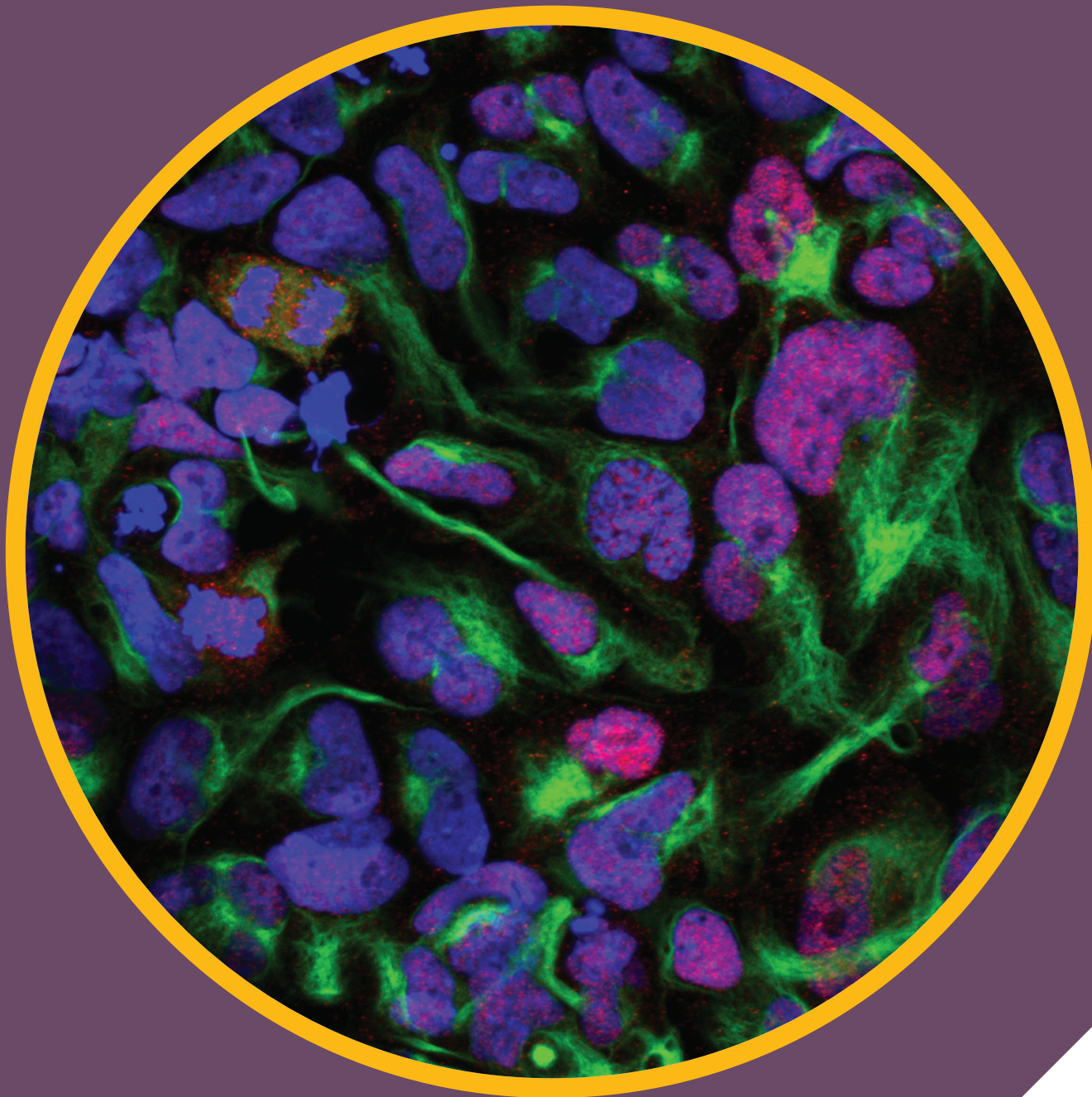


Sunday

SAN DIEGO | NOVEMBER 3-7
SESSION LISTING 092-255



Information at a Glance

Session information listed here is current as of September 19, 2018.
See SfN.org for the most up-to-date annual meeting information.

Important Phone Numbers

Annual Meeting

Headquarters Office

Logistics and Programming

San Diego Convention Center:
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San Diego Convention Center:
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First Aid and Hospital Numbers

First Aid Room

San Diego Convention Center:
Lobby C
(619) 525-6211

Scripps Mercy Hospital

4077 Fifth Avenue
San Diego, CA 92103
(619) 294-8111

Sharp Rees – Stealy Downtown

San Diego Urgent Care

300 Fir Street
San Diego, CA 92101
(858) 499-2600

Key to Poster Floor by Themes

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

Theme

ADevelopment
BNeural Excitability, Synapses,
and Glia
CNeurodegenerative Disorders
and Injury
DSensory Systems
EMotor Systems
FIntegrative Physiology and Behavior
GMotivation and Emotion
HCognition
ITechniques
JHistory and Education

NOTE: Theme J Posters will be on display in Hall B beginning at 1 p.m. on Saturday, Nov. 3, and will remain posted until 5 p.m., Sunday, Nov. 4. One-hour presentations will occur either Saturday afternoon or Sunday morning.

Code of Conduct at SfN Events

SfN is committed to supporting discovery and scientific dialogue, and to fostering a welcoming community in which all scientists are able to contribute fully. The Society asserts that sexual harassment and other harassing behaviors have no place in a healthy scientific enterprise. We expect all attendees, media, speakers, volunteers, organizers, venue staff, guests, and exhibitors at SfN-organized events to help us ensure a safe and positive

environment. At the convention center, onsite medical and security personnel are available directly or through the SfN headquarters office.

If attendees experience unwelcome or unsafe situations anywhere in the city, attendees should swiftly contact local authorities (dial 9-1-1), and additional local social services resources are listed in one convenient location at the federal website www.changingourcampus.org. Any official

report of sexual harassment should be brought to the designated Human Resources Officer in the SfN headquarters office at each meeting convention center, or sent via email to hrofficer@sfn.org. The HR Officer will facilitate the completion of a report by a complainant.

For more information on SfN's policy, please go to: sfn.org/Membership/Professional-Conduct/Code-of-Conduct-at-SfN-Events

Cover Image: This image shows neuronal precursor cells obtained from induced pluripotent stem cells stained for neuronal markers Nestin (green) and Sox2 (red), as well as nuclear marker DAPI (blue).

Courtesy with permission: *Journal of Neuroscience* 12 July 2017, 37 (28): 6606–6627.

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Complete Session Listing

Sunday AM

SUN. AM

LECTURE *San Diego Convention Center*

092. Bidirectional Interactions Between the Brain and Implantable Computers — CME

Sun. 8:30 AM - 9:40 AM — SDCC Ballroom 20

Speaker: E. E. FETZ, *Univ. of Washington.*

Closed-loop interactions between the brain and implantable computers open new opportunities for brain research and clinical applications. This lecture will review the use of bidirectional brain-computer interfaces to bridge lost physiological connections, strengthen synaptic connections via Hebbian plasticity, and reinforce neural activity with intracranial stimulation. Closed-loop activity-dependent stimulation has numerous applications, depending on the recorded signals, the computed transforms, and the stimulated targets.

SYMPOSIUM *San Diego Convention Center*

093. Multiscale Computer Modeling of Neural Circuits in Health and Disease — CME

Sun. 8:30 AM - 11:00 AM — SDCC 6A

Chair: W. W. LYTTON, *State University of New York, Downstate Medical Center*

Co-Chair: C. BERNARD, *INSERM*

Brain function depends on interactions across multiple temporal and spatial scales from molecules and synapses up to interconnected brain areas. Mechanistic multiscale modeling provides the means to organize and understand the cross-scale interactions to explain how brains and other neural systems work or fail. Computational modeling also allows us to bridge the gap between mechanism and phenomenology, from anatomy and dynamics to behavior and cognition.

8:30 **093.01** Introduction.

8:35 **093.02** Modeling to explore individual variability and resilience to perturbation. E. MARDER. *Brandeis Univ.*

9:10 **093.03** Understanding epilepsy across spatial and time scales. C. BERNARD. *INSERM Inst. de Neurosci. des Systemes.*

9:45 **093.04** Multiscale modeling of brain disease. W. W. LYTTON. *State Univ. of New York, Downstate Med. Ctr.*

10:20 **093.05** Mechanisms underlying global traveling waves in human cerebral cortex. T. J. SEJNOWSKI. *Salk Inst.*

10:55 **093.06** Closing Remarks.

SYMPOSIUM *San Diego Convention Center*

094. Specific Basal Forebrain-Cortical Cholinergic Circuits Coordinate Cognitive Operations — CME

Sun. 8:30 AM - 11:00 AM — SDCC 6B

Chair: L. ZABORSZKY, *Rutgers, The State University of New Jersey*

Co-Chair: G. R. POE, *University of California, Los Angeles*

The basal forebrain (BF) cholinergic projections, once viewed as a diffuse system, is emerging as highly specific in its connectivity based on molecular genetics as well as functional and quantitative anatomical studies. The BF can both rapidly and selectively modulate activity of specific circuits and coordinate ACh release in multiple areas related to particular aspects of cognitive processing. This symposium presents new approaches and findings from studies of the function and dysfunction of this system.

8:30 **094.01** Introduction.

8:35 **094.02** Functional organization of the basal forebrain cholinergic space in rodents and humans. L. ZABORSZKY. *Rutgers, The State Univ. of New Jersey.*

9:10 **094.03** Cholinergic shaping of neural dynamics and adaptive behavior. A. CHIBA. *Univ. of California.*

9:45 **094.04** Mapping the cholinergic engram of fear and anxiety. L. W. ROLE. *Stony Brook Univ.*

10:20 **094.05** Cholinergic neuromodulation and cortical function. M. E. HASSELMO. *Boston Univ.*

10:55 **094.06** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

095. Computational Affective Neuroscience: Algorithms for Survival — CME

Sun. 8:30 AM - 11:00 AM — SDCC 6C

Chair: R. B. RUTLEDGE, *University College London*

Co-Chair: D. R. BACH, *University of Zurich*

Emotions play a central role in adaptive behavior across the animal kingdom but are conceptualized in divergent and often imprecise ways. Researchers have recently adopted computational approaches to study a range of emotional phenomena from behavior to feelings, and to use computational models to interrogate the underlying neural circuits. This minisymposium will focus on how computational models can explain the role of emotions in adaptive behavior, both in humans and nonhuman animals.

8:30 **095.01** Introduction.

8:35 **095.02** A cognitive-computational model for action selection under threat. D. R. BACH. *Univ. of Zurich.*

8:55 **095.03** Interrogation of a brain-wide fear memory network in mice. G. VETERE. *Brain Plasticity Unit - ESPCI.*

9:15 **095.04** Statistics, structure, and representation in neural circuits for emotional memories. T. MADARASZ. *Univ. of Oxford.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 9:35 **095.05** Computation of decision policies for avoiding starvation and predation in the human dorsomedial prefrontal cortex and hippocampus. C. W. KORN. *Univ. Med. Ctr. Hamburg-Eppendorf*.
- 9:55 **095.06** Instructed knowledge shapes neural and subjective responses during aversive learning. L. Y. ATLAS. *NIH*.
- 10:15 **095.07** A neurocomputational model for mood instability and reward dysregulation. R. B. RUTLEDGE. *Univ. Col. London*.
- 10:35 **095.08** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

096. The Dynamic Interaction of Vision and Eye Movements — CME

Sun. 8:30 AM - 11:00 AM — SDCC 6E

Chair: J. P. MAYO, *Duke University*

A resurgence in the study of eye movements and visual perception has been driven by new experimental approaches (data modeling, the use of clinical populations, and simultaneous recordings of neuronal populations) and comparisons between primate models of vision (humans, macaques, and marmosets). This minisymposium will use these innovations to reveal insight into the effects of exploratory (saccades) and tracking (smooth pursuit) eye movements on vision, cognition, and motor control.

- 8:30 **096.01** Introduction.
- 8:35 **096.02** Smooth pursuit eye movements as a model of visual prediction. M. SPERING. *The Univ. of British Columbia*.
- 8:55 **096.03** Smooth pursuit without foveal vision. N. SHANIDZE. *Smith-Kettlewell Eye Res. Inst.*
- 9:15 **096.04** The interaction of saccades and pursuit during tracking in marmosets. J. PATTADKAL. *The Univ. of Texas at Austin*.
- 9:35 **096.05** Sensorimotor control of smooth pursuit. S. GLASAUER. *Ludwig-Maximilian-University*.
- 9:55 **096.06** The relative contributions of area MT and the frontal eye fields to smooth pursuit. J. P. MAYO. *Duke Univ.*
- 10:15 **096.07** Population codes for eye movements in the frontal eye fields. M. A. SMITH. *Univ. of Pittsburgh*.
- 10:35 **096.08** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

097. • Advances in Enteric Neurobiology: The “Brain” in the Gut in Health and Disease — CME

Sun. 8:30 AM - 11:00 AM — SDCC 28A

Chair: M. RAO, *Columbia University Medical Center*
Co-Chair: S. KULKARNI, *Johns Hopkins University*

The enteric nervous system (ENS) is a large, complex division of the peripheral nervous system that regulates many digestive, immune, hormonal, and metabolic functions. This minisymposium will highlight the latest advances in enteric neurobiology and focus on new model systems for investigating ENS development, mechanisms of adult neurogenesis, enteric glial biology, and the impact of aging on the ENS, as well as the dynamic interactions among microbiota, immune cells, neurons, and glia in the gut.

- 8:30 **097.01** Introduction.
- 8:35 **097.02** Zebrafish enteric nervous system development and function: From epigenetics to gut motility and regeneration. J. GANZ. *Michigan State Univ.*
- 8:55 **097.03** Adult enteric neurogenesis in health and disease. S. KULKARNI. *Johns Hopkins Sch. of Med.*
- 9:15 **097.04** Enterochromaffin-mediated chemosensation controls gut serotonin release and enteric nerve activation. J. BAYRER. *Univ. of California, San Francisco*.
- 9:35 **097.05** • Neuron-glia interactions in the gastrointestinal tract. M. RAO. *Columbia Univ.*
- 9:55 **097.06** ENS-associated macrophages: “Microglia” of the gut. M. BOGUNOVIC. *Penn State Univ. Col. of Med. and Milton S. Hershey Med. Ctr.*
- 10:15 **097.07** Age-dependent changes in macrophages drives inflammation-mediated degeneration of the enteric nervous system. L. BECKER. *Stanford Univ.*
- 10:35 **097.08** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

098. Molecular Mechanisms Underpinning Dopamine Neuron Development, Diversity, and Vulnerability — CME

Sun. 8:30 AM - 11:00 AM — SDCC 29D

Chair: R. AWATRAMANI, *Northwestern University*
Co-Chair: S. BLAESS, *University of Bonn*

This minisymposium will cover topics including embryonic fate specification events, migration, and axon guidance that ultimately result in a multifunctional, heterogeneous, midbrain dopaminergic system.

- 8:30 **098.01** Introduction.
- 8:35 **098.02** Genetic approaches toward defining midbrain dopamine neuron diversity. R. AWATRAMANI. *Northwestern Univ.*
- 8:55 **098.03** Molecular mechanisms underlying the diversification and migration of midbrain dopaminergic neurons. S. BLAESS. *Univ. of Bonn*.
- 9:15 **098.04** Dissecting dopamine neuron subset-specific axon guidance and cell migration mechanisms. J. PASTERKAMP. *Univ. Med. Ctr. Utrecht*.
- 9:35 **098.05** Establishment of dopaminergic neuronal connectivity during embryonic development. L. PANMAN. *MRC Toxicology Unit*.
- 9:55 **098.06** Mechanisms of dopaminergic neural circuit formation. M. LEVESQUE. *Univ. of Laval*.
- 10:15 **098.07** CRISPR-Cas9 screens to highlight novel neuroprotective pathways in mouse and human midbrain dopamine neurons. E. METZAKOPIAN. *UK Dementia Res. Inst.*
- 10:35 **098.08** Closing Remarks.

BASIC-TRANSLATIONAL-CLINICAL ROUNDTABLE

San Diego Convention Center

099. ● What We Know, What We Don't Know: How Can We Better Understand Alzheimer's Disease to Develop Effective Treatments? — CME

Sun. 8:30 AM - 11:00 AM — SDCC 10

Organizer: D. M. HOLTZMAN, *Washington University in St. Louis*

Speakers: R. VASSAR, G. D. RABINOVICI, P. S. AISEN

Alzheimer's disease (AD) is the most common cause of dementia. Genetics, environment, and lifestyle likely contribute to the development of AD. Recent genetic data suggest a key role for glia in influencing AD. AD pathology can now be detected by assessing biomarkers in living people, and many promising treatments are in development. This session will review an update of the main molecules that play a role in AD and discuss the current understanding of AD, new diagnostic methods, and treatments.

LECTURE

San Diego Convention Center

100. Neural Data Science: Accelerating the Experiment-Analysis-Theory Cycle in Large-Scale Neuroscience — CME

Sun. 10:00 AM - 11:10 AM — SDCC Ballroom 20

Speaker: L. PANINSKI, *Columbia Univ.*

Modern multineuronal recordings produce single-cell-resolution data on a large scale. "Neural data science" aims to extract meaning from the resulting huge new streams of data. This lecture will review recent progress and current challenges in this rapidly growing field, where new methods for network analysis, dimensionality reduction, and optimal control — developed in lockstep with advances in experimental neurotechnology — promise breakthroughs in multiple fundamental neuroscience problems.

LECTURE

San Diego Convention Center

101. Sensorimotor Circuits for Social Communication — CME

Sun. 11:30 AM - 12:40 PM — SDCC Ballroom 20

Speaker: M. MURTHY, *Princeton Univ.*

Social interactions require continually adjusting behavior in response to sensory feedback from a partner. This lecture will focus on the computations and neural mechanisms that underlie the processing of dynamic sensory information to flexibly guide social behaviors. In particular, this lecture will highlight recent discoveries using the acoustic communication system of *Drosophila* to characterize sensorimotor circuits for both song production and perception and will put these discoveries in the broader context of research on social communication across model systems.

NANOSYMPOSIUM

102. Axon and Dendrite Development: Axon Growth and Guidance: Adhesion, Cytoskeletal Dynamics, and Transport

Theme A: Development

Sun. 8:00 AM — San Diego Convention Center, SDCC 33

8:00 **102.01** Overexpression of tropomyosin Tpm3.1 enhances neurite outgrowth in an inhibitory environment for neurite growth. T. FATH*; H. STEFEN; A. HASSANZADEH-BARFOROUSHI; T. TOMANIC; M. BRETTELE; S. FOK; N. TEDLA; T. BARBER; M. WAKIANI. *Macquarie Univ., UNSW Sydney, UNSW Sydney, Univ. of Technol. Sydney.*

8:15 **102.02** Evidence for Presenilin and Glycogen synthase kinase 3 beta (GSK3 β)-mediated regulation of molecular motors during axonal transport. R. BANERJEE*; Z. RUDLOFF; C. NAYLOR; M. YU; S. GUNAWARDENA. *Univ. At Buffalo, State Univ. of New York, Univ. at Buffalo, State Univ. at New York.*

8:30 **102.03** LRRK2 regulates growth cone signaling and axon guidance mediated by Wnt/Planar cell polarity pathway. K. ONISHI*; Y. ZOU. *Univ. of California San Diego.*

8:45 **102.04** TP5 enhances survival of the neurons insulted by overexpression of DAPK1. M. BHASKAR*; S. P. YADAV; N. D. AMIN; S. SKUNTZ; C. WINTERS; H. C. PANT. *NINDS/NIH, NIH.*

9:00 **102.05** Cannabinoid-induced axonal elongation and growth cone remodeling depend on kinesin1-mediated axonal transport of CB1 receptors. T. M. SAEZ; I. FERNANDEZ BESSONE; M. ALLOATTI; S. SARGIOTO; T. L. FALZONE*. *Univ. of Buenos Aires.*

9:15 **102.06** Constitutive interleukin-6 influences axon structure and transport in the optic projection. L. K. WAREHAM*; F. D. ECHEVARRIA; C. R. FORMICHELLA; R. M. SAPPINGTON. *Vanderbilt Univ. Med. Ctr., Case Western Reserve Univ., Vanderbilt Univ. Med. Ctr.*

9:30 **102.07** Dscam1 extended 3' UTR transcripts are essential for axon guidance. P. MIURA*; Z. ZHANG; R. PETERSON; K. SO; M. BAUER; H. NG; Y. ZHANG; J. H. KIM; T. KIDD. *Univ. of Nevada, Reno.*

NANOSYMPOSIUM

103. Animal Models of Neurodevelopmental Disease

Theme A: Development

Sun. 8:00 AM — San Diego Convention Center, SDCC 32

8:00 **103.01** Sex-specific behavioral and neuronal circuit disruptions in a 16p11.2 microdeletion model of autism. J. GIOVANNIELLO*; S. AHRENS; B. LI. *Cold Spring Harbor Lab.*

8:15 **103.02** Paternal aging affects trajectory of developmental patterns of ultrasonic vocalization syllables induced by maternal separation in C57BL6/J mice. L. MAI*; R. KIMURA; K. KANNO; H. INADA; N. OSUMI. *Tohoku University, Grad. Sch. of Med., Kagoshima Univ.*

8:30 **103.03** ● Zika virus infection produces extensive neurodegeneration in brain and spinal cord of developing mouse central nervous system. K. K. NOGUCHI*; S. L. WILLIAMS; J. N. HUFFMAN; B. S. SWINEY; P. SALINAS-CONTRERAS; H. S. WANG; K. DIKRANIAN. *Washington Univ. St. Louis, Washington Univ. in St. Louis, Univ. of Missouri-St. Louis.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:45 **103.04** Altered dendritic morphology in dorsolateral prefrontal cortex of nonhuman primates prenatally exposed to maternal immune activation. C. M. SCHUMANN*; R. K. WEIR; A. IOSIF; J. VAN DE WATER; C. S. CARTER; A. K. MCALLISTER; M. D. BAUMAN. *UC Davis MIND Inst., UC Davis MIND Inst., UC Davis, UC Davis, Univ. of California Davis, UC Davis, Univ. California, Davis.*
- 9:00 **103.05** Neurodevelopmental impact of prenatal exposure to non-infectious inflammation. M. BRIEN*; I. BOUFAIED; S. GIRARD. *Univ. De Montreal, Univ. de Montreal, Ste-Justine Hosp. Res. Ctr.*
- 9:15 **103.06** Structural and functional whole-brain mapping in a model of Syngap1-related brain disorders. T. VAISSIÈRE*; D. FURTH; K. MELETIS; C. A. MILLER; G. RUMBAUGH. *The Scripps Res. Institute, Cold Spring Harbor Lab., Karolinska Inst., The Scripps Res. Inst., The Scripps Res. Inst.*
- 9:30 **103.07** PB transposon based genome-wide screening system in mice. H. CHANG*; Y. PAN; T. XU. *Yale Univ., Yeda Inst.*
- 9:45 **103.08** Paternal aging affects offspring's behavior and gene expression possibly through transmission of hypomethylated DNA regions in NRSF/REST binding sites. R. KIMURA*; T. KIKKAWA; K. YOSHIZAKI; T. KOIKE; S. OKI; H. KOBAYASHI; H. J. INADA; K. MOCHIZUKI; N. AOKI; T. KONO; Y. MATSUI; N. OSUMI. *Tohoku Univ. Grad. Sch. of Med., Inst. for Developmental Res., Tokyo Univ. of Agr., Kyushu Univ. Grad. Sch. of Med. Sci., Tokyo Univ. of Agr., Tohoku Univ. Inst. of Development, Aging and Cancer.*
- 10:00 **103.09** Animal population imaging - An update on clustering mouse models related to autism based on their neuroanatomy. J. ELLEGOOD*; L. R. QIU; B. C. DARWIN; R. M. HENKELMAN; J. P. LERCH. *Hosp. For Sick Children.*
- 9:00 **104.05** Suppression of alpha-synuclein gene expression prevents spreading synucleinopathy. A. TANDON*; S. MENON; F. NABBOUH; K. XHIMA; S. SARDI; L. S. SHIHABUDDIN; H. T. MOUNT; I. AUBERT; J. C. WATTS. *Univ. of Toronto, Univ. of Toronto, Univ. of Toronto, Sunnybrook Res. Inst., Sanofi, Sanofi, Thurston County Publ. Hlth. and Social Services.*
- 9:15 **104.06** Treatment with the molecular tweezer, CLR01, shows positive efficacy in a multiple system atrophy mouse model. D. BOUQUIO*; K. BIGGS; G. NAIR; T. SCHRADER; N. STEFANOVA; G. BITAN. *Univ. of California Los Angeles, Univ. of Duisburg-Essen, Med. Univ. of Innsbruck.*
- 9:30 **104.07** Ikt-148009 a c-Abl inhibitor: Target engagement in Parkinson's disease model. S. S. KARUPPAGOUNDER*; H. WANG; S. BISEN; F. AKKENTLI; N. SLOAN; A. SIGMON; H. LEE; S. BRAHMACHARI; M. KUMAR; T. M. DAWSON; M. H. WERNER; V. L. DAWSON. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Adrienne Helis Malvin Med. Res. Fndn., Diana Helis Henry Med. Res. Fndn., Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Inhibikase Therapeut., Johns Hopkins Univ. Sch. of Med.*
- 9:45 **104.08** Block of A1 astrocyte conversion by microglia is neuroprotective in models of Parkinson's disease. T. KAM*; S. YUN; N. PANICKER; Y. OH; J. PARK; S. KWON; S. KARUPPAGOUNDER; H. PARK; S. A. LIDDELOW; B. BARRES; V. L. DAWSON; S. LEE; H. KO; T. M. DAWSON. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Stanford Univ., Stanford Univ., Johns Hopkins Univ. Sch. Med., Johns Hopkins Univ. Inst. for Cell Engin.*

NANOSYMPOSIUM

NANOSYMPOSIUM

104. Parkinson's Disease: Therapeutic Strategies: Preclinical Animal Models

Theme C: Neurodegenerative Disorders and Injury

Sun. 8:00 AM – San Diego Convention Center, SDCC 4

- 8:00 **104.01** Charting the onset of motor and non-motor dysfunctions in nonhuman primate model of Parkinson's disease. M. DAADI*; G. CHOUDHURY. *Texas Biomed. Res. Inst.*
- 8:15 **104.02** ● The anti-inflammatory effect of vagus nerve stimulation as a therapeutic approach for Parkinson's disease. H. A. BOGER*; A. FARRAND; R. VERNER; R. MCGUIRE. *Med. Univ. of South Carolina Dept. of Neurosciences, Med. University of South Carolina, LivaNova PLC.*
- 8:30 **104.03** ● Discoidin domain receptors are potential targets to treat neurodegenerative diseases. A. J. FOWLER*; C. E. H. MOUSSA; M. L. HEBRON. *Georgetown Univ. Med. Ctr., Georgetown Univ. Med. Ctr.*
- 8:45 **104.04** Viral knockdown of alpha-synuclein expression prevents spreading synucleinopathy. S. MENON*; F. NABBOUH; K. XHIMA; P. SARDI; L. S. SHIHABUDDIN; H. MOUNT; I. AUBERT; J. C. WATTS; A. TANDON. *Univ. of Toronto, Sunnybrook Res. Inst., Sanofi.*
- 8:00 **105.01** A unified developmental model of functional maps in the primary visual cortex. J. JANG*; M. SONG; G. KIM; S. PAIK. *KAIST, KAIST, Korea Advanced Inst. of Sci. and Technol.*
- 8:15 **105.02** Adaptive processing and top-down influences in areas V1 and V4. G. L. ASTORGA*; Y. YAN; W. LI; C. D. GILBERT. *The Rockefeller Univ., Beijing Normal Univ., Beijing Normal Univ., Rockefeller Univ.*
- 8:30 **105.03** The distribution and spatial organization of significant hue and orientation tuning in macaque area V4. D. J. FELLEMAN*; A. PARAJULI. *Univ. Texas Med. Sch.*
- 8:45 **105.04** Perceptual color representation in awake macaque primary visual cortex. M. LI*; N. JU; F. LIU; H. JIANG; S. TANG. *Peking Univ., Peking Univ.*
- 9:00 **105.05** Cortical feedback strongly influences brain rhythms in primary visual cortex. T. S. HARTMANN*; S. RAJA; S. G. LOMBER; R. T. BORN. *Harvard Med. Sch., Univ. of Western Ontario, Harvard Med. Sch.*
- 9:15 **105.06** How well do critical dynamics perform information integration in cortical networks? U. A. ERNST*; M. SCHÜNEMANN; N. TOMEN. *Theoretical Physics, Univ. Bremen.*

* Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 9:30 **105.07** Intact extrastriate visual network without primary visual cortex: A case study of naturally occurring Blindsight in a Rhesus macaque. K. KRUG; A. H. BELL; M. AINSWORTH; J. SALLET; E. PREMEREUR; B. AHMED; A. S. MITCHELL; M. J. BUCKLEY; A. J. PARKER*; H. BRIDGE. *Univ. of Oxford, KU Leuven, Univ. of Oxford.*
- 9:45 **105.08** Top-down feedback to peripheral visual field is weaker: Motivation and experimental test. L. ZHAOPING*. *Univ. Col. London.*
- 10:00 **105.09** The role of feedback to early visual cortex in visual awareness: A TMS-EROS investigation. R. S. KNIGHT*; G. GRATTON; M. FABIANI; D. M. BECK. *Univ. of Illinois at Urbana-Champaign, Beckman Institute, Univ. of Illinois at Urbana-Champaign.*
- 10:15 **105.10** Is visual cortex a selforganized recurrent spiking deep convolutional network? K. R. PAWELZIK*; D. ROTERMUND. *Univ. Bremen, Inst. Theoretical Physics.*
- 9:45 **106.08** Impairment in facial expression perception with normal biological motion perception. S. GILAIÉ-DOTAN*; S. B. HERALD; N. YITZHAK; H. AVIEZER; B. C. DUCHAINE. *Bar Ilan Univ., Dartmouth Col., Hebrew Univ. of Jerusalem.*
- 10:00 **106.09** Prestimulus alpha phase predicts serial dependence of face perception. Y. MURAI*; M. MANASSI; B. PRINZMETAL; K. AMANO; D. WHITNEY. *Univ. of California, Berkeley, Japan Society for the Promotion of Sci., Ctr. for Information and Neural Networks (CiNet), Osaka Univ.*
- 10:15 **106.10** Object-directed action modulates object perception: Insights from voxelwise lesion-activity mapping and task-based functional connectivity. F. GARCEA*; B. Z. MAHON; L. J. BUXBAUM. *Moss Rehabil. Res. Inst., Carnegie Mellon Univ., Univ. of Rochester, Thomas Jefferson Univ.*
- 10:30 **106.11** Fast, selective processing of person identity in human anterior temporal lobe. A. PLATONOV*; P. AVANZINI; V. PELLICCIA; M. RIZZI; G. LO RUSSO; I. SARTORI; G. A. ORBAN. *Univ. of Parma, Univ. of Parma, Epilepsy Surgery Ctr. "Claudio Munari" Niguarda Ca' Granda Hosp.*

NANOSYMPOSIUM

106. Vision: Representation of Faces and Bodies

Theme D: Sensory Systems

Sun. 8:00 AM – San Diego Convention Center, SDCC 24

- 8:00 **106.01** Large category-selective responses of populations of neurons in the human ventral occipito-temporal cortex emerge independently of low-level statistical image properties. J. JONAS*; C. JACQUES; L. KOESSLER; L. MAILLARD; B. ROSSION. *CHRU Nancy, Univ. de Lorraine-CNRS, Univ. Catholique de Louvain.*
- 8:15 **106.02** Defining representations by visually responsive neurons using feature maps. C. R. PONCE*; T. S. HARTMANN; M. S. LIVINGSTONE. *Washington Univ. At St. Louis, Harvard Med. Sch., Harvard Med. Sch.*
- 8:30 **106.03** The lateral inferior occipital gyrus as a major cortical source of the face-evoked N170: Evidence from simultaneous scalp and intracerebral human recordings. C. JACQUES*; J. JONAS; L. MAILLARD; L. KOESSLER; B. ROSSION. *Univ. Catholique de Louvain, Univ. of Leuven, Univ. de Lorraine, CNRS, CRAN, Univ. de Lorraine, CHRU-Nancy, Service de Neurologie.*
- 8:45 **106.04** Face memory performance is predicted by the strength of resting state functional connectivity between task-defined face patches and medial temporal lobe structures. M. RAMOT*; C. WALSH; A. MARTIN. *NIH/NIMH, Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth.*
- 9:00 **106.05** Amygdala lesions in rhesus monkeys eliminate the spontaneous advantage of face stimuli in a free-viewing task. J. TAUBERT*; M. FLESSERT; S. G. WARDLE; B. M. BASILE; A. P. MURPHY; E. A. MURRAY; L. G. UNGERLEIDER. *The Natl. Inst. of Mental Hlth., Lab. of Brain and Cognition, NIMH/NIH/DHHS, NIH, Natl. Inst. of Mental Health, NIH, Natl. Inst. of Mental Hlth., NIMH, NIH, Natl. Inst. of Mental Hlth.*
- 9:15 **106.06** Uncovering the temporal dynamics of illusory face perception in the human brain. S. G. WARDLE*; J. TAUBERT; L. TEICHMANN; C. I. BAKER. *NIH, ARC Ctr. of Excellence in Cognition and its Disorders, Macquarie Univ.*
- 9:30 **106.07** Natural observed action classes in the human brain. B. A. URGENT*; S. FERRI; G. A. ORBAN. *Univ. of Parma.*

NANOSYMPOSIUM

107. Voluntary Movements

Theme E: Motor Systems

Sun. 8:00 AM – San Diego Convention Center, SDCC 25

- 8:00 **107.01** Decoding the timecourse of visual-to-motor transformations during grasp planning and execution from the dynamics of electrophysiological signals. L. GUO*; A. NESTOR; D. NEMRODOV; M. NIEMEIER. *Univ. of Toronto.*
- 8:15 **107.02** Sensorimotor network segregation declines with age, is linked to neural distinctiveness, and predicts sensorimotor performance. K. E. CASSADY*; H. C. GAGNON; P. S. LALWANI; M. SIMMONITE; B. C. FOERSTER; M. PETROU; S. F. TAYLOR; D. C. WEISSMAN; R. D. SEIDLER; T. A. POLK. *Univ. of Michigan - Ann Arbor, Univ. of Michigan, Univ. of Michigan Dept. of Psychiatry, Univ. of Michigan Dept. of Psychology.*
- 8:30 **107.03** Effect of exercise intensity on synaptic plasticity following theta-burst stimulation. J. P. COXON*; D. CURTIN; J. STOUT; S. ANDREWS. *Monash Univ.*
- 8:45 **107.04** Transcranial direct current stimulation (tDCS) modulates mouse motor cortex activity and plasticity, and improves motor recovery after stroke. M. V. PODDA*; S. A. BARBATI; S. COCCO; V. LONGO; K. GIRONI; A. MATTERA; M. SPINELLI; F. VECCHIO; F. MIRAGLIA; P. M. ROSSINI; C. GRASSI. *Univ. Cattolica del Sacro Cuore, IRCCS San Raffaele Pisana, IRCCS Fondazione Policlinico Universitario A. Gemelli.*
- 9:00 **107.05** Simultaneous all-optical stimulation and readout of neuronal activity during optogenetically-evoked motor task. F. RESTA*; E. CONTI; E. MONTAGNI; G. DE VITO; A. SCAGLIONE; L. SACCONI; A. ALLEGRA MASCARO; F. PAVONE. *Univ. of Florence.*
- 9:15 **107.06** Population Receptive Fields revealed in sensorimotor hand region with 7 Tesla fMRI and high-density ECoG recordings. W. SCHELLEKENS*; G. PIANTONI; M. PEDROSO; J. WINAWER; N. PETRIDOU; N. F. RAMSEY. *UMC Utrecht, UMC Utrecht, New York Univ., Brain Ctr. Rudolf Magnus, Univ. of Utrecht.*
- 9:30 **107.07** Acute exercise modulates excitability of M1 interneurons indexed by anterior-to-posterior current. S. PETERS*; J. L. NEVA; K. E. BROWN; M. BOISGONTIER; L. A. BOYD. *Univ. of British Columbia.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 9:45 **107.08** Modulation of interneuron excitability after motor sequence skill acquisition and learning. J. L. NEVA*; S. J. FELDMAN; K. E. BROWN; L. A. BOYD. *Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia.*
- 10:00 **107.09** Brain-state changes related to visuomotor adaptation. J. AHVENINEN*; P. SUNDARAM; S. LEE; J. A. GUERIN; E. PIRONDINI; W. F. ASAAD; M. HAMALAINEN; S. R. JONES. *MGH/Harvard Med. Sch., Brown Univ., EPFL, Brown Univ., Harvard Med. Sch., Brown Univ.*
- 10:15 **107.10** Motor cortex inhibition with somatosensory and transcranial direct current stimulation: A metaplasticity study. W. D. BYBLOW*; A. M. TRUDGEN; J. CIRILLO. *Univ. of Auckland, Univ. of Auckland.*

NANOSYMPOSIUM

108. Behavioral Neuroendocrinology: Hormones and Cognition

Theme F: Integrative Physiology and Behavior

Sun. 8:00 AM – San Diego Convention Center, SDCC 5

- 8:00 **108.01** Neuron-derived estrogen regulates synaptic plasticity and memory. Y. LU*; G. SAREDDY; R. WANG; J. WANG; Y. LI; Y. DONG; J. XU; J. LIU; J. OCONNOR; Q. ZHANG; R. VADLAMUDI; D. BRANN. *Augusta Univ., Univ. of Texas Hlth. San Antonio, North China Univ. of Sci. and Technol.*
- 8:15 **108.02** Androgen receptors and Histone Variant H2A.Z interact to affect memory through changes on memory-related genes. F. RAMZAN*; C. T. TAO; A. B. AZAM; K. NARKAJ; G. STEFANELLI; D. A. MONKS; I. B. ZOVKIC. *Univ. of Toronto, Univ. of Toronto, Univ. of Toronto, Univ. of Toronto Mississauga.*
- 8:30 **108.03** ▲ Sleep deprivation between genders and age in *Drosophila melanogaster*: Determining whether prolactin levels affect sleep deprivation. C. TURNER; F. JEFFERSON*. *Fort Valley State Univ., Fort Valley State Univ.*
- 8:45 **108.04** Effect of lithium-pilocarpine-induced status epilepticus during infancy on adult female rat sexual behavior. F. CHENA BECERRA*; G. A. CORIA-AVILA; L. BELTRAN-PARRAZAL; J. MANZO; L. LOPEZ-MERAZ. *Univ. Veracruzana, Univ. Veracruzana.*
- 9:00 **108.05** Frontoparietal network activation during an auditory oddball task differs across the hormonal contraceptive cycle. A. Y. HERRERA*; K. GILLETTE; D. V. CLEWETT; R. VELASCO; S. FAUDE; J. WHITE; M. MATHER. *USC, USC, New York Univ.*
- 9:15 **108.06** Neural activity in the social decision-making network of the brown anole during reproductive and agonistic encounters. D. KABELIK*; C. A. WEITEKAMP; S. C. CHOUDHURY; J. T. HARTLINE; A. N. SMITH; H. A. HOFMANN. *Rhodes Col., Univ. of Texas at Austin.*
- 9:30 **108.07** Galanin neuron activation during reproductive and social behaviors. J. TRIPP*; A. H. BASS. *Cornell Univ.*
- 9:45 **108.08** Identifying prolactin-responsive neurons important for the transition to paternal care. K. O. SMILEY*; R. S. E. BROWN; D. R. GRATAN. *Univ. of Otago, Univ. of Otago.*

NANOSYMPOSIUM

109. Basal Ganglia Circuitry for Motivation and Reward

Theme G: Motivation and Emotion

Sun. 8:00 AM – San Diego Convention Center, SDCC 2

- 8:00 **109.01** Pallidal neural correlates of reward in Parkinson's disease. R. S. EISINGER*; E. OPRI; J. ALCANTARA; M. E. VAZQUEZ; K. D. FOOTE; M. S. OKUN; A. GUNDUZ. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida.*
- 8:15 **109.02** Genetically-distinct ventral pallidal neurons drive the motivation for reward approach and punishment avoidance through projections to the lateral habenula. C. BRAVO-RIVERA*; M. STEPHENSON-JONES; A. FURLAN; C. FERNANDES-HENRIQUES; X. ZHANG; X. XIAO; T. YANG; B. LI. *Cold Spring Harbor Lab., Univ. Col. London.*
- 8:30 **109.03** Impairment of motivational behavior associated with chronic pain: The role of communication between medial prefrontal cortex and nucleus accumbens. C. BAO*; Y. CHEN; Y. XIN; Z. X. DONG. *East China Normal Univ.*
- 8:45 **109.04** Expression of connexin-36 in the ventral tegmental area is necessary for the development of opiate-dependent motivation. G. MAAL-BARED*; M. BERGAMINI; M. YEE; M. GHEBRESELASSIE; E. KIM; R. CHOY; M. PATEL; D. J. VAN DER KOOY. *Univ. of Toronto, Univ. Toronto.*
- 9:00 **109.05** Dissecting dopamine pathways altered by pain-induced dysfunction in opioid signaling. T. MARKOVIC*; N. MASSALY; L. HIPOLITO; C. PEDERSEN; S. LIU; C. M. CAHILL; M. BRUCHAS; J. MORON-CONCEPCION. *Washington Univ. Sch. of Med., Univ. of Valencia, Washington Univ. Sch. of Med., Semel Inst. of Neurosci. and Human Behavior, UCLA.*
- 9:15 **109.06** Exploring a role for dopamine in dieting using a mouse model. W. FOBBS*; A. KRAVITZ. *NIH, NIH.*
- 9:30 **109.07** GABA_B receptor signaling in dopaminergic or striatal neurons suppresses food intake during intermittent access to a high fat diet in mice. T. TSUNEKAWA*; R. BANNO; H. YAGINUMA; K. TAKI; A. MIZOGUCHI; M. SUGIYAMA; H. TAKAGI; Y. ITO; H. ARIMA. *Nagoya Univ. Hosp., Nagoya Univ., Nagoya Univ. Grad. Sch. of Med.*
- 9:45 **109.08** Reward synchronizes dopamine axons into directional waves. A. HAMID*; M. J. FRANK; C. I. MOORE. *Brown Univ., Brown Inst. for Brain Sci., Brown Univ.*
- 10:00 **109.09** A derivative-like computations underlie dopamine prediction error coding based on dynamic sensory stimuli. H. R. KIM*; N. UCHIDA. *Harvard Univ., Harvard Univ. Dept. of Mol. and Cell. Biol.*
- 10:15 **109.10** Dopamine transients contribute to model-based learning without endowing antecedent cues with value. M. SHARPE*; H. BATCHELOR; L. MUELLER; Y. NIV; G. SCHOENBAUM. *Natl. Inst. on Drug Abuse, Princeton Neurosci. Inst., Princeton Univ., Univ. of Maryland, Johns Hopkins Univ.*
- 10:30 **109.11** Nucleus accumbens acetylcholine modulates cue-evoked dopamine to regulate cue-motivated reward seeking. A. L. COLLINS*; T. AITKEN; V. GREENFIELD; S. B. OSTLUND; K. M. WASSUM. *UCLA, Univ. California, Los Angeles, UCI Sch. of Med., UCLA.*
- 10:45 **109.12** Nucleus accumbens microcircuit underlying D2-MSN-driven increase in motivation. C. SOARES-CUNHA*; B. COIMBRA; A. DOMINGUES; N. VASCONCELOS; N. SOUSA; A. RODRIGUES. *Life and Hlth. Sci. Res. Inst. (ICVS), Univ. Federal de Pernambuco.*

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* Indicates abstract's submitting author

NANOSYMPOSIUM

110. Social Communication and Behavior

Theme G: Motivation and Emotion

Sun. 8:00 AM – San Diego Convention Center, SDCC 1

- 8:00 **110.01** Neuronal substrates of group competitive foraging in male mice. S. W. LI*; L. M. JOHNSON; Z. WILLIAMS. *Massachusetts Gen. Hosp.*
- 8:15 **110.02** *In vivo* responses to infant vocalizations in mouse paraventricular hypothalamus. S. VALTCHEVA*; R. C. FROEMKE. *NYU Sch. of Med., NYU Sch. of Med.*
- 8:30 **110.03** Social transmission of maternal behavior by oxytocin. I. CARCEA*; N. LOPEZ-CARABALLO; R. OYAMA; J. M. MENDOZA-NAVARRO; D. RAMOS; M. OPENDAK; K. MOGI; T. KIKUSUI; A. C. MAR; R. SULLIVAN; R. C. FROEMKE. *NYU Med. Ctr., New York Univ., New York Univ., New York Univ., Azabu Univ., New York Univ., New York Univ., NYU Med.*
- 8:45 **110.04** Oxytocin mediates the switch from passive to active defensive reactions in the central amygdala. R. TRIANA-DEL RIO*; D. SCHEGGIA; A. CIOBANU; C. HEGOBURU; E. VAN DEN BURG; R. STOOOP. *Ctr. De Neurosciences Psychiatriques-unil-Chuv.*
- 9:00 **110.05** The effect of social reward in vocal learning: Testing an oxytocin-dependent mechanism. C. THEOFANOPOULOU*; D. LIPKIND; O. TCHERNICHOVSKI; C. BOECKX; E. D. JARVIS. *Univ. De Barcelona, Rockefeller Univ., Hunter Col., Hunter Col., Univ. de Barcelona, ICREA, The Rockefeller Univ.*
- 9:15 **110.06** Transparent games: Investigating the influence of action visibility on social and economic decisions in human and macaque pairs. S. MOELLER*; A. M. UNAKAFOV; A. GAIL; S. TREUE; I. KAGAN. *German Primate Ctr., Georg-August-University, Max Planck Inst. for Dynamics and Self-Organization, Leibniz ScienceCampus Primate Cognition, Bernstein Ctr. for Computat. Neurosci.*
- 9:30 **110.07** MDMA's prosocial and rewarding effects require distinct neural mechanisms. B. D. HEIFETS*; J. S. SALGADO; M. D. TAYLOR; P. HOERBELT; J. J. WALSH; E. E. STEINBERG; J. SZE; R. C. MALENKA. *Stanford Univ., Stanford Univ. Sch. of Med., Stanford Univ. Sch. of Med., Albert Einstein Col. of Med.*
- 9:45 **110.08** Validation of a psychosocial chronic stress model in pigs. S. MENNESON*; S. MENICOT; A. FAU; V. NOIROT; P. ETIENNE; N. COQUERY; D. VAL-LAILLET. *Inra Umr 1341 Numecan, Laboratoires Phode.*
- 10:00 **110.09** Sex-specific effects of social isolation on dorsal raphe serotonin neurons and behaviour. K. INTSON*; D. K. OLIVER; S. SIVAKUMARAN; S. K. POWER; D. SARGIN; E. K. LAMBE. *Univ. of Toronto, Univ. of Toronto, Univ. of Calgary, Hotchkiss Brain Inst., Univ. of Toronto, Univ. of Toronto.*
- 10:15 **110.10** ● An fMRI investigation on the positive consequences of being imitated by a virtual non-human agent. H. SATO*; T. NUMATA; Y. ASA; T. KOIKE; K. MIYATA; E. NAKAGAWA; M. SUMIYA; N. SADATO. *Shibaura Inst. of Technol., Hitachi, Ltd., Ctr. for Exploratory Res., Natl. Inst. for Physiological Sci.*
- 10:30 **110.11** Sex-specific behavioral consequences of chronic social isolation. D. K. OLIVER*; K. INTSON; S. SIVAKUMARAN; S. K. POWER; D. SARGIN; E. K. LAMBE. *Univ. of Toronto, Univ. of Toronto, Univ. of Toronto.*

