475.06. Targeting Tau mRNA as a therapy

T. Miller;
Neurology, Washington University School of Medicine, St. Louis, MO.

Time: Tue. 10:15 AM - 10:35 AM

475.07. Efficacy and mechanisms of anti-Tau treatments in models of neurological disease

B. Djukic;
Gladstone Institute of Neurological Disease, San Francisco, CA.

Time: Tue. 10:35 AM - 11:00 AM

475.08. Closing Remarks

Minisymposium

476. The Neural and Computational Construction of Confidence in Decision-Making

Theme H: Cognition

Location: SDCC 28A

Time: 11/15/2016 8:30:00 AM - 11/15/2016 11:00:00 AM

Metacognition, or confidence in our decisions, is not yet well understood. Evidence for a single versus multiple loci of uncertainty representation remains equivocal; whether confidence and decision (perceptual or cognitive) depend on the same or different neuronal information is an ongoing debate. This session will bring together scientists studying confidence and uncertainty

from both human and animal perspectives, spanning from computational approaches to neurobiological approaches.

Time: Tue. 8:30 AM - 11:00 AM

476.00. Chair

M. Peters;
Psychology, University of California, Los Angeles, Los Angeles, CA.

Time: Tue. 8:30 AM - 11:00 AM

476.00. Co Chair

P. Grimaldi;
Brain Research Institute, University of California, Los Angeles, Los Angeles, CA.

Time: Tue. 8:30 AM - 8:35 AM

476.01. Introduction

Time: Tue. 8:35 AM - 8:55 AM

476.02. Separable contributions to decisions and confidence judgments

M. Peters;
Psychology, University of California, Los Angeles, Los Angeles, CA.

Time: Tue. 8:55 AM - 9:15 AM

476.03. Neuronal correlates of confidence in the primate brain

P. Grimaldi;
Brain Research Institute, University of California, Los Angeles, Los Angeles, CA.

Time: Tue. 9:15 AM - 9:35 AM

476.04. Misperceptions in decision confidence: Effects on speed and accuracy

A. J. Yu;
Cognitive Science, University of California, San Diego, La Jolla, CA.

Time: Tue. 9:35 AM - 9:55 AM

476.05. The role of choice certainty in guiding behavior in complex environments

R. Kiani;
Center for Neural Science, New York University, New York, NY.

Time: Tue. 9:55 AM - 10:15 AM

476.06. Are the neural substrates of confidence domain-specific?

S. Fleming;
Wellcome Trust Centre for Neuroimaging, University College London, London, UNITED KINGDOM.

Time: Tue. 10:15 AM - 10:35 AM

476.07. The influence of evidence volatility on choice, reaction time and confidence in a perceptual decision

A. Zylberberg;
Neuroscience, Columbia University, New York, NY.

Time: Tue. 10:35 AM - 11:00 AM

476.08. Closing Remarks

Minisymposium

477. Multiscale Connectomics: Maps, Models, and Mechanisms

Theme I: Techniques

Location: SDCC 6E

Time: 11/15/2016 8:30:00 AM - 11/15/2016 11:00:00 AM

Neural networks are organized over resolution scales that span several orders of magnitude. A comprehensive understanding of the brain is thus contingent on integrating information across scales. This session will present the latest findings from studies of brain connectivity at scales ranging from the micro (<1 μm) to macro (>1 mm). The session will focus on methods for network mapping, models of brain network structure and dynamics, and the molecular mechanisms that drive network organization.

Time: Tue. 8:30 AM - 11:00 AM

477.00. Chair

A. Fornito;
Brain and Mental Health Laboratory, Monash Institute of Cognitive and Clinical Neurosciences, Melbourne, AUSTRALIA.

Time: Tue. 8:30 AM - 11:00 AM

477.00. Co Chair

A. Zalesky;
Engineering and Psychiatry, University of Melbourne, Melbourne, AUSTRALIA.

Time: Tue. 8:30 AM - 8:35 AM

477.01. Introduction

Time: Tue. 8:35 AM - 8:55 AM

477.02. Cellular-resolution connectomics

M. Helmstaedter;
Department of Connectomics, Max Planck Institute for Brain Research, Frankfurt, GERMANY.

Time: Tue. 8:55 AM - 9:15 AM

477.03. The Allen mouse connectivity atlas: A comprehensive map of long distance cell type-specific projections

J. A. Harris;
Cell and Circuit Genetics, Allen Institute For Brain Science, Seattle, WA.

Time: Tue. 9:15 AM - 9:35 AM

477.04. Structural and functional mapping of the connectome at the macroscale

A. Zalesky;
Psychiatry and Engineering, University of Melbourne, Melbourne, AUSTRALIA.

Time: Tue. 9:35 AM - 9:55 AM

477.05. Economical trade-offs between biological cost and topological value are scale-invariant factors in brain network formation

E. T. Bullmore;
Psychiatry, University of Cambridge, Cambridge, UNITED KINGDOM.

Time: Tue. 9:55 AM - 10:15 AM

477.06. Genetic influences on brain network topology

A. Fornito;
Psychology, Monash University, Melbourne, AUSTRALIA.

Time: Tue. 10:15 AM - 10:35 AM

477.07. Modularity and communication dynamics in brain networks

O. Sporns;
Psychological and Brain Sciences, Indiana University, Bloomington, IN.

Time: Tue. 10:35 AM - 11:00 AM

477.08. Closing Remarks

Symposium

563. Proteoglycans in Neural Development and Disease

Theme C: Neurodegenerative Disorders and Injury

Location: SDCC 6A

Time: 11/15/2016 1:30:00 PM - 11/15/2016 4:00:00 PM

Proteoglycans are secreted by every cell, yet their functions in the nervous system are still mostly unexplored. Uniquely, proteoglycans signal through their sugar chains rather than their protein backbones. These chains are heterogeneous in both length and sulfation pattern. This symposium will highlight recent developments in identification of receptors and signal transduction mechanisms used by heparan sulfate and chondroitin sulfate proteoglycans, and how they are involved in development, plasticity, disease, and the injury response in the nervous system.

