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[Authors]. [Abstract Title]. Program No. XXX.XX. 2022 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2022. Online.

Minisymposium

005. Diverse Functional Aspects of Astrocyte-Neuron Interactions in Health and Disease - Isabella Farhy

Theme B – Neural Excitability, Synapses, and Glia

Location: SDCC 6CF

Time: Saturday, November 12, 2022, 2:00 PM - 4:30 PM

Description: Interactions between neuronal and non-neuronal brain cells are crucial for normal function. How neurons and astrocytes influence each other to ensure healthy development and maintenance of the brain across brain regions, genders, and pathological conditions is just beginning to be unraveled. This minisymposium will highlight recent advances in our understanding of reciprocal astrocyte-neuron interactions and their effects on brain function during normal and disease states.

Time: Saturday, November 12, 2022, 2:05 PM - 2:05 PM

005. Chair

I. Farhy;
Biology, Texas A&M University, College Station, TX.

Time: Saturday, November 12, 2022, 2:05 PM - 2:05 PM

005. Co Chair

E. Blanco Suarez;
Thomas Jefferson University, Philadelphia, PA.

Time: Saturday, November 12, 2022, 2:00 PM - 2:05 PM

005.01. Introduction

Time: Saturday, November 12, 2022, 2:05 PM - 2:25 PM

005.02. Astrocytes in developmental and pathological plasticity

S. D. Ackerman;
Pathology and Immunology, Washington University School of Medicine, Saint Louis, MO.

Time: Saturday, November 12, 2022, 2:25 PM - 2:45 PM

005.03. Identifying synergistic extrinsic signals that drive human astrocyte development

S. Sloan;
Human Genetics, Emory University, Atlanta, GA.

Time: Saturday, November 12, 2022, 2:45 PM - 3:05 PM

005.04. Sex, drugs, and astrocytes: How do sex differences and prenatal opioid exposure affect astrocyte-mediated synaptic development?

W. C. Risher;
Marshall University, Marshall University, Huntington, WV.

Time: Saturday, November 12, 2022, 3:05 PM - 3:25 PM

005.05. Regulation of synapse development by astrocytic store released calcium activity

I. Farhy;
Biology, Texas A&M University, College Station, TX.

Time: Saturday, November 12, 2022, 3:25 PM - 3:45 PM

005.06. Conservation and divergence between human and mouse astrocytes

Y. Zhang;
UCLA, UCLA, Los Angeles, CA.

Time: Saturday, November 12, 2022, 3:45 PM - 4:05 PM

005.07. Region-specific synapse and plasticity regulation by Astrocytes in health and stroke

E. Blanco Suarez;
Thomas Jefferson University, Philadelphia, PA.

Time: Saturday, November 12, 2022, 4:25 PM - 4:30 PM

005.08. Closing

Minisymposium

007. Synapse and Circuit Function in the Retina - Raunak Sinha

Theme D – Sensory Systems

Location: SDCC 29

Time: Saturday, November 12, 2022, 2:00 PM - 4:30 PM

Description: This session will cover talks from early career scientists on synapses and circuits that support visual function in the retina. The retina employs diverse neural circuits and synaptic connections to detect distinct aspects of a visual scene. The talks will cover recent exciting advances in our understanding of the molecular and ultrastructural organization of retinal synapses, the mechanisms regulating their formation and function and the retinal circuit computations that support vision.

Time: Saturday, November 12, 2022, 2:05 PM - 2:05 PM

007. Chair

R. Sinha;
University of Wisconsin, Madison, University of Wisconsin, Madison, WI.

Time: Saturday, November 12, 2022, 2:00 PM - 2:05 PM

007.01. Introduction

Time: Saturday, November 12, 2022, 2:05 PM - 2:25 PM

007.02. Mechanisms underlying formation of presynaptic inhibitory circuits in the inner retina

M. Hoon;
Ophthalmology, University of Wisconsin Madison, Madison, WI.

Time: Saturday, November 12, 2022, 2:25 PM - 2:45 PM

007.03. Adhesion GPCR Latrophilin 3 regulates synaptic function of cone photoreceptors in a trans-synaptic manner

Y. Wang;
The Scripps Research Institute, Jupiter, FL.

Time: Saturday, November 12, 2022, 2:45 PM - 3:05 PM

007.04. Elucidating the molecular mechanisms of photoreceptor wiring

E. Zuniga-Sanchez;
Baylor College of Medicine, Houston, TX.

Time: Saturday, November 12, 2022, 3:05 PM - 3:25 PM

007.05. Molecular recognition and the assembly of retinal circuits

A. Krishnaswamy;
McGill University, McGill University, Montreal, QC, CANADA.

Time: Saturday, November 12, 2022, 3:45 PM - 4:05 PM

007.06. Structural diversity of synaptic motifs of mouse retinal ON bipolar cells

W. Yu;
Biological Structure, University of Washington, Seattle, WA.

Time: Saturday, November 12, 2022, 4:05 PM - 4:25 PM

007.07. Classical Center-Surround Receptive Fields Facilitate Novel Object Detection already in the First Retinal Synapse

A. Poleg-polsky;
University of Colorado School of Medicine, Aurora, CO.

Time: Saturday, November 12, 2022, 4:25 PM - 4:30 PM

007.08. Closing

Minisymposium

008. Measuring Complex Human Behaviors via the Interactions Between Virtual Reality and Human Physiological Networks: Evidence From Health and Disease - Meir Plotnik

Theme F – Integrative Physiology and Behavior

Location: SDCC 6DE

Time: Saturday, November 12, 2022, 2:00 PM - 4:30 PM

Description: Virtual-reality (VR) technologies allow to recreate realistic everyday human settings, while controlling and measuring a variety of functions. Here we present a series of cutting-edge studies that paired VR with neurophysiological recordings (e.g., ECG, EEG). This approach allows studying the interactions between fundamental functions (motor-cognitive-affective), and provides a window into natural human behaviors with an emphasis on finding bio-markers for specific states in health and disease.

Time: Saturday, November 12, 2022, 2:05 PM - 2:05 PM

008. Chair

M. Plotnik;
Center of Advanced Technologies in Rehabilitation, Sheba Medical Center, Ramat Gan, ISRAEL.

Time: Saturday, November 12, 2022, 2:00 PM - 2:05 PM

008.01. Introduction

Time: Saturday, November 12, 2022, 2:05 PM - 2:25 PM

008.02. Seeing Gravity: What Can We Learn Using Virtual Reality on Sensory-Locomotion Integration

M. Plotnik;
Sheba Medical Center, Ramat Gan, ISRAEL.

Time: Saturday, November 12, 2022, 2:25 PM - 2:45 PM

008.03. Perceptual bias of closer lower visual field in 3D (VR) environment and its relation to visual input statistics of a moving observer

S. Gilaie-Dotan;
Bar Ilan University, Ramat Gan, ISRAEL.

Time: Saturday, November 12, 2022, 2:45 PM - 3:05 PM

008.04. Using combined VR and physiological recordings to study naturalistic behavior during cognitive performance

M. Wilf;
Center of Advanced Technologies in Rehabilitation, Sheba Medical Center, Ramat Gan, ISRAEL.

Time: Saturday, November 12, 2022, 3:05 PM - 3:25 PM

008.05. A novel virtual reality paradigm to study neuro-immune crosstalk

A. Serino;
Lausanne University Hospital (CHUV), Lausanne, SWITZERLAND.

Time: Saturday, November 12, 2022, 3:25 PM - 3:45 PM

008.06. Assessing and stimulating body representations through virtual reality in healthy participants and in pathological conditions

M. Bassolino;
HES-SO Valais-Wallis, Sion, SWITZERLAND.

Time: Saturday, November 12, 2022, 3:45 PM - 4:05 PM

008.07. Insights into motor deficits in Parkinson’s disease by recording physiological measures within virtual scenarios: implications for neurorehabilitation

B. Heimler;
Center of Advanced Technologies in Rehabilitation, Sheba Medical Center, Ramat Gan, ISRAEL.

Time: Saturday, November 12, 2022, 4:25 PM - 4:30 PM

008.08. Closing

Minisymposium

009. Representation of Episodic Memory in Single Neurons of the Human Brain - Zhisen Urgolites

Theme H – Cognition

Location: SDCC 28

Time: Saturday, November 12, 2022, 2:00 PM - 4:30 PM

Description: Intracranial recordings provide high-spatial-and-temporal-resolution information on how neurons encode and retrieve memories. In this session, we will discuss new advances on

various fronts of memory research achieved with intracranial recordings, including the relationship between generic and item-specific memory signals, population coding of semantic and perceptual features in memory tasks, repetition suppression, cognitive boundary signal, and temporal context of episodic memories.

Time: Saturday, November 12, 2022, 2:05 PM - 2:05 PM

009. Chair

Z. J. Urgolites;
University of California, San Diego, University of California, San Diego, La Jolla, CA.

Time: Saturday, November 12, 2022, 2:05 PM - 2:05 PM

009.02. Co Chair

C. T. Weidemann;
Columbia University, Columbia University, New York, NY.

Time: Saturday, November 12, 2022, 2:00 PM - 2:05 PM

009.09. Introduction

Time: Saturday, November 12, 2022, 2:05 PM - 2:25 PM

009.03. The relationship between generic and item-specific memory signals

Z. J. Urgolites;
University of California, San Diego, University of California, San Diego, La Jolla, CA.

Time: Saturday, November 12, 2022, 2:25 PM - 2:45 PM

009.04. Human single neuron and intracranial EEG recordings inthe medial temporal lobe: semantic representations and mechanisms of repetition suppression

T. P. Reber;
UniDistance Suisse, Brig, SWITZERLAND.

Time: Saturday, November 12, 2022, 2:45 PM - 3:05 PM

009.05. Population coding of semantic and perceptual features

C. T. Weidemann;
Columbia University, New York, NY.

Time: Saturday, November 12, 2022, 3:05 PM - 3:25 PM

009.06. Neurons detect cognitive boundaries to structure episodic memories in humans

J. Zheng;
Boston Children's Hospital, Harvard Medical School, Boston, MA.

Time: Saturday, November 12, 2022, 3:25 PM - 3:45 PM

009.07. Memory-sensitive neurons in the human MTL track multiple temporal contexts during episodic processing

B. C. Lega;
UT Southwestern Medical Center, University of Texas Southwestern Medical Center, Dallas, TX.

Time: Saturday, November 12, 2022, 3:45 PM - 4:05 PM

009.08. Neural coding of episodic memories in medial temporal lobe networks

J. E. Kragel;
University of Chicago, Chicago, IL.

Time: Saturday, November 12, 2022, 4:25 PM - 4:30 PM

009.01. Closing

Minisymposium

091. Pathologic Interactions in Epilepsy: From Single Cells to Networks - Magor Lorincz

Theme B – Neural Excitability, Synapses, and Glia

Location: SDCC 29

Time: Sunday, November 13, 2022, 9:30 AM - 12:00 PM

Description: Epilepsy is a debilitating neurological disorder characterized by seizures and cognitive comorbidities, but fundamental pathologic mechanisms have remained elusive. This session will highlight the results of recent advances in optical imaging and massively parallel neurophysiological recordings that lead to unprecedented insight into the altered neural dynamics of the epileptic brain, from the level of single cells to large-scale networks and the modulation of circuit dynamics by immune cells.

Time: Sunday, November 13, 2022, 9:35 AM - 9:35 AM

091. Chair

M. L. Lorincz;
University of Szeged, Szeged, HUNGARY.

Time: Sunday, November 13, 2022, 9:35 AM - 9:35 AM

091. Co Chair

J. Gelinas;
Columbia University, New York, NY.

Time: Sunday, November 13, 2022, 9:30 AM - 9:35 AM

091.01. Introduction

Time: Sunday, November 13, 2022, 9:35 AM - 9:55 AM

091.02. Role of astroglial pannexins in setting hippocampal neuronal network patterns

N. Rouach;
College De France CIRB, College de France, Paris, FRANCE.

Time: Sunday, November 13, 2022, 9:55 AM - 10:15 AM

091.03. Microcircuits underlying expression of a diversity of hippocampal sharp wave ripples

L. M. De La Prida;
Instituto Cajal - CSIC, Instituto Cajal - CSIC, Madrid, SPAIN.

Time: Sunday, November 13, 2022, 10:15 AM - 10:35 AM

091.04. Pathological place cell instability in epilepsy

P. Golshani;
UCLA Department of Neurology, UCLA Department of Neurology, Los Angeles, CA.

Time: Sunday, November 13, 2022, 10:35 AM - 10:55 AM

091.05. Thalamocortical mechanisms of seizure generalization

M. L. Lorincz;
University of Szeged, Szeged, HUNGARY.

Time: Sunday, November 13, 2022, 10:55 AM - 11:15 AM

091.06. Immune molecule modulation of sleep spindles and seizures after trauma

J. T. Paz;
Gladstone Institutes and UCSF, San Francisco, CA.

Time: Sunday, November 13, 2022, 11:15 AM - 11:35 AM

091.07. Mapping and modulating pathologic network interactions in epilepsy

J. Gelinas;
Columbia University, New York, NY.

Time: Sunday, November 13, 2022, 11:55 AM - 12:00 PM

091.08. Closing

Minisymposium

092. Powering Thoughts: The Regulation of Neuronal Energy Metabolism and Mitochondria - Gulcin Pekkurnaz

Theme C – Neurodegenerative Disorders and Injury

Location: SDCC 6CF

Time: Sunday, November 13, 2022, 9:30 AM - 12:00 PM

Description: Neurons have instant energy demands. Even minor disruptions of neuronal energy homeostasis restrict the information-processing power of the brain. This session will provide a perspective on neuronal energy homeostasis mechanisms by specifically focusing on the mitochondrial transport, renewal, and interorganelle contacts in neurons, and exploring how pre/post-synaptic terminals tailor energy metabolism in health and diseases.

Time: Sunday, November 13, 2022, 9:35 AM - 9:35 AM

092. Chair

G. Pekkurnaz;
University of California San Diego, University of California San Diego, La Jolla, CA.

Time: Sunday, November 13, 2022, 9:35 AM - 9:35 AM

092. Co Chair

X. Wang;
Stanford University, Stanford, CA.

Time: Sunday, November 13, 2022, 9:30 AM - 9:35 AM

092.01. Introduction

Time: Sunday, November 13, 2022, 9:35 AM - 9:55 AM

092.02. Energetic regulation of synaptic homeostasis

T. A. Ryan;
Weill Medical College, Cornell University, Joan and Sanford I Weill Medical College of Cornell University, New York, NY.

Time: Sunday, November 13, 2022, 9:55 AM - 10:15 AM

092.03. Mitochondrial homeostasis in neurodegeneration

X. Wang;
Stanford University, Stanford, CA.

Time: Sunday, November 13, 2022, 10:15 AM - 10:35 AM

092.04. Mitochondria-lysosome contacts and organelle dynamics in neurodegenerative diseases

Y. C. Wong;
Northwestern University, Chicago, IL.

Time: Sunday, November 13, 2022, 10:35 AM - 10:55 AM

092.05. Metabolic and Mitochondrial Plasticity in Neurons

G. Pekkurnaz;
University of California San Diego, University of California San Diego, La Jolla, CA.

Time: Sunday, November 13, 2022, 10:55 AM - 11:15 AM

092.06. Localized mitochondrial protein biogenesis in neurons

A. Harbauer;
Max Planck Institute for Biological Intelligence, Munich, GERMANY.

Time: Sunday, November 13, 2022, 11:15 AM - 11:35 AM

092.07. Lipid exocytosis in neuronal health

M. S. Ioannou;
University of Alberta, Edmonton, AB, CANADA.

Time: Sunday, November 13, 2022, 11:55 AM - 12:00 PM

092.08. Closing

Minisymposium

093. The Way You Feel Inside: Investigating Mechanisms of Mammalian Interoception - Theanne Griffith

Theme D – Sensory Systems

Location: SDCC 6A

Time: Sunday, November 13, 2022, 9:30 AM - 12:00 PM

Description: This minisymposium will showcase early career researchers exploring mechanisms of mammalian interoception. Recently developed technologies for the peripheral nervous system have facilitated a rapid expansion of work in this area. Talks will cover diverse topics and we will include researchers studying multiple organ systems, including the musculoskeletal system, lungs, gastrointestinal track, and the immune system, to provide a broad perspective on various interoceptive pathways.