NANOSYMPOSIUM

111. Decision Making: Circuits and Computations

Theme H: Cognition

Sun. 8:00 AM – San Diego Convention Center, SDCC 7

- 8:00 **111.01** Exploring the mechanisms of adaptation to a changing reward task. A. C. DALLSTREAM*; M. L. PLATT; J. I. GOLD. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. Pennsylvania.*
- 8:15 **111.02** Prefrontal projections to striatum persistently encode decision variables. B. A. BARI*; C. D. GROSSMAN; E. E. LUBIN; A. E. RAJAGOPALAN; J. I. CRESSY; J. Y. COHEN. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ.*
- 8:30 **111.03** Ensemble mechanisms of conditional associative learning in primate prefrontal cortex. M. L. LEAVITT*; C. BOULAY; R. A. GULLI; L. DUONG; A. J. SACHS; J. C. MARTINEZ-TRUJILLO. *Univ. of Western Ontario, Ottawa Hosp. Res. Inst., Western Univ., Robarts Res. Inst., Ottawa Hosp. Res. Institute, Univ. of Ottawa, Univ. of Western Ontario.*
- 8:45 **111.04** Neural coding of explore-exploit decisions in macaque prefrontal cortex. V. D. COSTA*; R. BARTOLO; A. R. MITZ; R. C. SAUNDERS; B. B. AVERBECK. *NIMH/NIH, NIMH/NIH, NIH, NIMH.*
- 9:00 **111.05** ● Representation learning for exploration and generalization in RL. K. L. STACHENFELD*; J. GEERTS; N. BURGESS; T. E. J. BEHRENS; M. M. BOTVINICK; S. GERSHMAN. *Deepmind, Princeton Univ., Univ. Col. London, Oxford Univ., DeepMind, Harvard Univ.*
- 9:15 **111.06** Locus coeruleus modulation of adaptive behavior and neuronal activity in anterior cingulate cortex. S. JOSHI*; J. I. GOLD. *Univ. of Pennsylvania, Univ. Pennsylvania.*
- 9:30 **111.07** Exploration via disrupted sensorimotor control dynamics. B. A. EBITZ*; T. MOORE; B. Y. HAYDEN. *Univ. of Minnesota, Howard Hughes Med. Inst. - Stanford Univ., Univ. of Minnesota.*
- 9:45 **111.08** Deep exploration explains the tradeoff between directed and random exploration. R. C. WILSON*; J. D. COHEN. *Univ. of Arizona, Princeton Univ.*
- 10:00 **111.09** Deep exploration accounts for stopping threshold and behavioral variability in an optimal stopping task. S. WANG*; A. GILLILAND; M. CALDER; R. C. WILSON. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*
- 10:15 **111.10** Uncertainty-based adjustment of internal model during perceptual sequential decision-making. J. FISER*; A. KOBLINGER; J. ARATO. *Central European Univ., Central European Univ., Central European University.*
- 10:30 **111.11** Categorical perception: Probing top-down signaling and predictive coding. B. MIN*; D. P. BLISS; Y. ZHOU; D. J. FREEDMAN; X. WANG. *New York Univ., The Univ. of Chicago, Univ. of Chicago.*
- 10:45 **111.12** Intrinsic timescales of sensory integration during perceptual decision. W. CHOI*; S. PAIK. *Dept. of Bio and Brain Engineering, KAIST, Program of Brain and Cognitive Engineering, KAIST.*

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 * Indicates abstract's submitting author

112. Physiological Methods: Optical Methodology

Theme I: Techniques

Sun. 8:00 AM – San Diego Convention Center, SDCC 30B

- 8:00 **112.01** All-optical electrophysiology in behaving mice with enhanced near infrared voltage sensors. Y. ADAM*; J. J. KIM; S. LOU; Y. ZHAO; D. BRINKS; H. WU; M. A. MOSTAJO-RADJI; S. KHEIFETS; V. J. PAROT; S. CHETTIH; K. J. WILLIAMS; S. L. FARHI; L. MADISEN; C. D. HARVEY; H. ZENG; P. ARLOTTA; R. E. CAMPBELL; A. E. COHEN. *Harvard Univ., Univ. of Alberta, Harvard Med. Sch., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Harvard Univ., Harvard Univ.*
- 8:15 **112.02** All-optical electrophysiology of cortical neurons *in vivo*. L. Z. FAN*; S. KHEIFETS; K. D. PIATKEVICH; E. S. BOYDEN; A. E. TAKESIAN; A. E. COHEN. *Harvard Univ., MIT, MIT, Massachusetts Eye and Ear, Harvard Univ.*
- 8:30 **112.03** Whole-brain calcium imaging in zebrafish behaving in a visual-vestibular closed-loop virtual environment. V. BORMUTH*; G. MIGAUT; T. PANIER; H. TRENTESAUX; R. CANDELIER; G. DEBRÉGEAS. *Univ. Pierre et Marie Curie.*
- 8:45 **112.04** Flexible, polymer waveguide arrays with integrated 90-degree input/output ports for high-resolution light delivery to the brain. M. LASSITER*; J. REDDY; M. CHAMANZAR. *Carnegie Mellon Univ.*
- 9:00 **112.05** An implantable neural imaging probe employing single-photon-avalanche-diode arrays. J. CHOI*; A. J. TAAL; C. LEE; K. KIM; L. MOREAUX; M. L. ROUKES; K. L. SHEPARD. *Columbia Univ. in the City of New York, Columbia Univ., Korea Inst. of Sci. and Technol., Caltech.*
- 9:15 **112.06** Flexible, monolithic micro-LED neural probes for optical stimulation and electrical recording. J. REDDY*; I. KIMUKIN; A. L. BARTH; E. TOWE; M. CHAMANZAR. *Carnegie Mellon Univ.*
- 9:30 **112.07** Near-infrared fluorescent sensor for imaging catecholamine dynamics in the brain extracellular space. A. G. BEYENE*; K. DELEVICH; J. T. DEL BONIS-O'DONNELL; W. LIN; A. W. THOMAS; D. PIEKARSKI; S. J. YANG; L. E. WILBRECHT; M. P. LANDRY. *UC Berkeley, UC Berkeley, Univ. of California, Univ. of California Berkeley, Univ. of California, Berkeley, UC Berkeley, Univ. of California Berkeley.*
- 9:45 **112.08** • Variant cryptophyte anion channelrhodopsins expand the time domain for neuronal silencing. E. G. GOVORUNOVA*; O. A. SINESHCHEKOV; R. HEMMATI; R. JANZ; O. MORELLE; M. MELKONIAN; G. K. S. WONG; J. L. SPUDICH. *McGovern Med. Sch. UTHHealth, Univ. of Cologne, Univ. of Alberta.*
- 10:00 **112.09** Long-term use of a fully implantable optogenetic device in rat studies. F. B. CHEN*; R. A. SMITHER; L. PARR-BROWNLIE; D. MCCORMICK; S. MALPAS; D. M. BUDGETT. *Univ. of Auckland, Univ. of Otago.*
- 10:15 **112.10** A miniature CMOS multi-clamp amplifier for *in vitro*, *in vivo*, and scanning nanopipette intracellular recordings. K. JAYANT*; S. SHEKAR; R. YUSTE; K. L. SHEPARD. *Columbia Univ., Columbia Univ., Columbia Univ.*
- 10:30 **112.11** Statistical issues on two-photon imaging in macaques. S. KLEIN*; H. CHAN; C. YU; N. JU. *UC Berkeley, Peking Univ.*
- 10:45 **112.12** Fast and scalable calcium imaging data analysis with caiman. A. GIOVANNUCCI*; J. FRIEDRICH; P. GUNN; D. CHKLOVSKII; E. PNEVMATIKAKIS. *Simons Fndn.*

021. History of Neuroscience

Theme J posters will be on display from Sat. 1 p.m.-Sun. 5 p.m., with one-hour presentations occurring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—San Diego Convention Center, SDCC Halls B-H

- 1:00 JJJ34 **021.01SA** Eponymous women in neuroscience and medicine. B. W. BAKKUM. *Illinois Col. of Optometry.*
- 2:00 JJJ35 **021.02SA** Lessons and guidance for contemporary neuroscience from historical sources: Examples from Shakespeare and Bach. E. L. ALTSCHULER. *Metropolitan Hosp.*
- 3:00 JJJ36 **021.03SA** A biological perspective of depression and psychological processing in spinal cord injury. R. E. ASHER; R. G. FESSLER; B. T. DAVID. *Brigham and Women's Hosp., Rush Univ. Med. Ctr.*
- 4:00 JJJ37 **021.04SA** 150 years of Vierordt's law: The role of experimental protocol. S. GLASAUER; Z. SHI. *Ludwig-Maximilian-University.*
- 1:00 JJJ38 **021.05SA** Adult hippocampal neurogenesis in humans: Controversy and opportunity. J. D. RIESKAMP; J. K. DENNINGER. *The Ohio State Univ.*
- 2:00 JJJ39 **021.06SA** ▲ N-acetylaspartate: Historical background and clinical significance of unique cns molecule. N. PUTHILLATHU VASUDEVAN; M. KIRMANI; M. KIRMANI; R. VENGILOTE; N. PUTHILLATHU VASUDEVAN; A. NAMBOODIRI. *Uniformed Services Univ.*
- 3:00 JJJ40 **021.07SA** Animal cognition: historical congruence of phenomenology and neuroscience. L. N. IRWIN; B. A. IRWIN. *Univ. of Texas At El Paso, City Univ. of New York.*
- 4:00 JJJ41 **021.08SA** Effect of rabies virus infection on the expression of calbindin and parvalbumin on mouse cerebellum: Raising awareness to integrate neuroscience and virology. J. R. NAIZAQUE; Z. DUENAS; O. TORRES-FERNÁNDEZ. *Univ. Nacional de Colombia, Univ. Nacional De Colombia, Inst. Nacional de Salud.*
- 1:00 JJJ42 **021.09SA** Anomalous pattern of earthworm use in behavioral research. W. J. WILSON. *Albion Col.*
- 2:00 JJJ43 **021.10SA** The evolution of defining pain. C. A. SALCIDO; M. K. GELTMEIER; P. N. FUCHS. *Univ. of Texas At Arlington, Univ. Texas Arlington.*
- 3:00 JJJ44 **021.11SA** Taking phenomenology seriously: The ubiquity of first-person experience in the cognitive sciences. S. M. RENNIE; J. RIGATO; Z. F. MAINEN. *Fundação Champalimaud.*
- 4:00 JJJ45 **021.12SA** Systems views in neuroscience: From input/output analysis to situated cognition. J. LETELIER; C. H. MAUREIRA; J. LETELIER. *Univ. of Chile.*
- 1:00 JJJ46 **021.13SA** Operational closure in the nervous system. F. J. FLORES. *Massachusetts Gen. Hosp., Harvard Univ., MIT.*

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* Indicates abstract's submitting author

THEME J POSTER San Diego Convention Center

022. Teaching of Neuroscience: K-12

Theme J posters will be on display from Sat. 1 p.m.-Sun. 5 p.m., with one-hour presentations occurring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—San Diego Convention Center, SDCC Halls B-H

- 1:00 JJJ47 **022.01SA** The teenage neuroscience initiative of the future. N. R. MYSLINSKI; K. ROINA; C. MASON; L. V. KRISTIENSEN; M. P. WITTER; R. HADID; T. ASAKAWA; G. FOWLER; R. DIAZ-BRINTON. *Univ. of Maryland Dent. Sch., Dana Alliance, Columbia Univ., FENS, Kavli Inst. Systems Neuroscience, Norw. Univ. Sci. & Tech., Intl. Brain Res. Organization, American Psychological Assn., Society for Neurosci.*
- 2:00 JJJ48 **022.02SA** Think outside the blocks: Teaching the genetic, biological, and behavioral basis of addiction to high school students using LEGOs. E. L. SPAULDING; A. GALLUP; R. DENEGRE; P. DICKSON; K. LONG; K. FUNKHOUSER; M. MCOSKER; J. KADIN; E. J. CHESLER. *The Jackson Lab., Univ. of Maine, Mount Desert Island High Sch.*
- 3:00 JJJ49 **022.03SA** Evaluating neural engineering education programs using a common assessment tool. E. H. CHUDLER; K. C. BERGSMAN; J. WEBER. *Univ. of Washington, Ctr. for Res. and Learning.*
- 4:00 JJJ50 **022.04SA** Neuroanatomy explorers: International exchange through edu-gaming. R. J. WINGATE; L. J. WILSON; R. J. WINGATE. *King's Col. London, King's Col. London.*
- 1:00 JJJ51 **022.05SA** Extracurricular biology research in a high school setting. N. J. AMIN; A. S. KRISHNAN; P. B. NEWCOMBE; R. D. FIELDS. *Sidwell Friends Sch., NIH.*
- 2:00 JJJ52 **022.06SA** The CogNeuro Bootcamp - An education and outreach project for high schoolers and college students. R. C. WILSON; K. CALDERON; A. FRISVOLD; Z. HAKIM; J. MIZELL; N. PENA; A. SKUPNY; S. SYLVESTER. *Univ. of Arizona.*
- 3:00 JJJ53 **022.07SA** ▲ Engaging the Metro-Detroit community and youth in interactive neuroscience-related activities. K. KARAVIDHA; L. E. CHABY; S. KULKARNI; T. FISCHER; S. A. PERRINE. *Wayne State Univ., Northville High Sch., Wayne State Univ.*
- 4:00 JJJ54 **022.08SA** Engaging students in neuroscience research: Implementing feasible inquiry-based investigations in K-12 schools. L. THOMPSON; N. FERRARO; M. P. REILLY; S. R. GUARIGLIA. *St. Joseph By the Sea High Sch., New York State Inst. for Basic Res.*
- 1:00 JJJ55 **022.09SA** Teaching neuroscience through data-driven exploratory research projects in Chinese high schools and early college years. A. H. ASSADI; K. SUN. *Univ. Wisconsin, AW Educ. Intl.*
- 2:00 JJJ56 **022.10SA** Physiology laboratory experiences for applied science education (PLEASE): Engaging African American males in science education. R. LAWSON; L. A. WHEATON; T. PEARSON. *Georgia Inst. of Technol., Georgia Tech., Georgia Inst. of Technol.*
- 3:00 JJJ57 **022.11SA** Evidence-based neuroscientific public engagement: Brain Awareness Week at UCLA. T. J. WISHARD; V. SARAVANAPANDIAN; Z. M. AGHAJAN; A. IZQUIERDO; W. GE; M. CILLUFFO; R. ROMERO; N. A. SUTHANA. *UCLA, UCLA, UCLA, UCLA, UCLA, UCLA, UCLA.*

- 4:00 JJJ58 **022.12SA** Using neurotechnology and novel sensory-focused demonstrations to stimulate interest in science and the brain. W. E. BABIEC; T. J. WISHARD; V. SARAVANAPANDIAN; Z. M. AGHAJAN; W. GE; M. LEBRE; R. ROMERO; N. A. SUTHANA. *UCLA, UCLA, UCLA, UCLA, UCLA, UCLA, UCLA, UCLA.*
- 1:00 JJJ59 **022.13SA** Neurohistory cartoons: A scientific outreach project combining the history of neuroscience and cartoon imagery. S. L. BAGLOT; N. GRADUATE STUDENT ASSOCIATION; A. MORTAZAVI; L. BOLANOS; A. R. GOBINATH. *Univ. of British Columbia.*
- 2:00 JJJ60 **022.14SA** The 2018 world brain bee championship. J. D. GREENSPAN; M. PETRULYTE; N. R. MYSLINSKI. *Univ. Maryland Dent. Sch., Univ. of Aberdeen, Univ. of Maryland Dent. Sch.*

THEME J POSTER San Diego Convention Center

023. Teaching of Neuroscience: College I

Theme J posters will be on display from Sat. 1 p.m.-Sun. 5 p.m., with one-hour presentations occurring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—San Diego Convention Center, SDCC Halls B-H

- 1:00 JJJ61 **023.01SA** The neuroscience of consciousness, free will, and moral responsibility: A undergraduate seminar integrating neuroscience, philosophy, and religion. S. MALLERY. *La Sierra Univ.*
- 2:00 JJJ62 **023.02SA** Neurophysiological measurement, analysis and sense-making in college introductory physics for life sciences laboratories. E. MILLS; C. KITUR; S. MENDOZA; C. DAO; K. ARISAKA. *UCLA.*
- 3:00 JJJ63 **023.03SA** Low cost eye tracking systems for use in teaching in undergraduate physics and neuroscience classes. S. MENDOZA; J. NGUYGEN; E. MILLS; K. ARISAKA. *UCLA.*
- 4:00 JJJ64 **023.04SA** ▲ Broadening participation in STEM using a novel research intervention tool. J. WILLIAMS; F. JEFFERSON. *Fort Valley State Univ., Fort Valley State Univ.*
- 1:00 JJJ65 **023.05SA** Neuromembrane simulator for neuroscience students. D. W. ALLI; G. D. FUNK; K. E. JONES. *Univ. Alberta, Fac. of Med. and Dentistry, Univ. of Alberta, Univ. Alberta.*
- 2:00 JJJ66 **023.06SA** Backward design of a primary literature-based lecture and laboratory course in developmental neurobiology for undergraduate biology majors. G. S. VIDAL. *James Madison Univ.*
- 3:00 JJJ67 **023.07SA** Providing research experience through a course that mimics a laboratory research environment. L. M. STONE-ROY.
- 4:00 JJJ68 **023.08SA** Integrated Science Experience: An interdisciplinary drug discovery laboratory-based course combining cellular and molecular neuroscience with organic chemistry. B. DIBENEDICTIS; A. YOUNG; D. SHEEHY; L. PASTORINO; J. K. SNYDER. *Boston Univ., Boston Univ., Boston Univ.*
- 1:00 JJJ69 **023.09SA** Supporting 21st-century learning skills in a neuroscience coursework. A. J. WINTINK. *Ctr. For Applied Neurosci., Univ. of Guelph-Humber.*
- 2:00 JJJ70 **023.10SA** The contribution of visual-spatial ability to student success in a large neurobiology course. A. C. NICHOLAS. *Univ. of California At Irvine.*

Sun. AM

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 3:00 LLL1 **023.11SA** Use of circuit design challenges in an integrative introduction to neuroscience course. A. C. BASU; C. S. ROYDEN; J. R. BURDO. *Col. of the Holy Cross, Col. of the Holy Cross, NeuroTinker, Inc.*
- 4:00 LLL2 **023.12SA** Strategies for improving scientific and quantitative literacy in an undergraduate psychophysiology course. S. GARRETT-RUFFIN. *Bowling Green State Univ.*
- 1:00 LLL3 **023.13SA** Using mTOR signaling as a tool for guided inquiry in an undergraduate molecular cell biology laboratory class. C. L. KUBERA. *Monmouth Univ.*
- 2:00 LLL4 **023.14SA** Nu rho psi, the National Honor Society in Neuroscience. M. T. KERCHNER; S. K. DEBBURMAN; M. J. ZEE; M. J. GILL; M. T. KERCHNER. *Washington Col., Lake Forest Col., Northeastern Univ., North Central Col.*
- 3:00 LLL5 **023.15SA** Sex-specific neurobiological differences in substance addiction: An educational pilot program for next generation STEM workforce. P. A. VIEIRA. *CSU Dominguez Hills.*
- 4:00 LLL6 **023.16SA** Design and implementation of a multi-track neuroscience undergraduate degree. K. PHILLIPS; H. SONTHEIMER. *Virginia Tech.*
- 1:00 LLL7 **023.17SA** Faculty for Undergraduate Neuroscience (FUN): Multiple mechanisms for supporting the development of undergraduate students and faculty in the neurosciences. H. G. MCFARLANE; R. J. BAYLINE; L. A. CHASE. *Kenyon Col., Washington and Jefferson Coll, Hope Col.*
- 2:00 LLL8 **023.18SA** Journal of Undergraduate Neuroscience education (JUNE): A peer-reviewed, open-access and PubMed listed forum for innovative ideas in neuroscience education. B. R. JOHNSON; E. P. WIERTELAK; R. L. RAMOS. *Cornell Univ., Macalester Col., NYIT-COM.*
- 3:00 LLL9 **023.19SA** UCLA-HBCU Neuroscience Pathways Summer Program: A multi-institutional approach to leverage the excellence of students who are underrepresented in STEM fields. K. N. PAUL; A. IZQUIERDO; H. O. LAWAL; F. SCHWEIZER; G. POE. *UCLA, UCLA, Delaware State Univ.*
- 4:00 LLL10 **023.20SA** Transforming connections for success in STEM: The Lehigh university HHMI program. N. G. SIMON; V. C. WARE. *Lehigh Univ.*
- 1:00 LLL11 **023.21SA** Integrating neuroscience into a new freshman research initiative at a regional comprehensive university: The Research Immersive Scholastic Experience in Biology program. R. E. COHEN; A. M. LAND; B. F. MARTENSEN; D. S. SHARLIN; B. A. SMITH. *Minnesota State Univ. Mankato, Minnesota State Univ. Mankato.*
- 2:00 LLL12 **023.22SA** ▲ Exploration of teaching social neuroscience in Mexican training programs in neuroscience. I. GONZALEZ RIVERA; R. DÍAZ-LOVING. *Univ. Nacional Autónoma De México, Facultad, Univ. Nacional Autónoma de México.*
- 3:00 LLL13 **023.23SA** Using scientific articles and peer review to promote neuroscience education. K. M. CROSBY. *Mount Allison Univ.*
- 1:00 DP15/LLL14 **023.24SA** (Dynamic Poster) A brain simulation environment for playful learning in cognitive neuroscience. D. BIRMAN; J. L. GARDNER. *Stanford Univ.*

THEME J POSTER San Diego Convention Center

024. Teaching of Neuroscience: College II

Theme J posters will be on display from Sat. 1 p.m.-Sun. 5 p.m., with one-hour presentations occurring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—San Diego Convention Center, SDCC Halls B-H

- 8:00 LLL15 **024.01SU** The impact of team-based learning on undergraduate neuroscience classroom dynamics and course learning objectives. T. NEWPHER; M. NG. *Duke Univ., Duke Inst. for Brain Sci.*
- 9:00 LLL16 **024.02SU** EEG 101: A practical, interactive, free & open source tool for use with low-cost mobile EEG in neuroscience education. D. MORRISON; H. BANVILLE; T. MCNEELY; N. PROULX; G. MOFFAT; G. KING. *NeuroTechX, Interaxon, KBD Group.*
- 10:00 LLL17 **024.03SU** A simple, inexpensive voltage-controlled current source system for neuroscience applications. I. VILINSKY; K. L. HIBBARD; B. R. JOHNSON. *HHMI Janelia Res. Campus, Cornell Univ.*
- 11:00 LLL18 **024.04SU** Developing a tool to assess the learning gains of a neuroscience curriculum. W. E. GRISHAM; W. E. BABIEC; H. WHANG; M. LEVISO-FITZGERALD; N. SCHOTTLER. *UCLA, UCLA, UCLA.*
- 8:00 LLL19 **024.05SU** Electronic devices in the classroom - Use it or lose it? L. L. MCGREW. *Belmont Univ.*
- 9:00 LLL20 **024.06SU** A neuronal membrane simulator as a complementary learning tool for medical students. M. FORSBERG; E. J. ERIKSSON; H. SETH; E. L. HANSE. *Univ. of Gothenburg, Sahlgrenska Academy, Univ. of Gothenburg, Univ. of Gothenburg, Goteborg Univ.*
- 10:00 LLL21 **024.07SU** Understanding the role of diffusion in synaptic transmission through inquiry-based learning and quantitative reasoning. G. K. ZUPANC. *Northeastern Univ.*
- 11:00 LLL22 **024.08SU** ▲ Interactive models for optics education using eye tracking and an electronic retina. G. Q. BUTCHER; J. N. REITZ; R. ANDERSON; E. TORIGUE. *Thiel Col.*
- 8:00 LLL23 **024.10SU** Assessment of peer writing assignments significantly improves indicators of confidence in using the primary literature, in a cohort of Occupation Therapy students. A. K. PACK. *Utica Col.*
- 9:00 LLL24 **024.11SU** Neuroscientists' perspectives on making neuroscience research and teaching more critical and ethical. P. W. TSANG; A. LAM; E. L. OHAYON. *Univ. of Toronto, Inst. for Green and Open Sci. (IGOS), Inst. for Green and Open Sci. (IGOS), NeuroInx Res. Inst.*
- 10:00 LLL25 **024.12SU** Curiouser and curiouser: Contextualizing neuroscience in the arts and humanities to teach brain-body relationships to engineers, architects, and computer scientists. A. A. WALF; T. HAHN. *Rensselaer Polytechnic Inst., Rensselaer Polytechnic Inst.*
- 11:00 LLL26 **024.13SU** Exploring neuroanatomy technologies: A "brain in hand" approach utilizing 3D models for undergraduate learning. C. WILSON. *Chapman Univ.*
- 8:00 LLL27 **024.14SU** An interdisciplinary laboratory exercise in synaptic transmission: MATLAB analysis of quantal release at the fruit fly neuromuscular junction. S. KUMAR; D. L. DEITCHER; B. R. JOHNSON. *Salk Inst. for Biol. Studies, Cornell Univ.*

- 9:00 LLL28 **024.15SU** Introducing undergraduates to neuroscience literature: A pilot study involving knowledge engineering approaches. C. D'ARCY; A. MARTINEZ; B. E. PINALES; K. NEGISHI; G. A. BURNS; A. M. KHAN; J. T. OLIMPO. *Univ. Texas El Paso, Univ. of Texas at El Paso, Information Sci. Inst., Univ. of Texas at El Paso, Univ. of Texas at El Paso.*
- 10:00 LLL29 **024.16SU** Using a psychophysiology lab in introductory psychology to teach neuroscientific concepts. K. HALFMANN. *Univ. of Wisconsin - Platteville.*
- 9:00 LLL30 **024.17SU** Supporting undergraduate scholarly experience. J. D. OMELIAN; S. I. SOLLARS. *Univ. of Nebraska at Omaha Dept. of Psychology.*
- 8:00 LLL31 **024.18SU** Dance and the Brain: Promoting the understanding of neuroscience through entrainment of aesthetically pleasing movement. E. P. WIERTELAK; J. LILE. *Macalester Col., Macalester Col.*
- 9:00 LLL32 **024.19SU** Experimental group activities to promote intuitive understanding of neural network functions through role-playing. G. RIESEN; J. L. GARDNER. *Stanford Univ. Dept. of Neurol. and Neurolog. Sci., Stanford Univ.*
- 10:00 LLL33 **024.20SU** Teaching *in vivo* neuropsychopharmacology in an undergraduate research module. A. IZQUIERDO; W. E. GRISHAM. *UCLA, UCLA.*
- 11:00 LLL34 **024.21SU** Teaching scientific literacy and communication via "Sex and the Brain". T. TAN. *Harvard Med. Sch.*
- 8:00 LLL35 **024.22SU** Teaching synaptic transmission using primary literature: a skills-based approach to increased student engagement. K. BILLS; A. PAYNE; S. STEFFENSEN. *Brigham Young Univ.*
- 9:00 LLL36 **024.23SU** An innovative approach to a neuroscience capstone learning experience. A. J. PAYNE; K. B. BILLS; S. C. STEFFENSEN. *Brigham Young Univ.*
- 10:00 LLL37 **024.24SU** Neurocasenet: Support for teaching neuroscience with cases. L. A. ROESCH; P. MARSTELLER; K. E. FRENZEL. *Emory Univ., Emory Univ.*
- 11:00 LLL38 **024.25SU** ▲ A novel program in neurosciences in Mexico. J. C. BARRERAS-MALDONADO; P. DURAN; D. E. GARCIA-DIAZ. *Univ. Nacional Autónoma de México, Univ. Nacional Autónoma de México.*
- 8:00 LLL39 **024.26SU** ▲ Using the journal IMPULSE to enrich undergraduate curricula through neuroscience publishing. C. FENNELL; M. N. PAVELKA; S. EVERETT; E. TURNER; Z. KAPLAN; C. H. GODFREY; L. JONES; M. C. ZRULL. *Appalachian State Univ., Appalachian State Univ., Appalachian State Univ.*
- 9:00 LLL40 **024.27SU** Immersive learning in neuroscience education. T. H. GILBERT. *Athabasca Univ.*
- 10:00 LLL41 **024.28SU** Survey of computational tools for reproducible science in the classroom. D. CELINSKIS. *Brown Univ.*

THEME J POSTER San Diego Convention Center

025. Teaching of Neuroscience: Graduate and Professional

Theme J posters will be on display from Sat. 1 p.m.-Sun. 5 p.m., with one-hour presentations occurring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—San Diego Convention Center, SDCC Halls B-H

- 1:00 LLL42 **025.01SA** The making of a human neuroanatomy textbook. A. PARENT. *Psychiat. & Neurosci. Dept, Univ. Laval.*
- 2:00 LLL43 **025.02SA** Development of low-cost tactile neuroanatomy learning tools for blind and visually impaired students. G. B. DINIZ; L. V. SITA. *Inst. of Biomed. Sci., Univ. of São Paulo.*
- 3:00 LLL44 **025.03SA** Neuroscience capstone project for masters of science in medical health science students. A. M. SHERFEY; B. A. PUDER. *Touro Univ., Samuel Merritt Univ.*
- 4:00 LLL45 **025.04SA** Hands-on workshop on improving rigor and reproducibility in preclinical behavioral testing. L. ANDERSON; K. LARUE; C. WRAY; S. J. SUKOFF RIZZO. *The Jackson Lab., The Jackson Lab.*
- 1:00 LLL46 **025.05SA** Development of an engineering-integrated clinical neuroscience medical curriculum: A novel case-centered problem-based medical education. R. GALVEZ; K. AHMAD; B. ALDRIDGE; J. AMOS; O. COIADO; E. T. HSIAO-WECKSLER; G. HUESMANN; D. LLANO; W. PLUTA; S. ROBERTS-LIEB; Y. VLASOV; J. YODH; J. ROWEN. *Univ. of Illinois, Urbana-Champaign, Univ. of Illinois, Urbana-Champaign, Univ. of Illinois, Urbana-Champaign, Univ. of Illinois, Urbana-Champaign, Carle Fndn. Hosp., Univ. of Illinois, Urbana-Champaign.*
- 2:00 LLL47 **025.06SA** Integrating student education in the research process with a stereological study: The effects of environmental enrichment on the number and size of th- neurons in the substantia nigra pars compacta in rats. S. O. AHMAD; J. JOSEPH; E. SPALDING; N. STEVENS; S. TOTH. *St. Louis Univ., St. Louis Univ., St. Louis Univ.*
- 3:00 LLL48 **025.07SA** Interdisciplinary education for innovative research infrastructures. T. RASS; E. WINTERSTELLER; A. SARIA. *Med. Univ. Innsbruck - Human Brain Project.*
- 4:00 LLL49 **025.08SA** An interactive guide to neuronal data analysis for the practicing neuroscientist. E. SCHLAFLY; U. T. EDEN; J. W. BOHLAND; M. A. KRAMER. *Boston Univ.*
- 1:00 LLL50 **025.09SA** R-based web applications for teaching behavioral and cognitive modeling in cognitive neuroscience. J. PETERS. *Dept. of Psychology, Biol. Psychology.*
- 2:00 LLL51 **025.10SA** SFB 1280 Extinction learning: A novel way to integrate research and teaching in cognitive neuroscience. G. SALZMANN; O. GUNTURKUN. *Ruhr Univ. Bochum.*
- 3:00 LLL52 **025.11SA** Graduate school prioritization of application components: The most highly valued characteristics desired by top neuroscience programs. J. A. BOYETTE-DAVIS. *St. Edward's Univ.*
- 4:00 LLL53 **025.12SA** The Brown University Neuropracticum: Advanced graduate training at the marine biological laboratory. C. I. MOORE; D. D. SLIVA; K. S. YANAGI; A. C. OYALOWO; A. I. MORE; C. A. DEISTER; M. PESCOSOLIDO; R. ST. LAURENT; J. J. ALLEN; D. LIPSCOMBE; A. C. HART. *Brown Univ., Carney Inst. for Brain Sci.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

026. Public Awareness of Neuroscience: Outreach Activities I

Theme J posters will be on display from Sat. 1 p.m.-Sun. 5 p.m., with one-hour presentations occurring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—San Diego Convention Center, SDCC Halls B-H

- 8:00 DP15/LLL54 **026.01SU** (Dynamic Poster) Crescent Loom: Weaving biophysical motor circuits to control 2D underwater creatures in an accessible video game. W. M. PERRY; G. BARELLO. *Reed Col., Univ. of Oregon.*
- 9:00 LLL55 **026.02SU** NW Noggin on homelessness and the brain, seeing us all through research and art. W. S. GRIESAR; J. LEAKE. *NW Noggin (PSU, OHSU), Portland State Univ., NW Noggin (PSU, OHSU), Portland State Univ.*
- 10:00 LLL56 **026.03SU** "Talk to A Brain Cell" exhibit is an effective educational and outreach tool to model neuronal function and synaptic plasticity with audiences of all ages and scientific backgrounds. A. J. LESIAK. *Univ. of Washington.*
- 11:00 LLL57 **026.04SU** We the Scientists: Tracking science policy at the federal and local level. C. BRAINE; M. DONEGAN; L. LONG; L. NUNNELLY; S. ROLLOTI; L. J. SIBENER. *Columbia Univ.*
- 8:00 LLL58 **026.05SU** ComSciCon: The communicating science workshop for graduate students. A. L. CALDWELL; N. SANDERS; M. DROUT; S. KOHLER. *UC San Diego, Astrobitis, Carnegie Inst. for Sci., AAS Nova.*
- 9:00 LLL59 **026.06SU** Combined stem cell factor and granulocyte colony-stimulating factor treatment enhances brain repair in the chronic phase of traumatic brain injury. X. QIU; S. PING; M. KYLE; K. HUGHES; L. ZHAO. *SUNY Upstate Med. Univ., SUNY Upstate Med. Univ.*
- 10:00 LLL60 **026.07SU** ▲ Grey matters: A multimedia approach to accessible neuroscience. T. QIU; E. STEFANO; P. BARTLETT; S. GU; T. GUO; G. WANG; A. CHEN. *Univ. of Washington, Univ. of Washington, Univ. of Washington.*
- 11:00 LLL61 **026.08SU** Taste of science: A fest to feed your curiosity. B. E. SPENCER. *UCSD.*
- 8:00 MMM1 **026.09SU** Race your brain - An interactive exhibit for Brain Awareness Week. G. A. GOMEZ ACOSTA; J. BESHEER; D. L. ROBINSON. *Univ. of North Carolina at Chapel Hill.*
- 9:00 MMM2 **026.10SU** Cultivating future generations of neuroscientists through brain awareness activities. A. N. NILSON; O. FOLORUNSO; G. TAGLIALATELA. *Univ. of Texas Med. Br., Univ. of Texas Med. Br., Univ. of Texas Med. Br., Univ. of Texas Med. Br.*
- 10:00 MMM3 **026.11SU** Accelerating our understanding of computerized cognitive training through the human cognition project. E. CORDELL; N. NG; R. SCHAFER. *Lumos Labs.*
- 11:00 MMM4 **026.12SU** Participation in multi-dimensional support based research program enhances low income Latinx high school students in the pursuit of higher education and STEM professions. M. K. LOH; J. RUIZ; H. RASGADO-FLORES. *Rosalind Franklin Univ. of Med. & Sci., Rosalind Franklin Univ. of Med. & Sci., Rosalind Franklin Univ. of Med. & Sci.*
- 8:00 MMM5 **026.13SU** Use of social networks in science forums. P. TORRES-CARRILLO; M. D. VERGEL-MUNGUÍA; D. B. PAZ-TREJO; H. SANCHEZ-CASTILLO. *Univ. Nacional Autonoma De Mexico, UNAM, Facultad de Psicología, Univ. Nacional Autonoma de Mexico, Univ. Nacional Autonoma de Mexico. Fac Psicología.*
- 9:00 MMM6 **026.14SU** The search for 3D printable bioinks by community biology labs. D. FOSTER; H. KIM; R. LEE; J. KOO; K. FOSTER; R. JOHNSON; B. TENG. *C/O TheLab Inc. /www.thelab.com, Stanford, TheLab Inc., TheLab Inc, California State University, Fullerton, UCLA, California State Univ. Northridge.*
- 10:00 MMM7 **026.15SU** NIH contributions to the BRAIN Initiative. A. ADAMS; K. B. DUPRE; G. FARBER; J. GORDON; N. S. HSU; W. KOROSHETZ; M. MOTT; K. RAMOS; N. TALLEY; S. L. WHITE. *NIH NINDS, NIH NIMH.*
- 11:00 MMM8 **026.16SU** Educating responsible citizens that recognize the importance of neuroscience. R. C. ZEPEDA; C. J. JUÁREZ-PORTILLA; M. A. MELGAREJO; A. PUGA; D. HERNÁNDEZ; Á. PAVÓN ROSADO; J. CUETO-ESCOBEDO; M. ALVARADO-OLIVARES; T. MOLINA-JUMÉNEZ; J. F. RODRÍGUEZ-LANDA; L. T. HERNÁNDEZ; B. BERNAL; J. MORALES-MAVIL; M. D. ROVIROSA; A. CORTÉS-SOL; C. CEBALLOS-POMARES; M. D. CABA; A. CORNEJO; S. RUFINO-CUÉLLAR; M. HERNÁNDEZ; L. SERRANO-MARUQUEZ; F. VÁZQUEZ-ORTEGA; E. MEZA. *Univ. Veracruzana, AV Medicos y Odontólogos SN, Inst. de Neuroetología, Univ. Veracruzana, Facultad de Química farmacéutica Biológica, Facultad de Biología, Doctorado en Ciencias Biomédicas, Univ. Veracr.*
- 8:00 MMM9 **026.17SU** Promoting neuroscience awareness among Central Pennsylvania youth leads to career selection in the neurosciences. K. VENKITESWARAN; S. RAVI; A. R. WHITE; E. BLANKE; E. MADAR; Y. KIM; A. BARBER; T. SUBRAMANIAN. *Penn State Col. of Med.*
- 9:00 MMM10 **026.18SU** The 31st northeast under/graduate research organization for neuroscience (NEURON) conference held at Quinnipiac University in Hamden, CT. A. J. BETZ; A. TODD; V. FRANCONI; A. C. BASU; J. G. TRAPANI; C. A. FRYE; J. D. SALAMONE. *Quinnipiac Univ., Quinnipiac Univ., Col. of the Holy Cross, Amherst Col., Univ. Albany, Univ. of Connecticut.*
- 10:00 MMM11 **026.19SU** NeuWriteSD: Building skills in science communication through writing. M. ROSSA; J. LOVELETT; D. SCHREINER; B. SPENCER; M. KIRCHGESSNER. *Univ. of California San Diego, Univ. of California San Diego.*
- 11:00 MMM12 **026.20SU** The 2018 united states regional brain bee championship. D. A. SEMINOWICZ; N. R. MYSLINSKI. *Univ. of Maryland, Baltimore, Univ. of Maryland Dent. Sch.*
- 8:00 MMM13 **026.21SU** NeuroBoricuas: Inception of University Chapters to increase neuroscience education in colleges and K-12 schools. M. I. DE JESÚS-BURGOS; M. DIAZ-RIVERA; B. SANTOS-VERA; Y. FERRER-ACOSTA; M. P. MENDEZ-GONZÁLEZ; D. REYES-COLÓN; L. C. VICENTE-RODRÍGUEZ; J. SANTIAGO; C. BRAVO-RIVERA. *Univ. of Puerto Rico, Cayey Campus, Univ. of Puerto Rico Sch. of Med., Ponce Hlth. Sci. University-School of Med., Univ. Central del Caribe, Univ. of Puerto Rico, Univ. of Puerto Rico, Univ. of Puerto Rico, Cold Spring Harbor Lab.*

THEME J POSTER San Diego Convention Center

027. Public Awareness of Neuroscience: Outreach Activities II

Theme J posters will be on display from Sat. 1 p.m.–Sun. 5 p.m., with one-hour presentations occurring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—San Diego Convention Center, SDCC Halls B-H

- 8:00 MMM14 **027.01SU** Comic book representation of Batman and brain injury across the years. H. MUSTAFA; A. HARRISON; H. CULLEN; S. BLACK; B. WRIGHT; E. P. ZEHR. *Univ. of Victoria*.
- 9:00 MMM15 **027.02SU** Portrayal of concussion exposure in mixed martial arts: review and analysis of fight outcomes and head trauma risk according to gender and weight class. B. FOLLMER; R. A. DELLAGRANA; E. ZEHR. *Univ. of Victoria, Federal Univ. of Santa Catarina, Rehab Neurosci. Lab*.
- 10:00 MMM16 **027.03SU** REMIND: Bridging the gap between neuroscience and children. A. CADETE MARTINI; S. FORNER; S. E. ROYER; C. G. COX; K. M. KLEIN; J. D. GRILL. *Univ. of California Irvine*.
- 11:00 MMM17 **027.04SU** ▲ Neuro club + TORCH: Brain awareness activities with under-served middle school students. H. H. MOHAMED; P. J. BROWNELL; L. M. CARLSON; S. D. DICKINSON. *St. Olaf Col., St. Olaf Col.*
- 8:00 MMM18 **027.05SU** Are we at 3 pounds yet? Teaching young children about the brain. R. WILLIAMSMORRIS; M. L. THOMAS; Z. L. SISCO. *Southern Adventist Univ., Southern Adventist Univ., Southern Adventist Univ.*
- 9:00 MMM19 **027.06SU** BrainStation: Brain science in the elementary school classroom. A. I. MORE; J. J. STEIN; A. C. TSUDA; J. L. BASSELL; S. T. MERNOFF. *Brown Univ., Alpert Med. Sch., Providence Veterans Affairs Med. Ctr.*
- 10:00 MMM20 **027.07SU** Drug Outreach, Promoting Awareness (DOPAteam): A novel science-based approach to teen drug education. N. T. LICHTENBERG; A. B. THOMPSON; R. ROMERO-CALDERÓN; M. Y. IGUCHI; C. EVANS. *UCLA, UCLA, RAND Corp., UCLA Brain Res. Inst.*
- 11:00 MMM21 **027.08SU** ▲ The Army Educational Outreach Program: Developing a working model of human genetics to predict performance during military combat. S. WADHWA; M. CHEN; A. NIKOLICH; R. RATCLIFFE; V. CAPALDI; A. J. BRAGER. *Walter Reed Army Institute of Res.*
- 8:00 MMM22 **027.09SU** Croatian society for neuroscience - 17 years of conversation with general public about most exciting topics and advances of brain research. S. KALANJ-BOGNAR; M. JUDAS; M. VUKSIC; I. KOSTOVIC. *Croatian Inst. For Brain Research, Sch. of M.*
- 9:00 MMM23 **027.10SU** The 1st neuroscience public event in mongolia. B. LKHAGVASUREN; E. LKHAGVASUREN; B. TSOLMON; J. JAMIYANSUREN; S. BAASANJAV; D. BOLDBAATAR; T. JADAMBA; A. BAZAR. *Mongolian Fndn. For Sci. and Technol., Mongolian Natl. Univ. of Med. Sci., Ministry of Education, Culture, Science, and Sports, Ctr. for Hlth. Develop.*
- 10:00 MMM24 **027.11SU** Malaysia's neuroscience educational community-engagement initiatives. M. MUZAIMI; F. AHMAD; R. KANDASAMY; Y. TAN; M. MUSTAFA; B. IDRIS; J. ABDULLAH; Z. IDRIS. *Universiti Sains Malaysia*.