Time: Tue. 1:30 PM - 4:00 PM

563.00. Chair

H. M. Geller;
National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, MD.

Time: Tue. 1:30 PM - 4:00 PM

563.00. Co Chair

J. Silver;
Department of Neuroscience, Case Western Reserve University, CLEVELAND, OH.

Time: Tue. 1:30 PM - 1:35 PM

563.01. Introduction

Time: Tue. 1:35 PM - 2:10 PM

563.02. Proteoglycan signaling: It's the sugars that matter!

H. M. Geller;
National Heart, Lung, Blood Institute, National Institutes of Health, BETHESDA, MD.

Time: Tue. 2:10 PM - 2:45 PM

563.03. Overcoming chondroitin sulfate proteoglycan barriers to axon regeneration and sprouting

J. Silver;
Department of Neuroscience, Case Western Reserve University, CLEVELAND, OH.

Time: Tue. 2:45 PM - 3:20 PM

563.04. Sulfated glycans regulate autophagy and axon regeneration

K. Kadomatsu;
Biochemistry, Nagoya University Graduate School of Medicine, Nagoya, JAPAN.

Time: Tue. 3:20 PM - 3:55 PM

563.05. Heparan sulfate biosynthesis and degradation in nervous system development

C. Wright Dwyer;
Cellular and Molecular Medicine, University of California San Diego, La Jolla, CA.

Time: Tue. 3:55 PM - 4:00 PM

563.06. Closing Remarks

Symposium

564. Moving From Pavlovian 'Fear' Conditioning to Active Avoidance

Theme G: Motivation and Emotion

Location: SDCC 6B

Time: 11/15/2016 1:30:00 PM - 11/15/2016 4:00:00 PM

In the active avoidance paradigm (AA), subjects learn to emit actions that escape threats and prevent harm. AA research stalled in the 1970s, partly because psychologists disagreed intensely over the reinforcement mechanisms and nature of avoidance responding (operant vs. respondent). However, recent work has shed new light on the distinction between AA and fear conditioning brain circuits. This session will detail this progress and discuss the role of AA in human anxiety disorders such as obsessive-compulsive disorder.

Time: Tue. 1:30 PM - 4:00 PM

564.00. Chair

C. K. Cain;
Child and Adolescent Psychiatry, New York University School of Medicine, New York, NY.

Time: Tue. 1:30 PM - 4:00 PM

564.00. Co Chair

G. J. Quirk;
Psychiatry, Anatomy and Neurobiology, University of Puerto Rico School of Medicine, San Juan, PR.

Time: Tue. 1:30 PM - 1:35 PM

564.01. Introduction

Time: Tue. 1:35 PM - 2:10 PM

564.02. Dynamic changes in amygdala threat processing with active avoidance training

C. K. Cain;
Child and Adolescent Psychiatry, New York University School of Medicine, New York, NY.

Time: Tue. 2:10 PM - 2:45 PM

564.03. Prefrontal-striatal control of active avoidance

G. J. Quirk;
Psychiatry, Anatomy and Neurobiology, University of Puerto Rico School of Medicine, San Juan, PR.

Time: Tue. 2:45 PM - 3:20 PM

564.04. Avoidance learning diminishes the return of defensive responses in humans

E. A. Phelps;
Department of Psychology and Center for Neural Sciences, New York University, New York, NY.

Time: Tue. 3:20 PM - 3:55 PM

564.05. Active avoidance and Pavlovian threat reversal in Obsessive Compulsive Disorder

A. M. Apergis-Schoute;
Psychology and Psychiatry, University of Cambridge, Cambridge, UNITED KINGDOM.

Time: Tue. 3:55 PM - 4:00 PM

564.06. Closing Remarks

Minisymposium

565. Current Perspectives in Autism Spectrum Disorder: From Genes to Therapy

Theme A: Development

Location: SDCC 6F

Time: 11/15/2016 1:30:00 PM - 11/15/2016 4:00:00 PM

Autism spectrum disorder (ASD) is a constellation of neurodevelopmental presentations with genetic and nongenetic causes. Next-generation sequencing has allowed for recent strides in the genetics of ASD, while the molecular mechanisms underlying disease pathogenesis have remained elusive, thus hindering therapy development. This minisymposium will provide an overview of current ASD research, from genetic mutation and molecular pathways to sex differences, ending with strategies for drug development.

Time: Tue. 1:30 PM - 4:00 PM

565.00. Chair

M. Manzini;
Pharmacology and Physiology, The George Washington University, Washington, DC.

Time: Tue. 1:30 PM - 4:00 PM

565.00. Co Chair

M. Chahrour;
Eugene McDermott Center for Human Growth and Development, University of Texas Southwestern Medical Center, Dallas, TX.

Time: Tue. 1:30 PM - 1:35 PM

565.01. Introduction

Time: Tue. 1:35 PM - 1:55 PM

565.02. Unlocking autism's genetic etiology: lessons learned from new mutations

B. O'Roak;
Molecular and Medical Genetics, Oregon Health and Science University, Portland, OR.

Time: Tue. 1:55 PM - 2:15 PM

565.03. Rare recessive mutations in autism spectrum disorder

M. Chahrour;
Eugene McDermott Center for Human Growth and Development, University of Texas Southwestern Medical Center, Dallas, TX.

Time: Tue. 2:15 PM - 2:35 PM

565.04. Striatal protein synthesis and repetitive behaviors in autism spectrum disorders

E. Santini;
Center for Neural Science, New York University, New York, NY.

Time: Tue. 2:35 PM - 2:55 PM

565.05. Of mice and rats: shared and unique neurobehavioral and molecular features of genetic ASD rodent models

R. C. Samaco;
Molecular and Human Genetics, Baylor College of Medicine/Jan and Dan Duncan Neurological Research Institute, Houston, TX.