Time: Sunday, November 13, 2022, 9:35 AM - 9:35 AM

093. Chair

T. Griffith;
The University of California, Davis, Davis, CA.

Time: Sunday, November 13, 2022, 9:35 AM - 9:35 AM

093. Co Chair

K. L. Marshall;
Scripps Research, La Jolla, CA.

Time: Sunday, November 13, 2022, 9:30 AM - 9:35 AM

093.08. Introduction

Time: Sunday, November 13, 2022, 9:35 AM - 9:55 AM

093.02. Peripherally expressed Nav1.1 is essential for mammalian proprioception

T. Griffith;
UC Davis, Davis, CA.

Time: Sunday, November 13, 2022, 9:55 AM - 10:15 AM

093.03. Sensory Mechanisms of the Mammalian Airways

S. Prescott;
MIT, Boston, MA.

Time: Sunday, November 13, 2022, 10:15 AM - 10:35 AM

093.04. Characterization of enteroception in individuals with PIEZO2 loss of function

D. Saade;
University of Iowa, Iowa City, IA.

Time: Sunday, November 13, 2022, 10:35 AM - 10:55 AM

093.05. PIEZO2-expressing sensory neurons coordinate gastrointestinal motility

R. Servin-Vences;
Scripps Research, La Jolla, CA.

Time: Sunday, November 13, 2022, 10:55 AM - 11:15 AM

093.06. Dissecting disease modulation of the gut-brain axis

L. Beutler;
Northwestern University, Chicago, IL.

Time: Sunday, November 13, 2022, 11:15 AM - 11:35 AM

093.07. Neuronal representation of peripheral immunity

T. Koren;
Israel Institute of Technology, Haifa, ISRAEL.

Time: Sunday, November 13, 2022, 11:55 AM - 12:00 PM

093.01. Closing

Minisymposium

094. Advances in Understanding the Role of Norepinephrine in Motivated Behavior - Alfred Kaye

Theme G – Motivation and Emotion

Location: SDCC 28

Time: Sunday, November 13, 2022, 9:30 AM - 12:00 PM

Description: This session will focus on application of recently developed circuit neuroscience tools to the understanding of norepinephrine's role in motivated behaviors. While other neuromodulators, such as dopamine, have shown strong relationships to learning parameters, NE's role remains incompletely understood. Recent advances in genetic targeting of locus coeruleus and non-LC populations, NE biosensors, and other tools have enabled the complexity of this neuromodulator to be fully appreciated.

Time: Sunday, November 13, 2022, 9:35 AM - 9:35 AM

094. Chair

A. P. Kaye;
Yale University, Yale University, New Haven, CT.

Time: Sunday, November 13, 2022, 9:35 AM - 9:35 AM

094. Co Chair

J. McCall;
Anesthesiology, Washington University in St. Louis, St. Louis, MO.

Time: Sunday, November 13, 2022, 9:30 AM - 9:35 AM

094.08. Introduction

Time: Sunday, November 13, 2022, 9:35 AM - 9:55 AM

094.02. Distinct contributions of locus coeruleus-derived norepinephrine and galanin to stress-induced anxiety-like behavior

D. Weinshenker;
Emory Univ Sch Med, Emory University School of Medicine Neuroscience Graduate Program, Atlanta, GA.

Time: Sunday, November 13, 2022, 9:55 AM - 10:15 AM

094.03. The effect of NE modulation on OFC cognitive maps and behavioral flexibility.

C. Ogg;
St. Jude Children's Research Hospital, Memphis, TN.

Time: Sunday, November 13, 2022, 10:15 AM - 10:35 AM

094.04. Norepinephrine encoding of threat prediction errors under uncertainty

A. Basu;
Yale University, New Haven, CT.

Time: Sunday, November 13, 2022, 10:35 AM - 10:55 AM

094.05. Basolateral amygdala noradrenergic and cholinergic regulation of coping and adaptation to stress

A. R. Soares;
Yale University, Yale University, New Haven, CT.

Time: Sunday, November 13, 2022, 10:55 AM - 11:15 AM

094.06. Targeted functions and spatiotemporal dynamics of locus coeruleus norepinephrine

V. Breton-Provencher;
Université Laval, Québec, QC, CANADA.

Time: Sunday, November 13, 2022, 11:15 AM - 11:35 AM

094.07. LC-NE regulation of goal directed behaviours

E. M. Vazey;
University of Massachusetts, University of Massachusetts - Amherst, Amherst, MA.

Time: Sunday, November 13, 2022, 11:55 AM - 12:00 PM

094.01. Closing

Minisymposium

095. Dynamic Communication Between Regions - Lu Zhang

Theme H – Cognition

Location: SDCC 6DE

Time: Sunday, November 13, 2022, 9:30 AM - 12:00 PM

Description: In the past few decades, significant leaps have been made in understanding the "spatial brain," or how information is structured across cells and circuits. Despite that, we know little about the "temporal brain" including when neural circuits process what information at what temporal scale. This session examines the dynamic interplay between brain regions or sub-regions and their functions in cognition at previously unachievable time scales.

Time: Sunday, November 13, 2022, 9:35 AM - 9:35 AM

095. Chair

L. Zhang;
Georgia Institute of Technology, Atlanta, GA.

Time: Sunday, November 13, 2022, 9:30 AM - 9:35 AM

095.08. Introduction

Time: Sunday, November 13, 2022, 9:35 AM - 9:55 AM

095.02. Approaches to capture whole brain spatiotemporal dynamic connectivity within fMRI data show high sensitivity to brain health and disorder

V. Calhoun;
Georgia State University, Georgia Institute of Technology, Atlanta, GA.

Time: Sunday, November 13, 2022, 11:15 AM - 11:35 AM

095.03. Breaking Time into Pieces: Sub-second Dynamics of the Hippocampal Neural Coding

L. Zhang;
Georgia Institute of Technology, Atlanta, GA.

Time: Sunday, November 13, 2022, 9:55 AM - 10:15 AM

095.04. Go with the FLOW: Visualizing spatiotemporal dynamics in optical widefield calcium imaging

B. W. Brunton;
University of Washington, Seattle, WA.

Time: Sunday, November 13, 2022, 10:15 AM - 10:35 AM

095.05. Tracking cognitive and behavioral states through neural population analysis

A. H. Williams;
New York University, New York, NY.

Time: Sunday, November 13, 2022, 10:35 AM - 10:55 AM

095.06. Sharp Wave Ripples as a Critical Period of Coordination

C. Kemere;
Rice University, Houston, TX.

Time: Sunday, November 13, 2022, 10:55 AM - 11:15 AM

095.07. Bidirectional interaction between hippocampus and neocortical networks

F. P. Battaglia;
Donders Institute for Brain, Cognition and Behavior, Radboud University, Nijmegen, NETHERLANDS.

Time: Sunday, November 13, 2022, 11:55 AM - 12:00 PM

095.01. Closing

Minisymposium

096. The Cerebellum Beyond Motor Control: Insights Into Health and Disease - Caroline Nettekoven

Theme H – Cognition

Location: SDCC 6B

Time: Sunday, November 13, 2022, 9:30 AM - 12:00 PM

Description: In recent years, the cerebellum has been increasingly implicated in both cognition and clinical conditions. These findings challenge traditional views of the cerebellum as a purely motor structure. By reviewing recent advances in mapping cerebellar function in cognition – including social, language, and emotion processing – and discussing its role beyond the motor domain, this session will outline an emerging overarching perspective on cerebellar contributions to cognition.

Time: Sunday, November 13, 2022, 9:35 AM - 9:35 AM

096. Chair

C. R. Nettekoven;
Department of Computer Science, Western University, London, ON, CANADA.

Time: Sunday, November 13, 2022, 9:35 AM - 9:35 AM

096. Co Chair

S. D. McDougle;
Yale University, Yale University, New Haven, CT.

Time: Sunday, November 13, 2022, 9:30 AM - 9:35 AM

096.08. Introduction

Time: Sunday, November 13, 2022, 9:35 AM - 9:55 AM

096.02. Using voxelwise encoding models to map language representations in the cerebellum

A. Lebel;
University of California Berkeley, Helen Wills Neuroscience Institute, Berkeley, CA.

Time: Sunday, November 13, 2022, 9:55 AM - 10:15 AM

096.03. Mapping cerebellar function across cognitive domains

C. R. Nettekoven;
Department of Computer Science, Western University, London, ON, CANADA.

Time: Sunday, November 13, 2022, 10:15 AM - 10:35 AM

096.04. Integration of the cerebellar-basal-ganglia reward processing through midbrain dopaminergic centers

J. Yoshida;
Albert Einstein College of Medicine, Dominick P. Purpura Department of Neuroscience, Bronx, NY.

Time: Sunday, November 13, 2022, 10:55 AM - 11:15 AM

096.06. Interactions between Tsc1 haploinsufficiency and Pax2 expression in the murine cerebellum

I. Serra;
Department of Neuroscience, Erasmus Medical University Center, Rotterdam, NETHERLANDS.

Time: Sunday, November 13, 2022, 11:15 AM - 11:35 AM

096.07. Cerebellar contribution to fear learning

G. Batsikadze;
University of Duisburg-Essen, University of Duisburg-Essen, Essen, GERMANY.

Time: Sunday, November 13, 2022, 11:55 AM - 12:00 PM

096.01. Closing

Minisymposium

170. Influence of Behavioral State on Sensorimotor Plasticity - James Dooley

Theme E – Motor Systems

Location: SDCC 6A

Time: Sunday, November 13, 2022, 2:00 PM - 4:30 PM

Description: This minisymposium will explore how neural activity during both sleep and wake interact to promote sensorimotor plasticity. Speakers will present recent examples from across neuroscience, from visually guided movements to birdsong. The goal is to highlight the diversity of ways behavioral state promotes plasticity in the sensorimotor system and to emphasize the importance of precise monitoring of behavioral state for a holistic understanding of development, learning, and plasticity.

Time: Sunday, November 13, 2022, 2:05 PM - 2:05 PM

170. Chair

J. C. Dooley;
University of Iowa, University of Iowa, Iowa City, IA.

Time: Sunday, November 13, 2022, 2:05 PM - 2:05 PM

170. Co Chair

G. Sokoloff;
The University of Iowa, The University of Iowa, Iowa City, IA.

Time: Sunday, November 13, 2022, 2:00 PM - 2:05 PM

170.01. Introduction

Time: Sunday, November 13, 2022, 2:05 PM - 2:25 PM

170.02. The effects of sleep on visuo-motor sequence learning in humans

K. Rauss;
University of Tübingen, Tübingen, GERMANY.

Time: Sunday, November 13, 2022, 2:25 PM - 2:45 PM

170.03. Motor replay in songbirds is associated with local and global sleep structure.

S. Canavan;
University of Chicago, University of Chicago, Chicago, IL.

Time: Sunday, November 13, 2022, 2:45 PM - 3:05 PM

170.04. Communication from the cerebellum to the neocortex during sleep spindles.

A. Jackson;
Newcastle University, Newcastle University, Newcastle-upon-Tyne, UNITED KINGDOM.

Time: Sunday, November 13, 2022, 3:05 PM - 3:25 PM

170.05. Dynamic coupling between cortical and subcortical regions during sleep over long-term skill learning.

K. Ganguly;
University of California, San Francisco, San Francisco, CA.

Time: Sunday, November 13, 2022, 3:25 PM - 3:45 PM

170.06. Modulating the neurophysiological processes supporting wake- and sleep-related motor memory consolidation

G. Albouy;
University of Utah, Salt Lake City, UT.

Time: Sunday, November 13, 2022, 3:45 PM - 4:05 PM

170.07. Activity in developing prefrontal cortex is shaped by sleep and sensory experience

L. Gómez;
University of Iowa, Iowa City, IA.

Time: Sunday, November 13, 2022, 4:25 PM - 4:30 PM

170.08. Closing

Minisymposium

171. Recent Advances at the Interface of Neuroscience and Artificial Neural Networks - Srikanth Ramaswamy

Theme H – Cognition

Location: SDCC 6DE

Time: Sunday, November 13, 2022, 2:00 PM - 4:30 PM

Description: Biological neural networks adapt and learn in diverse behavioral contexts. Artificial neural networks (ANNs) have exploited biological properties to solve complex problems. However, despite their effectiveness for specific tasks, ANNs are yet to realize the flexibility and adaptability of biological cognition. This minisymposium will bring together recent advances from computational and experimental research to advance our understanding of biological and artificial intelligence.