- 11:00 MMM25 **027.12SU** Baltimore brain connect community outreach. N. K. HUSSAIN; M. MAY; K. J. MONK; S. MAGSAMEN; R. L. HUGANIR. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Sch. of Med.*

- 8:00 MMM26 **027.13SU** Brainbow Road: Increasing neuroscience knowledge through educational outreach by FSU Neuroscience. R. VAIDYANATHAN; A. STIMMELL; C. MARTINEZ; E. CHUN; R. HEDINGER; J. CHITAMAN; C. SIMMONS; S. TERRILL; C. EDWARDS; A. BRUNICK; J. RYAN; M. DONOVAN. *Florida State Univ., Florida State Univ., Florida State Univ., Florida State Univ.*

THEME J POSTER San Diego Convention Center

028. Ethical and Policy Issues in Neuroscience

Theme J posters will be on display from Sat. 1 p.m.–Sun. 5 p.m., with one-hour presentations occurring either Saturday afternoon (presentation numbers ending in SA) or Sunday morning (presentation numbers ending in SU)—San Diego Convention Center, SDCC Halls B-H

- 8:00 MMM27 **028.01SU** Research integrity oversight and research misconduct investigations at the national science foundation office of the inspector general. E. RUNKO. *Natl. Sci. Fndn.*
- 9:00 MMM28 **028.02SU** ▲ The ethical implications of media coverage on visual prostheses in the words of visually impaired individuals. J. PATEL; E. HILDIT; K. L. LAAS. *Illinois Inst. of Technol., Illinois Inst. of Technol.*
- 10:00 MMM29 **028.03SU** Referencing autonomy in neural integration: Building on bayesian inferencing for metaethical praxis. D. C. LARRIVEE. *Intl. Assn. Catholic Bioethicists*.
- 11:00 MMM30 **028.04SU** Pediatric neuropsychiatry and electroconvulsive therapy: Ethical, clinical and legal considerations. C. COURCHESNE; J. ILLES; F. VILA-RODRIGUEZ. *Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia*.
- 8:00 MMM31 **028.05SU** ▲ Teaching detained juveniles about their brains: A study on a novel brain-health intervention at the St. Joseph county juvenile justice center. N. MICHAEL; M. HOLLENDER. *Univ. of Notre Dame, Univ. of Notre Dame*.
- 9:00 MMM32 **028.06SU** Possible loss of personal identity after allogeneic/xenogeneic cell transplantation for cerebral disorder. H. SHICHINOHE. *Hokkaido Univ. Hosp.*
- 10:00 MMM33 **028.07SU** Time to dump the “dimorphism:” Male and female brains are far more similar than different across multiple measures of structure and function. L. S. ELIOT; A. AHMED; H. KHAN; J. PATEL. *Rosalind Franklin Univ. of Med. & Sci., Rosalind Franklin Univ.*
- 11:00 MMM34 **028.08SU** A three-pronged approach to science policy: Advocating to scientists, community members and policy-makers. J. GERSON; S. S. PISTORIUS. *Univ. of Michigan, Univ. of Michigan*.
- 8:00 MMM35 **028.09SU** Mathematical (dis)continuity conditions: Toward the future of a nature-friendly interhemispheric coupling of brains, minds and computers? J. F. GOMEZ-MOLINA. *Intl. Group of Neurosci. (IGN)*.
- 9:00 MMM36 **028.10SU** Johns hopkins science policy group: Engaging early career researchers in advocacy. C. MATNEY; R. SIMA; L. CAIRNS; K. WOOD; M. SPAUR; S. P. BROWN. *Johns Hopkins Sch. of Med., Johns Hopkins Bloomberg Sch. of Publ. Hlth., Johns Hopkins Sch. of Med., Johns Hopkins Bloomberg Sch. of Publ. Hlth.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 10:00 MMM37 **028.11SU** Engaging local policy makers: strategies for scientists. J. LUCHSINGER. *Vanderbilt Univ.*
- 11:00 MMM38 **028.12SU** Being conscious of brain death: Technical and ethical issues. Z. SUSKIN; R. EVANS. *Georgetown Univ. Sch. of Med., Harvard Med. Sch., Barts and The London Sch. of Med. and Dent.*
- 8:00 MMM39 **028.13SU** Scientist Advocates: Shifting the culture toward justice, equity, and diverse representation through community organizing, data transparency, and education. K. L. REICHARD; M. R. LEVINSTEIN; L. VOELKER; N. MESA; C. RUSCH; J. S. STEGER. *Univ. of Washington, Univ. of Washington, Univ. of Washington/Fred Hutch CR Ctr., Univ. of Washington/Allen Inst. for Brain Sci., Univ. of Washington.*

POSTER

113. Nervous System Patterning and Developmental Cell Death

Theme A: Development

Sun. 8:00 AM – *San Diego Convention Center, SDCC Halls B-H*

- 8:00 A1 **113.01** Spatially organized ciliary beating in ependymal cells compartmentalizes CSF flow in the brain and regulate ventricular development. N. JURISCH-YAKSI*; E. W. OLSTAD; C. RINGERS; A. WENS; J. N. HANSEN; C. BRANDT; E. YAKSI. *Kavli Inst. For Systems Neuroscience, NTNU.*
- 9:00 A2 **113.02** ▲ Characterizing the development of GFP expressing GnRH3 neurons in the spinal cord in the developing zebrafish embryo. N. R. DILLON*; L. OLLERENSHAW; A. DEMARAIS; S. RAMAKRISHNAN. *Univ. of Puget Sound, Univ. of Puget Sound, Univ. of Puget Sound.*
- 10:00 A3 **113.03** Translational control of the cerebrospinal fluid (CSF) stem cell niche. R. M. FAME*; K. F. CHAU; M. L. SHANNON; N. DANI; M. L. CALICCHIO; H. STEEN; S. ALEXANDRESCU; M. K. LEHTINEN. *Boston Children's Hosp., Harvard Med. Sch.*
- 11:00 A4 **113.04** CB1/2 receptor activation induces death of chick embryonic retinal cells. H. R. FREITAS*; A. R. ISAAC; A. L. M. VENTURA; K. C. CALAZA; M. Z. P. GUIMARÃES; F. G. MELLO; R. A. DE MELO REIS; G. R. FRANÇA. *Univ. Federal Do Rio De Janeiro, Univ. Federal Fluminense, Univ. Federal do Estado do Rio de Janeiro.*
- 8:00 A5 **113.05** ● Differential gene expression in the cortical plate during gyrification in fetal sheep. S. QUEZADA*; M. CASTILLO-MELENDEZ; N. HALE; M. TOLCOS; D. W. WALKER. *The Ritchie Centre, Hudson Inst. of Med. Res, Monash Univ., The Ritchie Centre, Hudson Inst. of Med. Res., RMIT Univ.*
- 9:00 A6 **113.06** Non-apoptotic caspase function plays a role in retinal vascular development. K. V. JOHNSON*; M. AVRUTSKY; C. M. TROY. *Columbia Univ. Med. Ctr.*
- 10:00 A7 **113.07** An investigation into the long-term impact of prenatal zika virus infection on the developing brain using a rat model of maternal infection. M. L. SHERER*; P. KHANAL; M. PARCELLS; J. M. SCHWARZ. *Univ. of Delaware, Univ. of Delaware, Univ. of Delaware.*
- 11:00 A8 **113.08** Adult neurogenesis and regulation of dentate gyrus neurons born in early postnatal development. S. P. CAHILL*; A. MARTINOVIC; T. CIRIC; J. COLE; D. R. SEIB; M. B. COOKE; J. S. SNYDER. *Univ. of British of Columbia, Univ. of British Columbia.*

- 8:00 A9 **113.09** Effects of Zika virus exposure in a model of murine prenatal development. S. M. SHELTON*; A. R. SOUCY; J. H. CONNOR; T. F. HAYDAR. *Boston Univ., Boston Univ., Boston Univ. Sch. of Med.*
- 9:00 A10 **113.10** Autism-related chromatin remodeler CHD8 controls apical to basal progenitor specification and survival during cortical neurogenesis. C. DONG*; Y. LIN; W. ZHOU; R. Q. LU. *Children's Hosp. of Fudan Univ., Cincinnati Children's Hosp. Med. Ctr.*
- 8:00 DP01/A11 **113.11** (Dynamic Poster) MacBrainResource: Archived macaque brains available for neuroanatomical and neurodevelopmental studies. A. DUQUE; L. D. SELEMON*. *Yale Univ. Sch. Med., Yale Univ. Sch. Med.*
- 11:00 A12 **113.12** Rab5 GTPase activity and JNK is required for apoptotic signaling by the p75 receptor in response to BDNF. C. A. CABEZA*; C. ESCUDERO; F. BRONFMAN. *Pontificia Univ. Católica De Chile, Facultad de Medicina, Clínica Alemana Univ. del Desarrollo, Pontificia Univ. Católica de Chile.*
- 8:00 A13 **113.13** Dlx transcription factors organize a core gene regulatory network required for basal ganglia development and interneuron specification. R. CATTAPRETA*; S. LINDTNER; J. PRICE; A. VISEL; D. E. DICKEL; A. S. NORD; J. L. RUBENSTEIN. *Univ. of California Davis, Univ. of California San Francisco, Lawrence Berkeley Natl. Lab., Univ. of California Davis.*

POSTER

114. Transplantation and Regeneration (PNS) and Neuroglial Interactions

Theme A: Development

Sun. 8:00 AM – *San Diego Convention Center, SDCC Halls B-H*

- 8:00 A14 **114.01** The immune adaptor sarm1 breaks down myelin sheaths after peripheral nerve injury. D. GUO*; C. PAN; S. ZHANG; Z. YING; X. WANG. *Natl. Inst. of Biol. Sci.*
- 9:00 A15 **114.02** Molecular and cellular identification of the immune response in peripheral ganglia following nerve injury. J. P. NIEMI; J. A. LINDBORG; M. A. HOWARTH; K. W. LIU; D. MAHAJAN; C. Z. MOORE; R. E. ZIGMOND*. *Case Western Reserve Univ., Hathaway Brown Sch., Case Western Res. Univ. Sch. Med.*
- 10:00 A16 **114.03** Can peripheral axotomy change the translational capacity of centrally projecting sensory axons? T. P. SMITH*; J. L. TWISS. *Univ. of South Carolina.*
- 11:00 A17 **114.04** Comparative analysis of primary cultured fibroblasts between sensory and motor nerve. Q. HE; M. CONG; Y. SHEN; X. ZHOU; F. DING*. *Nantong University, China.*
- 8:00 A18 **114.05** Basic helix-loop-helix protein is a crucial transcription regulator of axonal regeneration. N. P. AU*; G. KUMAR; S. K. CHIU; D. H. GESCHWIND; G. COPPOLA; C. H. E. MA. *City Univ. of Hong Kong, UCLA, City Univ. of Hong Kong.*
- 9:00 A19 **114.06** Modulation of microtubule dynamics regulates axonal regeneration after peripheral nerve injury. G. KUMAR*; N. P. B. AU; X. WANG; C. H. E. MA. *City Univ. of Hong Kong.*

- 10:00 A20 **114.07** Investigating site-specific roles for macrophages after peripheral nerve injury using CCL2 conditional knockouts. A. D. TALSMA*; K. WANG; J. P. NIEMI; A. DEFRANCESCO; J. S. PACHTER; R. E. ZIGMOND. *Case Western Reserve Univ., Hathaway Brown High Sch., Univ. of Connecticut Hlth. Ctr.*
- 11:00 A21 **114.08** Bridging large peripheral nerve gaps with nerve lengthening. H. M. HOWARTH*; A. KADOOR; E. BLEVINS; R. SALEM; M. ESPARZA; S. SHAH. *UCSD, UCSD, VA San Diego.*
- 8:00 A22 **114.09** Inactivation of dual specificity phosphatases(DUSPs) attenuates axonal plasticity in adult sensory neurons. A. CHANDRASEKHAR*; D. W. ZOCHODNE. *Univ. of Alberta.*
- 9:00 A23 **114.10** Histone deacetylase 3-dependent epigenetic regulation delimits myelin growth and functional regeneration. X. LIU*; L. ZHANG; X. HE; Q. LU. *Cincinnati Children's Hosp. Med. Ctr.*
- 10:00 A24 **114.11** Effect of intensive motor training on accelerating axonal regeneration following peripheral nerve injury in rats. A. W. MADI; E. D. AL-CHAER; N. LAWAND*. *American Univ. of Beirut, American Univ. of Beirut, American Univ. of Beirut.*
- 11:00 A25 **114.12** STAT3 phosphorylation by Cdk5 promotes axonal regeneration following sciatic nerve injury. J. HWANG; U. NAMGUNG*. *Daejeon Univ., Daejeon Univ.*
- 8:00 A26 **114.13** Neurotrophic skin stroma reprogramming using tissue nanotransfection (TNT) rescues diabetic peripheral neuropathy. S. KHANNA*; A. CLARK; N. HIGUITA-CASTRO; D. GALLEGU-PEREZ; C. K. SEN. *The Ohio State Univ., The Ohio State Univ.*
- 9:00 A27 **114.14** Unable to Attend Sensory axons inhibit motor axon regeneration *in vitro*. T. M. BRUSHART*; F. NAEF; R. SKOLASKY; Z. LI; R. WOLINSKY. *Johns Hopkins.*
- 10:00 A28 **114.15** Reawakening the growth potential of adult neurons by axonal mechanostimulation. V. KAMPANIS*; L. ZHOU; W. ROTH; R. PUTTAGUNTA. *Spinal Cord Injury Center, Heidelberg Univ. Hosp., Hertie Inst. for Clin. Brain Research, Univ. of Tübingen.*
- 11:00 A29 **114.16** Developmental differences in immune response to gustatory nerve loss. J. D. OMELIAN*; S. I. SOLLARS. *Univ. of Nebraska at Omaha Dept. of Psychology.*
- 8:00 A30 **114.17** mTORC1 activation enhances regenerative growth of nociceptive sensory neurons by altering their pro-regenerative gene expression landscape. D. CARLIN*; A. HALEVI; E. E. EWAN; A. MOORE; V. CAVALLI. *Washington Univ. in St Louis, Washington Univ. in St Louis.*
- 9:00 A31 **114.18** Sculpting neural stem cell identity with the ubiquitin-proteasome system. C. BARRIOS CAMACHO*; J. N. PETERSON; J. E. SCHWOB. *Tufts Univ., Tufts Univ. Sackler Sch. of Grad. Biomed, Tufts Univ. Sch. Med.*
- 10:00 A32 **114.19** LRP1 expression is decreased in a model of Schwann cell differentiation *in vitro* and in Schwann cell myelination during development. K. FICHTER*; C. BRIFAULT; S. L. GONIAS; W. M. CAMPANA. *UCSD, Univ. of California San Diego, Univ. of California San Diego, Univ. of California San Diego.*
- 11:00 A33 **114.20** Schwann cell p75 neurotrophic receptor and type 2 diabetic neuropathy. N. P. GONÇALVES*; M. RICHNER; S. S. MURRAY; T. S. JENSEN; C. B. VAEGTER. *Aarhus Univ., Danish Res. Inst. of Translational Neurosci. - DANDRITE, Nordic-EMBL Partnership for Mol. Medicine, Aarhus Univ., The Intl. Diabetic Neuropathy Consortium - IDNC, Aarhus Univ. Hosp., The Univ. of Melbourne.*
- 8:00 A34 **114.21** The expression and function of Kir4.1 in Schwann cells. D. HEREDIA*; K. NENNECKER; K. MOROSE; A. AGARWAL; T. W. GOULD. *Univ. of Nevada Reno, Sch. of Med., Univ. of Nevada Reno, Sch. of Med., Univ. of Nevada Sch. of Med.*
- 9:00 B1 **114.22** ErbB3 receptor tyrosine kinase is a mechanosensor in Schwann cells and modulates YAP-dependent transcription. M. MARTINEZ MORENO*; N. TAPINOS. *Brown University/Rhode Island Hosp.*
- 10:00 B2 **114.23** Translational readthrough isoform, L-MPZ, exhibits unique localization pattern and functional aspects in the PNS myelin which differ from canonical myelin protein zero (P0/MPZ). Y. YAMAGUCHI*; Y. OTANI.; J. CUI; H. BABA. *Tokyo Univ. Pharm. & Life Sci.*
- 11:00 B3 **114.24** Characterization of store-operated calcium entry in autonomic neuron-satellite glia unit. S. KIM*; S. KANG; S. JEONG. *Yonsei Univ.*
- 8:00 B4 **114.25** Assessing the impact of P2RY14 on neurofibromatosis type 1. J. PATRITTI CRAM*; N. RATNER; J. WU; R. COOVER; S. KUNINAKA. *Cincinnati Children's Hosp.*
- 9:00 B5 **114.26** A distinct and reversible regional pattern of myeloid cell activation induced by chronic peripheral inflammation. J. SCHLACHETZKI*; P. SÜR; A. HOFFMANN; T. ROTHE; G. SCHETT; G. KRÖNKE; C. K. GLASS; J. WINKLER. *Univ. Hosp. Erlangen, UCSD.*

POSTER

115. Transplantation and Regeneration in the CNS

Theme A: Development

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 B6 **115.01** Impaired endothelial progenitor cell differentiation based on IL-10 secretory insufficiency from blood cells in Moyamoya disease. E. NAGATA*; H. MASUDA; T. NAKAYAMA; S. NETSU; H. YUZAWA; N. FUJII; S. KOHARA; T. SORIMACHI; T. OSADA; R. IMAZEKI; T. ABE; M. MATSUMAE; T. ASAHARA; S. TAKIZAWA. *Tokai Univ. Sch. Med., Tokai Univ. Sch. of Med., Tokai Univ., Tokai Univ. Sch. of Med., Tokai Univ. Sch. of Med., Tokai Univ. Sch. of Med.*
- 9:00 B7 **115.02** Blood vessels guide Schwann cell migration in the adult demyelinated CNS through Eph/Ephrin signaling. B. GARCIA-DIAZ*; C. BACHELIN; F. COULPIER; G. GERSCHENFELD; C. DEBOUX; V. ZUJOVIC; P. CHARNAY; P. TOPILKO; A. BARON-EVERCOOREN. *Inst. Du Cerveau Et De La Moelle Epinière (ICM), Unidad de Gestión Clínica de Neurociencias, IBIMA, Inst. de Biologie de l'Ecole normale supérieure.*
- 10:00 B8 **115.03** Non-canonical hedgehog signaling regulates spinal cord and muscle regeneration in xenopus laevis tadpoles. A. M. HAMILTON*; L. N. BORODINSKY. *Shriners Hosp. For Children, Room 631, Univ. of California, Davis.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 B9 **115.04** • Directed axon growth using applied electrical fields. K. K. GOKOFFSKI*; X. JIA; M. ZHAO. *USC Roski Eye Inst., Univ. of California Irvine, Univ. of California Davis.*
- 8:00 B10 **115.05** Overexpression of protrudin in primary cortical neurons enhances regeneration after laser axotomy through multiple mechanisms. V. PETROVA*; R. EVA; J. W. FAWCETT. *Cambridge Univ., Ctr. of Reconstructive Neurosci.*
- 9:00 B11 **115.06** Elevated phosphoinositide 3-kinase activity promotes axon regeneration of central nervous system neurons. B. NIEUWENHUIS*; R. EVANS; C. S. PEARSON; A. C. BARBER; J. CAVE; P. D. SMITH; J. FUCHS; B. J. EICKHOLT; H. M. GELLER; K. R. MARTIN; R. EVA; J. W. FAWCETT. *Univ. of Cambridge, Netherlands Inst. for Neurosci., NIH, Carleton Univ., Charite Univ. Med., Inst. of Exptl. Med.*
- 10:00 B12 **115.07** Lin28 protein regulates CNS axon regeneration in adult mammals. S. LI*; F. NATHAN; Y. OHTAKE; H. GUO; A. SAMI. *Temple Univ. Sch. of Med.*
- 11:00 B13 **115.08** Functional recovery and regeneration in sea lampreys after spinal cord re-transection. K. L. HANSLIK*; S. R. ALLEN; T. L. HARKENRIDER; S. M. FOGERSON; E. GUADARRAMA; J. R. MORGAN. *Howard Hughes Med. Inst. - Marine Biologica, Duke Univ., Amherst Col., Marine Biol. Lab.*
- 8:00 B14 **115.09** Intravitreal injection of transgenic mesenchymal stem cells expressing hIGF-1 increases mouse retinal ganglion cells survival after optic nerve crush. J. VASQUES*; C. A. ABREU; B. S. F. SOUZA; M. B. P. SOARES; R. MENDEZ-OTERO. *UFRJ, Fundação Oswaldo Cruz.*
- 9:00 B15 **115.10** Subtypes of axotomized adult retinal ganglion cells survive and regenerate long axons in response to an extrinsic cue in a permissive environment. J. KIM*; B. A. RHEAUME; M. S. SAJID; E. F. TRAKHTENBERG. *Univ. of Connecticut Sch. of Med.*
- 10:00 B16 **115.11** Inhibition of miR-383 promotes axon regeneration following injury. C. JUZWIK*; B. MORQUETTE; Y. ZHANG; E. GOWING; C. BOUDREAU-PINSONNEAULT; V. VANGOOR; R. PASTERKAMP; C. MOORE; A. BAROR; A. E. FOURNIER. *McGill Univ., CRCHUM, Inst. De Recherche Clinique De Montréal, UMC Utrecht, Mem. Univ., Perelman Sch. of Med.*
- 11:00 B17 **115.12** Insight into lipid dynamics of embryonic and early postnatal mouse growth cones. A. M. TRZECIECKA*; S. K. BHATTACHARYA. *Univ. of Miami, Univ. of Miami.*
- 8:00 B18 **115.13** Cellular mechanisms involved in retinal neuroprotection and neuroregeneration after optic nerve crush and mesenchymal stem cell therapy in rats. L. CHIMELI-ORMONDE*; R. F. M. SOARES; J. F. VASQUES; A. J. DA-SILVA-JUNIOR; L. C. TEIXEIRA-PINHEIRO; L. A. MESENTIER-LOURO; M. F. SANTIAGO; R. MENDEZ-OTERO. *Univ. Federal do Rio de Janeiro.*
- 9:00 B19 **115.14** Controlled-releasing of ISP & ILP from functional self-assembling peptide nanohydrogel to promote neural regeneration after spinal cord injury. H. LIU*; S. RAMAKRISHNA; L. HE. *Guangdong-Hong Kong-Macau Inst. of CNS Regener.*
- 10:00 B20 **115.15** Post-injury regulation of Doublecortin (DCX) in the visual pathway of the lizard, *Gallotia galloti*. D. M. LANG*; A. NASIR; A. SCHUNDNER; D. ENGEL; H. WOLF; M. MONZON-MAYOR. *Univ. Cape Town, Univ. of Ulm, Univ. of Las Palmas.*
- 11:00 B21 **115.16** Epigenetic regulation during neurodevelopment and regenerative response. X. WANG*; C. QIAN; Q. LI; F. ZHOU. *Johns Hopkins Univ., JHMI, Johns Hopkins Hosp., Johns Hopkins Univ. Sch. Med.*
- 8:00 B22 **115.17** The axon transportome in retinal ganglion cells isolates mediators of neuronal degeneration. S. H. SHAH*; L. M. SCHIAPPARELLI; Y. MA; M. ATKINS; J. YATES; H. CLINE; J. GOLDBERG. *UCSD, Stanford Univ., The Scripps Res. Inst.*
- 9:00 B23 **115.18** SDF1 is highly expressed in macrophages and contributes to inflammation-induced optic nerve regeneration. Y. YIN*; L. XIE; H. GILBERT; C. BERLINICKE; L. CEN; Y. LI; Q. CUI; D. J. ZACK; L. I. BENOWITZ. *Harvard Med. Sch., F.M. Kirby Neurol. Center, Boston Children's Hosp., Wilmer Eye Institute, Mol. Biol. and Genetics, and Neuroscience, Johns Hopkins Univ. Sch. of Med., Joint Shantou Intl. Eye Ctr. of Shantou Univ. and The Chinese Univ. of Hong Kong, State Key Lab. of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen Univ., Dept. of Ophthalmology, Harvard Med. Sch., Program in Neuroscience, Harvard Med. Sch.*
- 10:00 B24 **115.19** • The histone demethylase inhibitor gsk-j4 promotes axon regeneration in optic nerve. Q. LI*; C. QIAN; X. WANG; C. ZHANG; A. OCHUBA; F. ZHOU. *Johns Hopkins Hosp., JHMI, Johns Hopkins Univ., Johns Hopkins University, Sch. of Med., Johns Hopkins Univ. Sch. Med.*
- 11:00 B25 **115.20** Resveratrol promotes neural regeneration and blocks ultraviolet stress induced attenuation of neurogenesis. N. FERRARO*; N. LONGO; M. BAVARO; K. OTTEN; S. R. GUARIGLIA. *St. Josephs by the Sea HS, New York State Inst. for Basic Res.*
- 8:00 B26 **115.21** Manipulation of the phosphoinositide 3-kinase pathway promotes axon regeneration. R. S. EVANS*; C. PEARSON; J. CAVE; S. S. DESHPANDE; R. CONCEIÇÃO; J. W. FAWCETT; R. EVA; K. R. MARTIN; A. C. BARBER. *Univ. of Cambridge, NIH, Inst. of Exptl. Med.*
- 9:00 B27 **115.22** Identifying regulatory factors governing regeneration associated gene expression during CNS axon regeneration in zebrafish. S. P. DHARA; A. RAU; P. L. AUER; N. M. RECKA; M. J. FLISTER; A. J. UDVADIA*. *Univ. of Wisconsin Milwaukee, INRA UMR1313, Univ. of Wisconsin Milwaukee, Med. Col. of Wisconsin.*

POSTER

116. Axon and Dendrite Development: Axon Growth and Guidance: Adhesion and Cytoskeletal Dynamics

Theme A: Development

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 B28 **116.01** Pleiotropic roles for Ankyrin-R in the Nervous System. S. R. STEVENS*; J. A. OSES-PRIETO; A. L. BURLINGAME; M. N. RASBAND. *Baylor Col. of Med., Univ. of California San Francisco.*
- 9:00 B29 **116.02** β -spectrins maintain Na⁺ channels at axon initial segments and nodes of Ranvier. C. LIU*; S. STEVENS; R. SEO; P. MOHLER; J. NOBELS; M. STANKEWICH; M. RASBAND. *Baylor Col. of Med., The Ohio State Univ., Yale Univ.*
- 10:00 B30 **116.03** Neuronal adaptor FE65 interacts with ELMO1 to stimulate neurite outgrowth. K. LAU*; W. LI; W. CHAN. *The Chinese Univ. of Hong Kong, The Chinese Univ. of Hong Kong.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 B31 **116.04** Substrate specific regulation of CDK5 activity by intermediate filaments in developing cortical axons. C. BOTT*; C. YAP; B. WINCKLER. *Univ. of Virginia Sch. of Med.*
- 8:00 B32 **116.05** Role of a small GTPase, Rheb, (Ras homologue enriched in brain) in axon formation in developing telencephalon. S. CHOI; J. KANG; A. SADRA; S. HUH*. *Hallym Univ. Med. Sch.*
- 9:00 C1 **116.06** The roles of Pax6 in regulating embryonic development of the prethalamus. T. TIAN*; C. GIASAFKI; I. QUINTANA-URZAINQUI; T. PRATT; D. PRICE. *Univ. of Edinburgh, Univ. of Edinburgh.*
- 10:00 C2 **116.07** Id2 regulates axon elongation, controlling α -tubulin acetylation. T. YUN*; H. KO; J. AHN. *Sungkyunkwan Univ. Sch. of Med., Sungkyunkwan Univ. Sch. of Med.*
- 11:00 C3 **116.08** Changes to neuronal cytoskeleton in response to small molecule modulators of GAG biosynthesis. C. MENCIO*; S. TILVE; C. AGBAEGBU; H. KATAGIRI; H. GELLER. *Natl. Inst. of Hlth.*
- 8:00 C4 **116.09** • Structure function analysis of the focal adhesion protein, vinculin in neocortical axon growth. P. MANDAL*; D. K. NAIR; V. BELAPURKAR; N. RAMANAN. *Indian Inst. of Sci.*
- 9:00 C5 **116.10** A molecular dissection of the axon initial segment. B. LIM*; H. HAMDAN; M. KONNING; A. JOSHI; T. TORII; C. SMITH; J. OSES-PRIETO; A. BURLINGAME; M. RASBAND. *Baylor Col. of Med., Univ. of California, San Francisco.*
- 10:00 C6 **116.11** A developmental role for the extracellular matrix sugar hyaluronan in regulating hippocampal neurite growth *in vitro*. R. N. KARUNASINGHE*; M. I. ABRAHAM; T. M. FOWKE; T. TANI; J. M. DEAN. *Univ. of Auckland, Marine Biol. Lab.*
- 11:00 C7 **116.12** A novel mechanism for axon growth revealed by live imaging of a pioneer axon in its native tissue. H. FANG*; A. CLARKE; R. KANNAN; P. MCQUEEN; S. WINCOVITCH; E. GINIGER. *NIH, Natl. Inst. of Mental Hlth. and Neurosciences.*
- 8:00 C8 **116.13** NuMA1 regulates the axon initial segment formation during early development. T. TORII*; T. S. HO; J. OSES-PRIETO; A. L. BURLINGAME; M. N. RASBAND. *Baylor Col. of Med., Univ. of California San Francisco.*
- 9:00 C9 **116.14** Cyclin G2 is a cell cycle inhibitor well expressed in neurons that associates with β -catenin complexes in cerebellar and hippocampal tissues. A. HERGARDEN; A. S. A. DON; K. KIM; M. LE MAROIS; J. W. HELL; M. C. HORNE*. *Univ. of California Davis, Univ. of Iowa.*
- 10:00 C10 **116.15** Identifying signaling cascades involved in downregulation of Cofilin by functional, non-prenylatable RhoA and Rac1. N. G. RAUT*; J. M. REDDY; D. L. HYNDS. *Texas Woman's Univ., Texas Woman's Univ.*
- 11:00 C11 **116.16** Diaphanous Proteins in Filopodia. A. HLEIHEL*; D. L. HYNDS. *Texas Wellmans Univ., Texas Woman's Univ.*
- 8:00 C12 **116.17** Subcellular localization of CDC42: Implications for neurite extension. K. P. BOON*; D. HYNDS. *Texas Woman's Univ., Texas Woman's Univ.*
- 9:00 C13 **116.18** Intrinsic regulatory factors governing formation of serotonergic ascending and descending axonal architectures. L. J. DONOVAN*; E. S. DENERIS. *Case Western Reserve Univ.*
- 10:00 C14 **116.19** Visualizing development of the *C. elegans* pharyngeal nervous system. S. J. COOK*; D. H. HALL; O. HOBERT. *Albert Einstein Col. Med., Columbia Univ.*
- 11:00 C15 **116.20** New insights into Pannexin 1-Crmp2 regulation of neurite formation. X. XU; J. C. SANCHEZ-ARIAS; L. E. WICKI-STORDEUR; M. LIU; L. SWAYNE*. *Univ. of Victoria.*
- 8:00 C16 **116.21** Structural changes in axon initial segment in diabetic brain. L. M. YERMAKOV*; D. E. DROUET; R. B. GRIGGS; K. M. ELASED; K. SUSUKI. *Boonshoft Sch. of Medicine, Wright State Univ., Boonshoft Sch. of Medicine, Wright State Univ.*
- 9:00 C17 **116.22** The diabetes-related metabolite methylglyoxal induces axon initial segment shortening. R. B. GRIGGS*; L. M. YERMAKOV; D. E. DROUET; J. M. JABER; D. V. M. NGUYEN; K. SUSUKI. *Wright State Univ.*
- 10:00 C18 **116.23** Formation of the neuronal connectivity that regulates divergent action selections in *Drosophila* larvae. S. TAKAGI*; A. NOSE. *The Univ. of Tokyo, The Univ. of Tokyo.*

POSTER

117. Axon and Dendrite Development: Dendritic Growth and Branching

Theme A: Development

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 C19 **117.01** ▲ In dysbindin, a schizophrenia susceptibility factor, knock down mouse neuroblastoma cells treated with antipsychotic medications demonstrate alterations in neuronal morphology. S. M. CORDERO ROMERO; J. WEBSTER; A. CROCKETT; R. DZVURUMI; J. L. LARIMORE*. *Agnes Scott Col., Agnes Scott Col.*
- 9:00 C20 **117.02** Neuronal activity-dependent formation of ER-PM contact sites in spines regulates spine formation and dendritic extension via local manipulation of unfolded protein response. A. SAITO*; K. IMAIZUMI. *Hiroshima Univ., Hiroshima Univ.*
- 10:00 C21 **117.03** Smads-dependent TGF- β signaling negatively regulates neuronal morphogenesis through TGIF/Smad complex-mediated CRMP2 suppression. H. NAKASHIMA*; K. TSUJIMURA; K. IRIE; M. ISHIZU; M. PAN; K. NAKASHIMA. *Kyushu Univ., Nagoya Univ.*
- 11:00 C22 **117.04** Translational regulation of actin modulators fine-tune dendritic development in young neurons. S. RAVINDRAN*; R. S. MUDDASHETTY. *Inst. For Stem Cell Biol. and Regenerative M, Manipal Acad. of Higher Educ., Inst. For Stem Cell Biol. and Regenerative Med.*
- 8:00 C23 **117.05** Neuroligin-3 regulates dendritic development in cultured neuron by modulating Akt/mTOR signaling. R. ZHENG*; J. XU; J. XU. *Zhejiang Univ. Sch. of Med., Zhejiang Univ. Sch. of Med.*
- 9:00 C24 **117.06** C12ORF57 is a novel gene crucial to brain development and neuronal excitability. R. JIANG*; C. MOEY; L. J. RICHARDS; E. H. SHERR. *UCSF, Univ. of Queensland, Queensland Brain Inst., UCSF.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

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* Indicates abstract's submitting author

- 10:00 C25 **117.07** Genetic dissection of the role of gamma-protocadherin isoform diversity in neurodevelopment using CRISPR/Cas9 genome editing. A. M. GARRETT*; J. A. WEINER; R. W. BURGESS. *The Jackson Lab., The Univ. of Iowa, Jackson Lab.*
- 11:00 C26 **117.08** Neuronal nitric oxide synthase in the cerebellum: Implications on development of the parallel fiber-Purkinje neuron synapses in mice. V. TELLIOS; M. J. E. MAKSOUD; Y. XIANG; W. LU*. *Western Univ.*
- 8:00 C27 **117.09** Krüppel-like factors 9 and 13 block neurite outgrowth by cAMP pathway inhibition. J. AVILA MENDOZA*; A. SUBRAMANI; C. SIFUENTES; R. J. DENVER. *Univ. of Michigan.*
- 9:00 C28 **117.10** Analysis of dendritic development and morphological phenotype in primary olfactory cortex. L. MORENO VELASQUEZ*; J. TEFERA; D. SCHMITZ; F. W. JOHENNING. *Charité Universitätsmedizin, Berlin Inst. of Hlth., Einstein Ctr. for Neurosciences, Bernstein Ctr. for Computat. Neurosci., Cluster of Excellence 'NeuroCure', DZNE-German Ctr. for Neurodegenerative Dis.*
- 10:00 C29 **117.11** Rab11 endosomes regulate both the dendrite morphology and the specific positioning of dendritic proteins. C. B. CONDE*; S. O. SIRI; V. ROZES SALVADOR; E. ARTUR DE LA VILLARMOIS, 5000; M. S. GHERSI; M. F. PÉREZ. *Inst. Mercedes y Martin Ferreyra (INIMEC-CONICET), Dept. de Farmacología - UNC.*
- 11:00 C30 **117.12** ▲ Control of dendritic arborization of layer II/III pyramidal neurons in developing cerebral cortex by integrin beta 3. Z. L. HOLLEY; K. M. BLAND; Z. O. CASEY; C. J. HANDWERK; G. S. VIDAL*. *James Madison Univ.*
- 8:00 C31 **117.13** The absence of the tumor suppressor p53 causes dendritic spine instability in the primary somatosensory cortex of juvenile and young adult mice. T. LIU*; J. WU; S. PENG; A. DAVIDSON; S. ZENG; H. LU; M. RICARDO. *The First Affiliated Hosp. of Nanchang Univ., Nanchang Univ., Dept. of Pharmacology, Tulane Univ. Sch. of Medicine, Tulane University; Dept. of Cell and Mol. Biology, Tulane Univ., Tulane Univ. Sch. of Medicine, Tulane Univ., Dept. of Pharmacology, Tulane Univ. Sch. of Medicine, Tulane University; Brain Institute, Tulane Univ.*
- 9:00 C32 **117.14** Erk-dependent phosphorylation regulates NeuroD1 activity. T. LEE*; N. BASHYAL; J. CHOI; S. KIM; H. SUH-KIM. *Anatomy/ Ajou Univ.*
- 10:00 C33 **117.15** Clustered protocadherins regulate Purkinje cell development and motor function. J. MAROCHA*; J. L. LEFEBVRE. *The Hosp. for Sick Children, Univ. of Toronto.*
- 11:00 C34 **117.16** The importance of actin binding for the plasma membrane localization and the ability to induce neurite outgrowth of DGK β . R. TSUMAGARI; T. KANO; S. UEDA; M. YAMANOUE; Y. SHIRAI*. *Kobe Univ.*
- 8:00 C35 **117.17** The role of pea3 protein in neurite extension and neuroregenerative approaches. B. KANDEMIR*; G. GULFIDAN; K. Y. ARGHA; B. YILMAZ; I. KURNAZ. *Gebze Tech. Univ., Marmara Univ., Yeditepe Univ.*
- 9:00 C36 **117.18** The PP2A serine/threonine phosphatase complex functions in regulating dendritic diversification. S. BHATTACHARJEE*; A. GOLSHIR; D. N. COX. *Georgia State Univ., Georgia State Univ.*
- 10:00 C37 **117.19** Rem2 is a cell-autonomous negative regulator of dendritic complexity in the mouse visual cortex. S. E. RICHARDS*; A. R. MOORE; S. SAXENA; S. PARADIS; S. D. VAN HOOSER. *Brandeis Univ., Temple Univ., Nanyang Technological Univ., Brandeis Univ.*
- 11:00 C38 **117.20** Effect of d⁹(-) THC (tetrahydrocannabinol) exposure during gastrulation on neuronal development in Zebrafish. M. AMIN*; K. AHMED; D. W. ALI. *Univ. of Alberta, Univ. Alberta.*
- 8:00 D1 **117.21** FMRP and RISC-associated RNA helicase MOV10: A novel neuronal helicase required for normal dendrite formation and spine maturation. M. C. LANNOM*; S. CEMAN. *Univ. of Illinois Urbana Champaign, Univ. of Illinois Urbana Champaign.*
- 9:00 D2 **117.22** Dscam differentially shapes dendritic and axonal arbor morphology in the developing visual system. R. A. SANTOS*; A. FUERTES; H. SHAO; B. VO; R. ARIAS; G. SHORT; S. COHEN-CORY. *Univ. of California, Irvine.*
- 10:00 D3 **117.23** Regulation of dendritic branch dynamics by visual experience and amphiphysin in developing *Drosophila* larval visual circuit. C. SHENG*; U. JAVED; M. GIBBS; C. LONG; B. QIN; J. YIN; Q. YUAN. *NINDS, NIH.*
- 11:00 D4 **117.24** High-resolution studies of miR-125b in filopodial structure and dynamics. R. IYER*; M. E. KANDEL; Y. KIM; G. POPESCU; M. U. GILLETTE. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign, Univ. of Illinois.*
- 8:00 D5 **117.25** Dendritic spine pruning on corticostriatal intratelencephalic (IT) type neurons in the dorsomedial prefrontal cortex during adolescence. N. OKADA; K. DELEVICH; C. D. HALL; L. E. WILBRECHT*. *UC Berkeley.*

POSTER

118. Synaptogenesis and Activity-Dependent Development: Synapse Formation

Theme A: Development

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 D6 **118.01** Impairment of inhibitory synapse formation and motor behavior in mice lacking the NL2 binding partner LHFPL4/GARLH4. M. WU*; H. TIAN; X. LIU; J. LAI; S. DU; J. XIA. *The Hong Kong Univ. of Sci. and Technol., The Hong Kong Univ. of Sci. and Technol.*
- 9:00 D7 **118.02** Physical and functional interaction between gamma-protocadherins and neuroligin-2 in the development of inhibitory synapses. D. M. STEFFEN; C. G. MARCUCCI; M. J. MOLUMBY; J. A. WEINER*. *The Univ. of Iowa.*
- 10:00 D8 **118.03** Leptin increases GABAergic synaptogenesis via β -pix in hippocampal neurons. G. S. SAHIN*; I. MEDINA; J. GAIARSA; S. M. APPELYARD; G. A. WAYMAN. *Washington State Univ., Inst. de Neurobiologie de la Mediterranee, Washington State Univ.*
- 11:00 D9 **118.04** ▲ The synaptic adhesion protein Slitrk2 interacts with MAGUKs via a carboxy terminal PDZ binding motif. C. LOOMIS; P. SPRINGMANN; R. JANICOT; L. DREBUSHENKO; J. E. ROUND*. *Ursinus Col.*
- 8:00 D10 **118.05** mechanism of intracellular signal transduction of synapse formation. X. JIANG*; R. SANDO; T. SUDHOF. *Stanford Univ.*
- 9:00 D11 **118.06** A new *in vitro* and *in vivo* genetic tools to study synapse formation mechanism through semaphorin 3E signaling. M. JUN*; R. YU; D. KIM; W. OH. *Korea Brain Res. Inst., Korea Brain Res. Inst.*

- 10:00 D12 **118.07** Axo-axonic innervation of neocortical pyramidal neurons by GABAergic chandelier cells requires ankyrinG-associated L1CAM. N. B. GALLO*; Y. TAI; J. YU; L. VAN AELST. *Cold Spring Harbor Lab., New York Univ. Sch. of Med.*
- 11:00 D13 **118.08** Pannexin 1 regulates somatosensory pyramidal neuron dendritic spine density and sensorimotor function. J. C. SANCHEZ-ARIAS*; M. LIU; O. SHEVTSOVA; L. A. SWAYNE. *Div. of Med. Sciences, Univ. of Victoria, Co-innovation Ctr. of Neuroregeneration, Univ. of British Columbia.*
- 8:00 D14 **118.09** The role of MARK1 in synaptic plasticity and cognitive functions. E. C. KELLY*; M. SUN; H. ZHANG. *Rutgers Univ., Rutgers Univ.*
- 9:00 D15 **118.10** Midazolam sedation causes cognitive dysfunction in mice and alters synapse formation and mtor signaling *in vivo* and *in vitro*. J. XU*; R. P. MATHENA; C. D. MINTZ. *Johns Hopkins Univ.*
- 10:00 D16 **118.11** Lemur kinase 1 regulates dendritic spine formation through rab11-dependent endosomal trafficking. S. HISANAGA*; T. SAITO; K. ANDO; M. TOMOMURA; M. FUKUDA; H. NISHINO. *Tokyo Metropolitan Univ., Meikai Univ. Sch. of Dent., Tohoku Univ.*
- 11:00 D17 **118.12** Diverse extracellular and intracellular mechanisms are involved in PTP- σ -mediated presynaptic assembly. T. YOON*; K. HAN; G. PRAMANIK; J. UM; J. KO. *DGIST, Shinshu Univ. Sch. of Med., Yonsei Univ. Col. of Med., Daegu Gyeongbuk Inst. of Sci. and Technol.*
- 8:00 D18 **118.13** Who versus where: Effects of heterotopia on the development of cellular properties and connectivity of principal cells. J. D'AMOUR*; T. G. EKINS; C. J. MCBAIN. *NIH, NIH/NICHD, NIH.*
- 9:00 D19 **118.14** Two pathways of synaptic outgrowth in *Drosophila* neuromuscular junction. A. VASIN*; C. L. TORRES FERRERIS; M. BYKHOVSKAIA. *Wayne State Univ. Sch. of Med., Wayne State Univ. Sch. of Med.*
- 10:00 D20 **118.15** Probing the role of *Drosophila* thrombospondin in larval NMJ formation. N. VELAZQUEZ ULLOA*; E. LOWENSTEIN. *Lewis & Clark Col.*
- 11:00 D21 **118.16** Exploring the cellular ecosystem of a developing neural system through single cell RNA-Sequencing. A. BRANDEBURA*; D. R. KOLSON; P. STOILOV; P. H. MATHERS; G. A. SPIROU. *West Virginia Univ., West Virginia Univ., West Virginia Univ.*
- 8:00 D22 **118.17** A role for presenilin in synapse formation. K. G. PRATT*; Z. LIU. *Univ. of Wyoming.*
- 9:00 D23 **118.18** Neuronal development in zebrafish is altered by brief exposure (5-hr during gastrulation) to cannabidiol (CBD). D. W. ALI*; M. AMIN; K. T. AHMED. *Univ. Alberta, Univ. of Alberta, Univ. of Alberta.*
- 10:00 D24 **118.19** Investigating the role of a *Drosophila* tRNA methyltransferase in neurons. C. HOGAN*; J. J. BRUCKNER; S. GRATZ; X. HE; K. M. O'CONNOR-GILES. *Univ. of Oregon, Univ. of Wisconsin- Madison, Univ. of Wisconsin-Madison.*
- 11:00 D25 **118.20** Understanding the molecular mechanism of synapse development in cultured rat cortical neurons mediated by TFP5 a peptide derived from CDK5 activator p35. S. P. YADAV*; M. BHASKAR; N. AMIN; S. SKUNTZ; C. WINTERS; H. PANT. *NIH, NIH.*

POSTER

119. **Developmental Disorders: Autism: Genetic Models**

Theme A: Development

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 D26 **119.01** Deciphering autism spectrum disorder-associated variants of uncertain significance in human PTEN. T. MCDIARMID*; K. POST; R. DINGWALL; P. GANGULY; M. BELMADANI; M. EDWARDS; F. MIELI; W. MEYERS; B. YOUNG; S. ROJIC; C. LOEWEN; D. W. ALLAN; S. X. BAMJI; T. P. O'CONNOR; P. PAVLIDIS; K. HAAS; C. H. RANKIN. *Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia.*
- 9:00 D27 **119.02** ● The autism-mutated ADNP spleen/serum expression is correlated with cognition: Rescue by intranasal PACAP or NAP. I. GOZES*; S. SRAGOVICH; G. HACOEN KLEIMAN. *Sackler Sch. Med/Tel Aviv Univ., Tel Aviv Univ., Tel-Aviv Univ.*
- 10:00 D28 **119.03** SUPT16H de novo mutations in patients with neurodevelopmental disorders. R. BINA*; J. TARSITANO; B. FREGEAU; R. JIANG; J. BARKOVICH; G. HOUGE; R. BEND; H. WARREN; R. STEVENSON; E. SHERR. *Univ. of California San Francisco, Univ. of California San Francisco, Univ. of California San Francisco, Haukeland Univ. Hosp., Greenwood Genet. Ctr.*
- 11:00 D29 **119.04** Social communication deficits in mice lacking profilin1: Implications for autism spectrum disorder? A. Ö. SUNGUR*; L. STEMMLER; M. KOROTIN; M. WÖHR; M. B. RUST. *Philipps-University of Marburg, Marburg Ctr. for Mind, Brain and Behavior (MCMBB), Philipps-University of Marburg, DFG Res. Training Group - Membrane Plasticity in Tissue Develop. and Remodeling.*
- 8:00 D30 **119.05** Functional consequence and therapeutic implications of increased hippocampal CP-AMPA in a mouse model of CDKL5 deficiency disorder. R. S. WHITE*; M. YENNAWAR; F. E. JENSEN. *Univ. of Pennsylvania Perelman Sch. of Med., Univ. of Pennsylvania, Univ. of Pennsylvania Perelman Sch. of Med.*
- 9:00 D31 **119.06** Imaging genetics analysis for autism spectrum disorders based on functional and structural brain imaging modalities. G. N. BARNES*; M. ELMOGY; A. SWITALA; E. ROUCKA; M. GHAZAL; R. KEYNTON; A. EL BAZ. *Univ. of Louisville Sch. of Med., Univ. of Louisville, Univ. of Louisville, Univ. of Louisville.*
- 10:00 D32 **119.07** Investigation of the role of CTTNBP2 in autism spectrum disorder. P. SHIH*; B. HSIEH; Y. HSUEH. *Academia Sinica, Inst. of Mol. Biol., Academia Sinica, Academia Sinica.*
- 11:00 D33 **119.08** Oxytocin normalizes altered social circuit connectivity in the Cntnap2 knockout mouse. K. Y. CHOE*; M. SAFRIN; R. A. BETHLEHEM; N. G. HARRIS; D. H. GESCHWIND. *UCLA, UCLA, Univ. of Cambridge, Autism Res. Ctr., UCLA.*
- 8:00 D34 **119.09** Social impairments and brain-wide alterations measured with intrinsic functional connectivity MRI in a novel mouse model of autism. D. LICHTMAN*; A. KAVUSHANSKY; N. COHEN; N. S. LEVY; A. P. LEVY; I. KAHN. *Technion – Israel Inst. of Technol.*
- 9:00 D35 **119.10** Role of PTEN in somatosensory development. A. FERNANDEZ*; K. ROSETTE; K. WRIGHT. *Oregon Hlth. and Sci. Univ.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 10:00 D36 **119.11** Delayed differentiation of neuronal progenitors cells and induced neurons derived from tuberous sclerosis complex patient ipscs. V. DAL POZZO*; A. ZUCCO; N. SAMPER; O. DEVINSKY; G. D'ARCANGELO. *Rutgers The State Univ. of New Jersey, Rutgers Univ., Rutgers Univ., New York Univ. Langone Sch. of Med., Rutgers The State Univ. of New Jersey.*
- 11:00 D37 **119.12** Increased cellular stress disrupts migration of cortical interneurons in the LgDel model of 22q11.2 DS. T. M. MAYNARD*; D. W. MEECHAN; C. A. BRYAN; E. M. PARONETT; A. S. LAMANTIA. *George Washington Univ., George Washington Univ.*
- 8:00 D38 **119.13** ● Towards preclinical validation of arbaclofen (R-baclofen) treatment for 16p11.2 deletion syndrome. A. LUO CLAYTON*; B. B. GUNDERSEN; W. T. O'BRIEN; T. ABEL; T. TSUKAHARA; S. R. DATTA; M. SCHAFFLER; M. SCHULTZ; J. N. CRAWLEY; S. MARTIN LORENZO; V. NALESSO; Y. HERAULT. *Simons Fndn., Univ. of Pennsylvania, Univ. of Iowa, Harvard Med. Sch., UC Davis MIND Inst., UC Davis, IGBMC (CNRS, INSERM, Unistra) UMR7104 U964, UMR7104, CNRS, Univ. de Strasbourg, INSERM U1258.*
- 9:00 D39 **119.14** Disrupted hippocampal inhibition underlying cognitive and behavioral deficits in a mouse model of MYO9B-related autism. P. K. PEDABALIYARASIMHUNI*; X. JIANG; A. LUPIEN-MEILLEUR; L. EID; L. MARCOUX; M. LACHANCE; J. LACAILLE; E. ROSSIGNOL. *CHU Ste-Justine Res. Ctr., Univ. de Montreal, Univ. de Montreal.*
- 10:00 D40 **119.15** Developmental social communication in the Ube3a rat model of Angelman syndrome. E. L. BERG*; M. C. PRIDE; R. D. LEE; N. A. COPPING; L. S. NOAKES; B. J. NIEMAN; J. ELLEGOOD; J. P. LERCH; S. HARRIS; H. A. BORN; A. E. ANDERSON; S. V. DINDOT; E. J. WEEBER; D. J. SEGAL; J. L. SILVERMAN. *Univ. of California Davis Sch. of Med., Toronto Ctr. for Phenogenomics, The Hosp. for Sick Children, Baylor Col. of Med., Col. of Medicine, Texas A&M Hlth. Sci. Ctr., Univ. of South Florida, Univ. of California Davis.*
- 11:00 D41 **119.16** Preclinical global electroencephalography and seizure characterization in an Angelman syndrome mouse model. N. COPPING*; J. L. SILVERMAN. *UC Davis, Sch. of Med., UC Davis Sch. of Med.*
- 8:00 D42 **119.17** Haploinsufficiency of the AT-rich interactive domain 1B (ARID1B) causes developmental delay and behavioral and anatomical pathology related to intellectual disability. S. P. PETKOVA*; A. A. WADE; A. S. NORD; J. P. LERCH; J. ELLEGOOD; J. S. SILVERMAN. *Univ. of California Davis Sch. of Med., Univ. of California - Davis, Univ. of California - Davis, MIND Inst., Hosp. for Sick Children, Hosp. For Sick Children.*
- 9:00 D43 **119.18** ▲ Characterization of Kirrel3-expressing cells in the mouse substantia nigra and ventral tegmental area. Y. SHIKAZE*; T. KOMORI; T. HISAOKA; T. KITAMURA; Y. MORIKAWA. *Wakayama Med. Univ., The Inst. of Med. Science, The Univ. of Tokyo.*
- 10:00 D44 **119.19** Abnormal synapse formation of cerebellar pinceau in Kirrel3-knockout mice. T. HISAOKA*; T. KOMORI; T. KITAMURA; Y. MORIKAWA. *Dept. of Anat. & Neurobiology, Wakayama Med. Univ., Div. of Cell. Therapy, Advanced Clin. Res. Center, The Inst. of Med. Sci.*
- 11:00 D45 **119.20** Autistic-like behaviors in postnatal and adult Kirrel3-knockout mice. Y. MORIKAWA*; T. HISAOKA; T. KOMORI; T. KITAMURA. *Wakayama Med. Univ., The Inst. of Med. Science, The Univ. of Tokyo.*
- 8:00 D46 **119.21** Expression of Kirrel3 in the neurons of dorsal root ganglia and their terminals in the spinal cord. T. KOMORI*; T. HISAOKA; T. KITAMURA; Y. MORIKAWA. *Dept. of Anat. & Neurobiology, Wakayama Med. Univ., The Inst. of Med. Science, The Univ. of Tokyo.*