Time: Tue. 2:55 PM - 3:15 PM

565.06. Developing a mouse model of sex bias in autism spectrum disorder

M. Manzini;
Pharmacology and Physiology, The George Washington University, Washington, DC.

Time: Tue. 3:15 PM - 3:35 PM

565.07. Translating basic discoveries into therapeutic approaches for neurodevelopmental disorders

R. J. Kleiman;
Translational Neuroscience Center, Boston Children's Hospital, Boston, MA.

Time: Tue. 3:35 PM - 4:00 PM

565.08. Closing Remarks

Minisymposium

566. Mechanisms and Consequences of White Matter Plasticity

Theme B: Neural Excitability, Synapses, and Glia

Location: SDCC 29D

Time: 11/15/2016 1:30:00 PM - 11/15/2016 4:00:00 PM

White matter, primarily myelinated axons, comprises about half the volume of the human central nervous system. New myelin is made by oligodendrocytes throughout life, and it is now clear that this has important consequences for higher-order nervous system function. This

minisymposium will highlight research that investigates how neuronal activity regulates oligodendrocyte proliferation, differentiation, and myelination, and how this in turn affects neuronal circuitry and animal behavior.

Time: Tue. 1:30 PM - 4:00 PM

566.00. Chair

D. Lyons;
Centre for Neuroregeneration, University of Edinburgh, Edinburgh, UNITED KINGDOM.

Time: Tue. 1:30 PM - 4:00 PM

566.00. Co Chair

J. R. Chan;
Neurology, University of California, San Francisco, San Francisco, CA.

Time: Tue. 1:30 PM - 1:35 PM

566.01. Introduction

Time: Tue. 1:35 PM - 1:55 PM

566.02. Role of GABAergic synaptic signalling of cortical oligodendrocyte precursors

M. C. Angulo;
Laboratoire de Neurophysiologie et Nouvelles Microscopies, INSERM U1128, Paris, FRANCE.

Time: Tue. 1:55 PM - 2:15 PM

566.03. Is AMPA receptor signalling important for oligodendrocyte development?

E. Kougioumtzidou;
Wolfson Institute for Biomedical Research, University College London, London, UNITED KINGDOM.

Time: Tue. 2:15 PM - 2:35 PM

566.04. Regulation of oligodendrocyte progenitors through AMPA receptor signaling

A. Agarwal;
The Solomon H. Snyder Department of Neuroscience, Johns Hopkins School of Medicine, Baltimore, MD.

Time: Tue. 2:35 PM - 2:55 PM

566.05. Synaptic vesicle release regulates myelin sheath number and length *In vivo*

D. Lyons;
Centre for Neuroregeneration, University of Edinburgh, Edinburgh, UNITED KINGDOM.

Time: Tue. 2:55 PM - 3:15 PM

566.06. Dynamic modulation of myelination in response to visual stimuli alters optic nerve conduction velocity

J. R. Chan;
Neurology, University of California, San Francisco, San Francisco, CA.

Time: Tue. 3:15 PM - 3:35 PM

566.07. White Matter plasticity in the adult brain

C. Sampaio-Baptista;
FMRIB Centre, University of Oxford, Oxford, UNITED KINGDOM.

Time: Tue. 3:35 PM - 4:00 PM

566.08. Closing Remarks

Minisymposium

567. Actions of Steroids: New Neurotransmitters

Theme F: Integrative Physiology and Behavior

Location: SDCC 28A

Time: 11/15/2016 1:30:00 PM - 11/15/2016 4:00:00 PM

This minisymposium will highlight new findings of rapid steroid signaling in neurobiology and demonstrate how prevalent non-classical hormone action is across the neuraxis. While the focus will be the non-classical role of hormones in reproductive-related functions of the nervous system, steroidal involvement in non-reproductive functions such as communication and stress will be discussed, along with glucocorticoids and the interactions of estrogens and progesterone with other neurotransmitters.

Time: Tue. 1:30 PM - 4:00 PM

567.00. Chair

P. E. Micevych;
Neurobiology, David Geffen School of Medicine at University of California, Los Angeles, LOS ANGELES, CA.

Time: Tue. 1:30 PM - 4:00 PM

567.00. Co Chair

L. M. Rudolph;
Neurobiology, University of California, Los Angeles, Los Angeles, CA.

Time: Tue. 1:30 PM - 1:35 PM

567.01. Introduction

Time: Tue. 1:35 PM - 1:55 PM

567.02. The role of non-classical estrogen signaling in female sexual receptivity

L. M. Rudolph;
Neurobiology, University of California, Los Angeles, Los Angeles, CA.

Time: Tue. 1:55 PM - 2:15 PM

567.03. Acute regulation of male sexual behavior by brain-derived estrogens

C. A. Cornil;
GIGA Neurosciences, University of Liege, Liege, BELGIUM.

Time: Tue. 2:15 PM - 2:35 PM

567.04. Estrogens as neuromodulators of sensorimotor circuits and behavior

L. Remage-Healey;
Psychology and Neuroscience, University of Massachusetts Amherst, Amherst, MA.

Time: Tue. 2:35 PM - 2:55 PM

567.05. Membrane-initiated signaling through classical steroid receptors and neural control of ovulation

M. A. Mittelman-Smith;
Neurobiology, University of California, Los Angeles, Los Angeles, CA.

Time: Tue. 2:55 PM - 3:15 PM

567.06. Rapid effects of a membrane-associated glucocorticoid receptor in hypothalamic neurons

J. R. Rainville;
Cell and Molecular Biology, Tulane University, New Orleans, LA.

Time: Tue. 3:15 PM - 3:35 PM

567.07. Rapid classical progesterone receptor signaling via Src kinase and dopamine receptor type one interactions

K. Sinchak;
Biological Sciences, California State University, Long Beach, Long Beach, CA.

Time: Tue. 3:35 PM - 4:00 PM

567.08. Closing Remarks

Minisymposium

568. Computational Ethological Approaches for Dissecting the Neural Basis of Behavior in Genetic Model Systems

Theme I: Techniques

Location: SDCC 6E

Time: 11/15/2016 1:30:00 PM - 11/15/2016 4:00:00 PM

From simple reflexes to social decision-making, behavior is the brain's ultimate output. Recent advances in computer vision enable automated analysis of a wide range of naturalistic animal behaviors on rapid timescales. This minisymposium presents recent advances in automated behavior tracking across model organisms and systems. Talks will highlight the insights this approach provides into neural function, particularly when combined with modern tools for monitoring and manipulating neural circuits.