Time: Sunday, November 13, 2022, 2:05 PM - 2:05 PM

171. Chair

S. Ramaswamy;
Faculty of Medical Sciences, Newcastle University, Newcastle, UNITED KINGDOM.

Time: Sunday, November 13, 2022, 2:05 PM - 2:05 PM

171. Co Chair

V. Breton-Provencher;
CERVO Brain Research Centre, Université Laval, Québec, QC, CANADA.

Time: Sunday, November 13, 2022, 2:00 PM - 2:05 PM

171.01. Introduction

Time: Sunday, November 13, 2022, 2:05 PM - 2:25 PM

171.02. From statistics to neurons - network dynamics for decision confidence in rat frontal cortex

T. Ott;
Bernstein Center for Computational Neuroscience, Humboldt University of Berlin, Berlin, GERMANY.

Time: Sunday, November 13, 2022, 2:25 PM - 2:45 PM

171.03. Insights from human metacognitive computations for the development of smarter AI

M. A. Peters;
Cognitive Sciences, University of California, Irvine, Irvine, CA.

Time: Sunday, November 13, 2022, 2:45 PM - 3:05 PM

171.04. Advances and opportunities in collaborative development of deep learning algorithms for high throughput processing of complex vocal communication

Y. Cohen;
Brain Sciences, Weizmann Institute of Science, Rehovot, ISRAEL.

Time: Sunday, November 13, 2022, 3:05 PM - 3:25 PM

171.05. Dissecting how recurrence helps processing of noisy images

G. Lindsay;
Sainsbury Wellcome Centre, New York University, New York, NY.

Time: Sunday, November 13, 2022, 3:25 PM - 3:45 PM

171.06. Computational models link cellular mechanisms of neuromodulation to large-scale neural dynamics

J. M. Shine;
Brain and Mind Center, University of Sydney, Camperdown, AUSTRALIA.

Time: Sunday, November 13, 2022, 3:45 PM - 4:05 PM

171.07. Latent circuit inference from heterogeneous neural responses during cognitive tasks

C. Langdon;
Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.

Time: Sunday, November 13, 2022, 4:25 PM - 4:30 PM

171.08. Closing

Minisymposium

172. Interfacing Glial Cells With Materials, Devices, and Optogenetics: An Emerging Path to the "Other Brain - Valentina Benfenati

Theme I – Techniques

Location: SDCC 28

Time: Sunday, November 13, 2022, 2:00 PM - 4:30 PM

Description: Glial cells actively regulate homeostasis and module synaptic circuity. However, the progress and the use of “gliocentric” tools and technologies is demanded to selective stimulate and monitor the contribution of glial dynamics into glia-neuron cross-talk at different spatio-temporal scales. This forum offers a crossdisciplinary perspective on emerging nanoelectronic, optogenetics and biomechanics tools that enabled recent discoveries on the role of glial cells in healthy and diseased brain

Time: Sunday, November 13, 2022, 2:05 PM - 2:05 PM

172. Chair

V. Benfenati;
Cnr-National Research Council, CNR-National Research Council of Italy, Bologna, ITALY.

Time: Sunday, November 13, 2022, 2:05 PM - 2:05 PM

172. Co Chair

L. Ambrosio;
Institute of Polymers, Composites and Biomaterials, CNR-National Research Council of Italy, Naples, ITALY.

Time: Sunday, November 13, 2022, 2:00 PM - 2:05 PM

172.01. Introduction

Time: Sunday, November 13, 2022, 2:05 PM - 2:25 PM

172.02. Optogenetic manipulation of astrocytes to control behaviour

G. Perea;
Cajal Institute, Cajal Institute, CSIC, Madrid, SPAIN.

Time: Sunday, November 13, 2022, 2:25 PM - 2:45 PM

172.03. glial engineering: materials interfaces and devices to dialogue with astrocytes and achieve gliomodulation

V. Benfenati;
Cnr-National Research Council, Cnr-National Research Council, Bologna, ITALY.

Time: Sunday, November 13, 2022, 2:45 PM - 3:05 PM

172.04. Photoelectrical and photoelectrochemical processes at interfaces with neurons and glia

M. Antognazza;
IIT-CNST, Milan, ITALY.

Time: Sunday, November 13, 2022, 3:05 PM - 3:25 PM

172.05. Matrix stress relaxation regulates astrocyte activity

L. Gu;
Department of Materials Science and Engineering, Johns Hopkins University, Baltimore, MD.

Time: Sunday, November 13, 2022, 3:25 PM - 3:45 PM

172.06. "Scar in a Jar": tissue engineering at the service of studies on astrocytes

A. Pego;
i3S / INEB - University of Porto, Porto, PORTUGAL.

Time: Sunday, November 13, 2022, 3:45 PM - 4:05 PM

172.07. Cytoskeletal dynamics of astrocytes in response to chemophysical cues

K. M. O'Neill;
University of Maryland, College Park, MD.

Time: Sunday, November 13, 2022, 4:25 PM - 4:30 PM

172.08. Closing

Minisymposium

250. Zebrafish and Xenopus Models of Neurodevelopmental Disorders - Robert Hindges

Theme A – Development

Location: SDCC 6DE

Time: Monday, November 14, 2022, 9:30 AM - 12:00 PM

Description: This session will provide the opportunity to learn about the latest developments in using aquatic animal models, including zebrafish and xenopus, to study neurodevelopmental disorders. The approaches include the structural and functional assessment of neural circuits during development, use of models as high-throughput screening platform, and behavioral evaluation of animals carrying gene mutations linked to disorders such as autism, epilepsy, schizophrenia, or depression.

Time: Monday, November 14, 2022, 9:35 AM - 9:35 AM

250. Chair

R. Hindges;
Centre for Developmental Neurobiology, Kings College London, London, UNITED KINGDOM.

Time: Monday, November 14, 2022, 9:35 AM - 9:35 AM

250. Co Chair

S. B. Thyme;
University of Alabama at Birmingham Medical School, Birmingham, AL.

Time: Monday, November 14, 2022, 9:30 AM - 9:35 AM

250.01. Introduction

Time: Monday, November 14, 2022, 9:35 AM - 9:55 AM

250.02. The Dark Proteome of the Vertebrate Brain: Deciphering the Function of DUFs and Microexons in Neural Development

S. B. Thyme;
University of Alabama at Birmingham Medical School, Birmingham, AL.

Time: Monday, November 14, 2022, 9:55 AM - 10:15 AM

250.03. Dynamic network abnormalities in zebrafish models of epilepsy

R. E. Rosch;
Departments of Neurology and Clinical Neurophysiology, Great Ormond Street Hospital for Children, London, UNITED KINGDOM.

Time: Monday, November 14, 2022, 10:15 AM - 10:35 AM

250.04. Zebrafish models of Major Depressive Disorder

P. Reynolds;
King's College London, London, UNITED KINGDOM.

Time: Monday, November 14, 2022, 10:35 AM - 10:55 AM

250.05. Translating psychiatric disorder genetics into convergent mechanisms of risk and resilience

H. Willsey;
Department of Psychiatry and Behavioral Sciences, UCSF, San Francisco, CA.

Time: Monday, November 14, 2022, 10:55 AM - 11:15 AM

250.06. Sensory phenotyping of ASD genetic models in zebrafish larvae

E. Scott;
The Queensland Brain Institute, The University of Queensland, St. Lucia, AUSTRALIA.

Time: Monday, November 14, 2022, 11:15 AM - 11:35 AM

250.07. Identifying convergent phenotypes in zebrafish mutants of autism risk genes

E. J. Hoffman;
Yale Child Study Center, Yale University, New Haven, CT.

Time: Monday, November 14, 2022, 11:55 AM - 12:00 PM

250.08. Closing

Minisymposium

251. Psychedelics and Neural Plasticity - Xiangmin Xu

Theme B – Neural Excitability, Synapses, and Glia

Location: SDCC 6B

Time: Monday, November 14, 2022, 9:30 AM - 12:00 PM

Description: This session will present exciting talks on psychedelics and neural circuit plasticity by leading groups in the field. Topics include ketamine and depression and amblyopia treatments, MDMA and socialization, psilocybin or DMT and dendritic spine plasticity, and LSD and other novel pharmacological agents.

Time: Monday, November 14, 2022, 9:35 AM - 9:35 AM

251. Chair

X. Xu;
University of California, Irvine, Irvine, CA.

Time: Monday, November 14, 2022, 9:35 AM - 9:35 AM

251. Co Chair

S. F. Grieco;
University of California, Irvine, Irvine, CA.

Time: Monday, November 14, 2022, 9:30 AM - 9:35 AM

251.01. Introduction

Time: Monday, November 14, 2022, 9:35 AM - 9:55 AM

251.02. BDNF receptor TrkB mediates the effects of antidepressant drugs

E. Castren;
University of Helsinki, University of Helsinki, Helsinki, FINLAND.

Time: Monday, November 14, 2022, 9:55 AM - 10:15 AM

251.03. A dendrite-focused framework for understanding the actions of psychedelics

A. C. Kwan;
Yale School of Medicine, Cornell University, Ithaca, NY.

Time: Monday, November 14, 2022, 10:15 AM - 10:35 AM

251.04. Subanesthetic ketamine reactivates adult cortical plasticity to treat amblyopia

S. F. Grieco;
UCI, UC Irvine, Newport Beach, CA.

Time: Monday, November 14, 2022, 10:35 AM - 10:55 AM

251.05. An analog of psychedelics restores functional neural circuits in the stressed brain

Y. Zuo;
UC Santa Cruz, UC Santa Cruz, Santa Cruz, CA.

Time: Monday, November 14, 2022, 10:55 AM - 11:15 AM

251.06. Psychedelics reopen the critical period for social reward learning

E. Sawyer;
Johns Hopkins School of Medicine, Baltimore, MD.

Time: Monday, November 14, 2022, 11:15 AM - 11:35 AM

251.07. The neurobiology behind the lasting effects of single doses of psychedelics in humans

G. M. Knudsen;
Rigshospitalet and University of Copenhagen, Copenhagen O, DENMARK.

Time: Monday, November 14, 2022, 11:55 AM - 12:00 PM

251.08. Closing

Minisymposium

252. New Therapeutic Avenues for Parkinson's Disease - Martin Levesque

Theme C – Neurodegenerative Disorders and Injury

Location: SDCC 6CF

Time: Monday, November 14, 2022, 9:30 AM - 12:00 PM

Description: Currently available therapies for Parkinson's disease (PD) only address motor symptoms. Disease-modifying strategies are the major unmet clinical need and several new directions have recently opened up to develop therapies capable of at least slowing disease progression. In this minisymposium, the latest advances will be presented, ranging from classic targets (alpha-synuclein) to novel associated genes, in conjunction with state-of-the-art approaches using different cellular and animal models of PD.

Time: Monday, November 14, 2022, 9:30 AM - 9:30 AM

252. Chair

M. Levesque;
Universite Laval, Universite Laval, Quebec, QC, CANADA.

Time: Monday, November 14, 2022, 9:30 AM - 9:30 AM

252. Co Chair

M. Volta;
Eurac Research, Eurac Research, Bolzano, ITALY.

Time: Monday, November 14, 2022, 9:30 AM - 9:35 AM

252.01. Introduction

Time: Monday, November 14, 2022, 9:35 AM - 9:55 AM

252.02. The small GTPase Rin inhibits LRRK2 to activate autophagy and attenuate alpha-synuclein neuropathology.

M. Volta;
Eurac Research, Eurac Research, Bolzano, ITALY.

Time: Monday, November 14, 2022, 9:50 AM - 10:10 AM

252.03. Therapeutic targeting of the Gut-Brain Axis for Parkinson´s disease

A. Laguna Tuset;
Vall d'Hebron Research Institute, Barcelona, SPAIN.

Time: Monday, November 14, 2022, 10:10 AM - 10:30 AM

252.04. Insights into ret independent neurotrophic factor therapy for Parkinson's disease.

G. O'Keeffe;
University College Cork, University College Cork, Cork City, IRELAND.

Time: Monday, November 14, 2022, 10:30 AM - 10:50 AM

252.05. Identification and validation of new therapeutic targets against Parkinson's disease using CRISPR-CAS9 screening.

M. Levesque;
Universite Laval, Universite Laval, Quebec, QC, CANADA.

Time: Monday, November 14, 2022, 10:50 AM - 11:10 AM

252.06. Altered cannabinoid receptor 2 activity reduces dysregulated alpha-synuclein accumulation

V. Joers;
University of Florida, Gainesville, FL.

Time: Monday, November 14, 2022, 11:10 AM - 11:30 AM

252.07. Toward using directly converted dopaminergic neurons from Parkinson’s disease patients for molecular stratification and personalized medicine

J. Drouin-Ouellet;
University of Montreal, Montreal, QC, CANADA.

Time: Monday, November 14, 2022, 11:55 AM - 12:00 PM

252.08. Closing

Minisymposium

253. Intersection of Reward, Arousal, and Anesthesia Neurocircuitry - Mitra Heshmati

Theme F – Integrative Physiology and Behavior

Location: SDCC 6A

Time: Monday, November 14, 2022, 9:30 AM - 12:00 PM

Description: This session will examine the effects of general anesthetics on the neural circuits important for mediating consciousness, arousal, mood, and reward-related behaviors.

Time: Monday, November 14, 2022, 9:35 AM - 9:35 AM

253. Chair

M. Heshmati;
Anesthesiology and Pain Medicine, Biological Structure, University of Washington, SEATTLE, WA.

Time: Monday, November 14, 2022, 9:35 AM - 9:35 AM

253. Co-Chair

L. Li;
University of Washington, Seattle, WA.

Time: Monday, November 14, 2022, 9:30 AM - 9:35 AM

253.01. Introduction

Time: Monday, November 14, 2022, 9:35 AM - 9:55 AM

253.02. Activating Reward Circuits to Induce Recovery from Anesthetic-induced Unconsciousness

K. Solt;
Anaesthesia, Critical Care and Pain Medicine, Harvard Medical School / Massachusetts General Hospital, Boston, MA.

Time: Monday, November 14, 2022, 9:55 AM - 10:15 AM

253.03. Role of the nucleus gigantocellularis in wakefulness

D. P. Calderon;
Weill Cornell Medicine, New York, NY.

Time: Monday, November 14, 2022, 10:15 AM - 10:35 AM

253.04. Using Larval Zebrafish as a Model for the Neural Circuit Study of Consciousness

V. M. Bedell;
Anesthesiology and Critical Care, University of Pennsylvania, Philadelphia, PA.

Time: Monday, November 14, 2022, 10:35 AM - 10:55 AM

253.05. Role of the Parabrachial Nucleus in Emergence from General Anesthesia

C. Nehs;
Harvard Medical School, Boston, MA.

Time: Monday, November 14, 2022, 10:55 AM - 11:15 AM

253.06. Opioidergic Circuits Regulation of Arousal and Metabolism

A. J. Norris;
Washington Univ, Washington Univ, ST LOUIS, MO.

Time: Monday, November 14, 2022, 11:15 AM - 11:35 AM

253.07. Untangling Ketamine's Opioid Interaction Through Parallel Human and Mouse Experiments.

P. Llorach;
Stanford University, Palo Alto, CA.

Time: Monday, November 14, 2022, 11:55 AM - 12:00 PM

253.08. Closing

Minisymposium

254. High-Throughput Interrogation of Neurons Using Barcoding-Based Strategies - Xiaoyin Chen

Theme I – Techniques

Location: SDCC 28

Time: Monday, November 14, 2022, 9:30 AM - 12:00 PM

Description: The tremendous diversity of neurons presents an immense challenge in understanding neuronal circuits. DNA barcoding-based techniques promise to overcome this challenge by achieving both massive throughput and cellular resolution. Here we highlight recent advances in barcoding-based strategies in neuroanatomy, neuro-development, and genetic perturbation, and provide an outlook on future applications and development of these techniques.

Time: Monday, November 14, 2022, 9:35 AM - 9:35 AM

254. Chair

X. Chen;
Allen Institute, Seattle, WA.

Time: Monday, November 14, 2022, 9:35 AM - 9:35 AM

254. Co Chair

J. M. Kebschull;
Biomedical Engineering, Johns Hopkins University, Baltimore, MD.

Time: Monday, November 14, 2022, 9:30 AM - 9:35 AM

254.01. Introduction

Time: Monday, November 14, 2022, 9:35 AM - 9:55 AM

254.02. Use of 'Single-cell RNA-sequencing-compatible Tracer for Identifying Clonal Relationships' (STICR) for lineage analysis in the developing brain

R. N. Delgado;
UCSF, UCSF, San Francisco, CA.

Time: Monday, November 14, 2022, 9:55 AM - 10:15 AM

254.03. Molecular roadmaps of brain development, lineage and signaling

B. Raj;
Cell and Developmental Biology, University of Pennsylvania, Philadelphia, PA.

Time: Monday, November 14, 2022, 10:15 AM - 10:35 AM

254.04. Barcoding for comparative connectomics in evolution and disease

J. M. Kebschull;
Biomedical Engineering, Johns Hopkins University, Baltimore, MD.

Time: Monday, November 14, 2022, 10:35 AM - 10:55 AM

254.05. Modular and hierarchical cell type organization of corticalareas revealed by in situ sequencing

X. Chen;
Allen Institute, Seattle, WA.

Time: Monday, November 14, 2022, 10:55 AM - 11:15 AM

254.06. *In vivo* Perturb-Seq: scaled investigation of gene functions in the developing brain

X. Jin;
Neuroscience, Scripps Research, SAN DIEGO, CA.

Time: Monday, November 14, 2022, 11:15 AM - 11:35 AM

254.07. Massively multiplexed monosynaptic and retrograde tracing using barcoded rabies virus and single-cell sequencing

S. Yao;
Allen Institute, Seatle, WA.

Time: Monday, November 14, 2022, 11:55 AM - 12:00 PM

254.08. Closing

Minisymposium

336. Dendritic Mechanisms for *In Vivo* Neural Computations and Behavior - Mark Harnett

Theme B – Neural Excitability, Synapses, and Glia

Location: SDCC 29

Time: Monday, November 14, 2022, 2:00 PM - 4:30 PM

Description: Dendrites are increasingly recognized for their contributions to circuit computations and learning. Recent ex vivo and theoretical work has shown that dendrites endow single neurons with powerful processing capabilities, yet little is known about how these mechanisms are engaged in the intact brain or how they influence circuit dynamics. This minisymposium will highlight emerging work that connects dendritic biophysical properties to neural computations and behavior.