POSTER

120. Autism Mechanisms and Therapeutic Development

Theme A: Development

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 D47 **120.01** ▲ Effect of maternal PCPA treatment at mid-gestation on adolescent behaviors relevant to autism. N. A. PATHAPATTI; L. FERREIRA; M. CHACON; P. KAPLAN; A. R. NELSON; V. R. GARBARINO; L. C. DAWES; G. G. GOULD*. *U Texas Hlth. Sci. Ctr. at San Antonio.*
- 9:00 D48 **120.02** Treatment of a mouse photoreceptor cell line with 7-dehydrocholesterol-derived oxysterols induces differential expression of autism spectrum disorder-associated genes and allied pathway elements in an *in vitro* model of Smith-Lemli-Opitz syndrome. B. A. PFEFFER*; L. XU; S. J. FLIESLER. *Univ. At Buffalo, Univ. of Washington, Univ. at Buffalo, VA-Western NY Healthcare Syst.*
- 10:00 D49 **120.03** Basolateral amygdala-nucleus accumbens circuit activation decreases social interaction via an endocannabinoid-regulated mechanism. O. M. FOLKES*; D. J. MARCUS; M. ALTEMUS; N. D. HARTLEY; J. J. BAECHLE; S. PATEL. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt.*
- 11:00 D50 **120.04** Ebp1 deficient mice cause Purkinje cells dysfunction and autistic-like behavior. I. HWANG*; J. AHN. *Dept. of Mol. Cell Biology, Sungkyunkwan, Single Cell Network Res. Center, Sungkyunkwan Univ. Sch. of Med.*
- 8:00 D51 **120.05** Autism-associated SHANK2 mutation impairs neurodevelopment in iPSC-derived neurons. X. CHEN*; G. HUANG; P. YU; K. WANG; S. LINGLING. *Jinan Univ., Children's Hosp. of Philadelphia.*
- 9:00 E1 **120.06** Human ipsc-derived cerebral organoids reveal increased intrinsic neuronal excitability in an autistic subject harboring cacng2 mutation. W. WU*; H. YAO; P. NEGRAES; H. ZHAO; A. R. MUOTRI; J. SEBAT; G. G. HADDAD. *UCSD, UCSD, UCSD, UCSD, UCSD.*
- 10:00 E2 **120.07** The effects of prenatal LPS on microglial fractalkine pathway modulated neurodevelopment. L. FERNÁNDEZ DE COSSÍO GÓMEZ*; G. CASTINO; C. LACABANNE; S. CUESTA; G. N. LUHESHI. *Douglas Mental Hlth. Univ. Institute, McGill, Ecole Normale Supérieure de Lyon, Douglas Mental Hlth. Univ. Institute, McGill, McGill Univ.*
- 11:00 E3 **120.08** Cerebral organoids from autism patients provide insights into dysregulated molecular pathways. J. URRESTI*; P. MORAN; P. ZHANG; M. AMAR; P. D. NEGRAES; C. A. TRUJILLO; L. TEJWANI; S. ROMERO; A. R. MUOTRI; L. M. IAKOUCHEVA. *Univ. of California San Diego.*
- 8:00 E4 **120.09** The autism-associated gene Scn2a plays an essential role in dendritic excitability, synaptic stability, and learning. P. W. SPRATT*; R. BEN-SHALOM; C. M. KEESHEN; K. BURKE; R. L. CLARKSON; S. M. SANDERS; K. J. BENDER. *Univ. of California San Francisco, UCSF, UCSF.*

- 9:00 E5 **120.10** Electrophysiological and pharmacological evaluation of developmental neurotoxicity using brain slices obtained from juvenile rats prenatally exposed to chemicals. Y. FUETA*; S. YOSHIDA; Y. SEKINO; Y. KANDA; S. UENO. *Univ. Occupational/Environmental Hlth., Toyohashi Univ. Technol., The Univ. of Tokyo, Grad. Sch. of Pharma, Natl. Inst. of Health. Sci., Univ. Occup. & Environ Hlth, Japan.*
- 10:00 E6 **120.11** The role of NMDA receptors in the neurodevelopment of chick embryos exposed in ovo to valproic acid. X. FANG*; R. TOVAR; P. RENGASAMY; B. CHENG. *Univ. of Texas Rio Grande Valley.*
- 11:00 E7 **120.12** ▲ Mechanisms for reduction of microglia in a valproic acid rodent model of autism. C. SCHRAM; M. HANEY; P. S. AWALE*. *Idaho State Univ., Idaho State Univ.*
- 8:00 E8 **120.13** Colostrum oxytocin in the newborn gut modulates cellular stress and inflammation in the nucleus tractus solitarius (NTS), an area abnormal in autism. M. G. WELCH*; H. TAMIR; M. ANWAR; S. GLICKSTEIN; R. J. LUDWIG; B. Y. KLEIN. *Columbia Univ. Med. Ctr., Columbia Univ. Med. Ctr., EB Sci., Columbia Univ. Med. Ctr.*
- 9:00 E9 **120.14** Prefrontal network dysfunction in a maternal immune activation model of autism spectrum disorder. C. D. MAKINSON*; T. N. WEERAKKODY; J. M. SOROKIN; J. R. HUGUENARD. *Stanford Univ., Stanford, Stanford Univ. Sch. Med.*
- 10:00 E10 **120.15** Sensory cortical alterations in mouse models of autism spectrum disorder. T. GANDHI; C. C. LEE*. *Sch. of Vet. Med., Louisiana State Univ. Sch. of Vet. Med.*
- 11:00 E11 **120.16** Integrative genomic analysis in autism brain tissue reveals pro-inflammatory signaling. A. GNANASEKARAN*; R. M. SMITH. *Univ. of Iowa.*
- 8:00 E12 **120.17** Impaired sensory perception and altered cortical population activity in a mouse model of autism. J. DEL ROSARIO*; H. ARROWOOD; A. AMER; A. SPEED; S. WATSON; B. HAIDER. *Georgia Tech. & Emory Univ.*
- 9:00 E13 **120.18** Mapping chromatin dynamics, transcriptional regulation and physiological change after activity-induced circuitry stress in cell models of neuropsychiatric risk genes. B. DAVIS*; H. CHEN; G. HAMERSKY; J. BOHLEN; J. SHIN; A. JAFFE; B. MAHER. *Lieber Inst., Johns Hopkins Sch. of Med., Lieber Inst. for Brain Develop., Johns Hopkins Sch. of Med., Johns Hopkins Bloomberg Sch. of Publ. Hlth., Johns Hopkins Bloomberg Sch. of Publ. Hlth., Johns Hopkins Sch. of Med.*
- 10:00 E14 **120.19** Deletion of NRXN 1 α disrupts specific elements in fear circuit. D. ASEDE; A. JOSEPH; M. BOLTON*. *Max Planck Florida Inst.*
- 11:00 E15 **120.20** A novel treatment for autism spectrum disorder: Targeting the cholinergic system. S. N. SUDWEEKS*; S. WERNER. *Brigham Young Univ., Brigham Young Univ.*
- 8:00 E16 **120.21** Sex- and region-specific regulation of immune-related genes by maternal and early postnatal immune activation. W. KIM*; G. MISSIG; B. C. FINGER; S. M. LANDINO; A. J. ALEXANDER; E. L. MOKLER; J. O. ROBBINS; Y. LI; V. Y. BOLSHAKOV; C. J. MCDUGLE; W. A. CARLEZON, Jr; K. KIM. *McLean Hosp., Harvard Med. Sch.*
- 9:00 E17 **120.22** Single-cell analysis implicates upper-layer neurons and protoplasmic astrocytes in autism. D. VELMESHEV*; L. SCHIRMER; S. MAYER; D. JUNG; A. BHADURI; N. GOYAL; M. HAEUSSLER; D. ROWITCH; A. R. KRIEGSTEIN. *UCSF, UCSF, Univ. of California, San Francisco, Univ. of California San Francisco, Univ. of California, Berkeley, Univ. of California, Santa Cruz, Univ. of Cambridge, Univ. of California San Francisco.*
- 10:00 E18 **120.23** Oxytocin secretion and social behavior in mice lacking Ca²⁺-dependent activator protein for secretion 2 (CAPS2). S. FUJIMA*; R. MANIWA; Y. SANO; T. FURUICHI. *Tokyo Univ. of Sci.*
- 11:00 E19 **120.24** Mechanistic contribution of defective presynaptic cargo transport to the autism-liked pathogenesis. G. XIONG; Y. XIE; T. SUN; M. LIN; X. CHENG; S. LI; Z. SHENG*. *NINDS, NIH.*

POSTER

121. Autism Spectrum Disorders: Neural Correlates in Humans

Theme A: Development

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 E20 **121.01** Network analysis of resting-state fMRI from a multi-site database: A comparison between autism spectrum disorder patients and control subjects. T. IIDAKA*; T. KOGATA; Y. MANO. *Nagoya University, Brain and Mind Res. Ctr., Nagoya Univ.*
- 9:00 E21 **121.02** Physiological response of central and peripheral stress systems during social interaction in children with autism spectrum disorder. R. A. MUSCATELLO*; B. A. CORBETT. *Vanderbilt Univ., Vanderbilt Univ. Med. Ctr.*
- 10:00 E22 **121.03** Mental imagery of emotions and observation of facial expressions requires recruitment of the precuneus in autism spectrum disorder. M. CASTELO-BRANCO*; M. SIMÕES; R. MONTEIRO; J. ANDRADE; S. MOUGA; G. OLIVEIRA; P. CARVALHO. *ICNAS, CIBIT Univ. of Coimbra, CIBIT, Coimbra Inst. for Biomed. Imaging and Life Sciences, Univ. of Coimbra, Neurodevelopmental and Autism Unit from Child Developmental Center, Hosp. Pediátrico, Ctr. Hospitalar e Universitário de Coimbra, Coimbra, Portugal, CIBIT, Coimbra Inst. for Biomed. Imaging and Life Sciences, Univ. of Coimbra, Coimbra, Portugal, CISUC, Ctr. for Informatics and Systems, Univ. of Coimbra, Portugal.*
- 11:00 E23 **121.04** Hippocampal anatomy age-related differences in autism spectrum disorder: Correlates with episodic memory and executive function. C. RIECKEN*; B. BRADEN; J. ALVAR; M. WALSH; L. BAXTER; C. SMITH. *Arizona State Univ., Barrow Neurolog. Inst., Southwest Autism Res. and Resource Ctr.*
- 8:00 E24 **121.05** Neural response to dynamic and static faces in adults with autism spectrum disorder and typical development. K. A. MCNAUGHTON*; A. NAPLES; T. MCALLISTER; D. STAHL; S. HASSELMO; T. DAY; T. WINKELMAN; L. CHAN; J. MCPARTLAND. *Child Study Center, Yale Univ.*
- 9:00 E25 **121.06** Emotion-independent alteration of cortical response in the left middle temporal voice area in autism spectrum disorder. R. HASHIMOTO*; T. ITAHASHI; H. OHTA; C. KANAI; J. FUJINO; Y. AOKI; M. NAKAMURA; N. KATO. *Showa Univ., Showa Univ.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 10:00 E26 **121.07** Neural response to direct and averted gaze in children with autism spectrum disorder during a gaze contingent social simulation. M. R. ALTSCHULER*; A. NAPLES; T. C. DAY; K. A. MCNAUGHTON; T. WINKELMAN; D. STAHL; S. HASSELMO; T. HALLIGAN; B. LEWIS; J. WOLF; E. JARZABEK; K. ELLISON; J. MCPARTLAND. *Yale Univ. Sch. of Med.*
- 11:00 E27 **121.08** Associations between nutritional intake and gastrointestinal symptoms in autism spectrum disorder. B. FERGUSON*; S. FAMULINER; K. DOVGAN; D. SEVERNS; D. Q. BEVERSDORF. *Thompson Ctr. for Autism, Univ. of Missouri, Thompson Ctr. for Autism & Neurodevelopmental Disorders, Univ. of Missouri Sch. of Med., Univ. of Missouri Columbia.*
- 8:00 E28 **121.09** ▲ Sex differences in atypical sensory processing and its relation to salience network functional connectivity in autism spectrum disorder. K. K. CUMMINGS*; S. A. GREEN; K. E. LAWRENCE; L. HERNANDEZ; M. DAPRETTO. *UCLA.*
- 9:00 E29 **121.10** Dissociating regional gray matter density and volume in children and adolescents with autism spectrum disorder. L. D. YANKOWITZ; B. E. YERYS; J. D. HERRINGTON*; J. PANDEY; R. T. SCHULTZ. *Univ. of Pennsylvania, Children's Hosp. of Philadelphia.*
- 10:00 E30 **121.11** Abnormal oscillatory patterns elicited by audio-visual movies in autism spectrum disorder with abnormal sensory sensitivity: A magnetoencephalographic study. J. MATSUZAKI*; K. KAGITANI-SHIMONO; S. AOKI; Y. KATO; R. HANAIE; M. NAKANISHI; A. TATSUMI; T. YAMAMOTO; K. TOMINAGA; Y. NAGAI; I. MOHRI; M. TANIIKE. *Osaka Univ., Osaka Univ.*
- 11:00 E31 **121.12** Children with autism and sleep problems show abnormal regulation of resting EEG. T. WINKELMAN*; A. NAPLES; M. ROLISON; T. C. DAY; K. A. MCNAUGHTON; S. HASSELMO; T. MCALLISTER; K. ELLISON; E. JARZABEK; B. LEWIS; J. WOLF; J. MCPARTLAND. *Yale Univ. Sch. of Med.*
- 8:00 E32 **121.13** Children with autism spectrum disorder demonstrate regionally altered resting-state alpha-to-gamma phase-amplitude coupling as well as resting-state band-passed power. R. G. PORT*; S. LIU; L. BLASKEY; J. C. EDGAR; T. P. ROBERTS; J. BERMAN. *Univ. of Pennsylvania, Children's Hosp. of Philadelphia, Children's Hosp. of Philadelphia.*
- 9:00 E33 **121.14** Atypical brain connectivity of pSTS in toddlers with autism spectrum disorders. S. REYNOLDS; A. C. LINKE; B. CHEN; C. FONG; L. OLSON; M. KINNEAR; I. FISHMAN*. *San Diego State Univ.*
- 10:00 E34 **121.15** Atypical salience network connectivity underlying early emotion dysregulation in toddlers with ASD. C. IBARRA*; B. CHEN; S. REYNOLDS; L. OLSON; C. FONG; A. C. LINKE; M. KINNEAR; I. FISHMAN. *San Diego State Univ., SDSU / UC San Diego, San Diego State Univ., San Diego State Univ.*
- 11:00 E35 **121.16** Transient improvement in autism symptoms following ketamine anesthesia. E. T. CHOW*; M. FAZAL; A. W. ZIMMERMAN; M. L. BAUMAN. *Tulane Univ. Sch. of Med., Boston Univ. Sch. of Med., Umass Mem. Med. Ctr., Dept. of Anat. and Neurobio.*
- 8:00 E36 **121.17** The regulation of neural responses in autism spectrum disorder. T. KOLODNY*; R. MILLIN; M. SCHALLMO; A. M. KALE; R. A. BERNIER; S. O. MURRAY. *Univ. of Washington, Univ. of Minnesota.*
- 9:00 E37 **121.18** White matter microstructure of autism spectrum disorder and attention deficit hyperactivity disorder. H. OHTA*; T. ITAHASHI; Y. AOKI; M. NAKAMURA; J. FUJINO; C. KANAI; A. IWANAMI; N. KATO; R. HASHIMOTO. *Showa Univ., Showa Univ., Showa University, Showa Univ.*
- 10:00 E38 **121.19** The neurological motor deficits as an endophenotype of autism shared by affected and unaffected siblings. M. FABBRI-DESTRO*; A. NUARA; V. GIZZONIO; G. RIZZOLATTI; P. AVANZINI. *Univ. Parma, Consiglio Nazionale delle Ricerche-Istituto di Neuroscienze, Univ. Di Parma, Consiglio Nazionale delle Ricerche -Istituto di Neuroscienze, Univ. of Parma.*
- 11:00 E39 **121.20** Intra- individual trial- to trial neural variability in autism spectrum disorders (asd) and attention deficit hyperactivity disorder (adhd): A biomarker of asd with high specificity. A. GIANNADOU*; E. MILNE; M. FREETH; A. SAMSON. *Univ. of Sheffield, Univ. of Geneva.*
- 8:00 E40 **121.21** Neural characterization of olfaction in adults with autism spectrum disorder. V. PARMA*; M. FURLAN; K. STEPHENSON; D. N. TOP; N. HUNSAKER; A. HEDGES-MUNCY; N. MUNCY; J. BECK; N. RUSSELL; M. SOUTH. *Intl. Sch. For Advanced Studies, Brigham Young Univ.*
- 9:00 E41 **121.22** Typicality of functional connectivity predicts healthy social function. F. L. WEATHERSBY*; J. B. KING; J. C. FOX; A. D. LORET; J. S. ANDERSON. *Univ. of Utah, Univ. of Utah, Brigham Young Univ., Univ. of Utah.*
- 10:00 E42 **121.23** Relationship between resting state EEG in autism and comorbid depressive symptoms. T. C. DAY*; T. WINKELMAN; K. A. MCNAUGHTON; B. LEWIS; K. ELLISON; E. JARZABEK; J. WOLF; A. NAPLES; J. MCPARTLAND. *Yale Sch. of Med.*
- 11:00 E43 **121.24** Defining neurophysiological biotypes in autism spectrum disorder using human resting-state connectivity. A. BUCH*; C. LISTON. *Weill Cornell Grad. Sch., Weill Cornell Med.*
- 8:00 E44 **121.25** Diffusion MRI of cortico-basal ganglia and cerebellar pathways in autism spectrum disorder: Relationships to repetitive behavior. B. J. WILKES*; H. E. KORAH; D. B. ARCHER; D. E. VAILLANCOURT; M. H. LEWIS. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Univ. of Florida, UF Col. of Med.*
- 9:00 E45 **121.26** Developmental trajectories of functional connectivity in resting state networks in Autism Spectrum Disorders. M. OLSON*; R. MÜLLER. *San Diego State Univ., San Diego State Univ.*
- 10:00 E46 **121.27** Hyperconnectivity during language processing in infants at risk for ASD. X. A. TRAN*; N. M. MCDONALD; A. DICKINSON; M. DAPRETTO; S. S. JESTE. *UCLA, UCLA, UCLA Semel Inst. of Biobehavioral Sci.*
- 11:00 E47 **121.28** An early-detection diagnostic framework for autism spectrum disorder using DTI and sMRI. Y. ELNAKIEB; O. DEKHIL; A. SHALABY; B. AYINDE; A. MAHMOUD; A. SWITALA; A. ELMAGHRABY; R. KEYNTON; M. GHAZAL; E. GOZAL*; A. EL-BAZ; G. BARNES. *Univ. of Louisville, Univ. of Louisville, Univ. of Louisville, Abu Dhabi Univ., Dept of Pediatrics PRI / Univ. of Louisville, Univ. of Louisville.*
- 8:00 E48 **121.29** A deep learning based generative model for functional mri analysis. O. DEKHIL*; M. ALI; A. SHALABY; R. KEYNTON; M. GHAZAL; A. ELMAGHRABY; A. EL BAZ; G. N. BARNES. *UK Autism Ctr., Univ. of Louisville, Univ. of Louisville Sch. of Med.*

POSTER

122. Metabotropic Glutamate and GABA B Receptors

Theme B: Neural Excitability, Synapses, and Glia

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 E49 **122.01** 5ht1a and mglur4 interactions, possible link to schizophrenia? G. BURNAT; P. BRANSKI; J. SOLICH; M. KOLASA; B. CHRUSCICKA; M. DZIEDZICKA-WASYLEWSKA; A. PILC*. *Inst. of Pharmacol., Inst. of Pharmacol.*
- 9:00 E50 **122.02** Functional independence of IP₃- and Ry-sensitive Ca²⁺ stores in hippocampal pyramidal neurons. J. HARTMANN*; H. CHEN; R. M. KARL; S. FESKE; A. KONNERTH. *TUM, Inst. For Neurosci., TUM, Inst. for Neurosci., NYU Sch. of Med.*
- 10:00 E51 **122.03** Unraveling the mechanism underlying the anti-absence activity of mGlu5 receptor activation. R. CELLI; I. SANTOLINI; M. VERGASSOLA; M. J. WALL; R. GINERETE; G. MASCIIO; V. D'AMORE; R. GRADINI*; G. VAN LUIJTELAAR; G. BATTAGLIA; V. BRUNO; R. T. NGOMBA; A. PITTALUGA; F. NICOLETTI. *I.R.C.C.S. NEUROMED, Univ. of Genova, Sch. of Med. and Pharma, Univ. of Warwick, Univ. Sapienza, Donders Ctr. for Cognition, Donders Inst. for Brain, Cognition and Behaviour, Radboud Univ., Univ. of Lincoln.*
- 11:00 F1 **122.04** Modulation of extrasynaptic GABA_A receptor function in dentate gyrus granule cells by GABA_B receptors and severe TBI. A. PARGA*; C. B. RANSOM. *Univ. of Washington, VA Puget Sound Hlth. Care Syst., Univ. of Washington.*
- 8:00 F2 **122.05** Genetic deletion of mGlu3 receptors causes developmental abnormalities in GABAergic neurons and cortical neural synchronization in mice: A multi-modal and -scale approach. T. IMBRIGLIO; R. VERHAEGHE; K. MARTINELLO; C. DEL PERCIO; M. T. PASCARELLI; S. LOPEZ; G. CHECE; D. BUCCI; S. NOTARTOMASO; G. MASCIIO; M. QUATTROMANI; F. SCALABRI; A. SIMEONE; S. MACCARI; T. WIELOCH; S. FUCILE; C. BABILONI; G. BATTAGLIA*; C. LIMATOLA; F. NICOLETTI; M. CANNELLA. *Univ. Sapienza, I.R.C.C.S. Neuromed, Lund Univ., Inst. of Genet. and Biophysics "Adriano Buzzati-Traverso" CNR, Unité de Glycobiologie Structurale et Fonctionnelle.*
- 9:00 F3 **122.06** *In vivo* measurement of receptor-activated polyphosphoinositide hydrolysis: A valuable tool for the assessment of mGlu5 receptor function in physiology and pathology. A. R. ZUENA; L. IACOVELLI; R. ORLANDO; L. DI MENNA; S. ALEMÀ; P. CASOLINI; S. NOTARTOMASO; G. MASCIIO; G. DI CICCO; V. BRUNO*; G. BATTAGLIA; F. NICOLETTI. *Univ. Sapienza, I.R.C.C.S. NEUROMED.*
- 10:00 F4 **122.07** Antipsychotic-like activity of the kynurenine metabolite, cinnabarinic acid, in mice. F. FAZIO; M. ULIVIERI; J. M. WIERONSKA; P. CIEŚLIK; G. MASCIIO; A. TRAFICANTE; F. LIBERATORE; N. ANTENUCCI; G. GIANNINO; V. BRUNO; G. BATTAGLIA; F. NICOLETTI*; A. PILC. *I.R.C.C.S. Neuromed, Univ. Sapienza, Inst. of Pharmacol.*

- 11:00 F5 **122.08** mGlu1 receptors drive the developmental decline of mGlu5 receptors in cerebellar Purkinje cells. S. NOTARTOMASO*; H. NAKAO; G. MASCIIO; P. SCARSELLI; M. CANNELLA; C. ZAPPULLA; M. MADONNA; M. MOTOLESE; R. GRADINI; F. LIBERATORE; M. ZONTA; G. CARMIGNOTO; G. BATTAGLIA; V. BRUNO; M. WATANABE; A. AIBA; F. NICOLETTI. *I.R.C.C.S. Neuromed, Univ. of Tokyo, Univ. Sapienza, Univ. of Padua, Hokkaido Univ. Sch. Med.*
- 8:00 F6 **122.09** Operant self-stimulation of thalamic terminals in the dorsomedial striatum is modulated by group II metabotropic glutamate receptors. K. A. JOHNSON*; D. M. LOVINGER. *NIH, Natl. Inst. on Alcohol Abuse and Alcoholism Rockville Office.*
- 9:00 F7 **122.10** Modulating the metabotropic glutamate receptor 3 as a potential therapeutic intervention for MECP2-associated disorders. S. D. VERMUDEZ*; R. G. GOGLIOTTI; B. J. STANLEY; N. M. FISHER; J. L. ENGERS; C. W. LINDSLEY; P. J. CONN; C. M. NISWENDER. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ.*
- 10:00 F8 **122.11** ●▲ Efficacy of mGlu₂ and mGlu₃ negative allosteric modulators in preclinical models of major depressive disorder. C. I. SANTIAGO*; M. E. JOFFE; J. L. ENGERS; C. W. LINDSLEY; P. J. CONN. *Vanderbilt Univ., Vanderbilt Ctr. for Neurosci. Drug Discovery, Vanderbilt Ctr. for Neurosci. Drug Discovery, Vanderbilt Ctr. for Neurosci. Drug Discovery.*

POSTER

123. Sodium Channels

Theme B: Neural Excitability, Synapses, and Glia

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 F9 **123.01** Protein:protein interaction-based peptidomimetics targeting the Nav channel complex. A. K. SINGH*; P. WADSWORTH; Z. LIU; P. WANG; S. R. ALI; H. CHEN; J. ZHOU; F. LAEZZA. *Univ. of Texas Med. Br. (UTMB), UTMB, UTMB.*
- 9:00 F10 **123.02** ● Functional modulation of FGF13-1A or -1B mediated voltage-gated sodium channel (Nav 1.6) activity by novel peptidomimetics. O. FOLORUNSO*; P. WANG; P. WADSWORTH; Z. LIU; P. SCADUTO; L. BOURNER; S. R. ALI; H. CHEN; J. ZHOU; F. LAEZZA. *The Univ. of Texas Med. Br., The Univ. of Texas Med. Br., The Univ. of Texas Med. Br., The Univ. of Texas Med. Br.*
- 10:00 F11 **123.03** Regulation of resurgent Na current of cerebellar Purkinje neurons by FGF14. H. V. WHITE*; T. C. BOZZA; J. M. NERBONNE; I. M. RAMAN. *Northwestern Univ., Washington Univ.*
- 11:00 F12 **123.04** Identification of JAK2 and Src tyrosine kinases as regulators of the Nav1.6 channel complex by high-throughput drug screening. P. A. WADSWORTH*; O. FOLORUNSO; N. D. NGUYEN; A. K. SINGH; D. D'AMICO; D. BRUNELL; C. C. STEPHAN; F. LAEZZA. *UTMB, Univ. of Texas Med. Br., Texas A&M Hlth. Sci. Center: Inst. of Biosci. and Technol., Univ. of Palermo.*
- 8:00 F13 **123.05** CaMKII modulation of aberrant Nav1.6 activity. A. ZYBURA*; T. R. CUMMINS; A. HUDMON. *Indiana Univ. Sch. of Med., Indiana University-Purdue Univ. Indianapolis, Purdue Univ. Col. of Pharm.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 9:00 F14 **123.06** Sodium channel $Na_v1.3$ regulation of human cerebral cortical folding and oral motor development. R. S. SMITH*; C. KENNY; R. BORGES-MONROY; A. JANG; J. PARTLOW; M. K. LEHTINEN; C. A. WALSH. *Boston Childrens Hosp. / Harvard Med. Sch.*
- 10:00 F15 **123.07** Norquetiapine blocks the human cardiac sodium channel, $Na_v1.5$, in a state-dependent manner. S. KIM; D. KIM; J. CHOI*. *The Catholic Univ. of Korea.*
- 11:00 F16 **123.08** Expression of sodium channels in the developing grasshopper brain and *Drosophila*. H. WANG; T. A. RAVENSCROFT; B. FOQUET; H. SONG; H. BELLEN; M. N. RASBAND; H. DIERICK; F. GABBIANI*. *Baylor Col. of Med., Baylor Col. of Med., Texas A&M Univ., Baylor Col. Med., Baylor Col. Med., Baylor Col. Med.*
- 8:00 F17 **123.09** • Kinetic properties and pharmacology of voltage-gated Na channels involved in pain pathways. T. STRASSMAIER; J. L. COSTANTIN*; N. BRINKWIRTH; A. OBERGRUSSBERGER; S. STÖLZLE-FEIX; N. BECKER; C. HAARMANN; M. RAPEDIUS; T. A. GOETZE; I. RINKE-WEIß; C. T. BOT; R. HAEDO; M. GEORGE; A. BRÜGGEMANN; N. FERTIG. *Nanion Technologies, Nanion Technologies.*
- 9:00 F18 **123.10** Loss of NF-186 alters the distal accumulation of sodium channels within the axon initial segment. S. ALPIZAR*; A. L. BAKER; A. T. GULLEDGE; M. B. HOPPA. *Dartmouth Col., Geisel Sch. of Med. at Dartmouth Col.*
- 10:00 F19 **123.11** Excitability changes in trigeminal nerve induced by entrapment neuropathy: Role of voltage gated sodium channels. Y. MULPURI*; T. YAMAMOTO; A. AGAHI; I. NISHIMURA; I. SPIGELMAN. *UCLA Sch. of Dent., Univ. of California Los Angeles.*
- 11:00 F20 **123.12** cAMP signaling-independent acidity-sensing of olfactory sensory neurons is mediated by acid-sensing ion channels. J. YANG*; L. QIU; D. STORM; X. CHEN. *Univ. of New Hampshire, Univ. of Washington.*
- 8:00 F21 **123.13** Enhancement of Multi-Electrode Array "Pain-in-a-dish" assays by adding optogenetic stimulation. M. R. ESTACION*; T. ADI; P. ZHAO; L. MACALA; S. D. DIB-HAJJ; S. G. WAXMAN. *Yale Univ. Sch. of Med., Veterans Affairs Med. Ctr., Yale Univ. Sch. of Med., Yale Univ. Med. Sch., Yale Univ., Yale Sch. of Med. and VAMC, Yale University, Neurosci. and Regeneration Res. Ctr.*
- 9:00 F22 **123.14** Search for molecular determinants of $Nav1.9$ functional expression. D. SIZOVA*; L. AKIN; S. D. DIB-HAJJ; S. G. WAXMAN. *Yale Univ. Sch. of Med., Yale Univ., Yale Sch. of Med. and VAMC, Yale University, Neurosci. and Regeneration Res. Ctr.*
- 8:00 DP02/F23 **123.15** (Dynamic Poster) High-resolution imaging of $Na_v1.7$ cell-surface delivery and membrane dynamics in developing DRG neurons. E. J. AKIN*; S. LIU; F. B. DIB-HAJJ; S. D. DIB-HAJJ; S. G. WAXMAN. *Yale Univ. Sch. of Med., Veterans Affairs Connecticut Healthcare Syst.*
- 11:00 F24 **123.16** Cell- and temperature-dependent effects of the $Nav1.7$ -L858F inherited erythromelalgia mutation on the excitability of dorsal root ganglia neurons. M. A. MIS*; E. J. AKIN; F. DIB-HAJJ; P. ZHAO; S. DIB-HAJJ; S. G. WAXMAN. *Yale Univ.*
- 8:00 F25 **123.17** Fibroblast growth factor homologous factor 2 (FGF13) differentially modulates the current properties of $Nav1.7$ in DRG neurons. P. EFFRAIM*; J. HUANG; A. LAMPERT; S. G. WAXMAN; S. D. DIB-HAJJ. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., VA Connecticut Healthcare Syst., Uniklinik RWTH Aachen Univ.*
- 9:00 F26 **123.18** A novel gain-of-function $Nav1.9$ mutation in an individual with episodic pain. J. HUANG*; M. ESTACION; P. ZHAO; B. SCHULMAN; A. ABICHT; K. BROCKMANN; S. WAXMAN; S. DIB-HAJJ. *Yale Univ. Sch. of Med., MGZ-Medical Genet. Ctr., Georg August Univ.*
- 10:00 G1 **123.19** A novel gain-of-function $Na_v1.7$ mutation in a carbamazepine-responsive patient with adult-onset non-length-dependent small fiber neuropathy. T. ADI*; M. ESTACION; S. VERNINO; S. D. DIB-HAJJ; S. G. WAXMAN. *Yale Univ. Sch. of Med., Yale Univ. Sch. of Med., VA Connecticut Healthcare Syst., UT Southwestern Med. Ctr.*

POSTER

124. Control of Neuronal Firing in Development and Disease

Theme B: Neural Excitability, Synapses, and Glia

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 G2 **124.01** ▲ Structural and functional remodeling of the axon initial segment in rat primary motor cortex principal neurons after spinal cord lesion. D. DANNEHL*; B. BENEDETTI; L. S. BIELER; J. M. JANSSEN; C. CORCELLI; S. SOLEYMANI; M. EWERTZ; C. SCHULTZ; S. COUILLARD-DESPRÉS; M. ENGELHARDT. *Med. Fac. Mannheim, Heidelberg Univ., Spinal Cord Injury and Tissue Regeneration Ctr. Salzburg (SCI-TReCS), Paracelsus Medizinische Privatuniversität.*
- 9:00 G3 **124.02** Development and optimization of an *in vitro* assay for neuronal sensitization by inflammatory mediators. D. M. DUBREUIL*; Y. SAPIR; B. WAINGER. *Massachusetts Gen. Hosp., Massachusetts Gen. Hosp.*
- 10:00 G4 **124.03** Dicer ablation in postmitotic VIP interneurons leads to circuit dysfunction and neuronal death. F. QIU*; L. GONG; M. HE. *Inst. of Brain Science, Fudan Univ., Fudan Univ., Fudan Univ.*
- 11:00 G5 **124.04** Perineuronal nets regulate the excitability of GABAergic interneurons: Lessons from glioma-associated epilepsy. B. P. TEWARI*; L. CHAUNSALI; S. L. CAMPBELL; D. PATEL; A. GOODE; H. SONTHEIMER. *Virginia Tech. Carilion Res. Inst., Virginia Tech., Virginia Tech. Carilion Res. Inst., Virginia Tech. Carilion Res. Inst., Virginia Tech. Carilion Res. Inst., Virginia Tech. Carilion Sch. of Med., Virginia Tech. Sch. of Neurosci.*
- 8:00 G6 **124.05** Subchronic phencyclidine (pcp) treatment differentially affects neuronal excitability in mPFC subdivisions. H. R. KIM*; L. RAJAGOPAL; H. Y. MELTZER; M. MARTINA. *Northwestern Univ., Northwestern Univ.*
- 9:00 G7 **124.06** Two subpopulations of somatostatin-expressing interneurons with distinct postnatal developmental patterns in cortex of transgenic mice. C. WANG*. *Southwestern Univ.*
- 10:00 G8 **124.07** Layer-specific effects of adolescent vs. adult ethanol exposure on the intrinsic excitability of prelimbic cortex. E. J. GALAJ*; Y. MA. *Binghamton Univ.*

- 11:00 G9 **124.08** Resurgent sodium current in neurons of the *xenopus laevis* optic tectum as a modulator of intrinsic excitability during retinotectal circuit development. A. C. THOMPSON; K. M. KEARY, III; C. D. AIZENMAN*. *Brown Univ., Brown Univ.*
- 8:00 G10 **124.09** Neural activity triggers ectopic axonal spiking in parvalbumin-expressing inhibitory interneurons of the neocortex. B. B. THEYEL*; R. STEVENSON; B. CONNORS. *Brown Univ., Brown Univ.*
- 9:00 G11 **124.10** Lipid composition of membranes could be an important variable regarding excitotoxicity of hippocampal neurons. V. EVREN*; A. YURT KILCAR; E. DERSIVIS; B. KARATAY; D. TASKIRAN. *Ege Univ.*
- 10:00 G12 **124.11** The functional impact of sphingosine-1-phosphate signaling on neuronal excitability in the central amygdala is sex-specific. B. MORK*; J. LI; P. L. SHEETS. *Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med.*
- POSTER**
- 125. Oscillations and Synchrony in the Human Brain**
- Theme B: Neural Excitability, Synapses, and Glia**
- Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H
- 8:00 H1 **125.01** Decreased hippocampal theta activity in general anesthesia. M. CHOE*; S. JIN; S. JUN; J. KIM; C. CHUNG. *Seoul Natl. Univ., Seoul Natl. Univ. Col. of Med., iMediSyn Inc, Seoul Natl. Univ. Hosp.*
- 9:00 H2 **125.02** • What's the difference between sleep and anesthesia? Evidence that posterior and anterior phase-amplitude coupling distinguish unconsciousness from unarousability. E. P. STEPHEN*; M. J. PRERAU; O. JOHNSON-AKEJU; G. C. HOTAN; S. KHAN; M. HÄMÄLÄINEN; E. N. BROWN; P. L. PURDON. *MIT, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Harvard Med. Sch., Massachusetts Univ. Hosp.*
- 10:00 H3 **125.03** Triphasic wave-like generalized periodic discharges with a high negative component (Tri-HNC) on EEG as an indicator of cefepime-induced encephalopathy (CIE): Three case reports and neural mass modeling in silico. H. TAMUNE*; Y. HAMAMOTO; N. ASO; N. YAMAMOTO. *Tokyo Metropolitan Tama Med. Ctr., Grad. Sch. of Medicine, The Univ. of Tokyo, Grad. Sch. of Medicine, The Univ. of Tokyo, Tokyo Inst. of Technol.*
- 11:00 H4 **125.04** Sex-related changes in EEG during isoflurane-induced surgical anesthesia. P. J. SOJA*; T. MARIAM; S. MALEKI; R. TADAVARTY. *The Univ. of British Columbia, The Univ. of British Columbia.*
- 8:00 H5 **125.05** Spectral fingerprints of cortical neuromodulation. A. RADETZ*; M. SIEGEL. *Ctr. For Integrative Neurosci. and MEG Ctr.*
- 9:00 H6 **125.06** Cortical dynamics during psychedelic and anesthetized states induced by ketamine. D. LI*; G. A. MASHOUR. *Univ. of Michigan.*
- 10:00 H7 **125.07** • Tms evoked n100 reflects local gaba and glutamate balance. X. DU*; L. ROWLAND; A. SUMMERFELT; S. WIJTENBURG; J. CHIAPPELLI; F. CHOA; P. KOCHUNOV; E. HONG. *Maryland Psychiatric Res. Ctr., Univ. of Maryland Baltimore County Dept. of Psychology, Univ. of Maryland Sch. of Med., UMBC, Maryland Psychiatric Res. Ctr.*
- 11:00 H8 **125.08** Effect of COMT and DAT1 genetic polymorphisms on resting EEG activity in healthy individuals. N. RAMAKRISHNAN*; C. P. WALKER; C. J. RODRIGUEZ; A. VENKATA SUBRAMANIAN; M. RAFFERTY; D. FRAHER; G. R. FRIES; N. R. POLIZZOTTO; N. MURPHY; C. WALSS-BASS; R. Y. CHO. *Baylor Col. of Med., Rice Univ., Univ. of Texas Hlth. Sci. Ctr.*
- 8:00 H9 **125.09** Frequency specific retinotopic and orientation tuning and relationship to hemodynamic responses in healthy human V1. R. J. BUTLER*; P. BERNIER; M. DESCOTEAUX; K. WHITTINGSTALL. *Univ. of Sherbrooke.*
- 9:00 H10 **125.10** Neural variability quenching is strongly associated with reductions in neural oscillations. E. DANIEL*; T. MEINDERTSMA; A. ARAZI; T. H. DONNER; I. DINSTEIN. *Ben Gurion Univ. of the Negev, Ben Gurion Univ. of the Negev, Univ. of Amsterdam, Univ. Med. Ctr. Hamburg-Eppendorf, Univ. of Amsterdam, Ben Gurion Univ. of the Negev, Univ. of Amsterdam, Ben Gurion Univ. of the Negev.*
- 10:00 H11 **125.11** Beta burst rate and timing predicts action initiation and performance in the human motor cortex. S. LITTLE*; J. BONAIUTO; G. BARNES; S. BESTMANN. *Inst. of Neurol., Ctr. Natl. de la Recherche Scientifique, Univ. Col. London, Inst. of Neurol.*
- 11:00 H12 **125.12** Distinct deep and superficial cortical inputs cause beta bursts in human sensorimotor cortex. J. J. BONAIUTO*; S. LITTLE; S. A. NEYMOTIN; S. R. JONES; G. R. BARNES; S. BESTMANN. *Ctr. Natl. de la Recherche Scientifique, Univ. Col. London, Brown Univ., Univ. Col. London.*
- 8:00 H13 **125.13** Brain complexity and network dynamics change during motor resonance. B. HAGER*; A. YANG; J. GUTSELL. *Brandeis Univ., Beth Israel Deaconess Med. Ctr.*
- 9:00 H14 **125.14** ▲ Parameterization of periodic and aperiodic human electrophysiology reveals greater between- than within-subject variability. L. MDANDA*; T. DONOGHUE; B. VOYTEK. *UCSD, UCSD, Univ. of California San Diego Dept. of Cognitive Sci.*
- 10:00 H15 **125.15** TMS-evoked oscillations in human cortical circuits: A search for natural frequencies. C. T. STANFIELD-WISWELL*; M. WIENER. *George Mason Univ.*
- 11:00 H16 **125.16** ▲ Neural oscillation symmetry as a novel feature for decoding algorithms in brain-computer interfaces. Y. YANG*; S. R. COLE; V. GILJA; B. VOYTEK. *Univ. of California San Diego, Univ. of California San Diego.*
- 8:00 H17 **125.17** •▲ Instantaneous voltage of electroencephalographic oscillatory activity: An alternative to power and phase measurements. M. ADAMEK*; P. BRUNNER; L. MOHEIMANIAN; R. SCHERER; G. SCHALK. *Natl. Ctr. For Adaptive Neurotechnologies, Albany Med. Col. / Wadsworth Ctr., New York State Dept. of Hlth., Graz Univ. of Technol., Wadsworth Ctr, NYSDOH.*
- 9:00 H18 **125.18** Oscillatory and broadband contributions to directed functional connectivity in the human cortex. J. I. CHAPETON*; R. HAQUE; S. K. INATI; K. A. ZAGHLOUL. *NIH, NINDS, NIH, NINDS.*
- 10:00 I1 **125.19** The spatial structure of phase- and amplitude-coupling in the human brain. M. SIEMS*; M. SIEGEL. *Univ. of Tübingen.*
- 11:00 I2 **125.20** Harmonic signatures of neural oscillations in the human brain. J. GIEHL*; M. SIEGEL. *Univ. of Tuebingen, Univ. of Tuebingen, Univ. of Tuebingen.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:00 I3 **125.21** Oscillatory and fractal signal components of human resting-state MEG. A. IBARRA CHAOUL*; M. SIEGEL. *Ctr. For Integrative Neuroscience, Univ. of, Ctr. for Integrative Neurosci.*
- 9:00 I4 **125.22** Four functionally distinct cell classes can be identified from extracellular recordings in primate cortex. C. TRAINITO*; C. VON NICOLAI; E. K. MILLER; M. SIEGEL. *Univ. of Tübingen, Univ. of Tübingen, Univ. of Tübingen, Massachusetts Inst. Technol.*
- 10:00 I5 **125.23** Bridging the gap: Visual information in spikes, LFP, EEG and MEG. F. SANDHAEGER*; F. SANDHAEGER*; C. VON NICOLAI; E. K. MILLER; M. SIEGEL. *Univ. of Tuebingen, Univ. of Tuebingen, Massachusetts Inst. Technol.*
- 11:00 I6 **125.24** Neuronal phase-coupling predicts neuronal coding. M. SIEGEL*; C. VON NICOLAI; E. K. MILLER. *Univ. of Tuebingen, Univ. of Tuebingen, MIT, Massachusetts Inst. Technol.*
- 8:00 I7 **125.25** Making decisions in space and time - two facets of the same neural circuit? D. J. HAWELLEK*; M. SIEGEL. *Univ. Tuebingen, Univ. Tuebingen.*
- 9:00 I8 **125.26** Cortical complexity and cause-effect power are reduced by general anesthesia compared to wakefulness in rats. A. ARENA*; R. COMOLATTI; A. G. CASALI; J. F. STORM. *Univ. of Oslo, Federal Univ. of São Paulo, Inst. of Sci. and Technol.*