Time: Tue. 1:30 PM - 4:00 PM

568.00. Chair

M. R. Carey;
Champalimaud Neuroscience Program, Champalimaud Centre for the Unknown, Lisbon, PORTUGAL.

Time: Tue. 1:30 PM - 4:00 PM

568.00. Co Chair

A. E. X. Brown;
MRC Clinical Science Centre, Imperial College London, London, UNITED KINGDOM.

Time: Tue. 1:30 PM - 1:35 PM

568.01. Introduction

Time: Tue. 1:35 PM - 1:55 PM

568.02. Mapping behavior to anatomy using computer vision and thermogenetics

K. M. Branson;
Janelia Farm Research Campus, HHMI Janelia Research Campus, Ashburn, VA.

Time: Tue. 1:55 PM - 2:15 PM

568.03. Decoding descending commands in fruit flies through behavioral space analysis

G. J. Berman;
Biology, Emory University, Atlanta, GA.

Time: Tue. 2:15 PM - 2:35 PM

568.04. Cerebellar circuit mechanisms of coordinated locomotion in mice

M. R. Carey;
Champalimaud Neuroscience Program, Champalimaud Centre for the Unknown, Lisbon, PORTUGAL.

Time: Tue. 2:35 PM - 2:55 PM

568.05. A multidimensional representation of behavioural decline quantifies healthspan and predicts longevity

A. E. X. Brown;
MRC Clinical Science Centre, Imperial College London, London, UNITED KINGDOM.

Time: Tue. 2:55 PM - 3:15 PM

568.06. Decision-making in zebrafish groups

G. de Polavieja;
Champalimaud Neuroscience Program, Champalimaud Centre for the Unknown, Lisbon, PORTUGAL.

Time: Tue. 3:15 PM - 3:35 PM

568.07. Neural circuits for mammalian skilled forelimb movement

E. Azim;
Molecular Neurobiology Laboratory, Salk Institute for Biological Studies, La Jolla, CA.

Time: Tue. 3:35 PM - 4:00 PM

568.08. Closing Remarks

Symposium

655. Getting Down to Business: Identifying Epigenetic Mechanisms of Behaviors Within Discrete Cell Populations

Theme F: Integrative Physiology and Behavior

Location: SDCC 6B

Time: 11/16/2016 8:30:00 AM - 11/16/2016 11:00:00 AM

Identifying the epigenetic modifications and their impact within discrete neuronal populations is critical in understanding brain health and disease risk, including behaviors important to stress coping, addiction, and learning and memory. Expert speakers will describe their latest studies on novel epigenetic mechanisms, including miRNAs, nucleosome remodeling, and unique histone modifications, and demonstrate their role in specific behavioral outcomes.

Time: Wed. 8:30 AM - 11:00 AM

655.00. Chair

T. L. Bale;
Biomedical Sciences, University of Pennsylvania, PHILADELPHIA, PA.

Time: Wed. 8:30 AM - 11:00 AM

655.00. Co Chair

P. J. Kenny;
Department of Pharmacology and Systems Therapeutics, Icahn School of Medicine At Mount Sinai, New York, NY.

Time: Wed. 8:30 AM - 8:35 AM

655.01. Introduction

Time: Wed. 8:35 AM - 9:10 AM

655.02. Novel histone PTMs in the hypothalamus in programming of the HPA stress axis

T. L. Bale;
Department of Biomedical Sciences, University Pennsylvania, PHILADELPHIA, PA.

Time: Wed. 9:10 AM - 9:45 AM

655.03. MicroRNA signaling in cortical parvalbumin-expressing neurons regulates schizophrenia-relevant behaviors in mice

P. J. Kenny;
Department of Pharmacology and Systems Therapeutics, ICAHN School of Medicine At Mount Sinai, New York, NY.

Time: Wed. 9:45 AM - 10:20 AM

655.04. Epigenetic targeting in memory formation

F. D. Lubin;
Department of Neurobiolgy, University of Alabama Birmingham, BIRMINGHAM, AL.

Time: Wed. 10:20 AM - 10:55 AM

655.05. Neuron-specific nucleosome remodeling complex subunit BAF53b is required for cocaine memory formation and plasticity in nucleus accumbens

M. A. Wood;
Neurobiology and Behavior, University of California, Irvine, IRVINE, CA.

Time: Wed. 10:55 AM - 11:00 AM

655.06. Closing Remarks

Symposium

656. Neural Basis of Social Rewards and Group Decisions: From Scanners to the Real World

Theme G: Motivation and Emotion

Location: SDCC 6A

Time: 11/16/2016 8:30:00 AM - 11/16/2016 11:00:00 AM

Neuroimaging has dramatically improved our understanding of the neurobehavioral systems that support social cognition and choice. This symposium will highlight new advances, focusing on the role of reward and motivation in social perception, interpersonal communication, intergroup relations, and mass prosocial behavior. Speakers will also describe novel techniques and trends poised to extend the frontiers of neuroscience and account for social preferences and behaviors in naturalistic settings.

Time: Wed. 8:30 AM - 11:00 AM

656.00. Chair

B. Knutson;
Dept Psychology, Stanford University, STANFORD, CA.

Time: Wed. 8:30 AM - 11:00 AM

656.00. Co Chair

J. Moll;
Cognitive and Behavioral Neuroscience Unit, D'Or Institute For Research and Education, Rio de Janeiro, BRAZIL.

Time: Wed. 8:30 AM - 8:35 AM

656.01. Introduction

Time: Wed. 8:35 AM - 9:10 AM

656.02. Decoding friends and foes

M. Cikara;
Department of Psychology, Harvard University, Cambridge, MA.

Time: Wed. 9:10 AM - 9:45 AM

656.03. Contribution of reward circuits to social investment on the internet

B. D. Knutson;
Dept Psychology, Stanford University, STANFORD, CA.

Time: Wed. 9:45 AM - 10:20 AM

656.04. Moral emotions and their voluntary modulation using real-time functional MRI

J. Moll;
Cognitive and Behavioral Neuroscience Unit, D'Or Institute For Research and Education, Rio De Janeiro, BRAZIL.

Time: Wed. 10:20 AM - 10:55 AM

656.05. Motivation in social perception and expression

J. Zaki;
Department of Psychology, Stanford University, Stanford, CA.

Time: Wed. 10:55 AM - 11:00 AM

656.06. Closing Remarks

Minisymposium

657. Neural Stem Cells to Cerebral Cortex: Emerging Mechanisms Regulating Progenitor Behavior and Productivity

Theme A: Development

Location: SDCC 29D

Time: 11/16/2016 8:30:00 AM - 11/16/2016 11:00:00 AM

Understanding the temporal and spatial regulation of neural stem cell behaviors that build the cerebral cortex is critical to treating neurodevelopmental disorders such as microcephaly and autism. This minisymposium will address how neural stem cells divide to produce different daughter types in the proper numbers and order. Distinct genetic insults impact cortical size, structure, or function differentially. The presenters will highlight emerging findings and tools that are facilitating identification of the cellular and molecular rules and logics underlying cortical development.