Time: Monday, November 14, 2022, 2:05 PM - 2:05 PM

336. Chair

M.T. Harnett;
MIT, Cambridge, MA.

Time: Monday, November 14, 2022, 2:05 PM - 2:05 PM

336. Co-Chair

R. Mojica Soto-Albors;
McGovern Institute for Brain Research, Massachusetts Institute of Technology, Cambridge, MA.

Time: Monday, November 14, 2022, 2:00 PM - 2:05 PM

336.01. Introduction

Time: Monday, November 14, 2022, 2:05 PM - 2:25 PM

336.02. Active calcium currents in cortical dendrites during tactile detection

N. Takahashi;
Interdisciplinary Institute for Neuroscience, University of Bordeaux, Bordeaux, FRANCE.

Time: Monday, November 14, 2022, 2:25 PM - 2:45 PM

336.03. Somato-dendritic coupling during learning of a brain-computer interface task

V. Francioni;
McGovern Institute for Brain Research, Massachusetts Institute of Technology, Cambridge, MA.

Time: Monday, November 14, 2022, 2:45 PM - 3:05 PM

336.04. Dynamics of dendritic encoding during learning

L. M. Palmer;
Florey Institute of Neuroscience and Mental Health, University of Melbourne, Melbourne, AUSTRALIA.

Time: Monday, November 14, 2022, 3:05 PM - 3:25 PM

336.05. Dendritic computations underlying experience-dependent hippocampal ensemble dynamics

C. Grienberger;
Department of Biology, Brandeis University, Waltham, MA.

Time: Monday, November 14, 2022, 3:25 PM - 3:45 PM

336.06. Learning to harness dendritic computations

B. A. Bicknell;
Wolfson Institute for Biomedical Research, University College London, London, UNITED KINGDOM.

Time: Monday, November 14, 2022, 3:45 PM - 4:05 PM

336.07. Dendritic computation and optimization

R. Naud;
Brain and Mind Research Institute, University of Ottawa, Ottawa, ON, CANADA.

Time: Monday, November 14, 2022, 4:25 PM - 4:30 PM

336.08. Closing

Minisymposium

337. Cortical Mechanisms of Pain Processing - Matthew Banghart

Theme D – Sensory Systems

Location: SDCC 28

Time: Monday, November 14, 2022, 2:00 PM - 4:30 PM

Description: This minisymposium will explore cortical circuits that process and regulate noxious sensory information to shape pain perception and expression. Speakers will discuss how expectation and biopsychosocial factors contribute to top-down control of pain and affect, how cortical circuits interact and are bidirectionally regulated by opioids to influence pain, a link between cortical spreading depression and trigeminal pain, and novel treatments based on open- and closed-loop cortical stimulation.

Time: Monday, November 14, 2022, 2:05 PM - 2:05 PM

337. Chair

M. R. Banghart;
Neurobiology, University of California San Diego, San Diego, CA.

Time: Monday, November 14, 2022, 2:05 PM - 2:05 PM

337. Co Chair

M. L. Smith;
Psychological Sciences, University of California, San Diego, San Diego, CA.

Time: Monday, November 14, 2022, 2:00 PM - 2:05 PM

337.01. Introduction

Time: Monday, November 14, 2022, 2:05 PM - 2:25 PM

337.02. Cortical regulation of sensory and affective pain behaviors

J. Wang;
New York University, New York, NY.

Time: Monday, November 14, 2022, 2:25 PM - 2:45 PM

337.03. Cortical mechanisms of bidirectional pain modulation

E. Navratilova;
University of Arizona, Tucson, AZ.

Time: Monday, November 14, 2022, 2:45 PM - 3:05 PM

337.04. Anterior cingulate projections to nucleus accumbens control the social transfer of pain and analgesia

M. L. Smith;
Psychological Sciences, University of San Diego, san diego, CA.

Time: Monday, November 14, 2022, 3:05 PM - 3:25 PM

337.05. Descending neural pathways drive placebo analgesia

M. R. Banghart;
Neurobiology, University of California San Diego, La Jolla, CA.

Time: Monday, November 14, 2022, 3:25 PM - 3:45 PM

337.06. Deep Brain Stimulation of the Subgenual Cingulate Cortex for the Treatment of Chronic Low Back Pain

A. A. Bari;
Neurosurgery, UCLA David Geffen School of Medicine, Los Angeles, CA.

Time: Monday, November 14, 2022, 3:45 PM - 4:05 PM

337.07. Linking Optogenetic Cortical Spreading Depression to Pain Behavior in Mice

A. Harriott;
Headache and Neuropathic Pain Unit, Vascular Neurology Division, Neurovascular Research Lab, Harvard Medical School, Massachusetts General Hospital, Boston, MA.

Time: Monday, November 14, 2022, 4:25 PM - 4:30 PM

337.08. Closing

Minisymposium

338. Neural Control of Energy Homeostasis - Wei Shen

Theme F – Integrative Physiology and Behavior

Location: SDCC 6A

Time: Monday, November 14, 2022, 2:00 PM - 4:30 PM

Description: Feeding and energy expenditure are critically controlled by the central nervous system, and the detailed neural mechanism remains to be enigmatic. In this minisymposium, we aim to bring diverse expertise in neuroscience to deepen our understanding of the molecular, synaptic, and circuit mechanisms involved in feeding and energy expenditure. The expertise

includes hormone control of feeding, body temperature regulation, contextual feeding, motivation and reward, and gut-brain communication.

Time: Monday, November 14, 2022, 2:05 PM - 2:05 PM

338. Chair

W. Shen;
Shanghai Tech University, Shagnhai, CHINA.

Time: Monday, November 14, 2022, 2:05 PM - 2:05 PM

338. Co Chair

Z. Pang;
Neuroscience and Cell Biology, Rutgers University, New Brunswick, NJ.

Time: Monday, November 14, 2022, 2:00 PM - 2:05 PM

338.01. Introduction

Time: Monday, November 14, 2022, 2:05 PM - 2:25 PM

338.02. Identification of novel cell types in the top down control of feeding

S. A. Stern;
Max Planck Florida Institute, Jupiter, FL.

Time: Monday, November 14, 2022, 2:25 PM - 2:45 PM

338.03. Feeding regulation by tuberal nucleus

Y. Fu;
Agency For Science Technology and Research, Agency For Science Technology and Research, Singapore, SINGAPORE.

Time: Monday, November 14, 2022, 2:45 PM - 3:05 PM

338.04. Natural Locus Coeruleus Dynamics During Feeding

N. R. Sciolino;
University of Connecticut, STORRS, CT.

Time: Monday, November 14, 2022, 3:05 PM - 3:25 PM

338.05. Synaptic mechanism of Glucagon-like peptide-1 regulation in energy homeostasis

Z. P. Pang;
Neuroscience and Cell Biology, Rutgers University, New Brunswick, NJ.

Time: Monday, November 14, 2022, 3:25 PM - 3:45 PM

338.06. Neural circuits regulating energy and glucose homeostasis

S. Stanley;
Icahn School of Medicine At Mount Sinai, Icahn School of Medicine, New York, NY.

Time: Monday, November 14, 2022, 3:45 PM - 4:05 PM

338.07. Central control of body temperature and energy expenditure.

W. Shen;
Shanghai Tech University, Shanghai, CHINA.

Time: Monday, November 14, 2022, 4:25 PM - 4:30 PM

338.08. Closing

Minisymposium

339. Advances in Behavioral Quantification to Understand the Brain - Timothy Dunn

Theme I – Techniques

Location: SDCC 6CF

Time: Monday, November 14, 2022, 2:00 PM - 4:30 PM

Description: Machine learning has transformed the way behavior is measured. Phenotypes ranging from fine-scale kinematics to multi-individual social dynamics can now be reliably captured at unprecedented detail across the diverse range of experimental settings employed by neuroscientists. This symposium brings together leading tool developers to provide a unique perspective on how behavioral quantification will enable the next generation in behavior-driven neuroscience.

Time: Monday, November 14, 2022, 2:05 PM - 2:05 PM

339. Chair

T. W. Dunn;
Duke University, Durham, NC.

Time: Monday, November 14, 2022, 2:05 PM - 2:05 PM

339. Co Chair

T. D. Pereira;
The Salk Institute for Biological Studies, La Jolla, CA.

Time: Monday, November 14, 2022, 2:00 PM - 2:05 PM

339.01. Introduction

Time: Monday, November 14, 2022, 2:05 PM - 2:25 PM

339.02. 3D poses and morphologically-realistic neuromechanical models: a match made in heaven

P. Ramdya;
EPFL, Lausanne, SWITZERLAND.

Time: Monday, November 14, 2022, 2:25 PM - 2:45 PM

339.03. Speaker

B. Brunton;
University of Washington, Seattle, WA.

Time: Monday, November 14, 2022, 2:45 PM - 3:05 PM

339.04. Neural and behavioral timescale coordination in freely moving non human primates

J. Zimmermann;
Center for Magnetic Resonance Research, Minneapolis, MN.

Time: Monday, November 14, 2022, 3:05 PM - 3:25 PM

339.05. High-resolution description of naturalistic social interaction in pairs of rats

U. Klibaite;
Harvard University, Somerville, MA.

Time: Monday, November 14, 2022, 3:25 PM - 3:45 PM

339.06. Visualizing and quantifying mouse social interactions and their neural correlates

A. Kennedy;
Northwestern University, Northwestern University, Evanston, IL.

Time: Monday, November 14, 2022, 3:45 PM - 4:05 PM

339.07. Real-time MoSeq: revealing elements of naturalistic reinforcement learning through closed-loop action identification

W. Gillis;
Harvard Medical School, Boston, MA.

Time: Monday, November 14, 2022, 4:25 PM - 4:30 PM

339.08. Closing

Minisymposium

419. Microvessel, Big Problem?: A Brain Journey From Health to Disease - Oliver Bracko

Theme C – Neurodegenerative Disorders and Injury

Location: SDCC 28

Time: Tuesday, November 15, 2022, 9:30 AM - 12:00 PM

Description: This session will discuss the role of the microvasculature in maintaining tissue health, a topic that has rapidly gained interest in neuroscience and general. Thus, it is critical to understand the current state-of-the-art knowledge within the field regarding microvascular function and dysfunction. We will cover a diverse set of topics to highlight microvascular dysfunction from many angles and raise the most critical questions that should guide future directions in the field.

Time: Tuesday, November 15, 2022, 9:35 AM - 9:35 AM

419. Chair

O. Bracko;
University of Miami, Coral Gables, FL.

Time: Tuesday, November 15, 2022, 9:35 AM - 9:35 AM

419. Co Chair

A. Mishra;
Oregon Health, Oregon Health & Science University, Portland, OR.

Time: Tuesday, November 15, 2022, 9:30 AM - 9:35 AM

419.01. Introduction

Time: Tuesday, November 15, 2022, 9:35 AM - 9:55 AM

419.02. Imaging development of neonatal brain capillary networks under normoxia and hypoxia

V. Coelho-Santos;
Center for Developmental Biology & Regenerative Medicine, Seattle Children's Research Institute, Seattle, WA.

Time: Tuesday, November 15, 2022, 9:55 AM - 10:15 AM

419.03. The mechanosensor channel Piezo1 regulates cerebral blood flow

O. F. Harraz;
Department of Pharmacology, Larner College of Medicine, University of Vermont, Bulrington, VT.

Time: Tuesday, November 15, 2022, 10:15 AM - 10:35 AM

419.04. Capillary neurovascular coupling in health and disease

A. Mishra;
Department of Neurology, Jungers Center for Neurosciences Research, Oregon Health & Science University, Portland, OR.

Time: Tuesday, November 15, 2022, 10:35 AM - 10:55 AM

419.05. Microvascular obstructions and microvascular injury in stroke

M. El Amki;
University Hospital Zurich, University Hospital Zurich, Zurich, SWITZERLAND.

Time: Tuesday, November 15, 2022, 10:55 AM - 11:15 AM

419.06. The role of neutrophils in brain blood flow reductions in Alzheimer's

O. Bracko;
Department of Biology, University of Miami, Coral Gables, FL.

Time: Tuesday, November 15, 2022, 11:15 AM - 11:35 AM

419.07. Sex, gender, and vascular contributions to cognitive impairment and dementia: Population neuroscience approaches

C. E. Shaaban;
Department of Epidemiology, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, PA.

Time: Tuesday, November 15, 2022, 11:55 AM - 12:00 PM

419.08. Closing

Minisymposium

420. Beyond the Classical Role of the Edinger-Westphal Nucleus: Novel Findings on Neurocircuitry of Energy Expenditure, Addiction, Fear Responses, and Maternal Behavior - William Giardino

Theme F – Integrative Physiology and Behavior

Location: SDCC 29

Time: Tuesday, November 15, 2022, 9:30 AM - 12:00 PM

Description: Recently, it became clear that the neuronal cell group identified in mammals as the Edinger-Westphal nucleus (EW) does not support its classical description as a regulator of oculomotor function. Instead, studies using neuroanatomical tracing, chemogenetics, optogenetics, and fiber photometry show that EW is a central control station regulating affective

behaviors, fear, thermal responses, addiction, and maternal behaviors. This minisymposium focuses on this expanding view of EW.

Time: Tuesday, November 15, 2022, 9:35 AM - 9:35 AM

420. Chair

W. J. Giardino;
Psychiatry and Behavioral Sciences, Stanford University, Palo Alto, CA.

Time: Tuesday, November 15, 2022, 9:35 AM - 9:35 AM

420. Co Chair

A. E. Ryabinin;
Behavioral Neuroscience, Oregon Health and Science University, Portland, OR.

Time: Tuesday, November 15, 2022, 9:30 AM - 9:35 AM

420.01. Introduction

Time: Tuesday, November 15, 2022, 9:35 AM - 9:55 AM

420.02. The Edinger-Westphal nucleus is a key node of the central sympathetic circuitry in rodents

G. Cano;
Neuroscience, University of Pittsburgh, Pittsburgh, PA.

Time: Tuesday, November 15, 2022, 9:55 AM - 10:15 AM

420.03. An unusual suspect controlling sympathetic outflow to the white adipose tissue

T. Kozicz;
Clinical Genomics, Mayo Clinic, Rochester, MN.

Time: Tuesday, November 15, 2022, 10:15 AM - 10:35 AM

420.04. Glutamatergic neurons of the centrally-projecting Edinger Westphal nucleus regulate ethanol intake and body temperature

A. Zuniga;
Neuroscience, The College of Wooster, Wooster, OH.

Time: Tuesday, November 15, 2022, 10:35 AM - 10:55 AM

420.05. Ghrelin signalling in the Edinger-Westphal nucleus regulates binge drinking in a sex dependent manner

L. C. Walker;
Florey, Florey, Parkville, AUSTRALIA.

Time: Tuesday, November 15, 2022, 10:55 AM - 11:15 AM

420.06. Peptidergic modulation of fear responses by the Edinger-Westphal nucleus

Y. Kozorovitskiy;
Northwestern Univ, Northwestern University, Evanston, IL.

Time: Tuesday, November 15, 2022, 11:15 AM - 11:35 AM

420.07. Maternal preparatory nesting is enabled by Edinger Westphal peptidergic neurons

N. Renier;
Paris Brain Institute, Sorbonne Universite, INSERM, Paris, FRANCE.

Time: Tuesday, November 15, 2022, 11:55 AM - 12:00 PM

420.08. Closing

Minisymposium

421. Large-Scale Neurophysiology in Humans and Nonhuman Primates: Science and Clinical Opportunities - Eric Trautmann

Theme I – Techniques

Location: SDCC 6DE

Time: Tuesday, November 15, 2022, 9:30 AM - 12:00 PM

Description: New technologies for recording neural activity now permit recording from large populations of neurons with single neuron precision in humans and nonhuman primates. Simultaneous recordings from hundreds or thousands of neurons allows for unprecedented measurements of brain activity. This minisymposium will explore the new scientific questions and clinical opportunities enabled by large-scale electrophysiology methods, and considerations for their use in scientific and clinical settings.