POSTER

126. Biology of Microglia

Theme B: Neural Excitability, Synapses, and Glia

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 I9 **126.01** Real-time electrochemical monitoring of lactic-acid released from an *in vitro* mouse brain slice preparation. M. ZAILUDDIN*; Y. TOJYO; S. RAMLI; M. HYODO; I. TAKASHIMA; H. KUDO; R. KAJIWARA. *Meiji Univ., Natl. Inst. Advanced Industrial Sci. & Tech.*
- 9:00 I10 **126.02** Nitric oxide regulates transient receptor potential vanilloid type 2 channel trafficking in microglia. M. J. MAKSOUD*; V. TELLIOS; D. AN; Y. XIANG; W. LU. *Robarts Res. Inst., The Univ. of Western Ontario.*
- 8:00 DP03/I11 **126.03** (Dynamic Poster) Systemic LPS-induced model of neuroinflammation: *Ex vivo* and *in vivo* 2-photon imaging of the mouse brain. S. NEEDHAM*; S. CAMPBELL; J. GRIGOLEIT; A. CHAKRABORTY; L. FOURGEAUD; A. BHATTACHARYA. *Janssen R&D, UCSD.*
- 11:00 I12 **126.04** Functional interaction between the voltage-gated potassium channel Kv1.3 and purinergic P2X receptors in pro-inflammatory microglia. H. M. NGUYEN*; Y. CHEN; K. WAGNER; B. HAMMOCK; H. WULFF. *Univ. of California Davis, Univ. of California.*
- 8:00 I13 **126.05** Systemic lipopolysaccharide (LPS) prevents microglial loss after CSF1 receptor blockade. J. GRIGOLEIT*; W. A. ECKERT, III.; A. BHATTACHARYA. *Janssen R&D.*
- 9:00 I14 **126.06** Imaging microglial birth and maturation in the adult brain. M. S. MENDES*; A. MAJEWSKA. *Univ. of Rochester.*
- 10:00 I15 **126.07** Changes in microglial morphology and expression of iba1 in human optic nerve with ageing. S. GORLA*; T. C. NAG; T. S. ROY. *All India Inst. of Med. Science, New Delhi.*
- 11:00 I16 **126.08** Control of microglial polarization by the endocannabinoid system. D. J. ARAUJO*; A. SINHA; K. TJOA; K. SAIJO. *Univ. of California, Berkeley, Helen Wills Neurosci. Inst.*
- 8:00 I17 **126.09** Microglia progenitor cells in the mouse brain express Prominin-1 (CD133). K. E. PRATER*; M. S. ALOI; W. SU; S. L. DAVIDSON; G. A. GARDEN. *Univ. of Washington, Univ. of Washington.*
- 9:00 J1 **126.10** Identification of a dark microglia specific marker. M. ST-PIERRE*; S. BELHOCINE; M. CARRIER; D. GOSELIN; M. TREMBLAY. *Univ. Laval.*
- 10:00 J2 **126.11** • Quantitative, live-cell kinetic analysis of microglial function and morphology. A. C. OVERLAND*; J. N. RAUCH; L. OUPICKA; D. M. APPLIEDORN. *Essen Biosci. Inc.*
- 11:00 J3 **126.12** Characterization of P2Y12 expression throughout the brain during post-natal development. B. S. WHITELAW*; A. K. MAJEWSKA. *Univ. of Rochester, Univ. of Rochester Med. Ctr.*
- 8:00 J4 **126.13** Microglial proliferation patterns following damage to the olfactory bulb in adult zebrafish. S. R. VAR*; C. A. BYRD-JACOBS. *Western Michigan Univ., Western Michigan Univ.*
- 9:00 J5 **126.14** Phenotypic comparison of microglia activated by TLR3 and TLR4 agonists. Y. HE*; N. TAYLOR; A. BHATTACHARYA. *Janssen Res. & Develop. LLC.*
- 10:00 J6 **126.15** Heterogeneity of primary human microglia in normal development and disease. G. SCHMUNK*; A. BHADURI; E. DI LULLO; T. O. SHARF; S. CHO; T. NOWAKOWSKI. *Univ. of California, San Francisco, Univ. of California, Berkeley, Univ. of California San Francisco.*
- 11:00 J7 **126.16** Identifying morphological changes in microglia and astrocytes through an unbiased machine learning protocol. J. SILBURT*; S. HEINEN; K. A. MARKHAM-COULTES; K. HYNYNEN; I. AUBERT. *Univ. of Toronto, Sunnybrook Res. Inst., Univ. of Toronto / Sunnybrook Res. Inst.*
- 8:00 J8 **126.17** Microglial LRP1 promotes microglial activation and neuro-inflammation in the spinal dorsal horn following peripheral nerve injury in mice: Role of LRP1 shedding. C. BRIFAUULT*; W. M. CAMPANA; S. L. GONIAS. *Univ. of California San Diego, Univ. of California San Diego.*
- 9:00 J9 **126.18** Selective deletion of Na⁺/H⁺ exchanger in Cx3cr1⁺ microglia stimulates white matter myelination and improves post-stroke function recovery. S. SONG*; S. WANG; V. M. PIGOTT; T. JIANG; L. M. FOLEY; A. MISHRA; R. NAYAK; W. ZHU; G. BEGUM; Y. SHI; K. E. CARNEY; T. K. HITCHENS; W. GAN; G. E. SHULL; D. SUN. *Univ. of Pittsburgh, New York Univ. Sch. of Med., Univ. of Cincinnati.*
- 10:00 J10 **126.19** The origins of repopulated microglia in the brain and retina. B. PENG*; Y. HUANG; Z. XU; S. XIONG; G. QIN; F. SUN; J. WANG; Y. LIANG; T. WU; K. SO; G. HU; T. YUAN; Y. RAO. *Chinese Acad. of Sci., Shanghai Ctr. for Bioinformation Technol., The Univ. of Hong Kong, Nanjing Normal Univ. (NJNU).*
- 11:00 J11 **126.20** Creation and characterization of a novel microglial BV2 cell line expressing the human EP2 receptor. A. BANIK*; A. ROJAS; D. CHEN; R. DINGLEDINE; T. GANESH. *Emory Univ. Sch. of Med.*

- 8:00 J12 **126.21** Mechanisms of ischemia/reperfusion-induced microglial interferon signaling. J. R. WEINSTEIN*; C. LEE; R. V. LEE; A. MCDONOUGH. *Univ. Washington*.
- 9:00 J13 **126.22** Defining a novel population of complement-expressing CD11b⁺CD11c⁺ myeloid cells in aging and neurodegenerative diseases. H. YANG*; L. C. GRAHAM; A. M. REAGAN; G. R. HOWELL. *The Jackson Lab*.
- 10:00 J14 **126.23** Microglia regulates cognitive flexibility: The role of the nuclear GAPDH cascade. A. RAMOS*; N. J. ELKINS; T. PALEN; B. LEE; K. ISHIZUKA; A. SAWA. *Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ. Dept. of Psychiatry and Behavioral Sci., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins Univ., Johns Hopkins Univ.*
- 11:00 K1 **126.24** Early maternal immune stress diminishes microglia responsiveness and dopamine receptor 2 medium spiny neuron connectivity. L. N. HAYES*; K. AN; E. VINCENT; M. PARANJPE; M. KIM; A. J. CHANG; C. V. DIAZ; L. A. GOFF; A. SAWA. *Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ., Johns Hopkins Univ.*
- 8:00 K2 **126.25** Renewal of microglia corrects maternal inflammation-induced morphological and transcriptomic microglial abnormalities in mouse offspring. H. YEY*; S. IKEZU; M. WOODBURY; A. VAN ENOO; S. SIVAKUMARAN; C. HOLLAND; T. GUILLAMON-VIVANCOS; A. YOSHII-KITAHARA; Z. RUAN; J. DELPECH; M. B. BOTROS; A. DESANI; S. MANIMARAN; O. BUTOVSKY; W. E. JOHNSON; M. MEDALLA; J. I. LUEBKE; T. IKEZU. *Boston Univ., Boston Univ. Sch. of Med., Boston Univ., Brigham and Women's Hosp., Boston Univ. Sch. of Med., Boston Univ. Sch. of Med., Boston Univ. Sch. of Med.*
- 9:00 K3 **126.26** Ablation of microglia has region-specific effects on cell death in the neonatal mouse brain. A. J. JACOBS*; N. G. FORGER. *Georgia State Univ.*
- 10:00 K4 **126.27** Age and infection interact to produce unique gene expression profiles in hippocampi. N. TANAKA*; B. METENKO; H. E. ANNI; S. L. PATTERSON. *Temple Univ.*
- 11:00 K5 **126.28** TLR4-mediated increase of microglial glycolysis inhibits expression of LTP through IL-1b. E. M. YORK*; J. ZHANG; L. P. BERNIER; H. B. CHOI; R. W. Y. KO; J. LEDUE; B. A. MACVICAR. *Univ. of British Columbia*.
- 8:00 K6 **126.29** Identification of cannabinoid CB2 receptor neuro-immune crosstalk following conditional deletion of type 2 cannabinoid receptors in microglial and dopamine neurons. E. S. ONAIVI*; A. CANSECO-ALBA; B. D. SANABRIA; H. ZHANG; M. EITA; T. ROHANI; R. BERNADIN; M. ZAMORA; E. DENNIS; S. GOMEZ; B. KIBRET; M. CHUNG; N. SCHANZ; S. SGRO; C. M. LEONARD; P. TAGLIAFERRO; K. MARTIN; S. BIERBOWER; J. LEE; E. ENGIDAWORK; E. L. GARDNER; Z. LIN; H. ISHIGURO; Z. XI; Q. LIU. *William Paterson Univ., William Paterson Univ., William Paterson Univ. of New Jersey, NIDA-IRP/NIH, Addis Ababa Univ., NIDA/IRP, Harvard Med. Sch., Univ. of Yamanashi, NIA-NIH*.

POSTER

127. Microglia in Disease

Theme B: Neural Excitability, Synapses, and Glia

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 K7 **127.01** Microglial activation in spinal anterior horn after peripheral nerve injury: Is the activation detrimental or neuroprotective? T. NISHIHARA*; J. TANAKA; T. YOROZUYA. *Ehime Univ. Grad. Sch. of Med., Ehime Univ., Ehime Univ.*
- 9:00 K8 **127.02** Differentiation of microglia and macrophages in traumatic brain injuries in terms of aggravation of neural tissues. N. ABE*; J. TANAKA; M. E. CHOUDHURY; H. YANO; T. YOROZUYA. *Ehime Univ. Grad. Sch. of Med., Ehime Univ. Grad. Sch. of Med.*
- 10:00 K9 **127.03** The comparison of microglial phagocytosis between carbon monoxide poisoning and hypoxic hypoxia. K. SEKIYA*; T. NISHIHARA; N. ABE; T. YOROZUYA. *Ehime Univ. Grad. Sch. of Med.*
- 11:00 K10 **127.04** Serum amyloid A primes microglia for ATP-dependent interleukin-1 β release. L. FACCI*; M. BARBIERATO; M. ZUSSO; P. GIUSTI; S. D. SKAPER. *Univ. of Padua, Univ. of Padua*.
- 8:00 K11 **127.05** Neurogenesis in adult hippocampus is affected in rats with delayed carbon monoxide encephalopathy via glial cells. S. OCHI*; K. SEKIYA; N. ABE; T. NISHIHARA; J. IGA; S. UENO. *Ehime Univ. Grad. Sch. of Med., Ehime Univ. Grad. Sch. of Med.*
- 9:00 K12 **127.06** Metabolic stress leads to reduced microglial functionality in a model of Leigh Syndrome. R. S. MCCAIN*; JR; G. G. PIROLI; H. SMITH; N. FRIZZELL. *Univ. of South Carolina Sch. of Med.*
- 10:00 K13 **127.07** Effects of valproate prenatal exposure on developmental microglial activity and neural circuit formation. Y. ISHIHARA*; T. HONDA; R. TANIGUCHI; N. ISHIHARA; T. YAMAZAKI. *Hiroshima Univ.*
- 11:00 K14 **127.08** Targeting tlr7 and ifn-gamma reverses down-regulation of trem2 mrna induced by ethanol and hdac inhibitor tsa. J. Y. ZOU*; L. COLEMAN; F. CREWS. *Univ. North Carolina, Chapel Hill*.
- 8:00 K15 **127.09** \blacktriangle Thermosensitive TRPV4 mediates social defeat stress-induced behaviors in mice. Y. HOSHI*; K. SHIBASAKI; R. KOYAMA; Y. IKEGAYA. *The Univ. of Tokyo, Gunma Univ.*
- 9:00 K16 **127.10** Acupuncture attenuates bile acid-induced itch and spinal microglial activation in mice. Y. CHEN*; Y. LEE; C. LIN; S. HUNG; H. CHUNG; S. LUO; I. MACDONALD; Y. CHU; P. LIN. *China Med. Univ., China Med. Univ. Hosp., Kainan Univ., Natl. Taiwan Univ. Hosp.*
- 10:00 K17 **127.11** Investigating the region-specific neurovascular and microglial effects of short-term high fat diet exposure. D. CLARKE*; H. CROMBAG; C. N. HALL. *Univ. of Sussex*.
- 11:00 K18 **127.12** Anthocyanin oligomers counteracts ischemic and oxidative insults to retinal cells and lipid peroxidation to brain membranes. B. LIM*; K. KANG. *INCHEON ST. MARY'S HOSPITAL, St. Mary's Hospital, Col. of Medicine, The Catholic Univ. of Korea.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

 \blacktriangle Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:00 L1 **127.13** Acetaminophen rescues microglial defects and cognitive impairment in the dp16 murine model of down syndrome. B. PINTO*; A. PETRETTO; M. BARTOLUCCI; L. E. PERLINI; L. CANCEDDA. *Inst. Italiano Di Tecnologia, Scuola Normale Superiore, Inst. Giannina Gaslini, Dulbecco Telethon Inst.*
- 9:00 L2 **127.14** Inhibition of ATGL reduces inflammation in LPS-activated microglial cells. A. I. MACHUCA PARRA*; R. MANCEAU; D. RODAROS; C. LAURENT; N. ARBOUR; S. FULTON; T. ALQUIER. *CRCHUM-University of Montreal.*
- 10:00 L3 **127.15** Spatial and sex differences in microglia responses after ischemic stroke in mice: Evaluating morphology, phagocytosis and Iba1+/TMEM119- cells. H. MORRISON*; K. YOUNG. *Univ. of Arizona, Univ. of Arizona.*
- 11:00 L4 **127.16** Suppressing interferon gamma reinvigorates microglial responses and repair in the diabetic brain. C. E. BROWN*; S. TAYLOR; E. MEHINA; E. R. WHITE; K. P. DOYLE; P. L. REESON. *Univ. of Victoria, Univ. of Victoria, Univ. of Calgary, Univ. of Victoria, Univ. of Arizona.*
- 8:00 L5 **127.17** Microglial alterations in the striatum of control compared to parkinsonian monkeys with and without L-Dopa treatment. C. LECOURS*; M. ST-PIERRE; L. CANTIN; M. PARENT; T. P. DIPAOLO; M. TREMBLAY. *Univ. Laval.*
- 9:00 L6 **127.18** Novel disease-modifying anti-rheumatic drug iguratimod suppresses chronic experimental autoimmune encephalomyelitis by down-regulating activation of macrophage/microglia through an NF- κ B pathway. G. LI*; R. YAMASAKI; M. FANG; K. MASAKI; J. KIRA. *Kyushu Univ., Kyushu Univ.*
- 10:00 L7 **127.19** The protective effects of acupuncture against the microglia activation in the brainstem induced by dental pulp injury. S. S. BALLON ROMERO*; Y. CHEN; L. CHEN; S. HUNG. *China Med. Univ., China Med. Univ.*
- 11:00 L8 **127.20** Roles of exosomal microRNAs derived from inflammatory macrophages in Alzheimer's disease. J. YANG*; L. M. WISE; R. LALONDE; K. FUKUCHI. *Univ. of Illinois Col. of Med. At Peoria, Univ. of Illinois Col. of Med. at Peor, Univ. of Rouen, Univ. of IL Col. of Med. At Peoria.*
- 8:00 L9 **127.21** Microglial voltage-gated proton channel Hv1 contributes to secondary damage following spinal cord injury. J. ZHENG*; M. MURUGAN; P. HU; X. ZHENG; R. MOGILLEVSKY; J. WU; L. WU. *Mayo Clin. Grad. Sch., Rutgers Univ., Mayo Clin., Univ. of Maryland, Sch. of Med.*
- 9:00 L10 **127.22** Divergent transcriptional responses of microglia during opioid exposure and neuropathic pain. E. I. SYPEK*; H. COLLINS; A. T. BOURDILLON; B. A. BARRES; C. J. BOHLEN; G. SCHERRER. *Stanford Univ., Stanford Univ.*
- 10:00 L11 **127.23** Alterations in fractalkine signaling and microglial activity in bipolar disorder. S. L. HILL*; C. HERCHER; L. SHAO; C. L. BEASLEY. *Univ. of British Columbia.*
- 11:00 L12 **127.24** ▲ Glial cell morphology and delta power suppression mediate the antidepressant like effects of Interferon gamma. K. SCHULTZE*; B. TORRES; E. A. AQUINO; R. M. HINES; D. J. HINES. *Univ. of Nevada Las Vegas, UNLV, Univ. of Nevada Las Vegas.*
- 8:00 L13 **127.25** The circadian clock REV-ERB proteins regulate neuroinflammation. P. GRIFFIN*; J. DIMITRY; B. LANANNA; C. NADARAJAH; M. ROBINETTE; M. COLONNA; E. MUSIEK. *Washington Univ. Sch. of Med.*
- 9:00 L14 **127.26** Mitochondrial impairment induces epigenetic histone modifications in microglia: Relevance to neuroinflammation in Parkinson's disease. M. HUANG; A. CHARLI; S. SARKAR; J. LUO; H. JIN; V. ANANTHARAM; A. KANTHASAMY; A. G. KANTHASAMY*. *Iowa State Univ.*
- 10:00 L15 **127.27** ▲ Temporal control of microglial reactivity reveals sex-independent functional contribution of microglia to long-lasting allodynia. E. S. HAIGHT; T. FORMAN; Y. TAKEMURA; D. CLARK; V. L. TAWFIK*. *Stanford Univ., Univ. of Toyama, Stanford Univ. Sch. of Med.*

POSTER

128. Neuro-Oncology

Theme B: Neural Excitability, Synapses, and Glia

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 L16 **128.01** ER beta and PKC alpha play an important role in medulloblastoma development. R. HERNÁNDEZ*; A. GONZÁLEZ-ARENAS. *Univ. Nacional Autónoma De México.*
- 9:00 L17 **128.02** Calmodulin: Biomarker and therapeutic target to challenge drug resistance in neuroblastoma. A. M. FLOREA*; D. BUSSELBERG. *Heinrich Heine Univ. Düsseldorf, Uniklinikum, Weill Cornell Med. Col. In Qatar.*
- 10:00 L18 **128.03** Combination strategies with epigenetic modulators in cisplatin based neuroblastoma chemotherapy. D. BUSSELBERG*; E. VARGHESE; A. M. FLOREA. *Weill Cornell Med. Col. In Qatar, Heinrich Heine Univ. Düsseldorf, Uniklinikum.*
- 11:00 M1 **128.04** RNA binding protein HuD/ELAVL4 modulates mTORC1 activity in response to stress in neuroblastoma. K. BISHAYEE*; K. HABIB; A. SADRA; A. SZABO; S. HUH. *Hallym Univ., Hallym Univ., Alfaisal Univ.*
- 8:00 M2 **128.05** Glioma stem cells are sensitive to high-dose vitamin C-driven DNA damage. T. KIM*; J. BYUN; H. KWON; D. KIM. *Kyungpook Natl. Univ., Natl. Develop. Inst. of Korean Med.*
- 9:00 M3 **128.06** Oncogenic role of C17orf62 in glioma cell survival. S. M. LEE*; J. SUNG; T. KIM; M. KANG; D. KIM. *Kyungpook Natl. Univ.*
- 10:00 M4 **128.07** ● The diagnosis of neurologic immune related adverse events (nIRAEs) in patients treated with immune checkpoint inhibitors: A single institution retrospective analysis. J. N. HOLDER*; R. MALANI; A. HAGGIAGI; Y. SHAMES; C. MAHER; S. BRIGGS; M. CALLAHAN; B. SANTOMASSO. *Mem. Sloan Kettering Cancer Ctr., Mem. Sloan Kettering Cancer Ctr., Mem. Sloan Kettering Cancer Ctr.*
- 11:00 M5 **128.08** Implications of PDL1 up-regulation by MLN4924 in glioma treatment. N. FILIPPOVA*; X. YANG; Z. AN; L. PEREBOEVA; L. B. NABORS. *Univ. of Alabama At Birmingham.*
- 8:00 M6 **128.09** Preoperative venous lactate predicts metabolic alterations in a subset of gliomas - a prospective clinical, radiographic and biochemical study. O. H. KHAN*; J. NOLT; J. P. COUSINS; S. AGNIHOTRI. *Northwestern Med. - Chicago, Univ. of Missouri, Univ. of Pittsburgh.*
- 9:00 M7 **128.10** MT3 expression and function in glioma cells. R. SANTANGELO; E. RIZZARELLI; A. G. COPANI*. *Univ. of Catania, Dept. Drug Sci., Univ. of Catania, Dept. Chem. Sci.*

- 10:00 M8 **128.11** Assessing acute responses to ionizing radiation of human glioma stem-like cells *in vivo*. C. LO CASCIO*; E. LUNA MELENDEZ; R. FIORELLI; S. V. MEHTA. *Barrow Neurolog. Inst., Barrow Neurolog. Inst.*
- 11:00 M9 **128.12** Study on the glioblastoma cells and extracellular matrix interactions using nanofibrous scaffolds containing tissue-derived matrix. B. LUO*; C. JIA; J. WANG; F. PARNIAN; H. WANG. *Stevens Inst. of Technol., Stevens Inst. of Technol.*
- 8:00 M10 **128.13** PRG5 over-expression induces a pro-apoptotic phenotype with dysfunctional vasculature in a murine glioma model. T. BROGGINI*; L. STANGE; K. E. LUCIA; P. VAJKOCZY; M. CZABANKA. *UC San Diego, Charité Universitätsmedizin, Universitätsklinikum Regensburg.*
- 9:00 M11 **128.14** Histone deacetylase inhibitors down-regulate anaplastic lymphoma kinase (ALK) and induce apoptosis in human neuroblastoma cells. S. DEDONI*; M. C. OLIANAS; P. ONALI. *Univ. of Cagliari, Dept Biomed. Sci.*
- 10:00 M12 **128.15** Paracrine L1CAM ectodomain modulates invasive behavior of human glioblastoma stem cells *in vivo* and stimulates glioblastoma cell motility *in vitro* when immobilized on a substratum or when presented as a soluble chemotactic gradient from nearby cells. D. S. GALILEO*; K. PLUSCH; A. STUBBOLO; C. BERNHEIMER. *Univ. of Delaware, Helen F. Graham Cancer Ctr. and Res. Inst.*
- 11:00 M13 **128.16** Non-invasive focused ultrasound-mediated delivery of oncolytic viruses to the mammalian brain. M. A. STAVARACHE*; A. ZANELLO; E. JURGENS; M. YUAN; J. MARKERT; M. G. KAPLITT. *Weill Cornell Med. Coll, Weill Cornell Med., Univ. of Alabama, Weill Cornell Med. Col.*
- 8:00 M14 **128.17** Oncogenic state and cell identity jointly dictate the susceptibility of a glioma incipient cell towards IGF1R targeting. A. TIAN*; R. LIU; C. LIU. *Zhejiang Univ.*
- 9:00 M15 **128.18** Recapitulating developmental cues of neural stem cells into cancer stem cell maintenance: Is pleiotropic Hes-1 responsible? R. A. PAUL*; S. PARVATHY; L. SOUNDARARAJAN; T. THOMAS MALIEKAL; S. NELSON SATI; J. JAMES. *Rajiv Gandhi Ctr. For Biotech., Rajiv Gandhi Ctr. For Biotech., Rajiv Gandhi Ctr. For Biotech.*
- 10:00 M16 **128.19** Human derived glioblastoma cell line expresses three key enzymes involved in sex steroid synthesis. J. A. MONDRAGON; Y. SERRANO; A. TORRES; M. OROZCO; J. A. HERNANDEZ; G. MANJARREZ; J. V. SEGOVIA-VILA*; M. C. ROMANO. *Cinvestav-IPN, IMSS, Cinvestav-IPN.*
- 11:00 M17 **128.20** ● Screening targeting agents and their cell surface biomarkers for high specificity and rapid internalization via cell death and fluorescence. L. ANCHETA*; R. BOUJARAM; D. A. LAPPI. *Cytologistics, LLC, Advanced Targeting Systems, Veiove Animal Hlth.*
- 8:00 M18 **128.21** Soluble GAS1 reduces perineural invasion of pancreatic cancer cells. L. DANIEL-GARCIA; L. SANCHEZ-HERNANDEZ; P. VERGARA; R. O. GONZALEZ*; J. V. SEGOVIA-VILA. *Cinvestav, Ctr. Oncológico Estatal-Issemym, Univ. Autónoma Metropolitana-Iztapalapa.*
- 9:00 N1 **128.22** Interaction of elk-1 and mitotic kinases in brain tumor proliferation. O. ARI UYAR*; B. YILMAZ; I. AKSAN KURNAZ. *Yeditepe Univ., Yeditepe Univ., Gebze Tech. Univ.*
- 10:00 N2 **128.23** Development of a novel glioblastoma model to study the role of NOX4 in disease pathogenesis. L. ADAMS*; Y. KIM. *Univ. of Central Florida, Burnett Sch. of B, Burnett Sch. of Biomed. Sci.*
- 11:00 N3 **128.24** ▲ Different patterns of ALDH1A1 expression in brain tumor. L. SANCHEZ*; R. SAAVEDRA; E. GÓMEZ; D. TORRES; D. AGUIRRE; V. FABELA. *Ctr. Oncológico Estatal Issemym.*
- 8:00 N4 **128.25** The development of a porcine model of spinal cord glioma. M. S. TORA*; N. HARDCASTLE; P. HANNIKAINEN; Y. KIM; T. FEDERICI; P. D. CANOLL; N. M. BOULIS. *Emory Univ. Sch. of Med., Emory Univ. Sch. of Med., Emory Univ. Sch. of Med., Columbia Univ.*

POSTER

129. Brain Wellness and Aging: Metabolism, Oxidative Stress, and Cellular Mechanisms

Theme C: Neurodegenerative Disorders and Injury

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 N5 **129.01** A novel resveratrol analog protects synaptic transmission from acute oxidative stress at the *Drosophila* neuromuscular junction. N. SIAL*; W. L. BOLLINGER; E. J. ST.GERMAIN; S. L. MAKI; S. D. LEPORE; K. DAWSON-SCULLY. *Florida Atlantic Univ., Florida Atlantic Univ.*
- 9:00 N6 **129.02** Neuroprotective effects of fisetin as a caloric restriction mimetic: Therapeutic implications during aging through the modulation of autophagy, apoptosis and neurodegeneration. S. SINGH*; G. GARG; A. K. SINGH; S. I. RIZVI. *INDIA, Univ. of Allahabad.*
- 10:00 N7 **129.03** Ketogenic diet modulates NAD⁺-dependent enzymes and reduces DNA damage in the hippocampus. P. SACCHETTI*; M. ELAMIN; D. N. RUSKIN; S. A. MASINO. *Univ. of Hartford, Trinity Col.*
- 11:00 N8 **129.04** Forever young - Lactate and pyruvate delay aging related phenotypes in *C. elegans*. A. TAUFFENBERGER*; L. MOTTIER; H. FIUMELLI; P. J. MAGISTRETTI. *King Abdullah Univ. of Sci. and Technol.*
- 8:00 N9 **129.05** Synergistic effect of metformin and L-cysteine against aging induced neurodegeneration and oxidative damage in rat brain. G. GARG*; S. SINGH; A. K. SINGH; S. I. RIZVI. *Univ. of Allahabad.*
- 9:00 N10 **129.06** Increased expression and altered subcellular distribution of cathepsin B in microglia induces cognitive impairment through oxidative stress and inflammatory response in mice. N. JUNJUN*; Z. WU; V. STOKA; Y. HAYASHI; C. PETERS; H. QING; V. TURK; N. HIROSHI. *Kyushu Univ., J. Stefan Inst., Albert-Ludwigs-Universität, Beijing Inst. of Technol.*
- 10:00 N11 **129.07** Withdrawn
- 11:00 N12 **129.08** Potential brain health consequences following modulation of brain mitochondria lipid metabolism and cell cycle suppression by enteric microbial metabolites. T. A. FILLIER; K. M. DOODY; S. K. B. SHAH; S. K. CHEEMA; T. H. PHAM; R. H. THOMAS*. *Mem. Univ., Mem. Univ. of Newfoundland.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:00 O1 **129.09** The role of ICV pramlintide treatment in modulating metabolism and AD-pathology in high fat diet fed APP/PS1 mice. J. GRIZZANTI*; R. R. CORRIGAN; S. SERVIZI; G. CASADESUS. *Kent State Univ., Kent State Univ., Kent State Univ., Kent State Univ.*
- 9:00 O2 **129.10** Use of amylin receptor inhibitor AC187 to determine the therapeutic mechanism of action of pramlintide in Alzheimer's disease. R. R. CORRIGAN*; J. GRIZZANTI; G. CASADESUS. *Kent State Univ., Kent State Univ.*
- 10:00 O3 **129.11** Lack of cytochrome c in adult forebrain neurons *in vivo* leads to a decrease in cytochrome c oxidase, increased oxidative stress but no overt cell death. M. PINTO*; U. D. VEMPATI; F. DIAZ; S. PERALTA; C. T. MORAES. *Univ. of Miami Miller Sch. of Med. Dept. of Neurol.*
- 11:00 O4 **129.12** Changes in protein expressions in isolated neurite of hydrogen peroxide-treated N1E-115 cells. K. FUKUI*; S. OKIIRO; Y. OFUCHI; M. HASHIMOTO; Y. KATO; N. YOSHIDA; H. TSUMOTO; Y. MIURA. *Shibaura Inst. Technol., Tokyo Met Inst. Gerontol.*
- 8:00 O5 **129.13** Characterization of parvalbumin inhibitory interneuron vulnerability in mouse prefrontal cortex and hippocampus in response to ketamine-induced inflammation. J. B. RUDEN*; Q. TANG; E. A. SCHNEIDER; T. W. SIMON; L. L. DUGAN. *Vanderbilt Univ., Vanderbilt Univ. Med. Ctr., Vanderbilt Univ. Med. Ctr.*
- 9:00 O6 **129.14** Brain aging and neurovascular coupling. W. HAN*; D. LIANG; K. BLOMGREN. *Karolinska Institutet.*
- 10:00 O7 **129.15** Identification of SAD and its glial functions in maintaining neural integrity in *Drosophila* during aging. S. SHU; X. CAO; X. DENG; Y. DENG; Y. (L.) FANG. *IRCBC, SIOC, Chinese Acad. of Sci., Univ. of Chinese Acad. of Sci.*
- 11:00 O8 **129.16** Hippocampal proteomics and primary cell cultures demonstrate proteins key in neuronal plasticity are rapidly changed in rodents on a high-fat diet. F. H. MCLEAN*; F. M. CAMPBELL; R. F. LANGSTON; L. M. WILLIAMS. *Univ. of Dundee, Univ. of Aberdeen.*
- 8:00 O9 **129.17** The impact of genetics and dietary iron on regulation and co-regulation of iron, copper and zinc in mouse ventral midbrain. E. ADAMOVA; P. JIMENEZ; W. ZHAO; R. W. WILLIAMS; L. LU; B. C. JONES*. *Univ. of Tennessee Hlth. Sci. Ctr., Univ. Tennessee Memphis, Univ. of Tennessee Hlth. Sci. Ctr.*
- 9:00 O10 **129.18** Bioenergetic profiling of mitochondria isolated from three distinct brain regions in non-human primates. A. AMICK*; G. MAHAPATRA; J. L. GONZALEZ-ARMENTA; J. STONE; S. CRAFT; T. C. REGISTER; C. SHIVELY; A. J. A. MOLINA. *Wake Forest Sch. of Med., Wake Forest Sch. of Med., Wake Forest Sch. of Med.*
- 10:00 O11 **129.19** ▲ Calbindin-D_{28K} and parvalbumin immunoreactivities are virtually absent from human locus ceruleus noradrenergic neurons. S. LAMERAND; K. KIEFFER; G. KIM; R. SHAHIDEHPOUR; M. MESULAM*; C. GEULA. *Northwestern Univ. Feinberg Sch. of Med., Cognitive Neurol. and Alzheimer's Dis. Ctr.*
- 11:00 O12 **129.20** Tenovin-1-induced senescence in astrocytes downregulate wound healing. M. BANG*; O. RYU; D. KIM; D. MABUNGA; K. CHO; S. JOO; E. GONZALES; R. KIM; R. KANG; K. KWON; C. SHIN. *Konkuk Univ.*
- 8:00 O13 **129.21** Increased mitochondrial respiration without parallel changes in ATP production and sexually dimorphic responses to indoleamine 2,3 dioxygenase inhibition in a murine, two hit model of schizophrenia. O. HUBERT*; C. MAURICE-GÉLINAS; C. MONPAYS; J. DESLAURIERS; P. SARRET; S. GRIGNON. *Univ. de Sherbrooke, Univ. de Sherbrooke, Univ. of California, Fac. of Med. and Hlth. Sci.*
- 9:00 O14 **129.22** Autophagy dysfunction during neuronal senescence. D. MORENO BLAS*; E. GOROSTIETA SALAS; G. MUCIÑO HERNÁNDEZ; A. POMMER ALBA; S. CASTRO OBREGÓN. *Natl. Autonomous Univ. of Mexico-UNAM.*
- 10:00 O15 **129.23** Hyperglycemia and thrombin induce cellular injury, activation of matrix metalloproteinase-2 and mitochondrial fission protein Drp1 in cultured primary human brain microvascular endothelial cells. H. VITTAL RAO*; J. IANNUCCI; W. RENEHAN; P. GRAMMAS. *Univ. of Rhode Island.*
- 11:00 O16 **129.24** Establishing WNIN/Ob obese rat as a novel animal model to study the neurobiology of premature aging. J. K. SINHA*; S. GHOSH; M. RAGHUNATH. *Ctr. for Cell. and Mol. Biol. (CCMB), Natl. Institute of Nutr., Amity Inst. of Neuropsychology & Neurosciences (AINN).*
- 8:00 P1 **129.25** Phosphorylated tau at Ser396/404 sites accumulates in the synaptic mitochondria affecting its bioenergetics function during aging. C. TAPIA-ROJAS*; C. HERRERA-CID; C. JARA; R. A. QUINTANILLA. *Univ. San Sebastián, Univ. Autónoma de Chile.*
- 9:00 P2 **129.26** Altered levels of neurotrophic factors and neurochemical profile in the brain as the probable causes of the decreased longevity of WNIN obese rats. S. GHOSH*; J. K. SINHA; M. RAGHUNATH. *Natl. Inst. of Nutr., Amity Inst. of Neuropsychology & Neurosciences (AINN).*
- 10:00 P3 **129.27** Examination of Alzheimer's disease-related pathology as a result of hyperglycemia in aged versus young mice. A. A. ORTIZ*; A. M. SALAZAR; A. LEISGANG; J. W. KINNEY. *Univ. of Nevada Las Vegas, Univ. of Nevada Las Vegas.*
- 11:00 P4 **129.28** De novo fatty acid synthesis in CD4⁺ T cells after cerebral ischemic stroke - A new target of post-stroke immune modulation. X. WANG*; Y. ZHOU; Z. ZHU; Y. LI; P. LI; W. YU. *Dept. of Anesthesiol. Renji Hosp. Shangh.*
- 8:00 P5 **129.29** Exploring the effects of age, diet, and motor performance on cognitive assays in fruit flies. C. B. BARCENAS*; A. M. BRISENO; L. S. VILLALPANDO; W. L. HARDEMAN; J. M. NAPAN; A. D. TROFIMOVA; B. TOLAN; R. E. HARTMAN. *Loma Linda Univ., Loma Linda Univ.*
- 9:00 P6 **129.30** Regulation of AMYR and RAMP expression by high fat diet in wild type & APP/PS1 mouse model mice. S. SERVIZI*; J. GRIZZANTI; G. CASADESUS. *Kent State Univ., Kent State Univ.*

POSTER

130. Brain Wellness and Aging

Theme C: Neurodegenerative Disorders and Injury

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 P7 **130.01** Associations between socio-intellectual activities and the ageing brain: An analysis of data from the Whitehall II imaging sub-study. M. ANATÜRK*; S. SURI; E. ZSOLDOS; A. SINGH-MANOUX; M. KIVIMÄKI; K. EBMEIER; C. SEXTON. *Dept. of Psychiatry, Univ. of Oxford, Dept. of Epidemiology and Publ. Health, Univ. Col. London, INSERM U1018, Ctr. for Res. in Epidemiology and Population Hlth., Global Brain Hlth. Institute, Univ. of California, San Francisco.*
- 9:00 P8 **130.02** ▲ The use of EEG neurofeedback, a non-pharmacological approach towards brain wellness and function. F. FRANCO*; S. DRUMMOND; W. O. NEESE; A. CAYCE; J. P. ABARA; D. MCCLENDON. *California State Univ. Northridge, Fielding Grad. Univ.*
- 10:00 P9 **130.03** Integrated cognitive-motor training improves motor skill and movement consistency in adults at risk for dementia. H. V. ECHLIN*; D. J. GORBET; C. DE BOER; L. E. SERGIO. *York Univ., York Univ., VUmc, York Univ.*
- 11:00 P10 **130.04** Unable to Attend The senescent encephalon: A morphometric and functional study of normal brain aging. I. GARCÍA CORDERO; S. ABREVAYA*; S. FITTIPALDI; M. HILDEBRANT; M. DOTTORI; A. M. GARCÍA; A. IBAÑEZ; L. SEDEÑO. *Inst. of Cognitive and Translational Neurosci., Univ. of Dresden.*
- 8:00 P11 **130.05** The impact of age on subareas of the amygdala. E. LUDERS*; N. CHERBUIN; F. KURTH. *Univ. of Auckland, Australian Natl. Univ., Univ. of Auckland.*
- 9:00 P12 **130.06** Effects of smoking and alcohol intake on brain ageing. K. NING*; L. ZHAO; W. MATLOFF; F. SUN; A. W. TOGA. *USC.*
- 10:00 P13 **130.07** Effect of aging on the neuronal morphology of the C57BL/6 male mouse. E. MONROY HERNÁNDEZ*; ESQ; F. DE LA CRUZ; G. FLORES. *Inst. Politecnico Nacional, Univ. Autonoma de Puebla / Inst. de Fisiologia.*
- 11:00 P14 **130.08** Extracellular potassium concentration is disturbed in murine models of neurodegenerative disease. F. DING*; Q. SUN; S. PENG; Q. XU; J. O'DONNELL; M. NEDERGAARD. *Univ. of Rochester, Huazhong Univ. of Sci. and Technol.*
- 8:00 P15 **130.09** ● Effects of moderate prenatal alcohol exposure in rats on GABAergic interneuron expression in the dorsal hippocampus. J. T. MADDEN*; S. M. THOMPSON; D. A. HAMILTON; D. D. SAVAGE; B. J. CLARK; N. S. PENTKOWSKI. *Univ. of New Mexico, Univ. of New Mexico, Univ. of New Mexico.*
- 9:00 Q1 **130.10** The relationship between obesity and brain dysfunction via acceleration of oxidative stress on mice; its prevention by tocotrienols. Y. KATO*; M. SHIRAI; K. FUKUI. *Shibaura Inst. Technol.*
- 10:00 Q2 **130.11** Age-related dysfunction of the cholinergic synapse may cause a decline of the food intake with aging in *Aplysia kurodai*. T. NAGAHAMA*; M. MURAMATSU. *Teikyo Heisei Univ/ Fac Hlth. Med. Sci., Toho Univ. / Fac Phar Sci.*
- 11:00 Q3 **130.12** The human brain is exposed to aromatic amino acid metabolites linked to the intestinal microbiome. G. E. JASKIW*; M. E. OBRENOVICH; I. T. SCHIEFER; R. BONGIOVANNI; L. LI; C. R. DONSKEY. *Louis Stokes Cleveland DVAMC, Case Western Reserve Univ., Louis Stokes Cleveland DVAMC, Case Western Reserve Univ., Univ. of Toledo Col. of Pharm. and Pharmaceut. Sci., Cleveland Clin. Fndn., Louis Stokes Cleveland DVAMC.*
- 8:00 Q4 **130.13** Reduced levels of brain insulin alters synaptic genes and impairs vibrissae-dependent cognition in a mouse model of hyperinsulinemia. L. S. WATSON; D. WILLIAMS; J. BOGGS; C. S. ROBINSON*. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*
- 9:00 Q5 **130.14** Regulation of hippocampal aging by the hematopoietic system. L. K. SMITH*; E. VEROVSKAYA; K. LIN; E. PASSEGUE; S. VILLEDA. *UCSF, UCSF, Columbia Univ., UCSF, UCSF.*
- 10:00 Q6 **130.15** Natural aging contributes to synaptic defects and perceptual abnormalities through dysfunction of cortical parvalbumin interneurons. C. CHEN*; J. LU; Y. ZUO. *Univ. of California, Santa Cruz.*
- 11:00 Q7 **130.16** Fornix myelin mediates hippocampal aging. C. METZLER-BADDELEY*; J. MOLE; R. SIMS; F. FASANO; J. EVANS; R. BADDELEY. *Cardiff Univ., CUBRIC, Siemens, Bristol Univ.*
- 8:00 Q8 **130.17** 18FDG-PET Prefrontal hypometabolic activity observed in older adults compared with middle-aged subjects. W. V. BORELLI*; M. A. ANDRADE; P. K. FELTES; R. B. SODER; L. M. HARTMANN; C. S. MATUSHITA; L. P. SCHILLING; A. M. M. DA SILVA; C. M. MORIGUCHI-JECKEL; M. W. PORTUGUEZ; J. C. DACOSTA. *Pucrs/Brain Inst. of Rio Grande do Sul (Brains, PUCRS).*
- 9:00 Q9 **130.18** The aging hippocampal microenvironment drives microglial activation. J. SHEA*; J. BOUCHARD; P. B. VENTURA; S. A. VILLEDA. *UC San Francisco, Univ. of California, SF, Univ. of California San Francisco Dept. of Anat.*

POSTER

131. Alzheimer's Disease and Other Dementias: Abeta, Tau, and Neurodegeneration

Theme C: Neurodegenerative Disorders and Injury

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 Q10 **131.01** TRIMosome: The platform for key components regulating core stages of autophagy. M. S. LEE*; S. JUNG; H. HEO; J. CHANG. *Ajou Univ. Grad. Sch. of Med., Ajou Univ. Sch. of Med.*
- 9:00 Q11 **131.02** The role of aminoacyl-tRNA synthetases in neurological diseases: More than translation. S. HUANG*; D. HAN; J. LEE; S. KIM; J. KIM. *City Univ. of Hong Kong, Seoul Natl. Univ., City Univ. of Hong Kong.*
- 10:00 Q12 **131.03** Studying toxic protein aggregation with amyloid-like proteins in primary neurons and a novel mouse model. I. RIERA TUR*; D. HORNBERG; L. GARRET; S. HOELTER-KOCH; M. MANN; F. MEISSNER; R. KLEIN; I. DUDANOVA. *Max Planck Inst. of Neurobio., Stanford Univ., German mouse clinic, Max Planck Inst. of Biochem.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 Q13 **131.04** HDAC2 nuclear protein reduction within cholinergic basal forebrain neurons is associated with NFT formation during the progression of Alzheimer's disease. L. MAHADY*; S. PEREZ; M. NADEEM; M. MALEK-AHMADI; K. CHEN; J. MIGUEL; E. J. MUFSON. *Barrow Neurolog. Inst., Banner Alzheimer's Inst.*
- 8:00 Q14 **131.05** Stereological assessment of neuronal and glial changes in the human hippocampus in Alzheimer's disease. D. SAIZ-SANCHEZ; A. MARTINEZ-MARCOS*; I. UBEDA-BAÑON; A. FLORES-CUADRADO. *Fac. Med. Ciudad Real, CRIB Univ. Castilla-La Mancha.*
- 9:00 R1 **131.06** Nuclear tau, p53 aggregation, and impaired DNA damage response in Alzheimer's disease. K. FARMER*; M. MONTALBANO; G. GHAG; N. PUANGMALAI; N. BHATT; S. A. MCALLEN; R. KAYED. *Univ. of Texas Med. Br., Univ. of Texas Med. Br.*
- 10:00 R2 **131.07** Increase of the mitophagy marker phospho-ubiquitin in Alzheimer's disease. X. HOU*; F. C. FIESEL; M. E. MURRAY; D. W. DICKSON; W. SPRINGER. *Mayo Clin., Mayo Clin. Col. of Med. and Sci.*
- 11:00 R3 **131.08** Dendritic spine pathology links tauopathy mouse models to Alzheimer's disease. C. K. WALKER*; B. D. BOROS; K. M. GREATHOUSE; K. A. CURTIS; R. RAMDAS; J. H. HERSKOWITZ. *Univ. of Alabama at Birmingham, The Univ. of Alabama at Birmingham.*
- 8:00 R4 **131.09** Advancing Alzheimer's disease animal modeling: Intrathecal administration of amyloid-beta oligomers (ABOs) in the African green monkey. J. D. ELSWORTH*; M. R. WEED; M. S. LAWRENCE; E. N. CLINE; K. L. VIOLA; W. L. KLEIN; S. E. PEREZ; E. J. MUFSON; K. C. WILCOX; P. B. JACOBSON; D. R. WAKEMAN. *RxGen Inc, Northwestern Univ., Barrow Neurolog. Inst., Abbvie.*
- 9:00 R5 **131.10** • Braak stage, cerebral amyloid angiopathy, and cognitive decline in early AD. M. MALEK-AHMADI*; K. CHEN; S. E. PEREZ; E. J. MUFSON. *Banner Alzheimer's Inst., Barrow Neurolog. Inst.*
- 10:00 R6 **131.11** Neurofibrillary tangle evolution in the frontal cortex of demented and non-demented subjects with down syndrome. S. E. PEREZ*; J. C. MIGUEL; M. NADEEM; M. N. SABBAGH; I. T. LOTT; E. DORAN; E. MUFSON. *Barrow Neurolog. Inst., UC Irvine Med. Ctr.*
- 11:00 R7 **131.12** Subgenual anterior cingulate white matter and depressive etiology in chronic traumatic encephalopathy. I. MAHAR*; S. E. RIND; R. MATHIAS; J. D. CHERRY; A. C. MCKEE. *Boston Univ., VA Boston Healthcare Syst.*
- 8:00 R8 **131.13** • Juvenile rats as a model to screen tau kinase inhibitors with sub-optimal brain exposure characteristics. M. CALHOUN*; K. KING; M. ROONEY; R. GRATER; O. GOLONZHKA; C. ROWBOTTOM; G. M. DILLON. *Biogen, Biogen.*
- 8:00 DP04/R9 **131.14** (Dynamic Poster) Pathologic correlations of *in vivo* [18F]-AV-1451 imaging in autopsy-confirmed Alzheimer's disease and control cases. C. AGUERO*; M. DHAYNAUT; M. D. NORMANDIN; N. GUEHL; K. NGUYEN; V. FLEMING; A. C. AMARAL; D. H. OAKLEY; S. N. GOMPERS; K. A. JOHNSON; M. P. FROSCH; T. GOMEZ-ISLA. *Massachusetts Gen. Hospital/HMS, Massachusetts Gen. Hosp., Massachusetts Gen. Hosp., Massachusetts Gen. Hosp.*
- 10:00 R10 **131.15** Tau PET imaging with ¹⁸F-PI2620 in aging and Alzheimer's disease. E. C. MORMINO*; A. NADIADWALA; C. AZEVEDO; W. GUO; J. CASTILLO; J. HALL; A. TRELLE; S. SHA; M. JAYAKUMAR; N. TANNER; M. HARRISON; G. DEUTSCH; C. FREDERICKS; M. GREICIUS; S. SRINIVAS; M. JAMES; G. ZAHARCHUK; A. WAGNER; F. CHIN. *Stanford.*
- 11:00 R11 **131.16** Identifying therapeutic targets for Alzheimer's disease: A cross-species genetic screen for molecules that lower tau levels. J. KIM*; I. AL-RAMAH; M. DE HARO; L. GARAICOECHEA; H. JEONG; J. REVELLI; M. ROUSSEAU; Q. XU; S. ELLEDGE; J. BOTAS; H. ZOGHBI. *Baylor Col. of Med., Jan and Dan Duncan Neurolog. Res. Inst. at Texas Children's Hosp., Univ. of Ottawa, Harvard Inst. of Med.*
- 8:00 R12 **131.17** Post-transcriptional regulation of tau proteostasis by miR-219. I. SANTA-MARIA*. *Columbia Univ.*
- 9:00 R13 **131.18** miR-200c deficiency promotes hyperphosphorylation of tau through up-regulation of 14-3-3γ in 5xFAD mice model of Alzheimer's disease. H. PARK*; E. NAM; S. KANG; Y. SUH; K. CHANG. *Gachon Univ., College of Medicine, Gachon Univ., Neurosci. Res. Institute(NRI).*