Time: Wed. 8:30 AM - 11:00 AM

657.00. Chair

T. Ghashghaei;
Molecular Biomedical Sciences, North Carolina State University, Raleigh, NC.

Time: Wed. 8:30 AM - 11:00 AM

657.00. Co Chair

N. Dwyer;
Cell Biology, University of Virginia, Charlottesville, VA.

Time: Wed. 8:30 AM - 8:35 AM

657.01. Introduction

Time: Wed. 8:35 AM - 8:55 AM

657.02. Cytokinesis of neural stem cells in the growing cortex

N. Dwyer;
Cell Biology, University of Virginia, Charlottesville, VA.

Time: Wed. 8:55 AM - 9:15 AM

657.03. Transcriptional control of delamination in the developing cortex

T. Ghashghaei;
Molecular Biomedical Sciences, North Carolina State University, Raleigh, NC.

Time: Wed. 9:15 AM - 9:35 AM

657.04. Control of neurogenesis timing during cortical development

S. Chou;
Institute of Cellular and Organismic Biology, Academia Sinica, Taipei, TAIWAN.

Time: Wed. 9:35 AM - 9:55 AM

657.05. The unfold protein response controls cortical neurogenesis

L. Nguyen;
University of Liège / GIGA-Neurosciences, Liège, BELGIUM.

Time: Wed. 9:55 AM - 10:15 AM

657.06. Lineage progression of cortical neural stem cells

B. Chen;
Molecular, Cell and Developmental Biology, University of California, Santa Cruz, Santa Cruz, CA.

Time: Wed. 10:15 AM - 10:35 AM

657.07. Programmed deterministic genesis of neurons and glia in the neocortex.

S. Hippenmeyer;
Am Campus 1, Institute of Science and Technology Austria, Vienna, AUSTRIA.

Time: Wed. 10:35 AM - 11:00 AM

657.08. Closing Remarks

Minisymposium

658. Association of Alzheimer's Disease and Other Cognitive Impairments With Metabolic Syndrome: Whenceforth Causality?

Theme C: Neurodegenerative Disorders and Injury

Location: SDCC 6F

Time: 11/16/2016 8:30:00 AM - 11/16/2016 11:00:00 AM

Epidemiology links Alzheimer’s disease, obesity, and type 2 diabetes. Early experiments sought evidence that deposition of amyloid beta peptide (Aß) worsened in diabetes, but recent data indicate top-down effects of Aß on peripheral metabolism, especially through actions of the peptide in the hypothalamus. Data from several fronts nonetheless evinces cognitive impairment

resulting from metabolic syndrome, even in development. Cognitive impacts of a potential CNS-to-periphery-to-CNS loop will be discussed.

Time: Wed. 8:30 AM - 11:00 AM

658.00. Chair

S. W. Barger;
Department of Geriatrics, University of Arkansas for Medical Sciences, LITTLE ROCK, AR.

Time: Wed. 8:30 AM - 11:00 AM

658.00. Co Chair

N. L. Rasgon;
Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, CA.

Time: Wed. 8:30 AM - 8:35 AM

658.01. Introduction

Time: Wed. 8:35 AM - 8:55 AM

658.02. The roles of Alzheimer-related proteins in regulation and dysregulation of peripheral metabolism: mechanisms to explain epidemiology

S. W. Barger;
Department of Geriatrics, University of Arkansas for Medical Sciences, LITTLE ROCK, AR.

Time: Wed. 8:55 AM - 9:15 AM

658.03. Inflammation and defective insulin signaling as molecular links between Alzheimer's disease and diabetes

F. G. De Felice;
Institute of Medical Biochemistry, Federal University Rio De Janeiro, Rio de Janeiro, BRAZIL.

Time: Wed. 9:15 AM - 9:35 AM

658.04. Impact of obesity, insulin resistance, inflammation, and fitness on brain dysfunction in adolescents

A. Convit;
Departments of Psychiatry, Medicine, and Radiology, New York University School of Medicine; Nathan Kline Institute, New York, NY.

Time: Wed. 9:35 AM - 9:55 AM

658.05. Metabolic moderators of pathological brain aging in humans

N. L. Rasgon;
Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, CA.

Time: Wed. 9:55 AM - 10:15 AM

658.06. Neuronal beta-secretase 1 (BACE1) as a key metabolic regulator: the missing link between dementia and diabetes?

K. Plucinska;
University of Aberdeen, University of Aberdeen, Aberdeen, UNITED KINGDOM.

Time: Wed. 10:15 AM - 10:35 AM

658.07. The influence of metabolic dysfunction on tau, amyloid, and cerebrovascular pathology in mouse models of Alzheimer's Disease

M. P. Murphy;
Molecular and Cellular Biochemistry, University of Kentucky, Lexington, KY.

Time: Wed. 10:35 AM - 11:00 AM

658.08. Closing Remarks

Minisymposium

659. Pre-Bötzinger Complex 25 Years Later: Diverse Functions of the Breathing Rhythm Generator and Their Cellular and Molecular Origins

Theme E: Motor Systems

Location: SDCC 28A

Time: 11/16/2016 8:30:00 AM - 11/16/2016 11:00:00 AM

Twenty-five years after its discovery as the breathing rhythm generator, the roles of the pre-Bötzinger Complex continue to expand, now including premotor functionality, generation of sighs and gasps, as well as coordination of orofacial behaviors (e.g., whisking and sniffing). These diverse functions can be mapped to distinct specialized cells, transforming the pre-BötC to a premier center to understand the molecular and cellular bases of physiologically-significant behaviors.