Time: Tuesday, November 15, 2022, 9:35 AM - 9:35 AM

421. Chair

E. Trautmann;
Zuckerman, Columbia University, NEW YORK, NY.

Time: Tuesday, November 15, 2022, 9:35 AM - 9:35 AM

421. Co Chair

X. Chen;
University of California, Davis, Davis, CA.

Time: Tuesday, November 15, 2022, 9:30 AM - 9:35 AM

421.01. Introduction

Time: Tuesday, November 15, 2022, 9:35 AM - 9:55 AM

421.02. Rapid Selectivity to Natural Images Across Layers of Primate V1

X. Chen;
University of California, Davis, Davis, CA.

Time: Tuesday, November 15, 2022, 9:55 AM - 10:15 AM

421.03. Large-scale recording of skill-specific motor cortical dynamics in macaque using Neuropixels NHP probes.

E. Trautmann;
Columbia University, NEW YORK, NY.

Time: Tuesday, November 15, 2022, 10:15 AM - 10:35 AM

421.04. Uncovering hidden features of the human brain signaling using high-density microscale neurophysiological sampling.

A. C. Paulk;
Massachusetts General Hospital, Massachusetts General Hospital, Boston, MA.

Time: Tuesday, November 15, 2022, 10:35 AM - 10:55 AM

421.05. The Connexus™ Direct Data Interface (DDI) implantable high-bandwidth clinical brain computer interface

M. R. Angle;
Stanford University, Stanford University, Austin, TX.

Time: Tuesday, November 15, 2022, 10:55 AM - 11:15 AM

421.06. Solving the unique challenges of single-neuron recording with Neuropixels in humans

D. Xu;
University of California, San Francisco, San Francisco, CA.

Time: Tuesday, November 15, 2022, 11:15 AM - 11:35 AM

421.07. Probing the role of top-down feedback in conscious perception with primate Neuropixels recordings

J. K. Hesse;
California Institute of Technology, California Institute of Technology, Pasadena, CA.

Time: Tuesday, November 15, 2022, 11:55 AM - 12:00 PM

421.08. Closing

Minisymposium

504. The Mechanisms of Gut-Brain Axis in Neurological Disorder - Inhee Mook-Jung

Theme C – Neurodegenerative Disorders and Injury

Location: SDCC 6CF

Time: Tuesday, November 15, 2022, 2:00 PM - 4:30 PM

Description:

A growing body of research point towards the existence and role of the gut-brain connection in several neurological diseases. Alterations in gut flora and failure to establish a functioning gastrointestinal (GI) tract system may contribute to the pathogenesis of brain disease. This minisymposium provides scientific insights into new therapeutic approaches through a holistic understanding of the mechanistic link between the GI health and neurological disease.

Time: Tuesday, November 15, 2022, 2:05 PM - 2:05 PM

504. Chair

I. Mook-Jung;
Seoul Natnl Univ Col Med, Seoul National University College of Medicine, Seoul, KOREA, REPUBLIC OF.

Time: Tuesday, November 15, 2022, 2:05 PM - 2:05 PM

504. Co Chair

S. Sisodia;
University of Chicago, CHICAGO, IL.

Time: Tuesday, November 15, 2022, 2:00 PM - 2:05 PM

504.01. Introduction

Time: Tuesday, November 15, 2022, 2:05 PM - 2:25 PM

504.02. Modulatory roles of maternal gut bacteria in offspring’s brain and immune development

J. Huh;
Harvard Medical School, Boston, MA.

Time: Tuesday, November 15, 2022, 2:25 PM - 2:45 PM

504.03. Gut Microbial Metabolites Influence Anxiety-like Behaviors in Mice

S. Mazmanian;
California Institute of Technology, California Institute of Technology, Pasadena, CA.

Time: Tuesday, November 15, 2022, 2:45 PM - 3:05 PM

504.04. Modulation of Ab amyloidosis and neuroinflammation by the gut microbiome

S. Sisodia;
University of Chicago, chicago, IL.

Time: Tuesday, November 15, 2022, 3:05 PM - 3:25 PM

504.05. Gut-brain axis modeling from patient-derived iPSC in Alzheimer's disease

I. Mook-Jung;
Seoul Natnl Univ Col Med, Seoul National University College of Medicine, Seoul, KOREA, REPUBLIC OF.

Time: Tuesday, November 15, 2022, 3:25 PM - 3:45 PM

504.06. The role of sporadic AD-associated genetic variant in the gut-brain axis.

H. Choi;
Seoul National Univ. College of Medicine, Seoul National Univ. College of Medicine, Seoul, KOREA, REPUBLIC OF.

Time: Tuesday, November 15, 2022, 3:45 PM - 4:05 PM

504.07. Evidence that the gut microbiota regulates progression of neurodegeneration in a mouse model of tauopathy

D. Seo;
Washington University in St. Louis, Saint Louis, MO.

Time: Tuesday, November 15, 2022, 4:25 PM - 4:30 PM

504.08. Closing

Minisymposium

505. Neurotransmitter Co-Transmission: Circuits, Behavior, and New Approaches - Yongling Zhu

Theme F – Integrative Physiology and Behavior

Location: SDCC 29

Time: Tuesday, November 15, 2022, 2:00 PM - 4:30 PM

Description: Many neurons can produce, store, and release multiple neurotransmitters. Co-transmission allows neurons to send separate signals to same or different targets for specific functions. This symposium brings together top scientists to highlight recent advances in understanding molecular, cellular, and circuit modalities of co-transmission and discuss its functional importance in brain function and behavior. This event will also introduce new fluorescent indicators for imaging key neurotransmitters.

Time: Tuesday, November 15, 2022, 2:05 PM - 2:05 PM

505. Chair

Y. Zhu;
Northwestern University Feinberg School of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL.

Time: Tuesday, November 15, 2022, 2:05 PM - 2:05 PM

505. Co Chair

M. Jing;
Chinese Institute for Brain Research (CIBR), Beijing, CHINA.

Time: Tuesday, November 15, 2022, 2:00 PM - 2:05 PM

505.01. Introduction

Time: Tuesday, November 15, 2022, 2:05 PM - 2:25 PM

505.02. Intersectional mapping Glutamate/GABA co-releasing neurons in the brain

Y. Zhu;
Northwestern University, Chicago, IL.

Time: Tuesday, November 15, 2022, 2:25 PM - 2:45 PM

505.03. Glutamate and GABA co-packaging in individual synaptic vesicles in the lateral habenula

S. Kim;
Harvard Medical School Graduate Program In Neuroscience, Brookline, MA.

Time: Tuesday, November 15, 2022, 2:45 PM - 3:05 PM

505.04. Co-transmission in the raphe neuromodulatory systems

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

Time: Tuesday, November 15, 2022, 3:05 PM - 3:25 PM

505.05. Locus coeruleus neurons co-release noradrenaline and glutamate to mediate fear-induced suppression of feeding

B. Yang;
Physiology, Northwestern University, Chicago, IL.

Time: Tuesday, November 15, 2022, 3:25 PM - 3:45 PM

505.06. Functional consequences of co-transmission for microcircuit output

D. M. Blitz;
Miami University, Oxford, OH.

Time: Tuesday, November 15, 2022, 3:45 PM - 4:05 PM

505.07. Genetically encoded fluorescent sensors for imaging neurotransmitters

M. Jing;
Chinese Institute for Brain Research (CIBR), Beijing, CHINA.

Time: Tuesday, November 15, 2022, 4:25 PM - 4:30 PM

505.08. Closing

Minisymposium

506. Prefrontal Interneurons: Populations, Pathways, and Plasticity Supporting Normal and Disordered Cognition in Rodent Models - David Kupferschmidt

Theme F – Integrative Physiology and Behavior

Location: SDCC 6DE

Time: Tuesday, November 15, 2022, 2:00 PM - 4:30 PM

Description: This session will showcase novel insights into (1) discrete medial prefrontal cortex (mPFC) interneuron populations in the mouse brain; (2) mPFC interneuron connections with, and regulation of, long-range mPFC afferents; and (3) circuit-specific neural plasticity of mPFC interneurons. Speakers will discuss contributions of such populations, pathways, and plasticity to

rodent cognition in the context of stress, reward, motivational conflict, and genetic mutations relevant to psychiatric disease.

Time: Tuesday, November 15, 2022, 2:05 PM - 2:05 PM

506. Chair

D. A. Kupferschmidt;
National Institute of Neurological Disorders and Stroke/National Institutes of Health, Bethesda, MD.

Time: Tuesday, November 15, 2022, 2:00 PM - 2:05 PM

506.01. Introduction

Time: Tuesday, November 15, 2022, 2:05 PM - 2:25 PM

506.02. Control of fear by discrete prefrontal GABAergic ensembles encoding valence-specific information

K. A. Cummings;
University of Alabama at Birmingham, Birmingham, AL.

Time: Tuesday, November 15, 2022, 2:25 PM - 2:45 PM

506.03. Tsc1 critically regulates the development and function of prefrontal interneurons

R. Malik;
University of California San Francisco, University of California San Francisco, San Francisco, CA.

Time: Tuesday, November 15, 2022, 2:45 PM - 3:05 PM

506.04. Two parallel ventral hippocampal pathways providing bidirectional input onto PFC circuitry

C. Sanchez Bellot;
University College London, London, UNITED KINGDOM.

Time: Tuesday, November 15, 2022, 3:05 PM - 3:25 PM

506.05. Shaping hippocampal input-prefrontal interneuron interactions in a mouse model of 22q11.2 deletion syndrome

D. A. Kupferschmidt;
NINDS / NIH, NINDS / NIH, Bethesda, MD.

Time: Tuesday, November 15, 2022, 3:25 PM - 3:45 PM

506.06. Experience-dependent plasticity of prefrontal microcircuits

M. E. Joffe;
Department of Psychiatry, University of Pittsburgh, Pittsburgh, PA.

Time: Tuesday, November 15, 2022, 3:45 PM - 4:05 PM

506.07. Prefrontal cortical endogenous opioids and emotional processing

H. Yarur-Castillo;
NIH, Bethesda, MD.

Time: Tuesday, November 15, 2022, 4:25 PM - 4:30 PM

506.08. Closing

Minisymposium

507. Understanding the (Dys)function of Motivational Circuits and Maladaptive Feeding - Bridget Matikainen-Ankney

Theme G – Motivation and Emotion

Location: SDCC 6A

Time: Tuesday, November 15, 2022, 2:00 PM - 4:30 PM

Description: Over the past two decades, a conspicuous link between peripheral signaling and brain function has emerged. Large scale neural networks link brain motivation circuits to visceral organs, providing reciprocal communication that regulates a range of physiological processes. This panel will present emerging research on the biology of body-brain communication. Emphasis will be placed on how peripheral signals affect brain reward circuits and how their dysregulation reshapes these neural networks.

Time: Tuesday, November 15, 2022, 2:05 PM - 2:05 PM

507. Chair

B. A. Matikainen-Ankney;
Psychiatry, Washington University In Saint Louis, Saint Louis, MO.

Time: Tuesday, November 15, 2022, 2:05 PM - 2:05 PM

507. Co Chair

R. M. O'Connor;
Icahn School of Medicine at Mount Sinai, New york, NY.

Time: Tuesday, November 15, 2022, 2:00 PM - 2:05 PM

507.01. Introduction

Time: Tuesday, November 15, 2022, 2:05 PM - 2:25 PM

507.02. Effects of gut-brain nutrient sensing on in vivo neural activity

A. L. Alhadeff;
Monell Chemical Senses Center and University of Pennsylvania, Philadelphia, PA.

Time: Tuesday, November 15, 2022, 2:25 PM - 2:45 PM

507.03. Restriction of dietary fat, but not carbohydrate, alters brain reward circuitry in adults with obesity

V. L. Darcey;
NIDDK, Bethesda, MD.

Time: Tuesday, November 15, 2022, 2:45 PM - 3:05 PM

507.04. Outside-in: peripheral modifiers of food reward

A. G. DiFeliceantonio;
Virginia Polytechnic Institute and State University, Blacksburg, VA.

Time: Tuesday, November 15, 2022, 3:05 PM - 3:25 PM

507.05. Obesity persistently dysregulates accumbal circuits underlying food seeking

B. A. Matikainen-Ankney;
Washington University in Saint Louis, Saint Louis, MO.

Time: Tuesday, November 15, 2022, 3:25 PM - 3:45 PM

507.06. Habenular foraging circuits link environmental threats to food valuation and drive compulsive eating in obesity

R. M. O'Connor;
Icahn School of Medicine at Mount Sinai, New York, NY.

Time: Tuesday, November 15, 2022, 3:45 PM - 4:05 PM

507.07. AgRP neurons coordinate the mitigation of activity-based anorexia

A. K. Sutton;
National Institutes of Health, Baltimore, MD.

Time: Tuesday, November 15, 2022, 4:25 PM - 4:30 PM

507.08. Closing

Minisymposium

508. Sonogenetics: Fundamentals and Applications - Zhihai Qiu

Theme I – Techniques

Location: SDCC 28

Time: Tuesday, November 15, 2022, 2:00 PM - 4:30 PM

Description: Sonogenetics refers to the use of genetically-coded, ultrasound sensitive ion channels for noninvasive and selective control of neural activity. It is still in its infancy stages, basic studies and developments are underway and the field is evolving rapidly. The performance including spatiotemporal resolution, selectivity, specificity, and safety are being characterized.

Time: Tuesday, November 15, 2022, 2:05 PM - 2:05 PM

508. Chair

Z. Qiu;
The Hong Kong Polytechnic University, Guangdong Institute of Intelligence Science and Technology, Hengqin, CHINA.

Time: Tuesday, November 15, 2022, 2:05 PM - 2:05 PM

508. Co Chair

L. Sun;
The Hong Kong Polytechnic University, Hong Kong, HONG KONG.

Time: Tuesday, November 15, 2022, 2:00 PM - 2:05 PM

508.01. Introduction

Time: Tuesday, November 15, 2022, 2:05 PM - 2:25 PM

508.02. Development of MscL-G22s sonogenetics

Z. Qiu;
The Hong Kong Polytechnic University, Guangdong Institute of Intelligence Science and Technology, Hengqin, CHINA.