POSTER

132. Alzheimer's Disease and Other Dementias: APP/Aβeta: Animal and Cellular Models II

Theme C: Neurodegenerative Disorders and Injury

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 R14 **132.01** Exploring Aβ-regulated protein kinase signaling cascades in a 3D human cell culture model of Alzheimer's disease. S. KWAK*; K. J. WASHICOSKY; J. ARONSON; R. E. TANZI; D. KIM. *Massachusetts Gen. Hospital/ Harvard Med. Sch.*
- 9:00 R15 **132.02** A 3D model of Alzheimer's disease using clonal human neural progenitor cells. K. J. WASHICOSKY*; J. L. ARONSON; S. KWAK; J. PARK; D. VON MAYDELL; K. BRENNER; S. CHOI; R. E. TANZI; D. KIM. *Massachusetts Gen. Hospital/ Harvard Med. Sch.*
- 10:00 R16 **132.03** The impact of APP TMD mutations on AB42/40 ratio and AB/tau pathology in 3D human neural cell culture model on Alzheimer's disease. E. BRAND*; D. MAYDELL; K. BRENNER; S. KWAK; K. J. WASHICOSKY; R. E. TANZI; D. KIM. *Massachusetts Gen. Hospital/ Harvard Med. Sch.*
- 11:00 R17 **132.04** Evidence that mitochondrial sirt3 protects the brain against Alzheimer's disease by preventing aberrant neuronal hyperexcitability. A. CHENG*; N. GHENA; J. WANG; T. KING; R. VEECH; R. WAN; M. P. MATTSON. *NIA Biomed. Res. Ctr., NIA Biomed. Res. Ctr., Div. of Intramural Clin. and Biol. Res. (DICBR), Natl. Inst. on Alcohol Abuse and Alcoholism (NIAAA).*
- 8:00 R18 **132.05** CYP51-sensitive cellular cholesterol pool increased by PS1 FAD mutation is associated with APP localization into lipid rafts. Y. CHO*; O. KWON; S. CHUNG. *Sungkyunkwan Univ.*
- 9:00 S1 **132.06** Genetic rescue of mitochondrial calcium efflux in Alzheimer's disease preserves mitochondrial function and protects against cognitive decline and neuropathology. P. JADIYA*; D. W. KOLMETZKY; A. D. MECO; A. A. LOMBARDI; J. P. LAMBERT; D. TOMAR; D. PRATICÒ; J. W. ELROD. *Temple Univ., Temple Univ.*

- 10:00 S2 **132.07** A cellular mechanism of amyloid β -induced neuronal hyperactivity. B. ZOTT*; M. SIMON; J. HARTMANN; B. SAKMANN; A. KONNERTH. *Tech. Univ. of Munich, Munich Cluster for Systems Neurol.*
- 11:00 S3 **132.08** Gender differences in olfactory dysfunction in a rat transgenic model of Alzheimer's disease. E. CUEVAS*; S. LANTZ; A. GUZMAN-LOPEZ; H. ROSAS-HERNANDEZ; J. RAYMICK; S. SARKAR. *NCTR-FDA.*
- 8:00 S4 **132.09** Elevated membrane cholesterol aggravates endocytic disturbance, resulting in enhanced Abeta accumulation: A potential mechanism underlying exacerbation of Abeta pathology by type 2 diabetes mellitus. N. KIMURA*; S. TAKEUCHI; N. UEDA; K. SUZUKI; N. SHIMOZAWA; Y. YASUTOMI. *Natl. Ctr. For Geriatrics and Gerontology, Natl. Inst. of Biomed. Innovation, Hlth. and Nutr.*
- 9:00 S5 **132.10** The role of CRAC channels in neuritic dystrophy in Alzheimer's disease. K. R. SADLEIR*; J. POPOVIC; A. SOMASUNDARAM; M. PRAKRIYA; R. VASSAR. *Northwestern Univ., Northwestern Univ.*
- 10:00 S6 **132.11** Role of SEPT5 in the molecular pathogenesis of Alzheimer's disease. C. FERREIRA*; K. PALDANIUS; P. MÄKINEN; A. SEBASTIÃO; A. DE MENDONÇA; M. DIÓGENES; M. HILTUNEN. *Inst. De Medicina Mol., Inst. of Biomedicine, Sch. of Medicine, Univ. of Eastern Finland, Kuopio, Finland., Inst. de Medicina Molecular, Faculdade de Medicina da Univ. de Lisboa, Lisboa, Portugal., Inst. of Biomedicine, Sch. of Medicine, Univ. of Eastern Finland, Kuopio, Finland; Dept. of Neurology, Kuopio Univ. Hospital, Kuopio, Finland.*
- 11:00 S7 **132.12** Alzheimer's disease pathology is a chronic sequela of ischemic stroke in two mouse models of mixed dementia. T. V. NGUYEN*; M. HAYES; J. B. FRYE; J. C. ZBESKO; N. P. BELICHENKO; F. M. LONGO; K. P. DOYLE. *Univ. of Arizona, Univ. of Arizona, Stanford Univ., Univ. of Arizona.*
- 8:00 S8 **132.13** Behavioral and electrophysiological analyses of new Alzheimer's disease model mouse that expresses amyloid beta oligomer intraneuronally. T. OCHIISHI*; M. KAKU; K. KIYOSUE; M. DOI; T. EBIHARA. *Natl. Inst. of Advanced Industrial Sci. and Technol. (AIST), Uekusa Gakuen Univ., Natl. Inst. of Advanced Industrial Sci. and Technol. (AIST).*
- 9:00 S9 **132.14** Restoration of sFRP3 expression improves spatial discrimination ability in a transgenic mouse model of Alzheimer's disease. C. FU*; U. TOSI; J. PARK; Y. ZHENG; J. CHIN. *Baylor Col. of Med.*
- 10:00 S10 **132.15** Faster responding of Tg2576 mice in the touch screen version of the progressive ratio task. J. P. JÄRVENPÄÄ; T. T. AHTONIEMI*; M. KOPANITSA; J. T. PUOLIVALI. *Charles River Discovery, Univ. of Eastern Finland, UK Dementia Res. Institute, Imperial Col.*
- 11:00 S11 **132.16** Whole brain imaging reveals distinct spatial patterns of amyloid beta deposition and atrophy in mouse models of Alzheimer's disease. J. D. WHITESELL*; A. R. BUCKLEY; N. GRADDIS; L. KUAN; J. E. KNOX; M. NAEEMI; P. BOHN; A. MUKORA; K. E. HIROKAWA; J. A. HARRIS. *Allen Inst. for Brain Sci., Washington Univ.*
- 8:00 S12 **132.17** Circulating plasma microRNA are altered with amyloidosis in a mouse model of Alzheimer's disease. M. M. RYAN*; D. GUÉVREMONT; B. MOCKETT; W. C. ABRAHAM; J. M. WILLIAMS. *Univ. of Otago, Univ. of Otago.*

POSTER

- 133. Alzheimer's Disease and Other Dementias: Therapeutic Strategies: Preclinical Cellular Models**
- Theme C: Neurodegenerative Disorders and Injury**
- Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H
- 8:00 S13 **133.01** New evidence on the role of tyrosine 682 residue on the amyloid precursor protein C-terminal domain in Alzheimer's disease. C. MATRONE*; F. IANNUZZI. *Sch. of Medicine, Univ. of Naples, Aarhus Univ.*
- 9:00 S14 **133.02** • Elucidating the mechanism of the protective effects of the botanical extract DA-9803 in Alzheimer's disease models. A. LARIVIERE*; G. PAGNIER; M. CALVO RODRIGUEZ; S. CHOI; S. CHOI; H. SOH; B. J. BACSKAI; K. KASTANENKA. *Massachusetts Gen. Hosp., Dong-A ST.*
- 10:00 S15 **133.03** Melatonin regulates the amyloidogenic processing β APP via Pin1/GSK3 β /NF- κ B pathway in A β_{42} -induced cellular model of Alzheimer's disease. V. CHINCHALONGPORN*; M. SHUKLA; P. GOVITRAPONG. *Inst. of Mol. Biosci., Chulabhorn Grad. Inst.*
- 11:00 S16 **133.04** Investigating medication combinations in Alzheimer's disease patients by path analysis and plasma amyloid quantification. M. LI; B. MORRIS-EPPOLITO; S. X QIAN; J. REISMAN; J. M. WELLS*; L. MOO; L. KAZIS; B. WOLOZIN; W. XIA. *Ctr. for Healthcare Organization and Implementation Research, Edith Nourse Rogers Mem. Hosp., Dept. of Mathematical Sciences, Bentley Univ., ENRM VA Hosp, Boston Univ. Sch. of Publ. Hlth., Dept. of Pharmacol. and Exptl. Therapeutics, Boston Univ. Sch. of Medicine, Boston, MA.*
- 8:00 S17 **133.05** Knock-down of HDAC2 promotes expression of a unique neuronal endophilin-B1 isoform and contributes to neuronal maturity, neuroprotection and reduction of cellular AD phenotypes in hiPSC-derived neurons. H. FRANKOWSKI*; B. J. BERRY; C. KINOSHITA; R. S. MORRISON; J. E. YOUNG. *Univ. of Washington, Univ. of Washington, Univ. of Washington.*
- 9:00 S18 **133.06** Zinc modulates autophagy flux and lysosomal function via transcription factor EB (TFEB) translocation. K. KIM*; Y. KIM. *Sejong Univ.*
- 10:00 T1 **133.07** • A high-throughput assay to assess the morphological and electrophysiological impact of neurodegenerative disease associated peptides on cortical neurons. M. KARLSSON; S. ILLES; J. PIHL; J. SVENSSON DALÉN*; E. ESBJÖRNER WINTERS; P. KARILA. *Cellectricon AB, The Sahlgrenska Acad. at the Univ. of Gothenburg, Chalmers Univ. of Technol.*
- 11:00 T2 **133.08** Evaluation of humanin gene analogs for protection against amyloid-beta. P. KUMAR*; G. DAWE. *Yong Loo Lin Sch. of Medicine, NUS.*
- 8:00 T3 **133.09** • Tau-SH3 interactions are critical for amyloid- β toxicity in primary neurons. J. ROTH*; T. RUSH; S. THOMPSON; J. N. COCHRAN; E. ROBERSON. *Univ. of Alabama At Birmingham.*
- 9:00 T4 **133.10** • Antibody-mediated prevention of pathological tau spreading. Y. MA; J. CHUKWU; X. KONG; E. E. CONGDON*; E. M. SIGURDSSON. *New York Univ. Sch. of Med., New York Univ. Sch. of Med., New York Univ. Sch. of Med.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

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* Indicates abstract's submitting author

- 10:00 T5 **133.11** Clearance of A β and tau by CNS pericytes. A. P. SAGARE*; D. LAZIC; C. HSU; A. R. NELSON; Q. MA; Z. ZHAO; C. GRIFFIN; R. BAJPAI; B. V. ZLOKOVIC. *USC, USC, USC*.
- 11:00 T6 **133.12** Design and optimization of indoleamine-2,3-dioxygenase inhibitors as putative therapeutics for Alzheimer's dementia. D. F. WEAVER*; A. DAMIAN; A. MEEK; C. BARDEN; E. KESKE; F. WU; J. GOODWIN-TINDALL; K. STOVER; L. VILLAR ARANGO; M. REED; M. GUPTA; L. PAN; P. SCHIAVINI; P. STAFFORD; S. REDDY ALLA; Y. WANG; Y. ZHENG. *Krembil Res. Institute, UHN, Krembil Res. Inst.*
- 8:00 T7 **133.13** The neuroprotective role of Amidated-Kyotorphin on Alzheimer's disease pathophysiology. R. BELO*; J. FONSECA-GOMES; H. VICENTE MIRANDA; T. FLEMING OUTEIRO; A. M. SEBASTIÃO; V. NEVES; M. A. R. B. CASTANHO; M. J. DIÓGENES. *Faculdade De Medicina, Univ. De Lisboa, Faculdade de Medicina, Univ. de Lisboa, Faculdade de Ciências Médicas, Univ. NOVA de Lisboa, CNMPB, Ctr. for Biostructural Imaging of Neurodegeneration, Univ. Med. Ctr. Göttingen, Max Planck Inst. for Exptl. Med.*
- 9:00 T8 **133.14** • Neurodegenerative disease associated peptides cause abnormal network function in human iPSC-cortical circuits. S. ILLES*; P. KARILA; J. PIHL; E. ESBJÖRNER WINTER; M. KARLSSON. *Cellectricon AB, The Sahlgrenska Acad. at the Univ. of Gothenburg, Chalmers Univ. of Technol.*
- 10:00 T9 **133.15** • *In vitro* modelling of prion-like mechanisms occurring in neurodegenerative diseases using a novel high throughput assay platform. P. KARILA*; S. ILLES; C. NODIN; J. PIHL; E. ESBJÖRNER WINTERS; M. KARLSSON. *Cellectricon AB, The Sahlgrenska Academy, Univ. of Gothenburg, Chalmers Univ. of Technol.*

POSTER

134. Parkinson's Disease: Molecular and Cellular Mechanisms

Theme C: Neurodegenerative Disorders and Injury

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 T10 **134.01** Reduction of SPN firing highly impacts motor behavior in animal models of Parkinson's disease. S. M. PAPA*; A. SINGH; G. BECK. *Emory Univ., Univ. of Iowa, Yerkes Natl. Primate Res. Center, Emory Univ.*
- 9:00 T11 **134.02** Intrinsic excitability and synaptic transmission of neurons in basal ganglia input receiving motor thalamus in 6-OHDA-lesioned mice. E. K. BICHLER*; D. JAEGER. *Dept. Biol.*
- 10:00 T12 **134.03** Enhancing striatal cholinergic interneuronal function rescues performance of rats modeling falls in Parkinson's disease. A. J. KUCINSKI*; M. SARTER. *Univ. of Michigan.*
- 11:00 T13 **134.04** • The uncompetitive, low affinity NMDA-receptor channel blocker, amantadine, reduces LTP in multiple brain regions. A. MITRA*; J. HOLT; K. VAN; R. TEYSSIÉ; B. BUISSON; J. NGUYEN. *Adamas Pharmaceuticals, Inc., Neuroservice.*
- 8:00 T14 **134.05** Pathophysiological and anatomical changes of the deep cerebellar nuclei in a chronic rat model of Parkinson's disease. S. CAMERON*; L. C. PARR-BROWNLIE. *Univ. of Otago.*

- 9:00 T15 **134.06** Analysis of cortico-striatal glutamatergic transmission in PINK1 KO rats. R. B. CREED*; L. L. MCMAHON; M. S. GOLDBERG. *Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Univ. Alabama at Birmingham.*
- 10:00 T16 **134.07** The coordination of Sonic Hedgehog signaling across the cholinergic interneuron centered connectome within the striatum and its implication for Parkinson's disease. L. B. MALAVE*; D. ZUELKE; V. ANOSIKE; A. H. KOTTMANN. *CUNY Sch. of Medicine, CCNY, CUNY Sch. of Med., City Univ. of New York.*
- 11:00 T17 **134.08** Chronic optogenetic stimulation of dopamine neurons induces optical induced dyskinesia (OID) due to an imbalance of sonic hedgehog and dopamine signaling. D. R. ZUELKE*; L. B. MALAVE; A. H. KOTTMANN. *CUNY Sch. of Med., The Grad. Ctr., Ctr. for Discovery and Innovation, CUNY, City Univ. of New York.*
- 8:00 T18 **134.09** Role for VGLUT2 in the selective vulnerability of midbrain dopamine neurons. T. STEINKELLNER*; V. ZELL; Z. FARINO; M. SONDEERS; M. VILLENEUVE; R. FREYBERG; S. E. PRZEDBORSKI; W. LU; Z. FREYBERG; T. S. HNASKO. *UCSD, UCSD, Univ. of Pittsburgh, Columbia Univ., Columbia Univ., NINDS/NIH, Univ. of Pittsburgh, Univ. of California San Diego Dept. of Neurosciences.*
- 9:00 U1 **134.10** NOX 1 and IP3, targets for membrane androgen receptor-induced neurodegeneration. M. TENKORANG; R. L. CUNNINGHAM*. *Univ. North Texas Hlth. Sci. Ctr., Univ. North Texas Hlth. Sci. Ctr.*
- 10:00 U2 **134.11** Dopamine-induced spine plasticity may mediate normalized motor function in a 6-OHDA model of Parkinson's disease. J. BRAGUE*; R. P. SEAL. *The Univ. of Pittsburgh.*
- 11:00 U3 **134.12** A CDK1-NUCKS1-regulated striatal dopamine-responsive gene network links motor, sleep, and affective phenotypes in Parkinson's disease. P. JIANG*; J. R. SCARPA; V. D. GAO; M. H. VITATERNA; A. KASARSKIS; F. W. TUREK. *Northwestern Univ., Northwestern Univ., Icahn Sch. of Med. at Mount Sinai, Northwestern Univ. Feinberg Sch. of Med.*

POSTER

135. Neurotoxicity, Inflammation, and Neuroprotection: Animal Models

Theme C: Neurodegenerative Disorders and Injury

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 U4 **135.01** ▲ Low-dose rat and mouse experimental autoimmune encephalomyelitis (EAE) models for unconfounded testing of complex behaviors. E. H. MITTEN*; A. J. KWILASZ; A. E. W. SCHRAMA; L. S. TODD; J. C. DURAN-MALLE; S. M. GREEN FULGHAM; A. VAN DAM; H. P. PATEL; S. F. MAIER; K. C. RICE; L. R. WATKINS. *Univ. of Colorado: Boulder, Vrije Univ. Amsterdam, Natl. Inst. of Hlth.*
- 9:00 U5 **135.02** ▲ The toll-like 2 and 4 receptor antagonist (+)-naltrexone reverses neuropathic pain and associated spinal inflammation in male and female Dark Agouti rats in a model of multiple sclerosis. A. E. SCHRAMA*; A. J. KWILASZ; J. C. DURAN-MALLE; E. H. MITTEN; L. S. TODD; S. M. GREEN FULGHAM; H. P. PATEL; X. WANG; A. VAN DAM; S. F. MAIER; K. C. RICE; L. R. WATKINS. *Univ. of Colorado Boulder, Changchun Inst. of Applied Chem., Vrije Univ. Amsterdam, Natl. Inst. of Hlth.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 10:00 U6 **135.03** Immunomodulatory action of bone marrow cell transplant in sciatic nerve injury. G. M. PIÑERO*; M. VENCE; V. USACH; P. A. SOTO; P. SETTON-AVRUJ. *Facultad de Farmacia y Bioquímica, UBA, Conicet.*
- 11:00 U7 **135.04** The non-opioid TLR2/4 antagonist (+)-naltrexone blocks contextual long-term memory deficits in experimental autoimmune encephalitis and associated neuroinflammation in hippocampus. A. J. KWILASZ*; L. S. TODD; J. C. DURAN-MALLE; A. E. W. SCHRAMA; E. H. MITTEN; A. VAN DAM; S. F. MAIER; K. C. RICE; L. R. WATKINS; R. M. BARRIENTOS. *Univ. of Colorado-Boulder, Vrije Univ. Amsterdam, Natl. Inst. of Hlth.*
- 8:00 U8 **135.05** *In vivo* brain imaging following organophosphate exposure utilizing 2-photon microscopy in mice. K. LAITIPAYA*; J. K. CHANDLER; C. E. KAROLENKO; D. D. PALMER; D. L. SPRIGGS; E. A. JOHNSON; J. W. SKOVIRA. *USAMRICD.*
- 9:00 U9 **135.06** Brassicaceae and asteraceae plants (kale, arugula, dandelion) mediates gut microbiota in maintaining phylogenetic bacterial diversity and reduces cognitive decline in diet-induced obese pre-diabetic C57BL/6 mice. B. TENG*; D. FOSTER; A. A. OYETUNDE; V. PEÑA-GARCIA; S. SHATELA; T. SIMON; D. HICKS; G. FLORES; L. BANNER. *California State Univ. Northridge.*
- 8:00 DP05/U10 **135.07** (Dynamic Poster) Inhibition of RIP1 reduces EAE-induced disease symptoms via a necroptosis-independent process. S. ZHANG*; Y. SU; Z. YING; J. GUO; C. PAN; D. GUO; Z. ZHANG; Z. ZHANG; X. WANG. *Natl. Inst. of Biol. Sci. Beijing.*
- 11:00 U11 **135.08** Evaluation of neuroinflammation and behavioral outcomes following high intensity therapeutic ultrasound to the brain. H. RAFI*; K. SOLARANA; M. R. MYERS; C. G. WELLE; M. YE. *FDA, Univ. of Maryland, Col. Park, Univ. of Colorado, FDA.*
- 8:00 U12 **135.09** Neurocysticercosis: Neurological disability in a novel animal model. L. E. BAQUEDANO*; A. D. DELGADO; D. G. DÁVILA; R. GILMAN; M. R. VERASTEGUI. *Univ. Peruana Cayetano Heredia, Johns Hopkins Univ.*
- 9:00 V1 **135.10** ▲ Sodium phenyl butyrate neuroprotective effect over status epilepticus induced damage in immature rats. C. E. GALLARDO FLORES*; A. S. VEGA-GARCÍA, Jr.; A. TALEVI; S. OROZCO-SUAREZ. *UNAM, Mexican Social Security Inst., Natl. Univ. of La Plata, Speciality Hosp, Mexican Inst. Social Sec.*
- 10:00 V2 **135.11** Bilateral orchietomy preserves peripheral immune organs in cuprizone treated mice. P. J. SHORTLAND*; M. S. ALMUSLEHI; M. K. SEN; D. A. MAHNS; J. R. COORSEN. *Western Sydney Univ., Western Sydney Univ., Western Sydney Univ., Brock Univ.*
- 11:00 V3 **135.12** Therapeutic effect of curcumin entrapped dendrimer nanoparticles on a mouse model of glioblastoma. N. MUNRO*; B. SRINAGESHWAR; M. FANA; C. MALKOWSKI; S. CLIMIE; B. KATHIRVELU; D. SWANSON; A. SHARMA; G. DUNBAR; J. ROSSIGNOL. *Central Michigan Univ., Central Michigan Univ., Central Michigan Univ. Col. of Med., Field Neurosciences Inst. Lab.*

POSTER

136. Ischemia: Neuroprotection

Theme C: Neurodegenerative Disorders and Injury

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 V4 **136.01** Exploring neuroprotective potential of chlorogenic acid in ischemic stroke rat model: An *in vivo* and *in silico* approach. G. KUMAR*; S. MUKHERJEE; R. PATNAIK. *Indian Inst. of Technol. (BHU), Indian Inst. of Technol. (BHU).*
- 9:00 V5 **136.02** ▲ Prophylactic zinc and therapeutic selenium administration increases the antioxidant enzyme activity in the rat temporoparietal cortex and improves memory after a transient hypoxia-ischemia. C. T. SANCHEZ*; V. BLANCO-ALVAREZ; D. MARTINEZ-FONG; J. A. GONZALEZ-BARRIOS; A. GONZALEZ-VAZQUEZ; A. K. AGUILAR-PERALTA; M. TORRES-SOTO; G. SOTO-RODRIGUEZ; I. D. LIMON-PEREZ DE LEON; E. BRAMBILA; L. MILLAN-PEREZ PEÑA; B. A. LEON-CHAVEZ. *Benemerita Univ. Autonoma De Puebla, Benemerita Univ. Autónoma de Puebla, Ctr. de Investigación y de Estudios Avanzados del Inst. Politécnico Nacional, Hosp. regional 1º de Octubre, ISSSTE, Avenida Inst. Politécnico Nacional.*
- 10:00 V6 **136.03** Influence of subventricular zone-derived precursors on neurovascular remodeling after ischemic cortical lesions. M. R. WILLIAMSON*; M. R. DREW; T. A. JONES. *Univ. of Texas At Austin, Univ. of Texas At Austin, Univ. of Texas At Austin.*
- 11:00 V7 **136.04** Triggering receptor expressed on myeloid cells-2 expression derived from microglia contributes to neurological recovery in experimental ischemic stroke. Z. ZHENG; K. KURISU; J. KIM; J. SHI; A. KANOKE; J. LIU; C. HSEIH; M. A. YENARI*. *Univ. of California San Francisco Dept. of Neurol., Univ. of California, San Francisco, Univ. of California, San Francisco.*
- 8:00 V8 **136.05** ▲ Resveratrol suppresses SUR1 expression in human brain endothelial cells and prevents cell swelling. I. M. ALQUISIRAS BURGOS*; P. AGUILERA HERNANDEZ. *Inst. Nacional de Neurología y Neurocirugía M, Inst. Nacional de Neurología y Neurocirugía.*
- 9:00 V9 **136.06** Proangiogenic capacity of the RGD-SLAY-containing osteopontin icosamer in the endothelial cells and in the postischemic brain. H. LEE*; S. KIM; S. PARK; J. LEE. *Inha Univ. Sch. of Med., Med. Res. Ctr.*
- 10:00 V10 **136.07** Neuroprotective effect of vitamin -d on ischemia-reperfusion brain injury. N. K. MONDAL; J. BEHERA; A. GEORGE; K. E. KELLY; N. TYAGI*. *Univ. of Louisville.*
- 11:00 V11 **136.08** Brain stroke neuroprotection by the mitochondrial mitoneet agonist nl-1. A. MDZINARISHVILI*; W. J. GELDENHUYS. *Univ. of Oklahoma, Col. of Allied Hlth., West Virginia Univ.*
- 8:00 V12 **136.09** Ischemic stroke protective MAPK10 rs17008675 variants affect the blood proinflammatory profile via FOS involved gene-gene interaction mechanism. K. TADEVOSYAN*; A. SOGHYAN; K. MAYILYAN, 0005; A. BOYAJYAN, 0005. *Russian-Armenian (Slavonic) Univ., Inst. of Mol. Biol. NAS RA, «Surb Grigor Lusavorich» Med. Ctr.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 9:00 V13 **136.10** Endothelial Nox4 deteriorates infarct volume and neurologic functions, albeit with enhanced angiogenic responses in peri-infarct areas, in acute brain ischemia. Y. YOSHIKAWA*; T. AGO; J. KURODA; Y. WAKISAKA; M. TACHIBANA; T. SHIBAHARA; M. KOMORI; K. YAMANAKA; T. KITAZONO. *Grad. Sch. of Med. Sciences, Kyushu Univer.*
- 10:00 V14 **136.11** Grape enriched diet protects axon function against ischemia by preserving mitochondrial dynamics. C. BASTIAN*; D. SCERBO; J. DAY; S. BRUNET; S. BALTAN. *Cleveland Clin. Fndn., Cleveland Clin. Fndn., Cleveland Clin.*
- POSTER**
- 137. Stroke, Damage, or Disease: Assessment and Treatment II**
- Theme C: Neurodegenerative Disorders and Injury**
- Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H
- 8:00 V15 **137.01** ● A robotic unloading perturbation task to assess fast corrective responses in the upper limb following stroke. C. R. LOWREY*; T. C. BOURKE; S. D. BAGG; S. P. DUKELOW; S. H. SCOTT. *Queens Univ., Queen's Univ., Queen's Univ., Queen's Univ., Univ. of Calgary, Queen's Univ.*
- 9:00 V16 **137.02** ● Quantifying rapid online corrective responses in the stroke population using a novel upper limb task. K. PARK*; S. H. SCOTT. *Queen's Univ., Queen's Univ.*
- 10:00 W1 **137.03** Influence of ovarian hormone deprivation length on the neuroprotective effects of genistein in stroke. A. OPPONG-GYEBI*; D. METZGER; J. HAN; T. DOAN; C. SMITH; N. SUMIEN; D. A. SCHREIHOFER. *Univ. of North Texas Hlth. Sci. Ctr.*
- 11:00 W2 **137.04** ● Robotic assessment to identify impairments in individuals with transient ischemic attack or migraine. L. E. SIMMATIS*; S. H. SCOTT; A. Y. JIN. *Queen's Univ.*
- 8:00 W3 **137.05** StartReact increases reaching distance in severe stroke survivors by activating paralyzed muscle inaccessible during volitional reaching. C. F. HONEYCUTT*; M. RAHIMI. *Arizona State Univ.*
- 9:00 W4 **137.06** Sex-related changes of cerebrovascular function in two mouse models of ischemic stroke. X. TOUSSAY*; C. H. COMIN; M. YIN; R. DANIEL; C. A. SIMADA; J. OUELLETTE; L. DA F. COSTA; B. LACOSTE. *The Ottawa Hosp. Res. Inst., Inst. de Fisica de São Carlos, Fujifilm Visual Sonics Inc., Brain and Mind Res. Inst., The Ottawa Hosp. Res. Inst.*
- 10:00 W5 **137.07** Effects of remote limb ischemic conditioning in conjunction with rehabilitation training after motor cortical infarcts in rats. B. R. BARKSDALE*; A. K. LEE; D. F. MIRANDA-SOHRABJI; T. A. JONES. *Univ. of Texas at Austin, Univ. of Texas Med. Br., Univ. of Texas at Austin.*
- 11:00 W6 **137.08** Stroke: Perception of risk factors and warning signs amongst survivors in an herbal centre. P. U. NWOHA*; I. AYOOLA. *Obafemi Awolowo Univ.*
- 8:00 W7 **137.09** Protective effects of pharmacological hypothermia against reperfusion injury after severe ischemic stroke in adult mice. Y. Y. ZHAO; Z. Z. WEI; L. WEI; Y. B. ZHANG; S. YU*. *Emory Univ. Sch. of Med., Dept. of Neurol. and Ctr. of Exptl. and Translational Research, Beijing Friendly Hospital, Capital Med. Univ.*
- 9:00 W8 **137.10** Distribution analysis variables that best capture individual differences in motor deficits due to stroke. Z. A. WRIGHT*; J. PATTON; F. HUANG. *Univ. of Illinois At Chicago, Shirley Ryan AbilityLab.*
- 10:00 W9 **137.11** Caveolin-1 involvement in early tissue remodeling after stroke: Effects on angiogenesis and astrogliosis. C. E. BLOCHET*; L. BUSCEMI; T. CLÉMENT; J. BADAUT; L. HIRT. *Lausanne Univ. Hosp. (CHUV), CHUV, INCIA CNRS UMR5287 - Univ. of Bordeaux, CNRS-Bordeaux Univ., Loma Linda Univ. Sch. of Med.*
- 11:00 W10 **137.12** Effects of caffeine and sex on behavioral outcomes following neonatal hypoxia-ischemia in P6 rats. R. M. MCLEOD*; T. ROSENKRANTZ; R. H. FITCH. *Univ. of Connecticut, Univ. of Connecticut Hlth. Ctr.*
- 8:00 W11 **137.13** Early biomarkers and outcomes following neonatal hypoxic-ischemic injury. R. FITCH*; M. A. POTTER; R. MCLEOD; T. ROSENKRANTZ. *Univ. of Connecticut, Univ. of Connecticut Hlth. Ctr., Univ. of Connecticut Hlth. Ctr.*
- 9:00 W12 **137.14** Characterization of neuropathologic gene expression in degenerative thalamic injury after stroke. Z. CAO*; S. HARVEY; T. C. CHIANG; M. Y. CHENG; G. K. STEINBERG. *Stanford Univ.*
- 10:00 W13 **137.15** Predicting stroke outcomes using dynamic functional connectivity. J. Y. NASHED*; Y. CHEN; D. J. COOK. *Queen's Univ.*
- 11:00 W14 **137.16** Damage to ependymal motile cilia contributes to posthemorrhagic hydrocephalus of prematurity in rats. J. NEWVILLE*; T. R. YELLOWHAIR; C. SHROCK; F. CONTEH; A. Y. OPPONG; T. A. HOWARD; J. R. MAXWELL; S. ROBINSON; L. L. JANTZIE. *Univ. of New Mexico Sch. of Med., Univ. of New Mexico Sch. of Med., Johns Hopkins Univ., Univ. of New Mexico.*
- 8:00 W15 **137.17** Phytoestrogen isoflavone biochanin a induces glutamate oxaloacetate transaminase expression and increases glutamate metabolism during ischemic stroke. C. L. RINK*; S. C. GNYAWALI; H. HARRIS; M. BALCH; C. K. SEN; S. KHANNA. *The Ohio State Univ. Wexner Med. Ctr., The Ohio State Univ. Wexner Med. Ctr.*
- POSTER**
- 138. Spinal Cord Injury I**
- Theme C: Neurodegenerative Disorders and Injury**
- Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H
- 8:00 W16 **138.01** New oligodendrocyte myelin does not contribute to functional recovery after moderate thoracic spinal contusion in mice. S. B. MANESH*; G. DUNCAN; B. HILTON; P. ASSINCK; J. LIU; A. MOULSON; J. PLEMEL; W. TETZLAFF. *Univ. of British Columbia, Deutsches Zentrum für Neurodegenerative Erkrankungen (DZNE), Hotchkiss Brain Inst.*

- 9:00 W17 **138.02** Reduction of microglia proliferation through CSFR1 targeting improves motor recovery following spinal cord injury. F. E. PERRIN; Y. GERBER; G. P. SAINT-MARTIN; C. BRINGUIER; S. BARTOLAMI; C. GOZE-BAC; H. NORISTANI*. *INSERM U 1198, Univ. of Montpellier, INSERM U1198, Univ. of Montpellier, UMR 5221 CNRS, Shriners Hosp. Pediatric Res. Center, Temp.*
- 10:00 W18 **138.03** ● Western Diet impedes recovery after experimental spinal cord injury. H. KIM*; H. YOON; M. R. LANGLEY; L. KLEPPE; I. R. LANZA; N. K. LEBRASSEUR; A. MATVEYENKO; I. A. SCARISBRICK. *Mayo Clin., Mayo Clin.*
- 11:00 X1 **138.04** ● ▲ Neuroprotection by tauroursodeoxycholic acid (TUDCA) after unilateral sciatic nerve axotomy in neonatal Wistar rats. M. V. DA SILVA*; L. P. CARTAROZZI; M. PEREZ; M. V. DE CASTRO; J. F. VETTORAZZI; E. M. CARNEIRO; A. L. OLIVEIRA. *Univ. of Campinas, UNICAMP, Unicamp, Univ. of Campinas (UNICAMP), Univ. of Campinas - Lab. of Nerve Regeneration.*
- 8:00 X2 **138.05** Analysis of transduction efficiency and tropism of AAV serotypes in chronic spinal cord injury. Y. HOSHINO*; K. NISHIDE; J. KOHYAMA; N. NAGOSHI; O. TSUJI; K. KOJIMA; M. MATSUMOTO; H. OKANO; M. NAKAMURA. *Keio Univ. Sch. of Med., Keio Univ. Sch. of Med.*
- 9:00 X3 **138.06** ▲ Combining bioluminescence driven optogenetic stimulation with swim training for treatment following spinal cord injury in rats. L. SHAFU*; E. D. PETERSEN; U. HOCHGESCHWENDER. *Central Michigan Univ., Central Michigan Univ., Central Michigan Univ.*
- 10:00 X4 **138.07** ▲ Multi-modal imaging of spinal cord injury and response to therapy in rats. R. A. CHEENIYL*; A. J. STUMP; M. OSTLIE; A. H. PAYNE; G. W. J. HAWRYLUK; C. G. CROSS; Y. ANZAI; S. MINOSHIMA; D. J. CROSS. *Univ. of Utah, Univ. of Utah, Univ. of Utah, Univ. of Utah.*
- 11:00 X5 **138.08** ▲ MRI-guided high intensity focused ultrasound delivery of paclitaxel in rat model of spinal cord injury. M. OSTLIE*; A. J. STUMP; A. H. PAYNE; G. W. HAWRYLUK; Y. ANZAI; S. MINOSHIMA; D. J. CROSS. *Univ. of Utah, Univ. of Utah.*
- 8:00 X6 **138.09** ▲ The changes in the pattern of blood vessel destruction over time after spinal cord injury in rats. M. KWON*; J. HONG; Y. KIM; Y. W. YOON; J. KIM. *Korea University. Col. of Hlth. Science., Korea Univ. Grad. Sch., Korea Univ. Col. Med., Korea University. Col. of Hlth. Sci., Korea University. Col. of Hlth. Sci.*
- 9:00 X7 **138.10** Restoring function after severe spinal cord injury through bioluminescence-driven optogenetic stimulation of spinal circuitry. E. D. PETERSEN*; A. PAL; J. ZENCHAK; E. D. SHARKEY; L. SHAFU; A. PENA; M. PRAKASH; U. HOCHGESCHWENDER. *Central Michigan Univ.*
- 10:00 X8 **138.11** Continued development of human neural stem cell grafts into non-human primate spinal cord contusion or hemisection lesions. E. S. ROSENZWEIG*; J. H. BROCK; P. LU; H. KUMAMARU; J. L. WEBER; C. A. WEINHOLTZ; R. MOSEANKO; S. HAWBECKER; R. PENDER; C. L. CRUZEN; E. A. SALEGIO; J. HUIE; C. ALMEIDA; Y. S. NOUT-LOMAS; L. A. HAVTON; A. R. FERGUSON; M. S. BEATTIE; J. C. BRESNAHAN; M. H. TUSZYNSKI. *Univ. of California San Diego Dept. of Neurosciences, VA Med. Ctr. San Diego, California Natl. Primate Res. Center, Univ. Calif. Davis, Brain and Spinal Injury Ctr. (BASIC), UCSF, Col. of Vet. Med. and Biomed. Sciences, Colo. State Univ., UCLA, VA Med. Ctr. San Francisco.*
- 11:00 X9 **138.12** Calcium imaging of synaptic connectivity between host and neural progenitor cell graft-derived neurons after spinal cord injury. S. L. CETO*; K. SEKIGUCHI; A. NIMMERJAHN; M. H. TUSZYNSKI. *UCSD, Salk Inst. for Biol. Sci., Salk Inst. For Biol. Studies, Univ. of California San Diego Dept. of Neurosciences.*
- 8:00 X10 **138.13** C57BL/6 and Swiss Webster mice display differences in mobility, gliosis, microcavity formation and lesion volume after severe spinal cord injury. H. N. NORISTANI; L. THEY; F. E. PERRIN*. *Shriners Hosp. Pediatric Res. Center, Temp, INSERM U1198, INSERM U 1198, Univ. of Montpellier.*
- 9:00 X11 **138.14** 3D Printed Spinal Cord Scaffolds for Spinal Cord Injury. J. KOFFLER*; J. KOFFLER*; J. KOFFLER*; W. ZHU; P. QU; O. PLATOSHYN; J. N. DULIN; J. H. BROCK; L. GRAHAM; P. P. LU; J. SAKAMOTO; M. MARSALA; S. CHEN; M. H. TUSZYNSKI. *UCSD, Univ. of Michigan, Univ. of California San Diego.*
- 10:00 X12 **138.15** Combination of microconnector implantation and somatic stem cell (USSC) transplantation in the minipig: A preclinical translational model of complete thoracic spinal cord transection - Histological outcome. V. ESTRADA*; N. KAMINSKI; C. DITZ; M. HENDRICKS; L. DOLLMANN; J. VON POBLOTZKI; H. BENHOEFER; M. MUENCH; B. SCHMELTING; D. WIEDERMANN; J. SCHIRA; A. LINK; A. VOGEL; M. HOEHN; C. JUERGENS; H. TRIEU; K. SEIDE; H. W. MUELLER. *Mol. Neurobiol. Lab., Dept. of Neurol., Heinrich Heine Univ., Dept. of Neurosurgery, Univ. Med. Ctr. Schleswig-Holstein, Dept. of Orthopedics and Trauma Surgery, Univ. Med. Ctr. Schleswig-Holstein, Inst. of Microsystems Technology, Hamburg Univ. of Technol., Dept. of Anesthesiology, Univ. Med. Ctr. Schleswig-Holstein, BG Trauma Ctr. Hamburg, GTH, Univ. of Luebeck, In-vivo-NMR Laboratory, Max Planck Inst. for Metabolism Res., Inst. of Biomed. Optics, Univ. of Luebeck.*
- 11:00 X13 **138.16** ● Regaining trunk stability after spinal cord injury. M. RATH*; D. G. SAYENKO; Y. P. GERASIMENKO; V. EDGERTON. *UCLA, Pavlov Inst. of Physiol, Univ. of California Los Angeles.*
- 8:00 X14 **138.17** Automatic segmentation techniques to facilitate quantitative analyses of spinal locomotor networks reconstructed in 3D using tissue clearing. B. N. PHAM*; JR; B. GOANKAR; N. TILLAKARATNE; H. ZHONG; V. EDGERTON. *UCLA.*
- 9:00 Y1 **138.18** ● Locomotor training increases synaptic structure with high NGL-2 expression after spinal cord hemisection. K. KOBAYAKAWA*; K. A. DEPETRO; H. ZHONG; C. JUANSING; N. ZOGHBY; V. EDGERTON. *Univ. of California Los Angeles, UCLA.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

POSTER

139. Olfaction: Olfactory Sensory Neuron Development and Function

Theme D: Sensory Systems

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 Y2 **139.01** Neural and genetic mechanisms of menthol sensation in *C. elegans*. E. A. RONAN*; A. R. LAHAIE; X. XU. *Univ. of Michigan, Univ. of Michigan.*
- 9:00 Y3 **139.02** ▲ Localization and characterization of odor receptors in *C. elegans*. I. DIBIANCA; A. QUIOGUE; C. GHAFARI; O. STAYER-WILBURN; V. THAKKER; M. HARWOOD; S. MAHER; L. RESCH; S. NATHAN; C. DALTON; A. COX-HARRIS; R. MORTON; E. JEROME; W. MANKINS; L. DAFTEH; K. TIRUMALASETTY; H. SZENTKUTI; J. SULLIVAN; G. HERNANDEZ; K. FEKRINIA; K. GIBBS; N. HWANG; C. LESTER; B. MOSQUEDA; N. L'ETOILE; J. J. YOUNG*. *Mills Col., Univ. of California, San Francisco.*
- 10:00 Y4 **139.03** Understanding how the interneuron AIY mediates salt concentration memory dependent behavior in *C. elegans*. L. MABARDI*; H. KUNITOMO; H. SATO; Y. TOYOSHIMA; Y. IINO. *Univ. of Tokyo.*
- 11:00 Y5 **139.04** A bioinformatic screen identifies conserved genes highly enriched in the *Drosophila antenna*. P. MOHAPATRA; K. MENUZ*. *Univ. of Connecticut.*
- 8:00 Y6 **139.05** Invariances in a combinatorial olfactory receptor code. G. SI*; J. KANWAL; Y. HU; C. TABONE; J. BARON; M. BERCK; G. VIGNOUD; A. D. SAMUEL. *Harvard Univ.*
- 9:00 Y7 **139.06** A single amino acid residue in TM2 determines ligand responsiveness in two highly related sex pheromone receptors of sea lamprey. Z. ZHANG*; Q. ZHANG; J. REN; T. DEXHEIMER; R. R. NEUBIG; W. LI. *Michigan State Univ., Shanghai Ocean Univ., Michigan State Univ.*
- 10:00 Y8 **139.07** Selective and sensitive detection of bile acid information in the mouse vomeronasal organ. W. WONG*; X. ZHANG; J. CAO; W. I. DOYLE; J. P. MEEKS. *UT Southwestern.*
- 11:00 Y9 **139.08** ▲ The chromatographic theory of olfaction a half-century on: Comparisons of simulated odorant sorption patterns with regional electroolfactogram responses in the mouse olfactory epithelium. E. FITZWATER; D. M. COPPOLA*; B. A. CRAVEN. *Randolph-Macon Col., Randolph-Macon Col., Pennsylvania State Univ.*
- 8:00 Y10 **139.09** High-throughput optical tools for discovering molecular identity of physiologically-distinct neuronal populations. D. LEE*; T. E. HOLY. *Washington Univ. In St. Louis, Washington Univ. Sch. of Med.*
- 9:00 Y11 **139.10** *In vivo* time-lapse imaging of olfactory sensory neuron birth, differentiation and axogenesis. T. OFFNER*; S. J. HAWKINS; L. WEISS; T. HASSENKLOVER; T. DRESBACH; I. MANZINI. *Univ. Med. Ctr. Göttingen, Ctr. for Nanoscale Microscopy and Physiol. of the Brain (CNMPB), Justus Liebig Univ. Giessen.*
- 10:00 Y12 **139.11** Regulation of olfactory sensory neuron maturation and axon targeting by non-coding RNA. W. XU*; Y. WU; A. MORAN; L. MA; R. C. YU. *Stowers Inst.*