Time: Wed. 8:30 AM - 11:00 AM

659.00. Chair

C. A. Del Negro;
Department of Applied Science, The College of William and Mary, Williamsburg, VA.

Time: Wed. 8:30 AM - 8:35 AM

659.01. Introduction

Time: Wed. 8:35 AM - 8:55 AM

659.02. Dbx1-derived interneurons and TRP ion channels in inspiratory bursts and rhythm

M. C. D. Picardo;
Applied Science, The College of William and Mary, Williamsburg, VA.

Time: Wed. 8:55 AM - 9:15 AM

659.03. Modulation of the preBötC rhythm by astrocytes

A. V. Gourine;
Neuroscience, Physiology and Pharmacology, University College London, London, UNITED KINGDOM.

Time: Wed. 9:15 AM - 9:35 AM

659.04. Premotor function of Dbx1-derived neurons in the preBötC and intermediate reticular formation

A. L. Revill;
Department of Physiology, University of Alberta, Edmonton, AB, CANADA.

Time: Wed. 9:35 AM - 9:55 AM

659.05. Mechanisms of rhythm and pattern generation in the preBötzinger Complex microcircuit

K. Kam;
Cell Biology and Anatomy, Rosalind Franklin University, North Chicago, IL.

Time: Wed. 9:55 AM - 10:15 AM

659.06. Molecularly defined peptidergic neurons control sighing

K. R. Yackle;
Biochemistry, Stanford University, Palo Alto, CA.

Time: Wed. 10:15 AM - 10:35 AM

659.07. PreBötC as a ‘master’ oscillator to coordinate orofacial behaviors

D. Kleinfeld;
Departments of Physics and Neurobiology, University of California, San Diego, La Jolla, CA.

Time: Wed. 10:35 AM - 11:00 AM

659.08. Closing Remarks

Minisymposium

660. Oxytocin From Rodents to Humans: How to Translate Research Into Therapeutic Applications in Psychiatry

Theme F: Integrative Physiology and Behavior

Location: SDCC 6E

Time: 11/16/2016 8:30:00 AM - 11/16/2016 11:00:00 AM

The hypothalamic neuropeptide oxytocin attracts the interest of the neuroscience community and the broader public as a prosocial substance in mammals. Recent technological advances enable researchers to decipher the precise circuits underlying these actions. This minisymposium will focus on the pathways of oxytocin signaling, which underlie its behavioral and possible therapeutic effects. Addressing the mechanisms of oxytocin action in the brain, with special attention to the benefits and pitfalls in the treatment of human patients, will be essential for further progress in research and in the clinic.

Time: Wed. 8:30 AM - 11:00 AM

660.00. Chair

V. Grinevich;
German Cancer Research Center and Central Institute of Mental Health, Heidelberg, GERMANY.

Time: Wed. 8:30 AM - 11:00 AM

660.00. Co Chair

A. Charlet;
Centre National de la Recherche Scientifique (CNRS), Strasbourg, FRANCE.

Time: Wed. 8:30 AM - 8:35 AM

660.01. Introduction

Time: Wed. 8:35 AM - 8:55 AM

660.02. Pathways of oxytocin delivery and signaling

V. Grinevich;
German Cancer Research Center and Central Institute of Mental Health, Heidelberg, GERMANY.

Time: Wed. 8:55 AM - 9:15 AM

660.03. Astrocytes, a new cellular target for oxytocin signaling

A. Charlet;
Centre National de la Recherche Scientifique (CNRS), Strasbourg, FRANCE.

Time: Wed. 9:15 AM - 9:35 AM

660.04. Oxytocin and multimodal regulation of anxiety and fear

J. Dabrowska;
Department of Neuroscience, Rosalind Franklin University of Medicine and Science, North Chicago, IL.

Time: Wed. 9:35 AM - 9:55 AM

660.05. Oxytocin in rodent models of autism

H. Harony-Nicolas;
Icahn School of Medicine, Mount Sinai Hospital, New York, NY.

Time: Wed. 9:55 AM - 10:15 AM

660.06. Developing innovative ligands to modulate oxytocin signaling

J. Le Merrer;
PRC, Le Centre National de la Recherche Scientifique, Nouzilly, FRANCE.

Time: Wed. 10:15 AM - 10:35 AM

660.07. Intranasal oxytocin applications in humans, potential treatments and limitations

E. Andari;
Department of Psychiatry, Emory University School of Medicine, Atlanta, GA.

Time: Wed. 10:35 AM - 11:00 AM

660.08. Closing Remarks

Symposium

758. Making Serotonergic Neurons: From Mouse to Human

Theme A: Development

Location: SDCC 6F

Time: 11/16/2016 1:30:00 PM - 11/16/2016 4:00:00 PM

Serotonergic neurons exert diverse actions in the brain. This symposium will highlight how knowledge on the development of mouse serotonergic neurons informs the strategies to generate human serotonergic neurons by directed differentiation of pluripotent stem cells or by transdifferentiation of fibroblasts. The ability to generate patient-specific serotonergic neurons opens up unprecedented opportunities for mechanistic studies and drug discovery in many serotonin-related brain disorders.