Time: Tuesday, November 15, 2022, 2:25 PM - 2:45 PM

508.03. Sonogenetics is a non-invasive approach to activating neurons in Caenorhabditis elegans.

S. Chalasani;
The Salk Institute For Biological Studies, The Salk Institute For Biological Studies, La Jolla, CA.

Time: Tuesday, November 15, 2022, 2:45 PM - 3:05 PM

508.04. Mechanisms of ultrasonic neuromodulation

J. Kubanek;
University of Utah, Salt Lake City, UT.

Time: Tuesday, November 15, 2022, 3:05 PM - 3:25 PM

508.05. Sonogenetic Modulation of Cellular Activities Using an Engineered Auditory-Sensing Protein

Y. C. Lin;
National Tsinghua University, Taipei, AL, CHINA.

Time: Tuesday, November 15, 2022, 3:25 PM - 3:45 PM

508.06. The development of sonothermogenetics

H. Chen;
Washington University In St. Louis, Washington University in St. Louis, Saint Louis, MO.

Time: Tuesday, November 15, 2022, 3:45 PM - 4:05 PM

508.07. Sonogenetics to restore vision

S. Picaud;
Sorbonne Université, Paris, FRANCE.

Time: Tuesday, November 15, 2022, 4:25 PM - 4:30 PM

508.08. Closing

Minisymposium

584. The Emerging Interface Between Epilepsy and Autism: From Shared Molecules to Common Circuitry Defects - Yang Yang

Theme B – Neural Excitability, Synapses, and Glia

Location: SDCC 6DE

Time: Wednesday, November 16, 2022, 9:30 AM - 12:00 PM

Description: Autism affects one out of 44 children according to a recent CDC report. About one-third of children with autism will develop seizures. However, it is not well understood whether autism and epilepsy have convergent underlying disease mechanisms. This session will bring together researchers from both the autism and epilepsy fields to discuss the interface between these two diseases and possible shared molecular mechanisms and circuitry defects.

Time: Wednesday, November 16, 2022, 9:35 AM - 9:35 AM

584. Chair

Y. Yang;
Purdue University, West Lafayette, IN.

Time: Wednesday, November 16, 2022, 9:35 AM - 9:35 AM

584. Co Chair

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

Time: Wednesday, November 16, 2022, 9:30 AM - 9:35 AM

584.01. Introduction

Time: Wednesday, November 16, 2022, 9:35 AM - 9:55 AM

584.02. Calcium channel splicing in development and Timothy Syndrome

G. Panagiotakos;
UCSF, San Francisco, CA.

Time: Wednesday, November 16, 2022, 9:55 AM - 10:15 AM

584.03. MicroRNA-mediated mechanisms in epilepsy and autism

D. Tiwari;
Cincinnati Children's Hospital, Cincinnati, OH.

Time: Wednesday, November 16, 2022, 10:15 AM - 10:35 AM

584.04. Breakdown of spatial coding and synchronization in epilepsy and its potential implications in autism

T. Shuman;
Icahn School of Medicine at Mount Sinai, New York, NY.

Time: Wednesday, November 16, 2022, 10:35 AM - 10:55 AM

584.05. Multifaceted voltage-gated sodium channel Nav1.2 in autism and epilepsy

Y. Yang;
Purdue University, West Lafayette, IN.

Time: Wednesday, November 16, 2022, 10:55 AM - 11:15 AM

584.06. Cortical interneurons as therapeutic targets for Fragile X Syndrome

C. Portera-Cailliau;
UCLA, Los Angeles, CA.

Time: Wednesday, November 16, 2022, 11:15 AM - 11:35 AM

584.07. Circuit mechanisms of attention impairments in an epilepsy and autism-linked genetic mouse model

B. Ferguson;
Stanford University, Stanford, CA.

Time: Wednesday, November 16, 2022, 11:55 AM - 12:00 PM

584.08. Closing

Minisymposium

585. The Intricate Regulation of AMPA Receptors by Transmembrane Accessory Factors - Yael Stern-Bach

Theme B – Neural Excitability, Synapses, and Glia

Location: SDCC 6CF

Time: Wednesday, November 16, 2022, 9:30 AM - 12:00 PM

Description: AMPA receptors (AMPARs) are responsible for most of the fast-excitatory synaptic transmission in the brain. Since the discovery of the first AMPAR auxiliary factor (stargazin/TARPg2) this field has expanded to nearly 10 distinct protein families from cutting-edge proteomics. This session will highlight recent functional discoveries and novel insights gained from studies characterizing various auxiliary factors that regulate AMPARs in synaptic transmission, plasticity and disease.

Time: Wednesday, November 16, 2022, 9:35 AM - 9:35 AM

585. Chair

Y. Stern-Bach;
Biochemistry and Molecular Biology, Hebrew University of Jerusalem, Jerusalem, ISRAEL.

Time: Wednesday, November 16, 2022, 9:35 AM - 9:35 AM

585. Co Chair

M. G. Kurnikova;
Chemistry Department, CARNEGIE MELLON UNIVERSITY, PITTSBURGH, PA.

Time: Wednesday, November 16, 2022, 9:30 AM - 9:35 AM

585.01. Introduction

Time: Wednesday, November 16, 2022, 9:35 AM - 9:55 AM

585.02. Dynamics of Surface AMPARs Controlled by Constituents of the Receptor Interactome

B. Fakler;
Institute of Physiology, University of Freiburg, Freiburg, GERMANY.

Time: Wednesday, November 16, 2022, 9:55 AM - 10:15 AM

585.03. High-resolution imaging and manipulation of endogenous AMPA receptor surface mobility during synaptic plasticity and learning

A. M. Getz;
CNRS, IINS, Bordeaux, FRANCE.

Time: Wednesday, November 16, 2022, 10:15 AM - 10:35 AM

585.04. Cryo-EM studies of AMPA receptor-auxiliary subunit complexes

S. Gangwar;
Biochemistry and Molecular Biophysics, Columbia University, New York, NY.

Time: Wednesday, November 16, 2022, 10:35 AM - 10:55 AM

585.05. Nanoscale control of AMPA-selective ionotropic glutamate receptors by alternate splicing

D. Bowie;
McGill Univ, McGill Univ, Montreal, QC, CANADA.

Time: Wednesday, November 16, 2022, 10:55 AM - 11:15 AM

585.06. Molecular Mechanisms of AMPA receptor gating, regulation and inhibition inferred via molecular modeling

C. Narangoda;
Chemistry Department, Carnegie Mellon University, Pittsburgh, PA.

Time: Wednesday, November 16, 2022, 11:15 AM - 11:35 AM

585.07. Co-regulation of AMPAR by TARPs and CKAMPs

Y. Stern-Bach;
Biochemistry and Molecular Biology, Hebrew University of Jerusalem, Jerusalem, ISRAEL.

Time: Wednesday, November 16, 2022, 11:55 AM - 12:00 PM

585.08. Closing

Minisymposium

586. Primate Frontopolar Cortex (FPC): From Circuits to Complex Behaviors - Jeremy Hogeveen

Theme F – Integrative Physiology and Behavior

Location: SDCC 28

Time: Wednesday, November 16, 2022, 9:30 AM - 12:00 PM

Description: At the anterior end of the primate brain, frontopolar cortex (FPC) is a highly-evolved region thought to play a role in shaping complex behaviors. Yet, our understanding of FPC is limited, especially relative to other prefrontal subdivisions like dorsolateral prefrontal cortex. This panel comprises scientists at the forefront of FPC understanding, using novel methods ranging from single FPC units and local field potentials in monkeys, to fMRI and neuromodulation of brain-wide networks in humans.

Time: Wednesday, November 16, 2022, 9:35 AM - 9:35 AM

586. Chair

J. Hogeveen;
The University of New Mexico, Albuquerque, NM.

Time: Wednesday, November 16, 2022, 9:35 AM - 9:35 AM

586. Co Chair

V. D. Costa;
Oregon Health and Science University, Oregon Health and Science University, Beaverton, OR.

Time: Wednesday, November 16, 2022, 9:30 AM - 9:35 AM

586.01. Introduction

Time: Wednesday, November 16, 2022, 9:35 AM - 9:55 AM

586.02. Prefrontal pathways for cognition: anatomical specializations of frontopolar cortical circuits.

M. Medalla;
Boston University School of Medicine, Boston, MA.

Time: Wednesday, November 16, 2022, 9:55 AM - 10:15 AM

586.03. Neural dynamics in the macaque frontopolar cortex during rule-guided behaviour.

J. M. Galeazzi;
University of Oxford, University of Oxford, Oxford, UNITED KINGDOM.

Time: Wednesday, November 16, 2022, 10:15 AM - 10:35 AM

586.04. The contribution of low gamma activity recorded from frontopolar cortex to cognitive flexibility

M. Ainsworth;
University of Oxford, Oxford, UNITED KINGDOM.

Time: Wednesday, November 16, 2022, 10:35 AM - 10:55 AM

586.05. The role of frontopolar cortex in cognitive flexibility of primates.

F. A. Mansouri;
Monash University, Clayton, Melbourne, AUSTRALIA.

Time: Wednesday, November 16, 2022, 10:55 AM - 11:15 AM

586.06. Frontopolar cortex encodes the value of exploring novel opportunities.

J. Hogeveen;
The University of New Mexico, Albuquerque, NM.

Time: Wednesday, November 16, 2022, 11:15 AM - 11:35 AM

586.07. Transcranial Magnetic Stimulation of the frontal pole: An emerging therapeutic approach for addiction and obsessive compulsive disorder

C. A. Hanlon;
Wake Forest School of Medicine, Wake Forest School of Medicine, Winston Salem, NC.

Time: Wednesday, November 16, 2022, 11:55 AM - 12:00 PM

586.08. Closing

Minisymposium

587. Adaptive Behavior: From Cognitive Control to Clinical Conditions - Tom Macpherson

Theme H – Cognition

Location: SDCC 6A

Time: Wednesday, November 16, 2022, 9:30 AM - 12:00 PM

Description: Adapting to our environment is critical for survival and requires rapid learning and extrapolation of information to other situations. Indeed, dysfunctions of such abilities are thought to contribute to several clinical conditions, including autism and schizophrenia. This multi-disciplinary mini-symposium addresses molecular, cellular, and computational mechanisms of adaptive behaviour, discussing recent human and animal brain imaging, computational modelling, and gene-wide association studies.

Time: Wednesday, November 16, 2022, 9:35 AM - 9:35 AM

587. Chair

T. Macpherson;
Osaka University, Osaka University, Suita, JAPAN.

Time: Wednesday, November 16, 2022, 9:35 AM - 9:35 AM

587. Co Chair

A. Cortese;
ATR Institute International, ATR Institute International, Kyoto, JAPAN.

Time: Wednesday, November 16, 2022, 9:30 AM - 9:35 AM

587.01. Introduction

Time: Wednesday, November 16, 2022, 9:35 AM - 9:55 AM

587.02. Developmental tuning of reinforcement learning

C. A. Hartley;
Department of Psychology, New York University, New York, NY.

Time: Wednesday, November 16, 2022, 9:55 AM - 10:15 AM

587.03. The interplay between higher cognitive functions and reinforcement learning

A. Cortese;
ATR Institute International, Kyoto, JAPAN.

Time: Wednesday, November 16, 2022, 10:15 AM - 10:35 AM

587.04. Efficient regulation and dysregulation of top-down cognitive control circuit

H. Morishita;
Icahn School of Medicine at Mount Sinai, New York, NY.

Time: Wednesday, November 16, 2022, 10:35 AM - 10:55 AM

587.05. The cognitive basis of intracranial self-stimulation of dopamine neurons

M. J. Sharpe;
Department of Psychology, University of California, Los Angeles, Los Angeles, CA.

Time: Wednesday, November 16, 2022, 10:55 AM - 11:15 AM

587.06. Striatal mechanisms of discrimination learning and their dysfunction in schizophrenia model mice

T. Macpherson;
Institute for Protein Research, Osaka University, Suita, JAPAN.

Time: Wednesday, November 16, 2022, 11:15 AM - 11:35 AM

587.07. Genome and phenome-wide association studies establish the role of CADM2 in impulsivity in humans and mice

S. Sanchez-Roige;
Department of Pschiatry, University of California, San Diego, La Jolla, CA.

Time: Wednesday, November 16, 2022, 11:55 AM - 12:00 PM

587.08. Closing

Minisymposium

671. Functionalized Brain Organoids: Going Beyond the Neuroectoderm - Galina Popova

Theme A – Development

Location: SDCC 6A

Time: Wednesday, November 16, 2022, 2:00 PM - 4:30 PM

Description: The advent of brain organoids opened new avenues for modeling and manipulation of human brain development and diseases. These organoids were initially based on neuroectoderm-derived cell repertoire but would exclude cells from other lineages, such as immune cells and vasculature. This mini-symposium will cover new approaches and discoveries that led to “functionalization” of organoids to supplement them with other cell populations that are essential to the brain development and disease progression.

Time: Wednesday, November 16, 2022, 2:05 PM - 2:05 PM

671. Chair

G. Popova;
Regeneration Medicine, University of California, San Francisco, San Francisco, CA.

Time: Wednesday, November 16, 2022, 2:05 PM - 2:05 PM

671. Co Chair

G. Ming;
University of Pennsylvania, University of Pennsylvania, gladwyne, PA.

Time: Wednesday, November 16, 2022, 2:00 PM - 2:05 PM

671.01. Introduction

Time: Wednesday, November 16, 2022, 2:05 PM - 2:25 PM

671.02. Neuro-immune organoids reduce cell stress and increase neuronal connectivity

G. Popova;
University of California, San Francisco, San Francisco, CA.

Time: Wednesday, November 16, 2022, 3:45 PM - 4:05 PM

671.03. Modeling angiogenesis and neurogenesis in vascularized brain organoids

E. Crouch;
UCSF, San Francisco, CA.

Time: Wednesday, November 16, 2022, 2:25 PM - 2:45 PM

671.04. An organoid model of glioblastoma immunotherapy reveals dynamic and reciprocal interactions between tumor and CAR-T cells

D. Zhang;
University of Pennsylvania, Philadelphia, PA.

Time: Wednesday, November 16, 2022, 3:05 PM - 3:25 PM

671.05. The use of microglia-cerebral organoid culture models to study microglial contributions to neurodevelopmental and neurodegenerative disorders

A. Buonfiglioli;
Icahn School of Medicine at Mount Sinai, New York, NY.

Time: Wednesday, November 16, 2022, 3:25 PM - 3:45 PM

671.06. Immune cells and signaling mechanisms influence normal and atypical human cortical development

M. Andrews;
Arizona State University, Tempe, AZ.

Time: Wednesday, November 16, 2022, 4:05 PM - 4:25 PM

671.07. Bringing perfusion into vascular and brain organoids models

Y. Zheng;
Bioengineering, University of Washington, Seattle, WA.

Time: Wednesday, November 16, 2022, 4:25 PM - 4:30 PM

671.08. Closing

Minisymposium

672. Applications of Navigational Encoding - David Maisson

Theme F – Integrative Physiology and Behavior

Location: SDCC 6DE

Time: Wednesday, November 16, 2022, 2:00 PM - 4:30 PM

Description: In naturalistic contexts, targets of interest, like a food source or a conspecific, are often located more distally than a simple arm's reach away. Interacting with the environment requires navigational and motor plans for how to get from where one is to that interesting target. This session will be focused on discussing how encoding navigational variables is applied across a variety of brain structures, comparatively across species.