- 11:00 Y13 **139.12** ● Differential timing of neurogenesis underlies dorsal-ventral topographic projection of olfactory sensory neurons. F. EERDUNFU*; N. IHARA; L. BAO; H. TAKEUCHI. *The Univ. of Tokyo.*
- 8:00 Y14 **139.13** Characterizing odor-elicited response heterogeneity and adaptation in olfactory receptor neurons. B. KIM; A. KIM; Z. ALDWORTH; M. A. STOPFER*. *NIH.*
- 9:00 Y15 **139.14** Heterogeneity in olfactory response increases available information in complex odor plumes. S. HANEY*; Z. N. ALDWORTH; B. KIM; N. RULKOV; M. A. STOPFER; M. V. BAZHENOV. *UCSD, NIH, UCSD.*
- 10:00 Y16 **139.15** ● Widespread odorant receptor antagonism observed in the peripheral olfactory system. B. EVANS; J. BRANN; D. RAPS; B. C. SMITH*; M. E. ROGERS. *Firmenich.*
- 11:00 Y17 **139.16** ● Receptor-specific antagonism is prominent in odorant receptor-based combinatorial coding. P. PFISTER*; B. EVANS; R. ARROYAVE; S. WILLIAMS; M. ROGERS. *Firmenich.*
- 8:00 Y18 **139.17** Experience-dependent sex-specific variability of olfactory receptor expression in mice. A. VIHANI*; H. MATSUNAMI. *Duke Univ.*

POSTER

140. Auditory Processing: Vocalizations and Natural Sounds

Theme D: Sensory Systems

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 Z1 **140.01** Hearing noise as voice: How the brain reconstructs voice patterns from acoustic synthetic textures. M. STAIB*; S. FRUEHHOLZ. *Univ. of Zuerich, Neurosci. Ctr. Zuerich, Ctr. for Integrative Human Physiol. (ZIHP).*
- 8:00 DP06/Z2 **140.02** ● (Dynamic Poster) Voice activity detection in the brain: Understanding the spatio-temporal characteristics of voice detection in the auditory cortex during fMRI. H. SWANBOROUGH*; M. STAIB; S. FRUEHHOLZ. *Univ. of Zuerich, Neurosci. Ctr. Zuerich, Univ. of Zuerich and ETH Zuerich, 3 Center for Integrative Human Physiol. (ZIHP), Univ. of Zuerich.*
- 10:00 Z3 **140.03** Affective whispered voices in the human limbic system: Differences in single-cell firing and local field potentials from the amygdala and hippocampus. M. BOBIN*; M. STAIB; T. FEDELE; J. SARNTHEIN; S. FRUEHHOLZ. *Univ. of Zurich, Univ. of Zurich and ETH Zurich, Universitatsspital Zurich, Univ. of Zurich.*
- 11:00 Z4 **140.04** Neural competition in auditory decoding of own- and other-vocalizations. J. DIETZIKER*; M. STAIB; S. FRUEHHOLZ. *Univ. of Zurich, Univ. of Zurich, Neurosci. Ctr. Zurich, ETH Zurich, Univ. of Zurich.*
- 8:00 Z5 **140.05** Decoding of phonemes in continuous speech from fMRI response patterns. J. ERB*; D. DÜWEL; G. VALENTE; F. DE MARTINO; E. FORMISANO. *Maastricht Univ., Univ. of Lübeck.*
- 9:00 Z6 **140.06** The role of the left ventral medial geniculate body in speech recognition. P. G. MIHAL*; M. MOEREL; F. DE MARTINO; R. TRAMPPEL; S. KIEBEL; K. VON KRIEGSTEIN. *Max Planck Institute For Human Cognitive and Brain, Maastricht Univ., Fac. of Psychology, Maastricht Univ., Max Planck Inst. for Human Cognitive and Brain Sci., Technische Univ. Dresden, Max Planck Inst. for Human Cognitive and Brain Sci., Technische Univ. Dresden.*

10:00 Z7 **140.07** Auditory attention decoding: Using ECoG to determine the anatomical locations and neural frequency bands that contribute. J. A. O'SULLIVAN*; J. L. HERRERO; E. H. SMITH; S. A. SHETH; G. M. MCKHANN; A. D. MEHTA; N. MESGARANI. *Columbia Univ., The Feinstein Inst. for Med. Res., CUMC, Baylor Col. of Med.*

11:00 Z8 **140.08** Altered progress in developmental structure of pup isolation calls in mouse models of ASDs. Y. M S*; S. AGARWALLA; S. BANDYOPADHYAY. *Indian Institute of Technology, Kharagpur, Indian Institute of Technology, Kharagpur.*

8:00 Z9 **140.09** Temporal tuning system for acoustic factors in female avian auditory cortex. M. INDA*; K. HOTTA; K. OKA. *Keio-Univ. Biophysics and Neuroinformatics Lab.*

9:00 Z10 **140.10** Processing of simple and complex sounds in the marmoset's (callithrix jacchus) auditory anteroventral pathway. J. AVILA-SOUZA*; E. B. JACOBI; F. A. ARAUJO; J. F. R. NETO; A. S. C. PERES; R. C. MOIOLI; M. F. P. ARAUJO. *Brain Inst., Intl. Inst. of Neurosciences Edmond and Lily Safra.*

10:00 Z11 **140.11** Neural voice decoding in the primate auditory cortex is task-dependent. S. FRUEHHOLZ*; P. DIMANOVA. *Univ. of Zurich, Univ. of Zurich.*

11:00 Z12 **140.12** Contextual effects on vocal signal processing in primate prefrontal cortex neurons. V. JOVANOVIC*; C. T. MILLER. *Univ. of California San Diego, Univ. of California San Diego.*

8:00 Z13 **140.13** The influence of noise on the spiking activity of inferior colliculus neurons under different stimulus levels and SNRs. M. HOSSEINI; G. RODRIGUEZ; H. GUO; H. H. LIM; E. PLOURDE*. *Univ. De Sherbrooke, Univ. of Minnesota.*

9:00 Z14 **140.14** A candidate pathway for multisensory integration in maternal retrieval behavior. A. C. NOWLAN*; C. C. KELAHAN; S. D. SHEA. *Cold Spring Harbor Lab.*

10:00 Z15 **140.15** Morphological identification of zebra finch auditory cortical neurons for parallel information processing in song learning. M. ARAKI; Y. YAZAKI-SUGIYAMA*. *Okinawa Inst. of Sci. and Technol. (OIST) Grad. Univ.*

11:00 Z16 **140.16** Ultrasonic vocalizations of the Wistar Rat during its behavioral activity. D. PEREZ HERNANDEZ*; O. LARA GARCIA; M. A. LARA GARCIA; Y. CRUZ; P. PACHECO. *Univ. Veracruzana, Univ. Veracruzana, Univ. Autonoma Tlaxcala, Univ. Nacional Autonoma de México, Univ. Veracruzana.*

8:00 Z17 **140.17** Front-temporal cortical interactions during vocal production in marmoset monkeys. J. TSUNADA*; S. ELIADES. *Univ. of Pennsylvania Sch. of Med.*

9:00 Z18 **140.18** More than motor control: FoxP1 is implicated in feedback based behaviour. F. HEIM*; S. E. FISHER; C. SCHARFF; C. TEN CATE; K. RIEBEL. *Leiden Univ., Max Planck Inst. for Psycholinguistics, Freie Univ. Berlin, Donders Inst. for Brain, Cognition and Behaviour, Leiden Inst. for Brain and Cognition.*

10:00 AA1 **140.19** Neural activities in marmoset premotor cortex for vocal production during social communication. L. ZHAO*; X. WANG. *The Johns Hopkins Univ. Sch. of Med.*

11:00 AA2 **140.20** Representational similarity analysis reveals the involvement of supplementary motor area in perceiving speech rhythm. S. HIROYA*; Q. CAI; A. SETHI; N. LAVAN; S. H. CHEN; S. MEEKINGS; S. K. SCOTT. *NTT Communication Sci. Labs., UCL, Royal Holloway, Newcastle Univ.*

8:00 AA3 **140.21** Temporal tracking of speech periodicity in human auditory cortex. N. GUO; X. SI; W. ZHOU; B. HONG*. *Tsinghua Univ., Yuquan Hosp.*

POSTER

141. Vision: Visual Cortex: Circuits and Populations

Theme D: Sensory Systems

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

8:00 AA4 **141.01** Correlated noise in visual area v2 of infant monkeys. B. ZHANG*; Y. WANG; X. TAO; G. SHEN; E. L. SMITH, III; Y. M. CHINO. *Nova Southeastern Univ. Col. of Optometry, Univ. of Houston.*

9:00 AA5 **141.02** Four-dimensional map of stimulation-evoked neural responses across the ventral visual areas. A. SUGIURA*; Y. NAKAI; H. MOTOI; E. ASANO. *Wayne State Univ., Wayne State Univ.*

10:00 AA6 **141.03** Interneuron populations in macaque MT. J. J. COPPOLA*; A. A. DISNEY. *Vanderbilt Univ., Vanderbilt Univ.*

11:00 AA7 **141.04** Dissecting multiple oscillators in the human alpha rhythm in the resting state. C. HAN*; L. SUN; H. LI; D. XING. *Beijing Normal Univ., IDG/McGovern Inst. for Brain Research, Beijing Normal Univ., Peking Univ. Sixth Hospital/Institute of Mental Hlth., Natl. Clin. Res. Ctr. for Mental Disorder & Key Lab. of Mental Health, Ministry of Hlth. (Peking University).*

8:00 AA8 **141.05** Multivariate analysis of V1 spiking dynamics for ocularity, orientation, and stimulus repetition. D. A. TOVAR*; J. A. WESTERBERG; M. A. COX; K. DOUGHERTY; T. A. CARLSON; M. T. WALLACE; A. V. MAIER. *Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Vanderbilt Univ., Univ. of Sydney, Vanderbilt Univ.*

9:00 AA9 **141.06** Efficient mapping of spatial frequency sensitivity in human visual cortex. S. AGHAJARI*; S. LING. *Boston Univ., Boston Univ.*

10:00 AA10 **141.07** Activation of a chemogenetic receptor (GluCl/IVM) expressed in primary visual cortex of rhesus monkey produces an impairment in signal detection. J. Y. SHIM*; M. A. ELDRIDGE; J. N. TURCHI; J. M. FREDERICKS; W. LERCHNER; B. J. RICHMOND. *Natl. Inst. of Mental Hlth., Icahn Sch. of Med. at Mount Sinai.*

11:00 AA11 **141.08** A stimulus derived model of gamma oscillations in human visual cortex. D. HERMES*; K. N. KAY; J. WINAWER. *UMC Utrecht, Univ. of Minnesota Twin Cities, New York Univ.*

8:00 BB1 **141.09** Investigating the origin and role of catecholamines in primary visual cortex (V1) of the macaque. C. ROACH*; R. RIOS; A. A. DISNEY. *Vanderbilt Univ., Vanderbilt Univ.*

9:00 BB2 **141.10** Laminar organization of feedforward input from V1 to MT in marmosets. M. A. HAGAN*; E. ZAVITZ; B. H. OAKELY; N. S. C. PRICE; Y. T. WONG. *Monash Univ., Monash Univ.*

10:00 BB3 **141.11** Temporal dynamics of inter-area neuronal population interactions. J. D. SEMEDO*; A. ZANDVAKILI; C. K. MACHENS; A. KOHN; B. M. YU. *Carnegie Mellon Univ., Albert Einstein Col. of Med., Champalimaud Ctr. for the Unknown.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 11:00 BB4 **141.12** Laminar distribution and cellular localization of CB1R system components in the primary visual cortex of vervet monkeys. R. KUCERA*; J. BOUSKILA; M. TOUTOUNGY; K. PETERSON; R. PALMOUR; J. BOUCHARD; M. PTITO. *Univ. of Montreal, McGill Univ., St-Kitts Behavioural Sci. Fndn., Psychiatric Ctr. Copenhagen.*
- 8:00 BB5 **141.13** Exploring the response patterns induced by electrical stimulation in cat visual cortex. J. HU*; M. QIAN; H. TANIGAWA; A. W. ROE. *Qiushi Acad. for Advanced Studies, Zhejiang Univ.*
- 9:00 BB6 **141.14** Two-photon imaging evidence for neuronal responses to circular and dartboard-like stimuli in macaque V1. N. JU*; S. GUAN; C. YU; S. TANG. *Peking Univ., Peking Univ., Peking Univ.*
- 10:00 BB7 **141.15** Suppressive waves disambiguate the representation of long-range apparent motion in awake monkey V1. S. CHEMLA*; L. E. MULLER; A. REYNAUD; M. DI VOLO; Y. ZERLAUT; L. PERRINET; A. DESTEXHE; F. Y. CHAVANE. *CNRS & Aix-Marseille Univ., Salk Inst., McGill Vision Res., Unité de Neurosciences, Information et Complexité, Neural Coding laboratory, Ctr. for Neurosci. and Cognitive Systems @UniTn, CNRS.*
- 11:00 BB8 **141.16** Synergistic coding of visual information in cortical networks. S. NIGAM*; M. MULAS; S. POJOGA; V. DRAGOI. *McGovern Med. Sch., Technische Univ. München.*
- 8:00 BB9 **141.17** Suppressed neural activity in awake monkeys using the anion channelrhodopsin GtACR2. S. R. DEBES*; A. R. ANDREI; X. LIU; R. JANZ; J. L. SPUDICH; V. DRAGOI. *McGovern Med. Sch. At Houston.*
- 9:00 BB10 **141.18** Routing information flow by high gamma synchrony allows for 'functionally labeled lines' in higher primate cortex. M. ESGHAEI*; M. KHAMECHIAN; S. TREUE; M. DALIRI. *German Primate Ctr., Inst. for Res. in Fundamental Sci. (IPM), Iran Univ. of Sci. and Technol., German Primate Ctr., Univ. of Goettingen, Bernstein Ctr. for Computat. Neurosci., Leibniz-ScienceCampus Primate Cognition.*
- 10:00 BB11 **141.19** Simulation and recovery of broadband field potentials. I. I. GROEN*; J. ZHOU; D. HERMES; K. N. KAY; J. WINAWER. *New York Univ., Rudolf Magnus Inst. for Brain Imaging, Univ. of Minnesota Twin Cities.*
- 11:00 BB12 **141.20** Dual-gamma oscillations in V1 can be explained by crosstalks within the visuotopic map. L. DANTAS; J. AVILA-SOUZA; N. BRANCO; B. LIMA; K. E. SCHMIDT; J. BARON; S. NEUENSCHWANDER*. *Brain Inst. - UFRN, Federal Univ. of Rio de Janeiro, Brain Institute, UFRN, Federal Univ. of Minas Gerais.*
- 8:00 BB13 **141.21** Recurrent excitatory connectivity in mouse and human cortex. S. C. SEEMAN*; L. CAMPAGNOLA; P. A. DAVOUDIAN; A. HOGGARTH; T. A. HAGE; A. BOSMA-MOODY; C. A. BAKER; J. LEE; S. MIHALAS; C. M. TEETER; A. KO; J. G. OJEMANN; R. GWINN; D. SILBERGELD; C. COBBS; J. PHILLIPS; E. LEIN; G. J. MURPHY; C. KOCH; H. ZENG; T. JARSKY. *Allen Inst. for Brain Sci., Univ. of Washington, Harborview Med. Ctr., Swedish Neurosci. Inst.*
- 9:00 BB14 **141.22** Calcium Imaging of population responses from putative inhibitory neurons in macaque visual cortex. M. P. WHITMIRE*; Y. CHEN; P. MEHTA; B. L. KAJIS; B. V. ZEMELMAN; E. SEIDEMANN. *Univ. of Texas at Austin, Univ. of Texas at Austin.*
- 10:00 BB15 **141.23** Decorrelation in V4 by stimulation outside the receptive field. R. JOHNSTON*; M. A. SMITH. *Univ. of Pittsburgh.*
- 11:00 BB16 **141.24** Learning pattern invariance and specificity in early visual cortex by temporal association training. G. HUANG*; J. LI; F. WANG; S. TSOU; F. BAQAI; T. LEE. *Carnegie Mellon Univ., Carnegie Mellon Univ.*
- 8:00 BB17 **141.25** Contextual processing in visual cortex. A. KELLER*; M. M. ROTH; M. SCANZIANI. *UCSF, UCSF, Univ. of California, San Francisco.*
- 9:00 CC1 **141.26** Contrast mismatch leads to shifts in interocular balance. R. A. MILLER*, III; D. Y. TS'O. *SUNY Upstate Med. Univ., SUNY - Upstate Med. Univ.*
- 10:00 CC2 **141.27** Laminar and columnar variation in two-dimensional spatial frequency tuning in macaque V1. J. PAI; L. E. HALLUM; C. SHOONER; R. T. RAGHAVAN; J. G. KELLY; M. J. HAWKEN; J. A. MOVSHON*. *New York Univ.*
- 11:00 CC3 **141.28** Characterizing hierarchical computation within V1. D. A. BUTTS*; F. BARTSCH; M. R. WHITEWAY; B. G. CUMMING. *Univ. of Maryland at Col. Park Dept. of Biol., Univ. of Maryland, Univ. of Maryland, Natl. Eye Institute, NIH.*
- 8:00 CC4 **141.29** Dependence of the spatial acuity of V1 neurons on eccentricity across the fovea and parafovea. F. BARTSCH*; B. G. CUMMING; D. A. BUTTS. *Univ. of Maryland, Natl. Eye Institute, NIH, Univ. of Maryland at Col. Park Dept. of Biol.*
- 9:00 CC5 **141.30** Whole cell recording reveals robust anticipatory top-down signal in macaque V1 during visual detection. B. LI*; Y. CHEN; N. PRIEBE; E. SEIDEMANN. *Univ. of Texas at Austin.*

POSTER

142. Vision: Visual System: Response Modulation and Adaptation

Theme D: Sensory Systems

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 CC6 **142.01** Characterization of vip-1 coupling and its modulation by dopamine. L. PEREZ DE SEVILLA*; J. DE LOS SANTOS; N. C. BRECHA. *UCLA, UCLA, David Geffen Sch. Med. At UCLA.*
- 9:00 CC7 **142.02** Probing the mechanisms of adaptation of macaque inferotemporal neurons with optogenetics. F. FABBRINI*; C. VAN DEN HAUTE; V. BAEKELANDT; W. VANDUFFEL; R. VOGELS. *KU Leuven, KU Leuven, Lab. for Neurobio. and Gene Therapy, Harvard Med. Sch.*
- 10:00 CC8 **142.03** Repetition of natural images decreases firing rates and can increase gamma synchronization in V1. A. PETER*; J. DOWDALL; L. KLEIN; J. KLON-LIPOK; K. KOUROUPAKI; M. SCHOELVINCK; J. SCHMIEDT; K. SHAPCOTT; W. SINGER; M. C. SCHMID; P. FRIES. *Ernst Struengmann Inst. For Neurosci. In Cooperation With Max Planck Soci, Max Planck Inst. for Brain Res., Newcastle Univ.*
- 11:00 CC9 **142.04** Temporal tuning of repetition suppression across the visual cortex. M. FRITSCHKE*; S. J. D. LAWRENCE; F. P. DE LANGE. *Donders Inst.*
- 8:00 CC10 **142.05** Effect of visual adaptation on orientation selectivity in cat secondary visual cortex (V2). R. LUSSIEZ*; N. CHANAURIA; A. OUELHAZI; S. MOLOTCHNIKOFF. *Univ. of Montreal.*

- 9:00 CC11 **142.06** Modulation of cerebral plasticity by drug application: Effect of ketamine on orientation selectivity and variability of neuronal responses. A. OUELHAZI*; N. CHANAURIA; L. BACHATEN; R. LUSSIEZ; S. MOLOTCHNIKOFF. *Univ. De Montreal.*
- 10:00 CC12 **142.07** Assessing the impacts of correlated V1 activities with dissociated timescales. T. TAKAHASHI*; Y. MARUYAMA; H. ITO; K. MIURA. *Kwansei Gakuin Univ., Kwansei Gakuin Univ., Hakodate Col., Kyoto Sangyo Univ., Kwansei Gakuin Univ.*
- 11:00 CC13 **142.08** A spiking network model of the rodent visual cortex: What visual information is represented. M. MIYASHITA*; S. TANAKA. *Natl. Inst. of Technol., The Univ. of Electro-Communications.*
- 8:00 CC14 **142.09** Neuronal adaptation to visual stimuli in the mouse superior colliculus. M. AHMADLOU*; K. DYL; J. HEIMEL. *Netherlands Inst. For Neurosci.*
- 9:00 CC15 **142.10** The effects of short-term monocular deprivation on visual perceptual echoes. J. SCHWENK; R. VANRULLEN; F. BREMMER*. *Philipps-Universität Marburg, CNRS, CerCo.*
- 10:00 CC16 **142.11** Population contrast response functions in human visual cortex. I. M. BLOEM*; L. VINKE; S. LING. *Boston Univ., Boston Univ., Boston Univ.*
- 11:00 DD1 **142.12** Neural responses to unexpected stimuli in early and mid-level visual cortex. S. S. SOLOMON*; E. S. SUSSMAN; A. KOHN. *Albert Einstein Col. of Med.*
- 8:00 DD2 **142.13** Rapid adaptation to cone-targeted stimuli during stochastically driven activity in macaque LGN neurons. P. TELLERS*; M. R. HOLLER; L. C. SINCICH. *Univ. of Alabama at Birmingham, Tulane Univ.*
- 9:00 DD3 **142.14** Luxotonic responses within human visual cortex depend on stimulus contrast. L. VINKE*; S. LING. *Boston Univ., Ctr. for Systems Neurosci., Boston Univ.*
- 10:00 DD4 **142.15** Intrinsic neural oscillations modulate feature selectivity in human visual cortex. N. RUNGRATSAMEETAWEEEMANA*; J. M. VETTEL; J. B. OLIVA; T. VERSTYNEN; J. T. SERENCES; J. O. GARCIA. *Univ. of California San Diego, Aberdeen Proving Ground, Sch. of Engin. and Applied Science, Univ. of Pennsylvania, Univ. of California, Santa Barbara, Carnegie Mellon Univ., Carnegie Mellon Univ., UCSD, UCSD.*
- 11:00 DD5 **142.16** Perceived elongation of visual stimuli into the physiological blind spot can be explained by lateral V1 connections. M. A. WILLIAMS*; F. SMITH; S. GRAHAM; K. BROOKS; P. DELISSA; A. RICH. *Dept. of Cognitive Sci., Australian Sch. of Advanced Med., Dept. of Psychology, Dept. of Psychology.*
- 8:00 DD6 **142.17** Timescales of adaptation in the primary visual cortex of awake mice. A. PAPANIKOLAOU*; G. DE FRANCESCHI; S. G. SOLOMON. *Univ. Col. London.*
- 9:00 DD7 **142.18** Frequency and phase-specific direct interaction between visually evoked and tACS induced neural signals. Z. SUN*; L. SHI; P. ZHANG; S. HE. *Chinese Acad. of Sci., Univ. of Minnesota.*
- 10:00 DD8 **142.19** Early visual responses to unexpected stimuli in human participants are inconsistent with predictive coding models of visual processing. K. WALSH*; D. P. MCGOVERN; E. MCNICKLE; S. KELLY; R. O'CONNELL. *Trinity Col. Dublin, Univ. Col. Dublin.*
- 11:00 DD9 **142.20** Pre-stimulus neural oscillations modulate sensory evoked responses via distinct mechanisms of functional inhibition and baseline shift. L. IEMI*; N. A. BUSCH; A. LAUDINI; J. SAMAHA; A. VILLRINGER; V. V. NIKULIN. *Berlin Sch. of Mind and Brain, The Feinstein Inst. for Med. Res., Columbia Univ. Med. Ctr., Natl. Res. Univ. Higher Sch. of Econ., Inst. of Psychology, Univ. of Münster, UW Madison, Max Planck Inst. for Human Cognitive and Brain Sci.*
- 8:00 DD10 **142.21** BOLD signal modulated with perception in the superficial layer of human V1 during binocular rivalry. C. QIAN*; C. LIU; J. ZOU; Y. ZHUO; S. HE; P. ZHANG. *Inst. of Biophysics, CAS, Univ. of Chinese Acad. of Sci., Univ. of Minnesota.*
- 9:00 DD11 **142.22** The contribution of thalamic inputs and cortical interneurons to adaptive responses in primary visual cortex. D. BARBERA*; N. J. PRIEBE. *The Univ. of Texas At Austin, Univ. Texas, Austin.*
- 10:00 DD12 **142.23** Testing the efficient coding hypothesis of adaptation in primary visual cortex of macaque monkeys. A. ASCHNER*; A. KOHN. *Albert Einstein Col. of Med., Albert Einstein Col. of Med., Albert Einstein Col. of Med.*
- 11:00 DD13 **142.24** • Pupillometry as a quantitative tool to assess pupillary light response in healthy Taiwanese. K. Y. JUNG*; S. C. YI. *Far East Mem. Hosp.*
- 8:00 DD14 **142.25** Stereopsis in amblyopia: Impaired in the fovea, but intact in the periphery. S. GHAGHAEI; P. VERGHESE*. *The Smith-Kettlewell Eye Res. Inst., Smith Kettlewell Eye Res. Inst.*
- 9:00 DD15 **142.26** Stimulus information is isolated from single whole-cell recordings in the visual cortex of awake mice by exploiting high-dimensional representations of dynamics. J. K. JOHNSON*; S. GENG; M. W. HOFFMAN; H. ADESNIK; R. WESSEL. *Washington Univ. Physics, Washington Univ., Washington Univ., Univ. of California, Berkeley, Wash Univ.*
- 10:00 DD16 **142.27** Firing rate, response reliability, and correlated variability distributions are similar in cortical layer 2/3 and 4 of mouse visual cortex. J. XIA*; P. O'NEILL; M. GOARD; R. WESSEL. *Washington Univ. in St. Louis, Univ. of California, Santa Barbara, Wash Univ.*
- 11:00 DD17 **142.28** • Impact of virtual reality headset use on ocular function and subjective discomfort. B. HACKNEY*; M. F. AWAD; D. A. DEL CID; R. L. MOSHER; A. KANGAVARY; S. A. DREW. *California State University, Northridge.*
- 8:00 DD18 **142.29** Examining changes in oculomotor function after immersive virtual reality use. R. MOSHER*; S. A. LUNDQVIST; B. C. HACKNEY; R. MORALES; J. A. ARMENDARIZ; S. A. DREW. *California State Univ. Northridge, California State University, Northridge, California State University, Northridge.*

POSTER

143. Striate Cortex: Plasticity

Theme D: Sensory Systems

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 EE1 **143.01** Temporal contiguity learning does not break the tolerance of orientation preference across different spatial frequencies. E. CRIJNS*; D. KALIUKHOVICH; H. P. OP DE BEECK. *KU Leuven.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 9:00 EE2 **143.02** Neuronal plasticity in the occipital cortex induced by driving skill acquisition using auditory substitution of vision. S. UEDA*; H. SAKAI; T. KUMADA. *RIKEN, Toyota Central R&D Labs., Inc., Kyoto Univ.*
- 10:00 EE3 **143.03** Ocular dominance plasticity of higher visual areas in the mouse. A. VASALAUSKAITE*; A. RANSON; F. SENGPIEL. *Cardiff Univ.*
- 11:00 EE4 **143.04** Shared naturalistic auditory comprehension leads to shared spatial patterns in visual cortex across congenitally blind individuals. E. MUSZ*; R. E. LOIOTILE; J. CHEN; M. BEDNY. *Johns Hopkins Univ.*
- 8:00 EE5 **143.05** Close temporal coupling of locomotion and plasticity in adult visual cortex. Y. J. SUN*; M. P. STRYKER. *UCSF, UCSF.*
- 9:00 EE6 **143.06** Rem2 stabilizes intrinsic excitability and spontaneous firing in visual circuits. A. R. MOORE*; S. E. RICHARDS; S. D. VAN HOOSER; S. PARADIS. *Temple Univ., Brandeis Univ., Brandeis Univ.*
- 10:00 EE7 **143.07** Development- and sensory experience-dependent expression of neuregulins and ErbBs in mouse visual cortex. S. GRIECO*; N. GONG; X. XU. *Univ. of California, Irvine.*
- 11:00 EE8 **143.08** Effect of short-term monocular deprivation on time-dependent binocular responses. C. J. NG*; B. FARELL. *Univ. of Rochester, Syracuse Univ.*
- 8:00 EE9 **143.09** Role of inhibition in the development of visual acuity. S. J. KUHLMAN*; A. D. SWAIN; B. B. JEON. *Carnegie Mellon Univ., Univ. of Pittsburgh.*
- 9:00 EE10 **143.10** To DREADD or not: Manipulation of interneuron and astrocyte contributions to cortical plasticity. M. HENNES; I. SCHEYLTJENS; M. HOLT; L. H. ARCKENS*. *KU Leuven.*
- 10:00 EE11 **143.11** $\alpha 2$ nicotinic acetylcholine receptors in deep cortical layer somatostatin interneurons drive juvenile-like plasticity in adulthood. M. SADAHIRO*; M. P. DEMARS; P. N. BURMAN; P. E. YEVOO; Y. GARKUN; M. R. SMITH; A. ZIMMER; H. MORISHITA. *Icahn Sch. of Med. At Mount Sinai, Univ. of Bonn.*
- 11:00 EE12 **143.12** Effects of sight restoration on the dendritic complexity of the primary visual cortex. M. Y. LIPIN*; T. GODBOLE; P. COOK; A. WILLET; Y. YU; G. YING; A. MAGUIRE; J. BENNETT; G. ZHANG; M. ASHTARI. *Univ. of Pennsylvania, Univ. of Pennsylvania, CHOP, Univ. Col. London.*
- 8:00 EE13 **143.13** Lifespan changes in expression of inflammatory markers in human visual cortex. K. M. MURPHY*; K. ARBABI; F. BINOTTO; S. MANCINI; D. AHUJA; K. CLIFFORD; I. VELIKOVA; D. G. JONES; J. L. BALSOR. *McMaster Univ., McMaster Univ., Pairwise Affinity Inc.*
- 9:00 EE14 **143.14** Expression of synaptic and non-neuronal proteins reveal parallel plasticity states across human visual cortex development. J. L. BALSOR*; S. BESHARA; K. C. WILLIAMS; J. G. A. PINTO; C. SIU; D. G. JONES; K. M. MURPHY. *McMaster Univ., Pairwise Affinity Inc., McMaster Univ.*
- 10:00 FF1 **143.15** Distinct requirements for layer 4 NMDA receptors in experience-dependent visual cortical plasticity. M. FONG*; P. S. FINNIE; T. KIM; A. THOMAZEAU; E. S. KAPLAN; S. F. COOKE; M. F. BEAR. *MIT, Seattle Children's Res. Inst., King's Col. London.*
- 11:00 FF2 **143.16** A laminar dissection of V1 circuitry supporting visual recognition memory. P. S. FINNIE*; A. THOMAZEAU; D. J. HAYDEN; M. FONG; S. F. COOKE; M. F. BEAR. *MIT, The Picower Inst. For Learning and Memory, MIT, MIT, King's Col. London.*
- 8:00 FF3 **143.17** Rapid bidirectional changes in ocular dominance induced by neuromodulators after the critical period in the mouse primary visual cortex. S. Z. HONG*; S. HUANG; A. KIRKWOOD. *Johns Hopkins Univ., Hussman Inst. for Autism, Johns Hopkins Univ.*
- 9:00 FF4 **143.18** A selective excitatory input disconnection during the critical period of ocular dominance plasticity. D. SEVERIN*; A. KIRKWOOD. *Johns Hopkins Univ.*
- 10:00 FF5 **143.19** The stimulus-selectivity of visual response potentiation is gated by fast-spiking interneurons. C. L. LANTZ*; S. MURASE; E. M. QUINLAN. *Univ. of Maryland.*
- 11:00 FF6 **143.20** Influence of visual cortical GABA concentration on perceptual suppression and binocular summation in amblyopia. A. MUKERJI*; K. N. BYRNE; E. YANG; L. LI; D. M. LEVI; M. A. SILVER. *Univ. of California, Berkeley.*
- 8:00 FF7 **143.21** Activation of MMP-9 at thalamo-cortical synapses via light reintroduction to amblyopic eye. S. MURASE*; E. M. QUINLAN. *Univ. of Maryland at Col. Park Dept. of Biol.*

POSTER

144. Visual Motion I

Theme D: Sensory Systems

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 DP07/FF8 **144.01** (Dynamic Poster) Probing visually-guided behaviors using a fast, modular LED display and virtual reality control system. M. ISAACSON*; M. B. REISER. *HHMI, HHMI / Janelia.*
- 9:00 FF9 **144.02** Ca^{2+} imaging reveals novel excitatory inputs onto a looming sensitive neuron. Y. ZHU; R. B. DEWELL*; F. GABBIANI. *Baylor Col. of Med., Baylor Col. of Med., Baylor Col. Med.*
- 10:00 FF10 **144.03** Glutamate signalling in the fly visual system. F. RICHTER*; S. FENDL; J. HAAG; A. BORST. *MPI For Neurobio.*
- 11:00 FF11 **144.04** ● Electrotonic separation between feedforward and lateral interactions of neuronal network optimizes prediction. S. WANG*; S. E. PALMER; A. BORST; I. SEGEV. *Hebrew Univ. of Jerusalem, Univ. of Chicago, Max-Planck-Inst Neurobio., Inst. of Life Sciences, Hebrew Univ.*
- 8:00 FF12 **144.05** Electrical synapses in the visual system of *Drosophila*. G. AMMER*; A. BORST. *MPI Neurobio.*
- 9:00 FF13 **144.06** The intermittent loss of ERG b-wave correlates with reversal motion in goldfish. C. JUNG*. *Col. of Medicine, The Catholic Univ. of Korea.*
- 10:00 FF14 **144.07** Spatiotemporal tuning of visual neurons in the nucleus lentiformis mesencephali of zebra finches and hummingbirds. D. L. ALTSHULER*; G. C. SMYTH; A. H. GAEDE; D. R. WYLIE. *Univ. of British Columbia, Univ. of Alberta.*

- 11:00 FF15 **144.08** Comparison of responses to natural and synthetic visual motion in murine primary visual cortex. V. SPURRIER*; J. N. MACLEAN; D. J. SCHWAB; S. E. PALMER. *Univ. of Chicago, Univ. of Chicago, CUNY Inst. for Theoretical Sci., Univ. of Chicago.*
- 8:00 FF16 **144.09** Functional characterization of laminar contributions to speed tuning in mouse primary visual cortex. H. WANG*; E. M. CALLAWAY. *Salk Inst., Neurosciences Grad. Program.*
- 9:00 FF17 **144.10** Brain modules for visuomotor integration revealed by whole-brain functional ultrasound imaging. E. MACÉ*; G. MONTALDO; S. TRENHOLM; C. COWAN; A. BRIGNALL; A. URBAN; B. ROSKA. *Friedrich Miescher Inst., Inst. of Mol. and Clin. Ophthalmology Basel, NERF, McGill Univ., Univ. of Basel.*
- 10:00 GG1 **144.11** Motion discrimination and the motion aftereffect in mouse vision. J. M. SAMONDS*; S. LIEBERMAN; N. J. PRIEBE. *Univ. of Texas at Austin, Univ. of Texas at Austin, Univ. Texas, Austin.*
- 11:00 GG2 **144.12** Neurons of the developing lateral geniculate nucleus of the ferret exhibit poor tuning for orientation and direction of moving stimuli. A. STACY*; N. SCHNEIDER; S. D. VAN HOOSER. *Brandeis Univ., Brandeis Univ.*
- 8:00 GG3 **144.13** Development of motion integration in ferret visual area PSS: Effects of visual stimulation. A. A. LEMPEL*; K. J. NIELSEN. *Johns Hopkins Univ.*
- 9:00 GG4 **144.14** Determining complex receptive field visual motion preferences in macaque cortical area MSTd. B. WILD*; A. MAAMOUN; S. TREUE. *Deutsches Primatenzentrum (DPZ), German Primate Ctr., German Primate Ctr.*
- 10:00 GG5 **144.15** Tuning dynamics in cortical area MT is predicted by canonical computation. A. S. PAWAR*; S. GEPSTEIN; S. SAVEL'EV; T. D. ALBRIGHT. *Salk Inst. for Biol. Studies, The Salk Inst. VCL-A, Loughborough Univ.*
- 11:00 GG6 **144.16** Nonlinear temporal integration of visual motion in marmoset MT. N. S. PRICE*; B. H. OAKLEY; E. ZAVITZ. *Physiology, Monash Univ., Monash Univ.*
- 8:00 GG7 **144.17** Inactivation of posterior prefrontal cortex compromises processing of visual motion in area MT. M. ISLAM*; D. SAMU; K. WIMMER; T. PASTERNAK. *Trinity Col. Dublin, Univ. Pompeu Fabra, Ctr. De Recerca Matematica, Univ. of Rochester.*
- 9:00 GG8 **144.18** Responses to flicker plaids in macaque middle temporal visual area (MT). C. QUAlA*; I. KANG; L. M. OPTICAN; B. G. CUMMING. *Natl. Eye Inst.*
- 10:00 GG9 **144.19** Motion sensitivity in the primate lateral geniculate nucleus. N. J. KILLIAN*; J. S. PEZARIS. *Massachusetts Gen. Hosp., Harvard Med. Sch., Massachusetts Gen. Hosp.*
- 9:00 GG11 **145.02** Visual awareness plays a role in the control of visuospatial attention. A. I. WILSON*; M. S. A. GRAZIANO. *Princeton Univ.*
- 10:00 GG12 **145.03** Selective attention influences visual object category representations across human cortex. A. S. KELLER*; J. B. COCJIN; A. JAGADEESH; L. BUGATUS; K. GRILL-SPECTOR. *Stanford Univ., Stanford Univ., Stanford Univ.*
- 11:00 GG13 **145.04** Utility of peripheral visual field in the SSVEP-based brain-computer interface. K. TAKANO*; N. MORITA-HAYASHI; K. KANSAKU. *Res. Inst. Natl. Rehab Cent., Dokkyo Med. Univ. Sch. of Med., Univ. of Electro-Communications.*
- 8:00 GG14 **145.05** Endogenous attention in amblyopic children. P. V. RAMESH*; L. KIORPES. *New York Univ.*
- 9:00 GG15 **145.06** How the brain integrates top-down information to optimize geometrical gaze following. M. GÖRNER*; P. KRAEMER; H. RAMEZANPOUR; P. W. DICKE; P. THIER. *Hertie Inst. For Clin. Brain Res., Univ. of Basel.*
- 10:00 GG16 **145.07** Using pharmaceuticals to study how cognition affects perception. B. S. BOWES*; A. M. NI; M. R. COHEN. *Univ. of Pittsburgh.*
- 11:00 GG17 **145.08** Reliance on central vs. peripheral vision for visual search in younger and older adults. J. OUFELLI-ÉTHIER*; A. LAURIN; T. TRAN; G. BLOHM; L. PISELLA; A. Z. KHAN. *Univ. of Montreal, Univ. of Montreal, Queen's Univ., CRNL.*
- 8:00 HH1 **145.09** Correlated variability in populations of midbrain neurons constrains perceptual choice. J. P. HERMAN*; L. N. KATZ; R. J. KRAUZLIS. *NEI / NIH.*
- 9:00 HH2 **145.10** Feature-based attention selectively modulates connectivity between sensory regions and attention and default networks. S. KWON*; A. BARTELS. *California Inst. of Technol., Ctr. for Integrative Neuroscience, Univ. of Tübingen, Dept. of Psychology, Univ. of Tübingen, Max Planck Inst. for Biol. Cybernetics.*
- 10:00 HH3 **145.11** Signal transmission between monkey areas V2 and V4 causally depends on gamma-band phase synchronization. E. DREBITZ*; L. RAUSCH; H. STEMMANN; A. K. KREITER. *Univ. of Bremen.*
- 11:00 HH4 **145.12** Coordination of cortical state within and between areas V1 and V4 of the Macaque. J. VAN KEMPEN*; M. BOYD; T. A. ENGEL; M. A. GIESELMANN; A. THIELE. *Newcastle Univ., Cold Spring Harbor Lab.*
- 8:00 HH5 **145.13** Attentional allocation increases mean firing rates of target representations in V1 over nearby distractor representations via two distinct mechanisms. D. HARNACK; E. DREBITZ; L. RAUSCH; U. A. ERNST; A. K. KREITER*. *Univ. of Bremen, Univ. of Bremen, Univ. Bremen, FB2.*
- 9:00 HH6 **145.14** Assessing attentional resources allocated to irrelevant stimuli in primates. J. T. ARSENAULT*; S. R. MURRIS; R. VOGELS; W. VANDUFFEL. *K.U. Leuven, KU Leuven, Harvard Med. Sch.*
- 10:00 HH7 **145.15** Enhanced neural processing by covert attention only during microsaccades directed towards the attended stimulus. K. SRINIVASAN*; E. LOWET; B. GOMES; H. ZHOU; R. J. SCHAFER; R. DESIMONE. *MIT, Univ. Federal do Pará, Inst. Tecnológico Vale Desenvolvimento Sustentável, Chinese Acad. of Sci.*

POSTER

145. Vision: Spatial and Feature-Based Attention

Theme D: Sensory Systems

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 GG10 **145.01** Unexpected sounds globally interrupt active perceptual representations: Evidence for a global inhibitory surprise response? C. SOH*; J. R. WESSEL. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa Hosp. and Clinics.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 HH8 **145.16** Task dependence of spatial attentional modulations in the cortex: The C1 and beyond. K. S. MOHR*; N. CARR; S. P. KELLY. *Univ. Col. Dublin*.
- 8:00 HH9 **145.17** Feature-based attention spreads within and between objects. A. F. CHAPMAN*; V. S. STÖRMER. *UCSD*.
- 9:00 HH10 **145.18** Decoding electrophysiological correlates of task-driven attention to shape and surface features. N. LEE*; L. GUO; A. NESTOR; M. NIEMEIER. *Univ. of Toronto, York Univ.*
- 10:00 HH11 **145.19** Spatial anticipation modulates the gain of visual responses in mouse primary visual cortex. A. SPEED*; N. MIKAIL; D. COBB; B. HAIDER. *Georgia Tech. & Emory Univ.*
- 11:00 HH12 **145.20** Effects of large-scale bilateral optogenetic inactivation of the lateral prefrontal cortex on feature attention and working memory. D. MENDOZA-HALLIDAY*; H. XU; F. A. C. AZEVEDO; R. DESIMONE. *MIT, Harvard Med. Sch.*
- 8:00 HH13 **145.21** Separable codes for behavior in mouse primary visual cortex across attentional states. A. M. WILSON*; J. M. BECK; L. L. GLICKFELD. *Duke Univ., Duke Univ.*
- 9:00 HH14 **145.22** Manipulating the attentional field of primate V1 neurons. M. A. GIESELMANN*; A. THIELE. *Newcastle Univ.*
- 10:00 HH15 **145.23** Optogenetic inhibition reveals a causal role of the direct anatomical connection from the FEF to extrastriate visual area MT in mediating attentional modulation in non-human primates. J. HÜER*; M. G. FORTUNA; H. GUO; L. SCHILLER; A. GAIL; J. GRUBER; H. SCHERBERGER; J. STAIGER; S. TREUE. *German Primate Ctr., German Primate Ctr., German Primate Ctr., Univ. Med. Ctr.*
- 11:00 HH16 **145.24** Phase shifts of monkey V1-MT cross-frequency coupling predict reaction time. D. WEGENER*; B. SCHLEDDE. *Univ. of Bremen*.
- 8:00 HH17 **145.25** The dorsal pulvinar periodically synchronizes cortical hubs of the attention network, regulating engagement at an attended location. I. C. FIEBELKORN*; M. A. PINSK; S. KASTNER. *Princeton Univ.*
- 9:00 II1 **145.26** Microsaccades predict spatial attention: Feature learning of microsaccade properties for oculomotor feedback. J. EMOTO; Y. HIRATA*. *Chubu Univ. Grad. Sch. of Engin., Chubu Univ. Col. of Engin.*
- 10:00 II2 **145.27** Decoding multiplexed attention, temporal expectation and response preparation information from the prefrontal cortex. S. BEN HAMED*; F. DI BELLO; S. BEN HADJ HASSEN; C. P. GAILLARD. *Inst. des Sci. Cognitives Marc Jeannerod*.
- 11:00 II3 **145.28** Real-time decoding of covert attentional spotlight from monkey prefrontal local field potentials. C. DE SOUSA FERREIRA*; C. P. GAILLARD; S. BEN HADJ HASSEN; F. DI BELLO; S. BEN HAMED. *Inst. Des Sci. Cognitives Marc Jeannerod*.
- 8:00 II4 **145.29** The prefrontal cortex attention spotlight explores space rhythmically. C. P. GAILLARD*; F. DI BELLO; S. BEN HADJ HASSEN; Y. BIHAN-POUDEEC; S. BEN HAMED. *Inst. Des Sci. Cognitives*.

POSTER

146. Cellular Physiology in the Basal Ganglia: Novel Cell Types and Mechanisms

Theme E: Motor Systems

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 II5 **146.01** A novel tool for studying striosome connectivity and function. M. M. MCGREGOR*; G. MCKINSEY; C. J. BAIR-MARSHALL; A. E. GIRASOLE; M. RYAN; J. L. RUBENSTEIN; A. B. NELSON. *UCSF, Stanford, UC San Francisco, UCSF, UC San Francisco, Univ. of California San Francisco*.
- 9:00 II6 **146.02** Firing patterns and resonance in striatal fast-spiking interneurons. M. H. HIGGS*; C. J. WILSON. *Univ. of Texas at San Antonio, Univ. Texas San Antonio*.
- 10:00 II7 **146.03** Signal transmission from globus pallidus to substantia nigra pars reticulata. D. V. SIMMONS*; M. H. HIGGS; C. J. WILSON. *Univ. of Texas At San Antonio*.
- 11:00 II8 **146.04** Differential modulation of striosome and matrix spiny projection neurons by dopamine in the dorsal striatum. E. M. PRAGER*; J. L. PLOTKIN. *Stony Brook Univ.*
- 8:00 II9 **146.05** Absence of direct synaptic connectivity between striatal compartments in identified striosome neurons. T. HERNANDEZ FLORES*; Y. NAKANO; M. GARCIA MUNOZ; G. W. ARBUTHNOTT. *Okinawa Inst. of Sci. and Technol.*
- 9:00 II10 **146.06** Distinct subdomains of the mouse striatum based on the diversity of the striosomes and matrix compartments. Y. MIYAMOTO*; S. KATAYAMA; N. SHIGEMATSU; A. NISHI; T. FUKUDA. *Kumamoto Univ., Kurume Univ.*
- 10:00 II11 **146.07** Dendrite specific inhibition of SNc dopamine neurons. R. C. EVANS*; E. TWEDELL; M. ZHU; J. ASCENCIO; Z. M. KHALIQ. *NIH*.
- 11:00 II12 **146.08** Convergent modulatory systems regulate striatal spinogenesis. N. M. BANNON*; C. M. GRAGE; Y. KOZOROVITSKIY. *Northwestern Univ.*
- 8:00 II13 **146.09** Cholinergic regulation of striatal GABAergic interneurons. M. ASSOUS*; J. M. TEPPER. *CMBN, Rutgers Univ., Rutgers Univ.*
- 9:00 II14 **146.10** A new type of striatal neurons characterized by their large size, immunoreactivity with the antibody SMI-32, and selective distribution in the most caudal striatum. S. OGATA*; Y. MIYAMOTO; N. SHIGEMATSU; T. FUKUDA. *Kumamoto Univ.*
- 10:00 II15 **146.11** Dopamine depletion induces circuit specific alterations of GABAergic transmission in the striatum. L. RUBI*; L. CRISTIÁ LARA; I. L. BOCCALARO; C. SCHWERDEL; J. FRITSCHY. *Univ. of Zurich*.
- 11:00 II16 **146.12** Striatal ERK activation in a knock-in mouse model of DOPA-responsive dystonia. M. BRISCIONE*; C. DONSANTE; X. FAN; A. P. SHANNON; S. BONNO; S. CAMPBELL; D. BERNHARD; A. DOWNS; D. GUTMAN; T. SARDAR; D. J. SUTCLIFFE; H. A. JINNAH; E. J. HESS. *Emory Univ.*
- 8:00 II17 **146.13** Substantia nigra pars reticulata-ventroanterior motor thalamus synapses are altered in parkinsonian rats. L. C. PARR-BROWNLIE*; R. A. SIZEMORE; R. A. SMITHER; S. M. HUGHES; C. BOSCH-BOUJU. *Univ. Otago, Univ. Otago, Univ. Otago, INRA, Bordeaux INP, Univ. of Bordeaux*.