Time: Wed. 1:30 PM - 4:00 PM

758.00. Chair

J. Feng;
Department of Physiology and Biophysics, State University of New York at Buffalo, BUFFALO, NY.

Time: Wed. 1:30 PM - 1:35 PM

758.01. Introduction

Time: Wed. 1:35 PM - 2:10 PM

758.02. Transcriptomic and functional diversity of serotonin neuron subtypes

S. M. Dymecki;
Department of Genetics, Harvard Medical School, BOSTON, MA.

Time: Wed. 2:10 PM - 2:45 PM

758.03. Directed differentiation of functional central serotonin neurons from human stem cells

S. Zhang;
Department of Neuroscience, University of Wisconsin Madison, MADISON, WI.

Time: Wed. 2:45 PM - 3:20 PM

758.04. Generation of functional serotonergic neurons from human fibroblasts

F. H. Gage;
Laboratory of Genetics, The Salk Institute for Biological Studies, La Jolla, CA.

Time: Wed. 3:20 PM - 3:55 PM

758.05. Overcoming barriers in the transdifferentiation of human fibroblasts to serotonergic neurons

J. Feng;
Department of Physiology and Biophysics, State University of New York at Buffalo, BUFFALO, NY.

Time: Wed. 3:55 PM - 4:00 PM

758.06. Closing Remarks

Symposium

759. The Ultrastructural Basis of Synaptic Transmission and Plasticity

Theme B: Neural Excitability, Synapses, and Glia

Location: SDCC 6A

Time: 11/16/2016 1:30:00 PM - 11/16/2016 4:00:00 PM

Since the invention of the electron microscope, the function of synapses has been illuminated by ultrastructure. Technological advances in stimulation and fixation methods, protein identification, and 3-D reconstruction provide key insights into how subcellular and molecular components mediate synaptic transmission and plasticity. This symposium will explore the ultrastructural and proteinaceous basis of synapse function and the defined plasticity states involved in learning and memory.

Time: Wed. 1:30 PM - 4:00 PM

759.00. Chair

K. M. Harris;
Neuroscience, Center for Learning and Memory, University of Texas, Austin, TX.

Time: Wed. 1:30 PM - 4:00 PM

759.00. Co Chair

N. Brose;
Molecular Neurobiology, Max Planck Institute of Experimental Medicine, 37075 Goettingen, GERMANY.

Time: Wed. 1:30 PM - 1:35 PM

759.01. Introduction

Time: Wed. 1:35 PM - 2:10 PM

759.02. The ultrastructural nature of the presynaptic transmitter release machinery

N. Brose;
Molecular Neurobiology, Max Planck Institute of Experimental Medicine, Goettingen, GERMANY.

Time: Wed. 2:10 PM - 2:45 PM

759.03. Ultrafast endocytosis at synapses

E. M. Jorgensen;
Biology, University of Utah, SALT LAKE CTY, UT.

Time: Wed. 2:45 PM - 3:20 PM

759.04. Molecular organization of the post synaptic density and beyond.

T. S. Reese;
Lab of Neurobiology, National Institutes of Health, BETHESDA, MD.

Time: Wed. 3:20 PM - 3:55 PM

759.05. Silent synapse growth and augmentation of long-term potentiation

K. M. Harris;
Neuroscience, Center for Learning and Memory, University of Texas, AUSTIN, TX.

Time: Wed. 3:55 PM - 4:00 PM

759.06. Closing Remarks

Symposium

760. The Neural Basis of Adaptive Motor Control in the Cerebellum

Theme E: Motor Systems

Location: SDCC 6B

Time: 11/16/2016 1:30:00 PM - 11/16/2016 4:00:00 PM

The cerebellum is critical for learning to make accurate movements, yet the neural mechanisms of how it learns this adaptive control remain poorly understood. This symposium will consider this puzzle by attempting to answer three questions, regarding what Purkinje cells and cells at deep cerebellar nuclei encode, what inferior olive neurons that project onto these cells encode,

and how Purkinje cells learn to alter their encoding in response to error information from the inferior olive.

Time: Wed. 1:30 PM - 4:00 PM

760.00. Chair

R. Shadmehr;
Biomedical Engineering, Johns Hopkins University, BALTIMORE, MD.

Time: Wed. 1:30 PM - 1:35 PM

760.01. Introduction

Time: Wed. 1:35 PM - 2:10 PM

760.02. Encoding of action by Purkinje cells of the cerebellum

R. Shadmehr;
Biomedical Engineering, Johns Hopkins University, BALTIMORE, MD.

Time: Wed. 2:10 PM - 2:45 PM

760.03. Learning to expect the unexpected: Rapid updating in primate cerebellum during voluntary self-motion

K. E. Cullen;
Physiology, McGill University, Montreal, QC, CANADA.

Time: Wed. 2:45 PM - 3:20 PM

760.04. The inferior olive encodes a temporal-difference prediction error during cerebellar learning

J. F. Medina;
Neuroscience, Baylor College of Medicine, Houston, TX.

Time: Wed. 3:20 PM - 3:55 PM

760.05. Cerebellar learning rules: Reciprocity all in all out

C. Dezeeuw;
Department of Neuroscience, Erasmus University Medical Center, Rotterdam, NETHERLANDS.

Time: Wed. 3:55 PM - 4:00 PM

760.06. Closing Remarks

Minisymposium

761. New Insight Into Cold Pain: Role of Ion Channels, Modulation, and Clinical Perspectives

Theme D: Sensory Systems

Location: SDCC 28A

Time: 11/16/2016 1:30:00 PM - 11/16/2016 4:00:00 PM

Fifteen years after the cloning of the first cold transducer channel, the molecular mechanisms of cold transduction and cold-triggered pain perception remain elusive. Recent progress has been made in this matter, which will be exposed in this session. New results about the contribution to cold pain from a wide variety of channels such as TRPs, leaky K+ and voltage-gated Na+ channels, and leak K+ channels will be presented. Their modulation and the resulting clinical perspectives will also be discussed.