Time: Wednesday, November 16, 2022, 2:05 PM - 2:05 PM

672. Chair

D. J. Maisson;
University of Minnesota, Minneapolis, MN.

Time: Wednesday, November 16, 2022, 2:00 PM - 2:05 PM

672.01. Introduction

Time: Wednesday, November 16, 2022, 2:05 PM - 2:25 PM

672.02. Interactions between foraging-related and navigation-related neural representations on a spatial decision making task in rats

A. M. Wikenheiser;
UCLA Psychology, Los Angeles, CA.

Time: Wednesday, November 16, 2022, 2:25 PM - 2:45 PM

672.03. An RSA approach to understanding the topological determinants of spatial coding within and beyond rodent hippocampus

A. Keinath;
McGill University, Montreal, QC, CANADA.

Time: Wednesday, November 16, 2022, 2:45 PM - 3:05 PM

672.04. A stable hippocampal code in flying bats

W. A. Liberti, III;
University of California Berkeley, University of California Berkeley, Berkeley, CA.

Time: Wednesday, November 16, 2022, 3:05 PM - 3:25 PM

672.05. Distributed navigational encoding in the prefrontal cortex of freely moving rhesus macaques

D. J. Maisson;
University of Minnesota, Minneapolis, MN.

Time: Wednesday, November 16, 2022, 3:25 PM - 3:45 PM

672.06. Coding of latent navigational-goals across the primate's cortex and the rodent's brain.

J. Noel;
New York University, New York University, New York, NY.

Time: Wednesday, November 16, 2022, 3:45 PM - 4:05 PM

672.07. Dynamic brain network interactions during human navigational learning

E. R. Chrastil;
UC Irvine, Irvine, CA.

Time: Wednesday, November 16, 2022, 4:25 PM - 4:30 PM

672.08. Closing

Minisymposium

673. Expanding Understanding of Fear Neurocircuitry From Bench to Bedside - Kerry Ressler

Theme G – Motivation and Emotion

Location: SDCC 6CF

Time: Wednesday, November 16, 2022, 2:00 PM - 4:30 PM

Description: This session will expand beyond traditional models of fear neurocircuitry, to show how an extended set of mechanisms influence behavior and stress-related disorders. We consider the role of sensory cortex in fear learning, and how stress-related alterations change both threat and reward-related behavior. Speakers bridge the levels of synapse, gene expression, neuroimaging, and treatment. We demonstrate the potential of the translational pipeline to improve treatment of stress-related disorders.

Time: Wednesday, November 16, 2022, 2:05 PM - 2:05 PM

673. Chair

K. J. Ressler;
McLean Hospital / Harvard Medical School, McLean Hospital / Harvard Medical School, Belmont, MA.

Time: Wednesday, November 16, 2022, 2:05 PM - 2:05 PM

673. Co Chair

J. S. Stevens;
Emory University, Atlanta, GA.

Time: Wednesday, November 16, 2022, 2:00 PM - 2:05 PM

673.01. Introduction

Time: Wednesday, November 16, 2022, 2:05 PM - 2:25 PM

673.02. How sleep and sleep loss affect a visually-cued fear memory trace in mice

S. J. Aton;
University of Michigan, University of Michigan, Ann Arbor, MI.

Time: Wednesday, November 16, 2022, 2:25 PM - 2:45 PM

673.03. Amygdala *Crh* cells at the intersection of threat and aggression neurocircuitry

E. L. Newman;
McLean Hospital, Belmont, MA.

Time: Wednesday, November 16, 2022, 2:45 PM - 3:05 PM

673.04. Systems Biology Dissection of stress-related mental disorders across brain regions and cell types

N. Daskalakis;
Harvard Medical School/Mclean Hospital, Harvard Medical School/ McLean, Belmont, MA.

Time: Wednesday, November 16, 2022, 3:05 PM - 3:25 PM

673.05. Multivariate structural covariance of the ventral visual stream is associated with acute and future posttraumatic dysfunction in humans

N. G. Harnett;
McLean Hospital, McLean Hospital, Belmont, MA.

Time: Wednesday, November 16, 2022, 3:25 PM - 3:45 PM

673.06. Understanding the co-emergence of posttraumatic stress disorder and alcohol use in humans: Exploring time since trauma and potential neural mediators

C. A. Hinojosa;
Emory University School of Medicine, Atlanta, GA.

Time: Wednesday, November 16, 2022, 3:45 PM - 4:05 PM

673.07. Defining novel neurostimulation targets in the fear neurocircuitry for PTSD using fMRI, TMS and ablation studies in humans

S. J. H. Van Rooij;
Emory University, ATLANTA, GA.

Time: Wednesday, November 16, 2022, 4:25 PM - 4:30 PM

673.08. Closing

Minisymposium

674. Neural Mechanisms Mediating Sex Differences in Motivation for Reward: Food and Drugs of Abuse - Jill Becker

Theme G – Motivation and Emotion

Location: SDCC 28

Time: Wednesday, November 16, 2022, 2:00 PM - 4:30 PM

Description: Sex differences in motivation have been reported for both food rewards and drugs of abuse. This session will explore the neural basis for sex differences in motivation and the hormonal mechanisms mediating these sex differences. Speakers will discuss cognitive bias and the role of hormones and steroid hormone receptors in modulating the effects of food and drug reward on glutamatergic and dopaminergic neural systems thus integrating information about sex differences in neural plasticity.

Time: Wednesday, November 16, 2022, 2:05 PM - 2:05 PM

674. Chair

J. B. Becker;
University of Michigan, University of Michigan, Ann Arbor, MI.

Time: Wednesday, November 16, 2022, 2:00 PM - 2:05 PM

674.01. Introduction

Time: Wednesday, November 16, 2022, 2:05 PM - 2:25 PM

674.02. Speaker

T. E. Hodges;
Psychology, University of British Columbia, Vancouver, AB, CANADA.

Time: Wednesday, November 16, 2022, 2:25 PM - 2:45 PM

674.03. Hormonal basis of sex differences in reward-based decision making

C. A. Orsini;
The University of Texas at Austin, The University of Texas at Austin, Austin, TX.

Time: Wednesday, November 16, 2022, 2:45 PM - 3:05 PM

674.04. Hormonal basis of sex differences in motivation for food and drugs

J. B. Becker;
University of Michigan, University of Michigan, Ann Arbor, MI.

Time: Wednesday, November 16, 2022, 3:05 PM - 3:25 PM

674.05. Caught in a dragnet: How sex and diet differentially affects perineuronal nets

T. E. Brown;
Integrative Physiology and Neuroscience, Washington State University, Pullman, WA.

Time: Wednesday, November 16, 2022, 3:25 PM - 3:45 PM

674.06. The neurocircuitry of abstinence-induced reward-seeking in males and females.

Y. Alonso-Caraballo;
Neuroscience, University of Minnesota, Minneapolis, MN.

Time: Wednesday, November 16, 2022, 3:45 PM - 4:05 PM

674.07. Sex differences in the dopaminergic regulation of risky decision making and motor impulsivity as modeled using the cued rat gambling task

C. A. Winstanley;
University of British Columbia, Vancouver, BC, CANADA.

Time: Wednesday, November 16, 2022, 4:25 PM - 4:30 PM

674.08. Closing

Symposium

004. Super-Resolution Imaging *In Vivo* Opens New Doors to the Nanoworld - Martin Fuhrmann

Theme I – Techniques

Location: SDCC 6B

Time: Saturday, November 12, 2022, 2:00 PM - 4:30 PM

Description: Super-resolution microscopy has become accessible for many scientists nowadays. While it is widely used for visualizing nano-structures in fixed tissue and cells *in vitro*, its application *in vivo* is still fairly limited. We will cover recent technical advances that have finally

pushed super-resolution imaging into the *in vivo* realm, making it attractive for a broader community. We will also showcase recent insights into the nanoscale mechanisms of cellular communication between neurons and glia.

Time: Saturday, November 12, 2022, 2:05 PM - 2:05 PM

004. Chair

M. Fuhrmann;
Neuroimmunology and Imaging, German Center for Neurodegenerative Diseases (DZNE), Bonn, Bonn, GERMANY.

Time: Saturday, November 12, 2022, 2:05 PM - 2:05 PM

004. Co Chair

V. Nägerl;
Interdisciplinary Institute of Neuroscience, University of Bordeaux - CNRS, Bordeaux, FRANCE.

Time: Saturday, November 12, 2022, 2:00 PM - 2:05 PM

004.01. Introduction

Time: Saturday, November 12, 2022, 2:05 PM - 2:30 PM

004.02. Fluorescence Optical Nanoscopy of Neuronal Cells

G. Coceano;
Dept. Applied Physics, Biophysics Unit, SciLifeLab, Kungliga Tekniska högskolan, Solna, SWEDEN.

Time: Saturday, November 12, 2022, 2:30 PM - 2:55 PM

004.03. Super-resolution shadow imaging of brain nano-structures in vivo

V. Nägerl;
Interdisciplinary Institute of Neuroscience, University of Bordeaux - CNRS, Bordeaux, FRANCE.

Time: Saturday, November 12, 2022, 2:55 PM - 3:20 PM

004.04. Nanoscale imaging of the extracellular space in the parkinsonian brain

F. N. Soria;
Achucarro Basque Center for Neuroscience, Leioa, SPAIN.

Time: Saturday, November 12, 2022, 3:20 PM - 3:45 PM

004.05. Super-resolution imaging of hippocampal microglia and dendritic spines in vivo

M. Fuhrmann;
Neuroimmunology and Imaging, German Center for Neurodegenerative Diseases (DZNE), Bonn, Bonn, GERMANY.

Time: Saturday, November 12, 2022, 4:25 PM - 4:30 PM

004.06. Closing

Symposium

006. The Neurological Consequences of COVID-19 - John Winslow

Theme C – Neurodegenerative Disorders and Injury

Location: SDCC 6A

Time: Saturday, November 12, 2022, 2:00 PM - 4:30 PM

Description: An estimated 40-50% of pandemic coronavirus disease 2019 (COVID-19) patients are affected by neurological dysfunction, while 10-20% of patients suffer from neurological post-acute sequelae from COVID-19 (PASC), or “long COVID”, lasting for weeks or months. This symposium will review recent efforts to define the phenotypes and outcomes of neurological manifestations of COVID-19, and to identify biological and molecular associations which may inform pathogenesis, diagnosis, and treatment.

Time: Saturday, November 12, 2022, 2:05 PM - 2:05 PM

006. Chair

J. W. Winslow;
R&D, Labcorp-Monogram Biosciences, South San Francisco, CA.

Time: Saturday, November 12, 2022, 2:00 PM - 2:05 PM

006.01. Intro

Time: Saturday, November 12, 2022, 2:05 PM - 2:30 PM

006.02. Neurologic Manifestations of COVID-19: A changing landscape

S. H. Chou;
Department of Neurology, Northwestern Feinberg School of Medicine, Chicago, IL.

Time: Saturday, November 12, 2022, 2:30 PM - 2:55 PM

006.03. Tomorrow and Tomorrow and Tomorrow: Update on the Neuropathogenesis of Long COVID

S. Spudich;
Department of Neurology, Yale University School of Medicine, New Haven, CT.

Time: Saturday, November 12, 2022, 2:55 PM - 3:20 PM

006.04. Cerebrospinal fluid abnormalities in cognitive post-acute sequelae of SARS-CoV-2 infection (PASC)

J. Hellmuth;
Memory and Aging Center, University of California, San Francisco, San Francisco, CA.

Time: Saturday, November 12, 2022, 3:20 PM - 3:45 PM

006.05. Plasma markers of neurologic injury and systemic inflammation in individuals with neurologic post-acute sequelae of SARS-CoV-2 infection (PASC)

M. J. Peluso;
Division of HIV, Infectious Diseases, and Global Medicine, UCSF, San Francisco, CA.

Time: Saturday, November 12, 2022, 4:25 PM - 4:30 PM

006.06. Closing

Symposium

168. Advances in Amyotrophic Lateral Sclerosis - Bryan Traynor

Theme C – Neurodegenerative Disorders and Injury

Location: SDCC 6B

Time: Sunday, November 13, 2022, 2:00 PM - 4:30 PM

Description: This session will outline recent advances in amyotrophic lateral sclerosis (ALS) including new treatments, clinical trial design, large-scale initiatives, insights into the disease provided by genetics, and future directions. Innovative clinical trial designs that accelerate the testing of therapies are coming to the fore, as well as remote sensing to increase patient engagement in clinical trials. A series of leaders in the field will describe their research and what excites them moving forward.

Time: Sunday, November 13, 2022, 2:05 PM - 2:05 PM

168. Chair

B. Traynor;
National Institutes of Health / National Institute on Aging, Bethesda, MD.

Time: Sunday, November 13, 2022, 2:05 PM - 2:05 PM

168. Co Chair

E. L. Feldman;
The University of Michigan, The University of Michigan, Ann Arbor, MI.

Time: Sunday, November 13, 2022, 2:00 PM - 2:05 PM

168.01. Introduction

Time: Sunday, November 13, 2022, 2:05 PM - 2:30 PM

168.02. Recent Advances in ALS

E. L. Feldman;
The University of Michigan, The University of Michigan, Ann Arbor, MI.

Time: Sunday, November 13, 2022, 2:30 PM - 2:55 PM

168.03. Regulation of TDP-43 nuclear localization and therapeutic targeting

L. R. Hayes;
Johns Hopkins School of Medicine, Baltimore, MD.

Time: Sunday, November 13, 2022, 2:55 PM - 3:20 PM

168.04. Antisense Oligonucleotide Therapy for SOD1 ALS

T. M. Miller;
Washington Univ, Sch Med, Washington University School of Medicine, St. Louis, MO.

Time: Sunday, November 13, 2022, 3:20 PM - 3:45 PM

168.05. Unraveling the Genomics of ALS

B. Traynor;
National Institutes of Health / National Institute on Aging, Bethesda, MD.

Time: Sunday, November 13, 2022, 3:55 PM - 4:00 PM

168.06. Closing

Symposium

169. Industrial Insights and Perspectives Into Translational Neuroscience - Baihan Lin

Theme I – Techniques

Location: SDCC 6CF

Time: Sunday, November 13, 2022, 2:00 PM - 4:30 PM

Description: Industry neuroscience research has become a major driving force of scientific discoveries and translational applications that impact millions of people. This symposium will discuss state-of-the-art technologies in neuroscience industries such as brain-computer interface, computational psychiatry, and virtual reality. Industrial leaders will share their unique strategies

and perspectives to translate research into clinical/commercial applications and novel therapies for nervous system disorders.

Time: Sunday, November 13, 2022, 2:05 PM - 2:05 PM

169. Chair

B. Lin;
Zuckerman Mind Brain Behavior Institute, Columbia University Irving Medical Center, New York, NY.

Time: Sunday, November 13, 2022, 2:00 PM - 2:05 PM

169.01. Introduction

Time: Sunday, November 13, 2022, 2:05 PM - 2:30 PM

169.02. Clinical diagnosis and prognosis with speech analytics

G. A. Cecchi;
Computational Psychiatry and Neuroimaging, Research, Yorktown Heights, NY.

Time: Sunday, November 13, 2022, 2:30 PM - 2:55 PM

169.03. Neuroscience as the basis for human computer interaction

M. Gonzalez-Franco;
Extended Perception Interaction and Cognition, Microsoft Research, Redmond, WA.

Time: Sunday, November 13, 2022, 2:55 PM - 3:20 PM

169.04. Project Amber: Google's mental health moonshot

S. Laszlo;
X, the Moonshot Factory, Google LLC, Mountain View, CA.

Time: Sunday, November 13, 2022, 3:20 PM - 3:45 PM

169.05. An endovascular route to accessing cortical motor signals for controlling digital devices by thought: first-in-human experience

T. J. Oxley;
Department of Surgery, Mount Sinai Hospital, New York, NY.

Time: Sunday, November 13, 2022, 4:25 PM - 4:30 PM

169.06. Closing

Symposium

249. The Cells and Circuits of Thalamocortical Interactions - W. Martin Usrey

Theme D – Sensory Systems

Location: SDCC 29

Time: Monday, November 14, 2022, 9:30 AM - 12:00 PM

Description: The thalamus and cerebral cortex are active and necessary partners in the processing of signals essential for sensory, motor, and cognitive functions. This partnership is absolute, as neither the thalamus nor the cortex can be understood in any meaningful way in isolation of the other. This symposium will provide fundamental knowledge about the cells and circuits that mediate thalamocortical interactions and their role in cognitive processes.