Time: Wed. 1:30 PM - 4:00 PM

761.00. Chair

J. Noel;
UMR 7275 CNRS, l'Institut de Pharmocologie Moleculaire et Cellulaire, Valbonne, FRANCE.

Time: Wed. 1:30 PM - 4:00 PM

761.00. Co Chair

J. Busserolles;
Neuro-Dol U1107, INSERM, Clermont-Ferrand, FRANCE.

Time: Wed. 1:30 PM - 1:35 PM

761.01. Introduction

Time: Wed. 1:35 PM - 1:55 PM

761.02. Testosterone, the steroid link in TRPM8-mediated sensation

D. Gkika;
Laboratoire de Physiologie Cellulaire, INSERM U.1003, Villeneuve d'Ascq, FRANCE.

Time: Wed. 1:55 PM - 2:15 PM

761.03. TRPA1 control of cold nociception

D. Andersson;
Wolfson Centre for Age-Related Diseases, King's College London, London, UNITED KINGDOM.

Time: Wed. 2:15 PM - 2:35 PM

761.04. Nav1.9: Key to noxious cold sensitivity

S. Lolignier;
Inserm U1107, INSERM/Universite d'Auvergne, Clermont-Ferrand, FRANCE.

Time: Wed. 2:35 PM - 2:55 PM

761.05. Sodium channel dysfunctions affecting temperature sensation

E. Leipold;
Lehrstuhl für Biophysik, Institut für Biochemie und Biophysik, Jena, GERMANY.

Time: Wed. 2:55 PM - 3:15 PM

761.06. Role of voltage gated and leak potassium channels in cold nociception

F. Viana de la Iglesia;
Instituto de Neurociencias de Alicante, Universidad Miguel Hernandez / CSIC, Alicante, SPAIN.

Time: Wed. 3:15 PM - 3:35 PM

761.07. Peripheral mechanisms of cold pain – insight from ion channel toxins

I. Vetter;
Institute for Molecular Bioscience & School of Pharmacy, The University of Queensland, Brisbane, AUSTRALIA.

Time: Wed. 3:35 PM - 4:00 PM

761.08. Closing Remarks

Minisymposium

762. Hypocretins and Orexins: What Have We Learned in Nearly 20 Years?

Theme F: Integrative Physiology and Behavior

Location: SDCC 29D

Time: 11/16/2016 1:30:00 PM - 11/16/2016 4:00:00 PM

The discovery of hypocretins/orexins in the late 1990s spawned research that primarily focused on the role of these neuropeptides in regulating feeding and sleep. More recently, orexins have been implicated in cognitive processing and a number of neuropsychological disorders. This

minisymposium will provide state-of-the-field updates about some of the original and more newly-discovered functions regulated by orexins.

Time: Wed. 1:30 PM - 4:00 PM

762.00. Chair

J. A. Burk;
Psychology, College of William and Mary, Williamsburg, VA.

Time: Wed. 1:30 PM - 4:00 PM

762.00. Co Chair

J. R. Fadel;
Pharmacology, Physiology and Neuroscience, University of South Carolina School of Medicine, Columbia, SC.

Time: Wed. 1:30 PM - 1:35 PM

762.01. Introduction

Time: Wed. 1:35 PM - 1:55 PM

762.02. Hypocretins (orexins): 20 years of dissecting arousal circuits

L. de Lecea;
Psychiatry, Stanford University, Stanford, CA.

Time: Wed. 1:55 PM - 2:15 PM

762.03. Orexin's role in motivated behavior for food

A. M. Cason;
Neuroscience, Medical University of South Carolina, CHARLESTON, SC.

Time: Wed. 2:15 PM - 2:35 PM

762.04. Orexins and the stabilization of wake/sleep states

T. E. Scammell;
Neurology, Beth Israel Deaconess Medical Center, BOSTON, MA.

Time: Wed. 2:35 PM - 2:55 PM

762.05. Orexin drives energy expenditure

C. M. Kotz;
Geriatric Research, Education and Clinical Care, Mpls VAMC and University of Minnesota, MINNEAPOLIS, MN.

Time: Wed. 2:55 PM - 3:15 PM

762.06. Hypocretin 1 receptor regulation of dopaminergic signaling and motivated behavior

R. A. España;
Neurobiology and Anatomy, Drexel University College of Medicine, Philadelphia, PA.

Time: Wed. 3:15 PM - 3:35 PM

762.07. Orexins and cognition: neurochemical and anatomical substrates

J. R. Fadel;
Pharmacology, Physiology & Neuroscience, University of South Carolina School of Medicine, Columbia, SC.

Time: Wed. 3:35 PM - 4:00 PM

762.08. Closing Remarks

Minisymposium

763. Nanoscale Neurocartography: Approaches and Theory for Inference and Analysis of Synaptomes and Connectomes

Theme I: Techniques

Location: SDCC 6E

Time: 11/16/2016 1:30:00 PM - 11/16/2016 4:00:00 AM

Neurocartography at the resolution of individual neurons and their synapses is now possible in state-of-the-art datasets. Although much is known about individual brain cells and low-resolution cortical circuits, research to create and explore biofidelic maps of mesoscale cortical circuitry is still in its infancy. This session will provide theory and tools to help address these challenges, and motivate researchers interested in this topic through both methodological and scientific progress.

Time: Wed. 1:30 PM - 4:00 AM

763.00. Chair

N. Kasthuri;
Nanosciences, Argonne National Labs, Lemont, IL.

Time: Wed. 1:30 PM - 1:35 PM

763.01. Introduction

Time: Wed. 1:35 PM - 1:55 PM

763.02. Enabling data-driven neuroscience: Images to graphs for inference

W. G. Roncal;
Computer Science, Johns Hopkins University, Baltimore, MD.

Time: Wed. 1:55 PM - 2:15 PM

763.03. Statistical connectomics: How graph statistics can inform connectomic inferences

J. T. Vogelstein;
Computer Science, Johns Hopkins University, Baltimore, MD.

Time: Wed. 2:15 PM - 2:35 PM

763.04. Array tomography reveals spatially structured dendritic inhibition that supports branch-selective integration in CA1 pyramidal cells

E. B. Bloss;
Janelia Farms, Howard Hughes Medical Institute, Ashburn, VA.

Time: Wed. 2:35 PM - 2:55 PM

763.05. Whole-brain electron microscopy of *Drosophila melanogaster*

D. Bock;
Janelia Farms, Howard Hughes Medical Institute, Ashburn, VA.

Time: Wed. 2:55 PM - 3:15 PM

763.06. Mapping activity-dependent synaptic plasticity with a combination of electrophysiology and array tomography

K. Micheva;
School of Medicine, Stanford University, Stanford, CA.

Time: Wed. 3:15 PM - 3:35 PM

763.07. Mapping synapses with conjugate light-electron array tomography

F. Collman;
Connectomics, Allen Brain Science, Seattle, WA.

Time: Wed. 3:35 PM - 4:00 PM

763.08. Closing Remarks