Time: Monday, November 14, 2022, 9:35 AM - 9:35 AM

249. Chair

W. Usrey;
University of California, Davis, University of California, Davis, Davis, CA.

Time: Monday, November 14, 2022, 9:35 AM - 9:35 AM

249. Co Chair

S. Sherman;
Department of Neurobiology, University of Chicago, CHICAGO, IL.

Time: Monday, November 14, 2022, 9:30 AM - 9:35 AM

249.01. Introduction

Time: Monday, November 14, 2022, 9:35 AM - 10:00 AM

249.02. The Influence of the Pretectum on the Visual Thalamus

M. E. Bickford;
Anatomical Sciences and Neurobiology, University of Louisville School of Medicine, Louisville, KY.

Time: Monday, November 14, 2022, 10:00 AM - 10:25 AM

249.03. Functional role of corticogeniculate feedback in vision

F. Briggs;
Departments of Neuroscience and Brain and Cognitive Sciences, University of Rochester, Rochester, NY.

Time: Monday, November 14, 2022, 10:25 AM - 10:50 AM

249.04. Organization and function of cortico-thalamo-cortical interactions in the mouse visual system

E. M. Callaway;
Systems Neurobiology Labs, Salk Institute, La Jolla, CA.

Time: Monday, November 14, 2022, 10:50 AM - 11:15 AM

249.05. Context-dependent Gating of Auditory Thalamocortical Processing

A. J. King;
University of Oxford, Oxford, UNITED KINGDOM.

Time: Monday, November 14, 2022, 11:55 AM - 12:00 PM

249.06. Closing

Symposium

335. Excitatory-Inhibitory Microcircuit Dysfunction and Alzheimer's Disease - Abid Hussaini

Theme C – Neurodegenerative Disorders and Injury

Location: SDCC 6DE

Time: Monday, November 14, 2022, 2:00 PM - 4:30 PM

Description: This session will discuss how the excitatory-inhibitory balance is impacted in neurodegenerative diseases such as Alzheimer’s disease (AD). The mechanisms underlying cellular and circuit dysfunction in the vulnerable brain regions that are initially affected in AD remains to be elucidated. Focus will be on excitatory-inhibitory microcircuitry and interactions with astrocytes in cortical regions during the pathogenesis of AD and how cellular, network, and cognitive dysfunction can be reversed with neural stimulation and therapeutic interventions.

Time: Monday, November 14, 2022, 2:05 PM - 2:05 PM

335. Chair

A. Hussaini;
Department of Pathology and Cell Biology, Taub Institute, Columbia University Irving Medical Center, NEW YORK, NY.

Time: Monday, November 14, 2022, 2:05 PM - 2:05 PM

335. Co Chair

A. B. Ali;
University College London, University College London, London, UNITED KINGDOM.

Time: Monday, November 14, 2022, 2:00 PM - 2:05 PM

335.01. Introduction

Time: Monday, November 14, 2022, 2:05 PM - 2:30 PM

335.02. Mitochondrial network plasticity in astrocytes during neurodegeneration

A. Agarwal;
Institute for Anatomy and Cell Biology, Heidelberg University, Heidelberg, GERMANY.

Time: Monday, November 14, 2022, 2:30 PM - 2:55 PM

335.03. How Do Amyloid Beta and Tau Pathologies Drive Neuronal Dysfunction and Spatial Memory Deficits?

A. Hussaini;
Department of Pathology and Cell Biology, Columbia University Irving Medical Center, New York, NY.

Time: Monday, November 14, 2022, 2:55 PM - 3:20 PM

335.04. Alleviating anxiety in Alzheimer’s disease via modulation of specific GABAA receptor subunits

A. B. Ali;
University College London, University College London, London, UNITED KINGDOM.

Time: Monday, November 14, 2022, 3:20 PM - 3:45 PM

335.05. From synapses to stimulation: bridging synaptic dysfunction, neural correlates of memory, and neural stimulation in Alzheimer’s disease

A. C. Singer;
Georgia Institute of Technology, Atlanta, GA.

Time: Monday, November 14, 2022, 4:25 PM - 4:30 PM

335.06. Closing

Symposium

417. *In Vivo* Lineage Reprogramming for CNS Repair: Refining the Toolbox - Benedikt Berninger

Theme A – Development

Location: SDCC 6B

Time: Tuesday, November 15, 2022, 9:30 AM - 12:00 PM

Description: *In vivo* glia-to-neuron reprogramming is an emerging approach towards CNS repair. However, its biology and challenges at the molecular, cellular and circuit level need to be fully understood to advance it to a preclinical stage. This session will discuss the molecular mechanisms of glia-to-neuron conversion, the importance of tracing the origin of induced neurons, the potential of *in vivo* reprogramming as alternative to transplantation, and strategies of generating specific neuron types.

Time: Tuesday, November 15, 2022, 9:35 AM - 9:35 AM

417. Chair

B. Berninger;
King's College London, King's College London, London, UNITED KINGDOM.

Time: Tuesday, November 15, 2022, 9:35 AM - 9:35 AM

417. Co Chair

C. Zhang;
University of Texas Southwestern Medical Center, Dallas, TX.

Time: Tuesday, November 15, 2022, 9:30 AM - 9:35 AM

417.01. Introduction

Time: Tuesday, November 15, 2022, 9:35 AM - 10:00 AM

417.02. Mechanisms of direct neuronal reprogramming - from fate competition to optimizing reprogramming factors

M. Götz;
Helmholtz Zentrum München, Biomedical Centre Munich, Planegg, GERMANY.

Time: Tuesday, November 15, 2022, 10:00 AM - 10:25 AM

417.03. *In vivo* glia reprogramming: tracing the cell source and conversion process

C. Zhang;
University of Texas Southwestern Medical Center, Dallas, TX.

Time: Tuesday, November 15, 2022, 10:25 AM - 10:50 AM

417.04. Can *in vivo* neural conversion replace transplantation based cell therapy?

M. Parmar;
Wallenberg Neurosci Ctr, Wallenberg Neurosci Ctr, Lund 22184, SWEDEN.

Time: Tuesday, November 15, 2022, 10:50 AM - 11:15 AM

417.05. Engineering new cortical interneurons *in vivo*: identifying the barriers

B. Berninger;
King's College London, King's College London, London, UNITED KINGDOM.

Time: Tuesday, November 15, 2022, 11:55 AM - 12:00 PM

417.06. Closing

Symposium

418. Dynamic Interactions Between Excitatory and Inhibitory Synapses in Dendrites - Corette Wierenga

Theme B – Neural Excitability, Synapses, and Glia

Location: SDCC 6A

Time: Tuesday, November 15, 2022, 9:30 AM - 12:00 PM

Description: In this symposium we will present emerging insights on how excitatory and inhibitory activity is coordinated within dendrites and how these effects shape neuronal computation and brain function. Speakers will discuss molecular mechanisms which coordinate formation of excitatory and inhibitory synapses within dendrites, and how context-dependent multisynaptic changes shape network function and ultimately behavior.

Time: Tuesday, November 15, 2022, 9:35 AM - 9:35 AM

418. Chair

C. J. Wierenga;
Biology Department, Utrecht University, Utrecht, NETHERLANDS.

Time: Tuesday, November 15, 2022, 9:35 AM - 9:35 AM

418. Co Chair

E. Nedivi;
Massachusetts Institute of Technology, Cambridge, MA.

Time: Tuesday, November 15, 2022, 9:30 AM - 9:35 AM

418.01. Introduction

Time: Tuesday, November 15, 2022, 9:35 AM - 10:00 AM

418.02. Coordination of excitatory and inhibitory synaptic development by Catenin delta-2

C. Charrier;
IBENS, Inserm 1024-CNRS 8197, Ecole Normale Supérieure, Université PSL, Paris, FRANCE.

Time: Tuesday, November 15, 2022, 10:00 AM - 10:25 AM

418.03. Context-dependent regulation of inhibitory synapse formation

C. J. Wierenga;
Biology Department, Utrecht University, Utrecht, NETHERLANDS.

Time: Tuesday, November 15, 2022, 10:25 AM - 10:50 AM

418.04. Coordinated forms of excitatory and inhibitory plasticity for auditory behavior

R. C. Froemke;
NYU Medical, NYU Grossman School of Medicine, New York, NY.

Time: Tuesday, November 15, 2022, 10:50 AM - 11:15 AM

418.05. Inhibitory top-down projections from zona incerta control neocortical memory

A. Schroeder;
University of Freiburg, Freiburg, GERMANY.

Time: Tuesday, November 15, 2022, 11:55 AM - 12:00 PM

418.06. Closing

Symposium

503. Music and Brain Circuitry: Strategies for Strengthening Evidence-Based Research - Emmeline Edwards

Theme D – Sensory Systems

Location: SDCC 6B

Time: Tuesday, November 15, 2022, 2:00 PM - 4:30 PM

Description: Music, as part of our lives, is universal and global. Music can bring pleasure, calm anxiety, soothe sorrow, make us move, and help social connections by engaging multiple brain circuits that impact auditory, motor, cognitive, and emotional functions. This symposium will highlight recent cutting-edge approaches to probe the underlying neural mechanisms of music's

effects, the structural and temporal roles of critical brain circuits, and the premise for music's therapeutic applications.

Time: Tuesday, November 15, 2022, 2:05 PM - 2:05 PM

503. Chair

E. Edwards;
Division of Extramural Research, National Center for Complementary and Integrative Health, Bethesda, MD.

Time: Tuesday, November 15, 2022, 2:05 PM - 2:05 PM

503. Co Chair

W. Chen;
Division of Extramural Research, National Center for Complementary and Integrative Health, Bethesda, MD.

Time: Tuesday, November 15, 2022, 2:00 PM - 2:05 PM

503.01. Introduction

Time: Tuesday, November 15, 2022, 2:05 PM - 2:30 PM

503.02. Investigating auditory-motor interactions during rhythm perception in animal models

M. H. Kao;
Tufts University, Tufts University, Medford, MA.

Time: Tuesday, November 15, 2022, 2:30 PM - 2:55 PM

503.03. What is the Role of the Motor System During the Perception and Imagination of Rhythm?

J. R. Iversen;
UC San Diego, Institute for Neural Computation, La Jolla, CA.

Time: Tuesday, November 15, 2022, 2:50 PM - 3:15 PM

503.04. Rhythm and Predictability for Music-Based Interventions

P. Loui;
Department of Music, Northeastern University, Boston, MA.

Time: Tuesday, November 15, 2022, 3:15 PM - 3:40 PM

503.05. Causally modulating reward circuitry to influence musical hedonic processes

R. Zatorre;
Montreal Neurological Institute, McGill University, Montreal, QC, CANADA.

Time: Tuesday, November 15, 2022, 4:25 PM - 4:30 PM

503.06. Closing

Symposium

583. Computational and Neural Mechanisms of Novelty Detection, Seeking, and Avoidance - Mitsuko Watabe-Uchida

Theme F – Integrative Physiology and Behavior

Location: SDCC 6B

Time: Wednesday, November 16, 2022, 9:30 AM - 12:00 PM

Description: Responding to novelty is a key feature of adaptive behavior. Animals continuously detect and learn about novel stimuli and choose whether to explore or avoid given limited information. This symposium assembles leading computational and systems neuroscientists to discuss the mechanisms of novelty detection, seeking, and avoidance. A multi-disciplinary framework will allow us to extend novelty research to explore further key principles of adaptive decision-making, learning and memory.

Time: Wednesday, November 16, 2022, 9:35 AM - 9:35 AM

583. Chair

M. Watabe-Uchida;
Harvard University, Cambridge, MA.

Time: Wednesday, November 16, 2022, 9:35 AM - 9:35 AM

583. Co Chair

I. E. Monosov;
Washington University School of Medicine, St Louis, MO.

Time: Wednesday, November 16, 2022, 9:30 AM - 9:35 AM

583.01. Introduction

Time: Wednesday, November 16, 2022, 9:35 AM - 10:00 AM

583.02. Novelty detection and novelty prediction in the primate brain

I. E. Monosov;
Washington University School of Medicine, St Louis, MO.

Time: Wednesday, November 16, 2022, 10:00 AM - 10:25 AM

583.03. Risking your tail: curiosity, danger and exploration

P. Dayan;
Max Planck Institute for Biological Cybernetics, Tübingen, GERMANY.

Time: Wednesday, November 16, 2022, 10:25 AM - 10:50 AM

583.04. Shaping novelty-driven behavioral dynamics with striatal dopamine in mice

M. Watabe-Uchida;
Harvard University, Cambridge, MA.

Time: Wednesday, November 16, 2022, 10:50 AM - 11:15 AM

583.05. Meta-learning synaptic plasticity and memory addressing for continual familiarity detection

D. Tyulmankov;
Columbia University, New York, NY.

Time: Wednesday, November 16, 2022, 11:55 AM - 12:00 PM

583.06. Closing

Symposium

670. High-Resolution Electrophysiology: Experiment and Theory - Timothy Harris

Theme F – Integrative Physiology and Behavior

Location: SDCC 6B

Time: Wednesday, November 16, 2022, 2:00 PM - 4:30:00 PM

Description: High capacity electrophysiology probes, particularly Neuropixels, have altered the trajectory of neuroscience over the past four years. This symposium will include data from three species, mouse, rat, and macaque, for both acute, (mouse and macaque) as well as chronic (rat) neurophysiological recordings. Speakers will discuss the data types now available and their transformational impact on our understanding of local and distributed neural circuit mechanisms of fundamental brain functions.

Time: Wednesday, November 16, 2022, 2:05 PM - 2:05 PM

670. Chair

T. Harris;
Janelia Research Campus, Howard Hughes Medical Institute, Ashburn, VA.

Time: Wednesday, November 16, 2022, 2:00 PM - 2:05 PM

670.01. Introduction

Time: Wednesday, November 16, 2022, 2:05 PM - 2:30 PM

670.02. Using Neuropixels to understand computation in grid cells

E. I. Moser;
Kavli Inst Systems Neurosci, Kavli Inst Systems Neurosci, Trondheim, NORWAY.

Time: Wednesday, November 16, 2022, 2:30 PM - 2:55 PM

670.03. Using Neuropixels to survey the mouse visual system (and beyond)

J. H. Siegle;
Allen Inst. For Brain Science, Allen Institute for Neural Dynamics, Seattle, WA.

Time: Wednesday, November 16, 2022, 2:55 PM - 3:20 PM

670.04. International Brain Laboratory: A Brian Wide Map of Neural Activity during Complex Behavior in Mice

T. A. Engel;
Stanford University, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.

Time: Wednesday, November 16, 2022, 3:20 PM - 3:45 PM

670.05. High-Density Neurophysiological Investigations of Perception and Cognition in the Primate Brain

T. Moore;
Howard Hughes Medical Institute - Stanford University, Howard Hughes Medical Institute - Stanford University, Stanford, CA.

Time: Wednesday, November 16, 2022, 4:25 PM - 4:30 PM

670.06. Closing