- 9:00 II18 **146.14** The unique distribution of D1 and D2 dopamine receptors in the lateral caudal striatum of rodents. K. OGATA*; F. KARUBE; Y. HIRAI; F. FUJIYAMA. *Doshisha Univ.*
- 10:00 JJ1 **146.15** Targeting VGLUT2 in mature dopamine neurons decreases mesoaccumbal glutamatergic transmission and identifies a role for glutamate co-release in synaptic plasticity by increasing baseline AMPA/NMDA ratio. M. PAPATHANOU*; M. CREED; M. C. DORST; Z. BIMPIDIS; S. DUMAS; H. PETTERSSON; C. BELLONE; G. SILBERBERG; C. LUSCHER; Å. WALLEN-MACKENZIE. *Uppsala Univ., Univ. of Maryland Sch. of Med., Univ. of Geneva, Karolinska Institute, Oramacell.*
- 11:00 JJ2 **146.16** Dopamine cells balance regional differences in striatal cholinergic transmission via dopamine and glutamate co-release. Y. CAI*; C. FORD. *Univ. of Colorado Denver.*
- 8:00 JJ3 **146.17** Genetic dissection of the role potassium channels of midbrain dopamine neurons play in physiology and behavior. B. JUAREZ*; Y. S. JO; A. C. HUNKER; A. MENDEZ; L. S. ZWEIFEL. *Univ. of Washington, Univ. of Washington.*
- 9:00 JJ4 **146.18** Chemogenetic manipulation of basal ganglia indirect pathway *in vitro* and *in vivo*. S. BOUABID*; Q. WANG; F. ZHOU. *Univ. of Tennessee Col. of Med.*
- 10:00 JJ5 **146.19** Dorsal striatum medial spiny neurons encode motor skill learning. L. ZHANG*; B. LIANG; G. BARBERA; Y. LI; D. LIN. *Natl. Inst. on Drug Abuse.*
- 11:00 JJ6 **146.20** Local axon collaterals shape spike timings of basal ganglia output neurons. K. M. LAMBERT*; F. R. FERNANDEZ; J. A. WHITE. *Boston Univ., Univ. of Utah.*
- 8:00 JJ7 **146.21** Organization of parallel basal ganglia output pathways. L. E. MCELVAIN*; Y. CHEN; B. LIM; R. M. COSTA; D. KLEINFELD. *UCSD, UCSD, UCSD, UCSD, Columbia Univ.*
- 9:00 JJ8 **146.22** Neurons in layer 1 and 6b of mouse cerebral cortex. E. LAI*; E. S. ALBERT; M. GARCIA-MUNOZ; G. ARBUTHNOTT. *Okinawa Inst. of Sci. and Technol. Gradua.*
- 10:00 KK1 **146.23** Synaptic properties of cortical and thalamic projections onto different types of striatal neurons. Y. M. JOHANSSON*; G. SILBERBERG. *Karolinska Institutet.*
- 11:00 KK2 **146.24** Characterization of transgenic mouse lines for targeting major neuromodulatory systems reveals organizational principles of the dorsal raphe nucleus. D. F. CARDOZO PINTO*; V. J. HAN; I. POLLAK DOROCIC; K. T. BEIER; S. LAMMEL. *Univ. of California Berkeley, Stanford Univ., Stanford Univ., UC Berkeley.*
- 8:00 KK3 **146.25** Architecture of habenula circuitry underlies a distinct stress-induced depression phenotype. I. CERNIAUSKAS*; J. WINTERER; J. W. DE JONG; D. LUKACSOVICH; H. YANG; F. KHAN; J. R. PECK; V. LILASCHAROEN; B. LIM; C. FÖLDY; S. LAMMEL. *Univ. of California, Berkeley, Univ. of Zurich, UCSD.*
- 9:00 KK4 **146.26** A neural circuit mechanism for coding negative motivational stimuli in the mesolimbic dopamine system. J. W. DE JONG*; S. A. AFJEI; I. POLLAK DOROCIC; J. PECK; C. K. KIM; K. DEISSEROTH; S. LAMMEL. *UC Berkeley, Stanford Univ., Stanford Univ. Dept. of Psychology.*

POSTER

147. Basal Ganglia Systems in Motivated Behaviors

Theme E: Motor Systems

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 KK5 **147.01** Real-time *in vivo* monitoring of striatal GPCR signaling using FRET-based biosensors. S. M. AUGUSTIN*; J. O. LEE; Y. KIM; H. L. PUHL, III; S. S. VOGEL; D. M. LOVINGER. *Natl. Inst. of Hlth. - NIAAA.*
- 9:00 KK6 **147.02** Modulation of the activity of striatal fast-spiking interneurons by action and outcome in a choice context. P. APICELLA*; K. MARCHE. *CNRS, Inst. De Neurosci. De La Timone, CNRS.*
- 10:00 KK7 **147.03** Experience-dependent contributions of striatal dopamine to dexterous limb movements. A. BOVA*; A. HURST; K. MYRAN; D. K. LEVENTHAL. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*
- 11:00 KK8 **147.04** Putative place-to-go cells in the rat nucleus accumbens. C. DA CUNHA*; D. LEVCIK; A. SUGI; L. PULIDO; V. CYRUS; M. AGUILAR-RIVERA; R. A. FUENTES; C. D. BLAHA; K. H. LEE. *Univ. Federal do Parana, Inst. of Physiology, Czech Acad. of Sciences, Prague, Czech Republic, UCSD, Univ. De Chile, Mayo Clin., Mayo Clin.*
- 8:00 KK9 **147.05** Striatal dopamine D2 receptors regulate cost sensitivity and behavioral thrift. D. MOURRA*; F. GNAZZO; J. BEELER. *Queens Col., The Grad. Ctr. of the City Univ. of New York, Queens Col.*
- 9:00 KK10 **147.06** Amphetamine inhibits locomotor activity via dopamine D4 receptor stimulation in rats with enhanced D1 receptor activation. D. ERLIJ; B. CAMPOS; M. RODRÍGUEZ; F. PAZ-BERMÚDEZ; G. B. FLORAN*. *SUNY Downstate Med. Ctr. Col. of Med., Ctr. for Res. and Advanced Studies of the Na, Cinvestav, Ctr. de Investigación y de Estudios Avanzados del IPN, CINVESTAV IPN.*
- 10:00 KK11 **147.07** Rearrangement of oscillatory activity within the cortico-thalamic-basal ganglia circuit evoked by epidural spinal cord stimulation. C. I. ASTUDILLO*; P. PETERSSON; R. A. FUENTES. *Lund Univ., Univ. de Chile.*
- 11:00 KK12 **147.08** A role for striatal tyrosine hydroxylase interneurons in behavior. B. STANFIELD*; M. A. DIAZ; J. KAMINER; D. W. ESPINOZA; M. ASSOUS; J. M. TEPPER; M. W. SHIFLETT; T. Z. KOOS. *Rutgers Univ., Rutgers Univ.*
- 8:00 LL1 **147.09** Transcriptional profiles of adult neurons involved in vision and reward. J. HE*; L. C. BYRNE; W. R. STAUFFER. *Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 9:00 LL2 **147.10** Motor thalamic preparatory activity and its modulation by basal ganglia input using optogenetics in a mouse licking task. J. CATANESE*; D. JAEGER. *Emory Univ.*
- 10:00 LL3 **147.11** Projection pathways in ventrolateral striatum modulate operant control of licking. S. MUTLU*; E. LOTTEM; A. MACHADO; M. CAREY; Z. F. MAINEN; R. M. COSTA. *Champalimaud Ctr. for the Unknown.*
- 11:00 LL4 **147.12** ● The striatum organizes 3D behavior via moment-to-moment action selection. J. E. MARKOWITZ*; W. F. GILLIS; C. C. BERON; S. Q. NEUFELD; K. ROBERTSON; N. D. BHAGAT; R. E. PETERSON; E. PETERSON; M. HYUN; S. W. LINDERMAN; B. L. SABATINI; S. R. DATTA. *Harvard Med. Sch., Columbia Univ.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

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* Indicates abstract's submitting author

- 8:00 LL5 **147.13** Investigating action selection in the basal ganglia - computational approaches at different levels of biological description. J. J. JOHANNES HJORTH*; S. M. SURYANARAYANA; A. KOZLOV; J. FROST NYLÉN; G. SILBERBERG; K. N. GURNEY; J. HELLGREN KOTALESKI; S. GRILLNER. *Royal Inst. of Technol., Karolinska Institutet, Royal Inst. of Technol., Karolinska Institutet, Univ. Sheffield.*
- 9:00 LL6 **147.14** Time-delay based reservoir computing modeling of the basal ganglia. Y. G. TIRAT-GEFEN*. *GMU / Maxwave Res. LLC.*
- 8:00 DP08/LL7 **147.15** (Dynamic Poster) Inhibitory basal ganglia inputs induce excitatory motor signals in the thalamus. J. KIM*; Y. KIM; R. NAKAJIMA; A. SHIN; G. AUGUSTINE; D. KIM. *KIST, KAIST, Lee Kong Chian Sch. of Medicine, Nanyang Technological Univ.*
- 11:00 LL8 **147.16** Disruption and rescuing cued-turning in rats by silencing and activating, respectively, striatal cholinergic interneurons. C. AVILA*; A. KUCINSKI; M. SARTER. *Univ. of Michigan.*
- 8:00 LL9 **147.17** Repeated activation of amygdala inputs to the dorsolateral striatum induces compulsive motor behavior. C. CUNHA; D. ASHUROV; B. JONES; K. MAYIL; J. L. PLOTKIN*. *Stony Brook Univ.*
- 9:00 LL10 **147.18** The role of amygdala-striatal projections in instrumental learning. A. VICENTE*; P. BOTTA; R. M. COSTA. *Columbia Univ.*
- 10:00 LL11 **147.19** Isometric two action task for studying the effect of reward in action selection. I. VAZ*; D. S. PETERKA; R. M. COSTA. *Columbia Univ.*
- 11:00 LL12 **147.20** Sensory and motor encoding in the ventral pallidum and nucleus accumbens. J. D. LEDERMAN*; S. E. MORRISON; S. LARDEUX; S. M. NICOLA. *Albert Einstein Col. of Med., Univ. of Pittsburgh, Albert Einstein Col. of Med., Albert Einstein Coll Med.*
- 8:00 LL13 **147.21** Development of a task to study the shaping and switch between lever press sequences in a compulsive behavior model. K. RAMIREZ-ARMENTA*; A. SANCHEZ-FUENTES; J. O. RAMÍREZ-JARQUÍN; F. TECUAPETLA. *Natl. Autonomous Univ. of Mexico.*
- 9:00 LL14 **147.22** The role of the ventral tegmental area in acute and chronic methylphenidate administration. S. A. IHEZIE; M. THOMAS; N. DAFNY*. *Univ. of Texas Med. Sch. at Houston.*
- 10:00 MM1 **147.23** The function of the entopeduncular nucleus is action selection and evaluation. M. WALLACE*; B. L. SABATINI. *Harvard Med. Sch.*
- 11:00 MM2 **147.24** Dissection of the parafascicular nucleus in mice reveals functional distinct cortico-thalamic-striatal circuits. G. MANDELBAUM*; B. L. SABATINI. *Harvard Med. Sch., Harvard Med. Sch.*
- 8:00 MM3 **147.25** Contribution of the rostral intralaminar thalamic nuclei to striatal physiology and behavior. K. K. COVER*; W. G. KERKHOFF; B. N. MATHUR. *Univ. of Maryland Sch. of Med.*

POSTER

148. Brain-Machine Interface: Neurophysiology: Non-Invasive Techniques: Ultrasound and Other

Theme E: Motor Systems

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 MM4 **148.01** Sonogenetics- A non-invasive method to manipulate neurons. C. LEE-KUBLI*; U. MAGARAM; Y. TUFAL; V. KO; R. SHIAO; T. GRIDER; E. EDSINGER; E. CALLAWAY; D. GIBBS; S. CHALASANI. *Salk Inst. for Biol. Studies, UCSD, Marine Biol. Lab.*
- 9:00 MM5 **148.02** Real-time displacement and cavitation imaging of non-invasive neuromodulation of the peripheral nervous system via focused ultrasound. S. A. LEE*; M. BURGESS; A. POULIOPOULOS; E. KONOFAGOU. *Columbia Univ., Columbia Univ.*
- 10:00 MM6 **148.03** Listening to the brain: Functional ultrasound imaging in the non-human primate posterior parietal cortex during a memory-guided saccade task. V. N. CHRISTOPOULOS*; D. MARESCA; S. NORMAN; C. DEMENE; T. DEFFIEUX; M. TANTER; M. SHAPIRO; R. ANDERSEN. *Caltech, Caltech, Inst. Langevin, CNRS, ESPCI Paris, Inserm, PSL Res. Univ.*
- 11:00 MM7 **148.04** Noninvasive neuromodulation of the immune system using ultrasound stimulation of the spleen to treat autoimmune disease. D. ZACHS*; C. R. W. KAISER; A. HEILLER; S. OFFUTT; H. GUO; J. BASILE; T. LI; C. D. GLOECKNER; J. MUELLER; Y. KIM; R. DUTTA; J. L. AUGER; N. J. SCHULDT; E. J. PETERSON; J. K. ALFORD; B. A. BINSTADT; H. H. LIM. *Univ. of Minnesota, Medtronic, Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*
- 8:00 MM8 **148.05** ● Ultrasound modulation of the brain and peripheral nerves. H. GUO*; S. OFFUTT; M. HAMILTON; Y. KIM; C. GLOECKNER; J. ALFORD; H. LIM. *Univ. of Minnesota, Medtronic, Univ. of Minnesota, Univ. of Minnesota.*
- 9:00 MM9 **148.06** ▲ Computational modeling of low-intensity focused ultrasound pulsation for deep brain neuromodulation. S. VISAGAN*; M. M. MONTI; D. W. SHATTUCK. *UCLA, UCLA.*
- 10:00 MM10 **148.07** Cortico-muscular coupling during individuated finger movements. D. J. MCFARLAND*; W. A. SARNACKI; S. M. HECKMAN; S. L. NORMAN; E. T. WOLBRECHT; D. J. REINKENSMEYER; J. R. WOLPAW. *Wadsworth Ctr., Unknown, Univ. of Idaho, Univ. of California Irvine.*
- 11:00 MM11 **148.08** Sensorimotor rhythm control can improve finger movement after stroke. D. J. REINKENSMEYER*; S. L. NORMAN; D. J. MCFARLAND; A. MINER; S. C. CRAMER; E. T. WOLBRECHT; J. R. WOLPAW. *UC Irvine, Caltech, Wadsworth Center, NYSDOH, Univ. of Idaho.*
- 8:00 MM12 **148.09** Using targeted neuroplasticity to improve motor recovery after neurological injury: A computational model. J. R. WOLPAW*; S. L. NORMAN; D. J. REINKENSMEYER. *Wadsworth Center, NY State Dept. of Hlth., Caltech, Univ. of California.*
- 9:00 MM13 **148.10** ● Vibro-tactile brain-computer interface tools in patients with unresponsive wakefulness syndrome. C. GUGER*; R. SPATARO; G. EDLINGER. *G.Tec Neurotechnology GmbH, Univ. of Palermo, g.tec Guger Technologies OG.*

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* Indicates abstract's submitting author

- 10:00 MM14 **148.11** Motor imagery tasks coherence while controlling lower limb exoskeleton through real time BMI. J. M. AZORIN*; M. RODRÍGUEZ-UGARTE; E. IÁÑEZ; M. ORTIZ. *Miguel Hernandez Univ. of Elche*.
- 11:00 NN1 **148.12** Transcranial Direct Current Stimulation (tDCS): Molecular and behavioral evoked alterations. E. S. NICOLAU*; H. TENZA-FERRER; F. D. REZENDE; N. F. NICOLAU; M. F. BARROS; K. A. F. ALVARENGA; L. A. V. MAGNO; M. A. ROMANO-SILVA. *Univ. Federal De Minas Gerais (FM), Univ. Federal De Minas Gerais (FM)*.
- 8:00 NN2 **148.13** Investigating feedback-related brain activity in electroencephalography. M. MOUSAVI*; V. R. DE SA. *Univ. of California San Diego*.
- POSTER**
- 149. Posture and Gait: Kinematics, Muscle Activity, Exercise and Fatigue, and Biomechanics I**
- Theme E: Motor Systems**
- Sun. 8:00 AM – *San Diego Convention Center, SDCC Halls B-H*
- 8:00 NN3 **149.01** Stabilization of the mediolateral trajectory of the swing foot during a wide range of gait speeds. T. FUJINO*; N. KANEMURA; K. HIRATA; H. HANAWA; K. TAKAYANAGI. *Saitama Prefectural Univ., Univ. of Human Arts and Sci., Saitama Prefectural Univ., Grad. Sch. of Saitama Prefectural Univ., Grad. Sch. of Saitama Prefectural Univ., Saitama Prefectural Univ.*
- 9:00 NN4 **149.02** Withdrawn
- 10:00 NN5 **149.03** Sensorimotor adaptation to alteration in postural dynamics induced by a novel electrical muscle stimulation system. A. A. AZAT*; S. HAGIO; D. NOZAKI. *Univ. of Tokyo, The Univ. of Tokyo*.
- 11:00 NN6 **149.04** Detecting neural and kinematic features of different forward walking tasks in Parkinson's disease. J. O'DAY*; C. ANIDI; J. SYRKIN-NIKOLAU; R. W. ANDERSON; M. AFZAL; A. VELISAR; H. BRONTE-STEWART. *Stanford Med. Ctr., Stanford Univ., Stanford Univ., Case Western Reserve Univ., Stanford Univ., Stanford Univ.*
- 8:00 NN7 **149.05** Assessing recovery time from unexpected loss of balance during walking in young adults. U. D. ROSENBLUM*; I. MELZER; L. KRIBUS-SHMIEL; Y. BAHAT; G. ZEILIG; M. PLOTNIK. *Ctr. of Advanced Technologies in Rehabil., Ben Gurion Univ. of the Negev, Sheba Med. Ctr., Tel Aviv Univ., Tel Aviv Univ.*
- 9:00 NN8 **149.06** A novel algorithm for individual injury risk mapping with preselected background assessment factors may avoid non-contact injuries with personalized training program. A. M. OZMEN*; A. ISIK; B. YALCIN; M. B. KILICOGLU; H. ARGUNSAH BAYRAM; M. B. BAYRAM. *Acibadem Mehmet Ali Aydinlar Univ., Acibadem Sports*.
- 10:00 NN9 **149.07** Correlation of hand-eye coordination and successful free shot rate of elite basketball players. M. B. KILICOGLU*; A. ISIK; B. YALCIN; A. M. OZMEN; M. B. BAYRAM; H. ARGUNSAH BAYRAM. *Acibadem Mehmet Ali Aydinlar Univ., Acibadem Sports*.
- 11:00 NN10 **149.08** Correlation of hand-eye coordination and successful free shot rate of elite basketball players. H. ARGUNSAH BAYRAM*; A. ISIK; B. YALCIN; A. M. OZMEN; M. B. BAYRAM. *Acibadem Mehmet Ali Aydinlar Univ., Acibadem Sports, Acibadem Mehmet Ali Aydinlar Univ., Acibadem Univ.*
- 8:00 NN11 **149.09** Real time balance feedback mechanism during orthopedic and neuromuscular disease rehabilitation. B. YALCIN*; M. B. KILICOGLU; C. KURTOGLU; A. M. OZMEN; H. ARGUNSAH BAYRAM. *Acibadem Mehmet Ali Aydinlar Univ., Acibadem Mehmet Ali Aydinlar Univ.*
- 9:00 NN12 **149.10** Self-paced omnidirectional locomotion in virtual reality using a split-belt treadmill. M. T. BOOTS*; S. YAKOVENKO. *West Virginia Univ., West Virginia Univ.*
- 10:00 NN13 **149.11** Patterns of acceleration during walking are altered in adults with autism spectrum disorder. S. MORRISON*; C. N. ARMITANO; H. J. BENNETT; J. A. HAEGELE. *Old Dominion Univ., Old Dominion Univ.*
- 11:00 NN14 **149.12** Use of EMG and accelerometry to assess changes in gait during 10m Walk following a high intensity exercise therapy in Parkinson's disease. B. P. O'CALLAGHAN*; M. FLOOD; P. DIAMOND; M. M. LOWERY. *Univ. Col. Dublin*.
- 8:00 NN15 **149.13** The temporal reproducibility of the gait cycle in overground and treadmill walking in young and old adults. A. M. PHIPPS*; K. KITANO; D. M. KOCEJA. *Indiana Univ., Indiana Univ.*
- 9:00 NN16 **149.14** Contributions of arm swing to real-world gait coordination in humans. C. WANG; P. SHAH; S. A. SISTO; E. V. VASUDEVAN*. *Stony Brook Univ., Stony Brook Univ., Univ. of Buffalo, Stony Brook Univ.*
- 10:00 OO1 **149.15** Characterization of compensatory stepping for balance recovery in response to falling. J. YOO*; J. LEE; K. CHAN; J. UNGER; K. MUSSELMAN; K. MASANI. *Univ. of Toronto, Toronto Rehabil. Inst. – Univ. Hlth. Network, Univ. of Toronto, Univ. of Toronto*.
- 11:00 OO2 **149.16** Alterations to local and global kinematics during locomotor rehabilitation in the neonatally spinalized rat. J. VANLOOZEN*; S. F. GISZTER. *Drexel Univ. Col. of Med.*
- 8:00 OO3 **149.17** ▲ Direction and modality sensitivity of walking balance to visual perturbations. P. S. BALUYUT; S. M. O'CONNOR*. *San Diego State Univ.*
- 9:00 OO4 **149.18** Interdependence of balance mechanisms during walking. T. D. FETTROW*; H. REIMANN; E. THOMPSON; D. GRENET; J. JEKA. *Univ. of Delaware, Temple Univ.*
- 10:00 OO5 **149.19** Merging enriched environments and assistive technology to enhance early exploratory and motor activity in young children. E. KOKKONI*; J. C. GALLOWAY. *Univ. of Delaware, Univ. of Delaware*.
- 11:00 OO6 **149.20** A NeuRoBotic experimental system to study muscle function. D. URBINA-MELÉNDEZ*; J. A. BERRY; H. ZHAO; F. VALERO-CUEVAS. *USC, USC, USC*.
- 8:00 OO7 **149.21** The presence of a 1/f structure in our walking can enable us to withstand falls. A. SKIADOPOULOS*; J. KENT; J. WICKSTROM; C. SLOAN; N. STERGIU. *Univ. of Nebraska At Omaha*.
- 9:00 OO8 **149.22** Altered medial gastrocnemius activation after cross-reinnervation with an antagonist during single session percutaneous recordings in the cat. T. NICHOLS*; E. KAJTAZ; H. ANDERSON; H. MAAS; M. A. LYLE. *Georgia Inst. of Technol., Georgia Inst. of Technol., Vrije Univ. Amsterdam, Emory Univ.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 10:00 OO9 **149.23** Real-time avatar-based feedback to enhance gait symmetry after stroke: Instantaneous effects of different avatar views. L. Y. LIU*; S. SANGANI; K. PATTERSON; J. FUNG; A. LAMONTAGNE. *McGill Univ., Jewish Rehabil. Hosp., Univ. of Toronto, McGill Univ., Feil and Oberfeld Res. Centre, Jewish Rehabil.*
- 11:00 OO10 **149.24** • Neuromuscular adaptations of walking against fore-aft resistance applied at the center of mass. A. NAIDU*; C. HURT; D. A. BROWN. *Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham, Univ. of Alabama at Birmingham.*

POSTER

150. Posture and Gait: Afferent Control

Theme E: Motor Systems

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 OO11 **150.01** Simulation study of bipedal walking based on motor modules of synergistic muscle activations. D. ICHIMURA*; T. YAMAZAKI. *The Univ. of Electro-Communications, Heisei Ougi Hosp.*
- 9:00 OO12 **150.02** Neural correlates of neck proprioceptive inputs integration for spatial orientation. L. BONZANO*; L. PEDULLÀ; A. BISIO; G. BRICHETTO; M. BOVE. *Univ. Genoa, Multiple Sclerosis Italian Fndn.*
- 10:00 OO13 **150.03** Passive exoskeleton assistance during a split-belt adaption task alters both spatial and temporal patterns of gait coordination. T. SADO*; J. NIELSEN; B. GLAISTER; K. TAKAHASHI; P. MALCOLM; M. MUKHERJEE. *Univ. of Nebraska At Omaha, Univ. of Nebraska at Omaha, Cadence Biomed., Univ. of Nebraska at Omaha.*
- 11:00 OO14 **150.04** Sample entropy and wavelet transform suggest automaticity of postural control in young and older adults in cognitive task conditions. N. RICHER*; Y. LAJOIE. *Univ. of Ottawa.*
- 8:00 OO15 **150.05** Skin input from the dorsal ankle joint is used differently by lead and trail limbs during obstacle crossing. E. E. HOWE*; A. J. TOTH; L. R. BENT. *Univ. of Guelph, Univ. of Limerick.*
- 9:00 OO16 **150.06** Stretch reflex removal from ipsilateral hamstrings, quadriceps and sartorius reduces joint ranges of motion and increases leg length bilaterally during level walking in the cat. B. I. PRILUTSKY*; K. OH; A. N. KLISHKO; D. ZUNIGA; A. W. ENGLISH; R. J. GREGOR. *Georgia Inst. Technol., Georgia Inst. of Technol., Georgia Inst. of Technol., Georgia Inst. of Technol., Emory Univ. Sch. of Med., USC.*
- 10:00 OO17 **150.07** Soleus H-reflex modulation by visual perturbation in humans. K. KITANO*; A. M. PHIPPS; D. M. KOCEJA. *Indiana Univ., Indiana Univ., Indiana Univ.*
- 11:00 OO18 **150.08** Restoration of global, but not local, kinematics after denervation of vastus lateralis in rats. C. ALESSANDRO*; B. A. RELLINGER; F. BARROSO; M. C. TRESCH. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*
- 8:00 PP1 **150.09** Kinematic and neuromuscular adaptation to unloaded walking. R. KABBALIGERE*; B. LEE; C. S. LAYNE. *Univ. of Houston, Univ. of Houston.*

- 9:00 PP2 **150.10** Gravitational unloading delays adaptation to support surface translations. C. S. LAYNE*; B. LEE; R. KABBALIGERE. *Univ. Houston, Univ. of Houston, Univ. of Houston.*
- 10:00 PP3 **150.11** • The role of plantar-surface mechanoreception during unexpected slips. S. D. PERRY*; J. BERRIGAN; R. BILLO. *Wilfrid Laurier Univ.*

POSTER

151. Rhythmic Motor Pattern Generation: Connectivity

Theme E: Motor Systems

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 PP4 **151.01** Role of V0 commissural interneurons in control of basic motor behaviours. M. D. G. VEMULA; V. F. LYALKA; A. E. TALPALAR; O. KIEHN; T. G. DELIAGINA; P. V. ZELENIN*. *Karolinska Inst.*
- 9:00 PP5 **151.02** ▲ Serotonin modulates interaction between respiration and body movement in the pons. O. HIROTAKA*; C. UCHIDA; S. TONOMURA; A. ARATA. *Hyogo Col. of Med.*
- 10:00 PP6 **151.03** Development of hindbrain respiratory motor circuits in larval zebrafish. K. L. MCARTHUR*; J. R. FETCHO. *Cornell Univ.*
- 11:00 PP7 **151.04** Thalamocortical modulation through phase-amplitude coupling in humans affected by essential tremor. E. OPRÍ*; C. G. REDDY; M. S. OKUN; K. D. FOOTE; A. GUNDUZ. *Univ. of Florida.*
- 8:00 PP8 **151.05** Identification of locomotor-related spinal interneurons receiving glutamatergic input from hindlimb motoneurons. V. RANCIC; F. HAQUE; K. BALLANYI; S. GOSGNACH*. *Univ. of Alberta, Univ. of Alberta.*
- 9:00 PP9 **151.06** Intrinsic properties and connectivity of spinal flexor and extensor rhythm generating neurons. N. HA*; L. YAO; K. DOUGHERTY. *Drexel Univ. Col. of Med.*
- 10:00 PP10 **151.07** The potential roles of mouse lumbar v3 interneurons for fore hind limb coordination. H. ZHANG*; D. DESKA-GAUTHIER; Y. ZHANG. *Dalhousie Univ.*
- 11:00 PP11 **151.08** Inference of receptor distribution on single neurons from focal glutamate uncaging and synaptic immunohistochemistry. J. PIPKIN*; A. G. OTOPALIK; E. E. MARDER. *Brandeis Univ., Columbia, Volen Ctr.*
- 8:00 PP12 **151.09** Anatomical and molecular deconstruction of the whisking central pattern generator and sensory feedback premotor circuits. J. TAKATOH*; V. PREVOSTO; J. LU; S. ZHAO; B. HAN; F. WANG. *Duke Univ. Med. Ctr., Duke Univ., Duke Univ., Duke Univ.*
- 9:00 PP13 **151.10** Dynamical invariants underlying robustness and flexibility in sequential neural dynamics. I. ELICES*; M. REYES-SANCHEZ; R. AMADUCCI; R. LEVI; F. B. RODRIGUEZ; P. VARONA. *Univ. Autonoma de Madrid, USC.*
- 10:00 PP14 **151.11** Opto-anatomical neuron identification in the buccal ganglia of *Aplysia*. R. M. COSTA*; C. L. NEVEU; R. HOMMA; S. NAGAYAMA; D. A. BAXTER; J. H. BYRNE. *Northwestern Univ., The Univ. of Texas Hlth. Sci. Ctr. at H.*
- 11:00 PP15 **151.12** Burstlet hypothesis for inspiratory rhythm generation: Are rhythm and pattern generation separate mechanisms? P. KALLURKAR*; M. C. D. PICARDO; C. A. DEL NEGRO. *The Col. of William & Mary.*

- 8:00 PP16 **151.13** Mapping connectivity of sensory neurons linking cerebrospinal fluid to motor circuits in vertebrates. M. WU*; K. FIDELIN; M. CARBÓ-TANO; A. PRENDERGAST; B. P. TSENG; P. GARNERET; C. WYART. *Inst. du Cerveau et de la Moelle Épinère.*
- 9:00 PP17 **151.14** ● Neural control of direction of movement in *Drosophila melanogaster* larvae. J. JONAITIS*; A. HIRAMOTO; J. MACLEOD; K. HIBBARD; A. CARDONA; J. W. TRUMAN; A. NOSE; S. R. PULVER. *Univ. of St Andrews, Univ. of Tokyo, Janelia Res. Campus, Univ. of Washington.*
- 10:00 PP18 **151.15** Endogenously oscillating excitatory motoneurons produce undulatory output in a model of *C. elegans* without proprioception. G. HASPEL*; H. ANWAR; L. DENG; J. E. DENHAM; T. RANNER; N. COHEN; C. O. DIEKMAN. *New Jersey Inst. of Technol., Univ. of Leeds, New Jersey Inst. of Technol.*
- 11:00 PP19 **151.16** Discrete spinal V3 interneuron subpopulations are specified through temporally and molecularly distinct developmental pathways. D. A. DESKA-GAUTHIER*; H. ZHANG; L. BENNETT; C. JONES; J. B. BIKOFF; Y. ZHANG. *Dalhousie Univ., St. Jude Children's Res. Hosp.*
- 8:00 PP20 **151.17** ▲ Using Fos-TRAP model to compare mice lumbar spinal cord neuronal activations when stepping with and without incline. J. LUO*; H. ANAND; B. N. PHAM, JR; V. EDGERTON. *UCLA, Univ. of California Los Angeles, UCLA, Univ. of California Los Angeles.*
- POSTER**
- 152. Neuroethology: Sensory and Motor Systems**
- Theme F: Integrative Physiology and Behavior**
- Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H
- 8:00 PP21 **152.01** Contribution of force dynamics (dF/dt) to activation of muscle synergies in insect legs. S. N. ZILL*; C. HARRIS; C. J. DALLMANN; J. SCHMITZ; S. CHAUDHRY; A. BUSCHGES. *J.C. Edwards Sch. Med., Univ. of Washington, Bielefeld Univ., Univ. of Cologne.*
- 9:00 PP22 **152.02** ▲ Escape responses from looming stimuli in the jumping spider, *phidippus regius*. V. A. GAUDIN*; C. L. CLELAND. *James Madison Univ.*
- 10:00 QQ1 **152.03** Stimulus-intensity impacts on direction encoding and its temporal dynamics in insect mechanosensory projection neurons. H. OGAWA*; K. TANAKA; M. SOMEYA; H. SHIDARA. *Hokkaido Univ., Hokkaido Univ.*
- 11:00 QQ2 **152.04** ▲ Antennae pointing during the escape response in the cricket, *acheta domesticus*. A. M. ZEHER*; C. L. CLELAND. *James Madison Univ.*
- 8:00 QQ3 **152.05** ▲ Neural plasticity and behavioral changes as a result of male-exposure in females of an insect model. B. A. NAVIA*; S. DOSUNMU; C. R. KENT. *Andrews Univ.*
- 9:00 QQ4 **152.06** Trade-off between speed, directional accuracy and behavioral flexibility in action selection of the escape behavior in the cricket. N. SATO*; H. SHIDARA; H. OGAWA. *Hokkaido Univ., Hokkaido Univ.*
- 10:00 QQ5 **152.07** ▲ Correlating neural and behavioral responses in an insect model and the effect of neuromodulators in cricket phonotaxis. C. R. KENT*; B. CHO; C. KIM; B. SHIN; B. A. NAVIA. *Andrews Univ.*
- 11:00 QQ6 **152.08** Phonotactic behaviors in freely-moving female crickets. H. SHIDARA*; N. HOMMARU; H. OGAWA. *Hokkaido Univ., Hokkaido Univ.*
- 8:00 QQ7 **152.09** Neurobiological mechanisms of spontaneous behavior and operant feedback in *Drosophila*. C. C. ROHRSEN*; B. BREMBS. *Regensburg Univ., Univ. Regensburg.*
- 8:00 DP09/QQ8 **152.10** (Dynamic Poster) Network models of whole brain activity in behaving adult *Drosophila*. S. AIMON*; T. JIA; T. J. SEJNOWSKI; R. J. GREENSPAN. *Kavli Inst. For Brain and Mind UCSD, Salk Inst., Kavli Inst. For Brain and Mind UCSD.*
- 10:00 QQ9 **152.11** Sensory-motor transformations during *Drosophila* thermotaxis. J. M. SIMÕES*; J. I. LEVY; M. MANI; W. L. KATH; A. PARA; M. GALLIO. *Northwestern Univ.*
- 11:00 QQ10 **152.12** Mechanosensory inputs contribute to the sequence of *Drosophila* grooming. N. ZHANG; L. GUO; J. H. SIMPSON*. *Univ. of California Santa Barbara, Univ. of California Santa Barbara.*
- 8:00 QQ11 **152.13** Modeling *Drosophila* grooming reveals order and duration dependence in behavioral sequence generation. J. MUELLER; P. RAVBAR*; J. SIMPSON; J. CARLSON. *UCSB, UCSB, UCSB.*
- 9:00 QQ12 **152.14** Temporal processing and chemotactic behavior in *C. elegans* olfactory learning. K. S. CHEN*; A. L. CASTILLO BAHENA; M. LUI; A. M. LEIFER. *Princeton Univ., Princeton Univ., Princeton Univ.*
- 10:00 QQ13 **152.15** Serotonin modulates neural activity of RID interneuron and the behavior in *Caenorhabditis elegans*. H. MORI*; K. ASHIDA; H. SHIDARA; K. HOTTA; K. OKA. *Keio Univ., Hokkaido Univ., Keio Univ. Sch. of Fundamental Sci. and, Keio Univ.*
- 11:00 QQ14 **152.16** WormBeat: A strategy to evaluate pharyngeal pumping variability in the nematode *C. elegans*. M. B. HARRIS*; R. BERLEMONT; B. ORTIZ; B. E. TAYLOR. *California State Univ. Long Beach.*
- 8:00 QQ15 **152.17** Behavioral characterization of *Berghia stephanieae*: A novel laboratory species for neuroethological research. P. D. QUINLAN*; T. N. BUI; Y. SAIMIRE; M. D. RAMIREZ; B. DRESCHER; P. S. KATZ. *Univ. of Massachusetts Amherst, Univ. of Massachusetts Amherst.*
- 9:00 QQ16 **152.18** Neural correlates of adaptive responses to changing load in feeding *Aplysia*. J. P. GILL*; A. P. A. VORSTER; D. N. LYTTLE; T. A. KELLER; S. C. STORK; H. J. CHIEL. *Case Western Reserve Univ., Case Western Reserve Univ., Case Western Reserve Univ., Case Western Reserve Univ.*
- 10:00 QQ17 **152.19** ▲ Neural dynamics of a feeding pattern-generating circuit in the marine mollusk *Aplysia californica*. J. YANG*; Y. HUAN; N. X. KODAMA; R. F. GALÁN; H. J. CHIEL. *Case Western Reserve Univ., Case Western Reserve Univ.*
- 11:00 QQ18 **152.20** ▲ A novel serotonergic mechanism for attention in the peripheral nervous system of a predatory mollusk? Y. LIU*; S. J. HANEY; A. C. BORIS; T. P. NOREKIAN; R. GILLETTE. *Univ. of Illinois at Urbana-Champaign, Univ. of Florida, Univ. of Illinois at Urbana-Champaign.*
- 8:00 QQ19 **152.21** Regulation of crawling decisions in the sea slug *pleurobranchaea californica*. C. LEE*; R. GILLETTE. *Univ. of Illinois Urbana-Champaign, Univ. Illinois.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 9:00 QQ20 **152.22** How dynamic nervous system influences behavioral stability in *hydra vulgaris*. K. N. BADHIWALA*; J. T. ROBINSON. *Rice Univ.*
- 10:00 QQ21 **152.23** ▲ Contributions of taurine to the loser effect and the escape response in the female crayfish, *procambarus clarkii* and *orconectes virilism*. C. M. MECCA*; R. F. WALDECK. *The Univ. of Scranton.*
- 11:00 QQ22 **152.24** Robustness of a rhythmic motor pattern to varying pH. D. HAMPTON*; J. HALEY; E. E. MARDER. *Brandeis Univ., UCSD, Brandeis.*

POSTER

153. Neuroendocrinology of Social Behavior

Theme F: Integrative Physiology and Behavior

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 QQ23 **153.01** Neuropeptidergic regulation of sociality and physiology in juvenile marmoset monkeys. J. CAVANAUGH*; E. LEICHNER; J. A. FRENCH. *Univ. of Nebraska at Omaha.*
- 9:00 QQ24 **153.02** Behavioral analysis of mice infected with *Toxoplasma gondii* and rosvastatin treated. F. F. EVANGELISTA*; L. F. BELETINI; W. COSTA-FERREIRA; F. M. MANTELO; A. H. SOUZA; P. LAET SANTANA; A. A. MARCHIORO; A. FALAVIGNA-GUILHERME. *State Univ. of Maringá, São Paulo State Univ.*
- 10:00 QQ25 **153.03** Abnormal membrane protein trafficking in the autistic like the N-ethylmaleimide sensitive factor knockout mice. M. XIE*; K. IWATA; Y. FUKAZAWA; H. MATSUZAKI. *Res. Ctr. For Child Mental Development, Univ., Life Sci. Innovation Center, Univ. of Fukui, United Grad. Sch. of Child Development, Osaka University, Kanazawa University, Hamamatsu Univ. Sch. of Medicine, Chiba Univ. and Univ. of Fukui, Div. of Brain Structures and function, Dept. of Morphological and Physiological Sciences, Grad. Sch. of Med. Sciences, Univ. of Fukui.*
- 11:00 QQ26 **153.04** Neuronal signature of social novelty exploration in the VTA: Implication for autism spectrum disorder. C. PRÉVOST-SOLIÉ*; S. BARISELLI; H. HÖRNBERG; S. MUSARDO; L. BURKLE; P. SCHEIFFELE; C. BELLONE. *Univ. of Geneva, NIH, Biozentrum Univ. Basel.*
- 8:00 RR1 **153.05** Consumer social interactions and the role of oxytocin in rebuilding trust. A. A. D. PULGA; K. BASSO; K. R. VIACAVA*. *IMED Business Sch., Inst. of Human Cognition and Behavior.*
- 9:00 RR2 **153.06** Boldness and social rank is reflected in the expression of brain dopamine, histamine and opioid receptors in male zebrafish. A. MUSTAFA*; G. ANDRÉ; P. THÖRNQVIST; S. WINBERG. *Uppsala Univ., Uppsala Univ., The Univ. of Western Australia, Crawley 6009.*
- 10:00 RR3 **153.07** Oxytocin receptor expressing neurons within the prefrontal cortex exert top-down control over social recognition. Y. TAN*; S. SINGHAL; S. HARDEN; H. HILLER; D. NGUYEN; L. M. COLON-PEREZ; M. FEBO; L. WANG; K. CAHILL; A. D. DE KLOET; C. J. FRAZIER; E. G. KRAUSE. *Univ. of Florida, Univ. of Florida, Univ. of Florida, Col. of Med.*
- 11:00 RR4 **153.08** Social network effects on learning and neural processing of a visual cue discrimination task. M. RODRIGUEZ SANTIAGO*; L. A. JORDAN; H. A. HOFMANN. *Univ. of Texas At Austin, Max Planck Inst. for Ornithology, Univ. of Texas at Austin.*
- 8:00 RR5 **153.09** Viral-mediated restoration of hypothalamic vasopressin does not ameliorate the hypoaroused behavioral phenotype of vasopressin-deficient adolescent Brattleboro rats. K. SCHATZ*; L. M. BROWN; A. BARRETT; V. GRINEVICH; M. J. PAUL. *Univ. At Buffalo, German Cancer Res. Ctr., Univ. at Buffalo, SUNY.*
- 9:00 RR6 **153.10** Comparisons of functions of arginine vasotocin and isotocin and morphology of neurons producing these peptides in gobiid fish with different mating systems. K. FUKUDA*; N. TSUJITA; H. KUNIYOSHI; T. MUKUDA; M. YOSHIDA; T. SUNOBE; N. YAMAMOTO. *Nagoya Univ., Hiroshima Univ., Tottori Univ., Tokyo Univ. of Marine Sci. and Technol.*
- 10:00 RR7 **153.11** Repulsive axon guidance molecule FLRT2 regulates neuronal migration and social behavior. S. YAMAGISHI*; Y. SHINODA; S. OGAWA; T. MIYAKAWA; K. TAKAO; K. SATO. *Hamamatsu Univ. Sch. of Med., Tokyo Univ. of Pharm. and Life Sci., Tokyo Univ. of Sci., Fujita Hlth. University, ICMS, Div. Syst. Med., Univ. of Toyama.*
- 11:00 RR8 **153.12** Alteration of adolescent rat brain by pair exposure with conspecific during fear conditioning. M. JANG*; T. JUNG; J. NOH. *Dankook university.*
- 8:00 RR9 **153.13** Distribution of vasopressin receptor 1a and 1b in mouse brain. K. HORIE*; S. ADACHI; K. NISHIMORI. *Tohoku Univ.*
- 9:00 RR10 **153.14** Stimulation of presynaptic fibers projecting from median raphe to CA2 and social behaviors. S. LEE*; S. WILLIAMS AVRAM; A. CYMERBLIT-SABBA; J. SONG; K. COUREY; S. YOUNG. *NIH, Univ. of Akron.*
- 10:00 RR11 **153.15** Effects of propranolol on cortisol, alpha-amylase, and circulating interleukin-6 following a social stress task. M. M. GAUDIER-DIAZ*; J. K. MACCORMACK; E. ARMSTRONG-CARTER; K. A. MUSCATELL. *Univ. of North Carolina- Chapel Hill.*
- 11:00 RR12 **153.16** Oxytocin in the bed nucleus of the stria terminalis promotes avoidance of novel social stimuli. N. DUQUE-WILCKENS*; V. MINIE; S. YOKOYAMA; A. TRAN; V. GRINEVICH; B. C. TRAINOR. *Univ. of California, Davis, Univesrity of California, Davis, Univ. of California, Davis, German Cancer Res. Ctr., Univ. of California -Davis.*
- 8:00 RR13 **153.17** Distribution of two types of estrogen receptors and co-expression with oxytocin and oxytocin receptors in the neural networks for social and anxiety-related behaviors. S. SAGOSHI*; S. MAEJIMA; M. MORISHITA; T. SAKAMOTO; H. SAKAMOTO; S. TSUKAHARA; S. OGAWA. *Univ. of Tsukuba, Saitama Univ., Saitama Univ., Okayama Univ., Univ. of Tsukuba.*
- 9:00 RR14 **153.18** Glucocorticoid receptor activity in the medial prefrontal cortex prevents emotional contagion in mice. N. LIDHAR*; S. SIVASELVACHANDRAN; H. N. TURNER; S. KHAN; M. SIVASELVACHANDRAN; S. ABDALLAH; J. BANG; J. KIM; N. M. FOURNIER; L. J. MARTIN. *Univ. of Toronto, Trent Univ.*
- 10:00 SS1 **153.19** Massage promotes oxytocin release and activates the orbitofrontal cortex and superior temporal sulcus. Q. LI*; W. ZHAO; B. BECKER; K. JUAN; K. KENDRICK. *Univ. of Electronic Sci. and Technol. of.*
- 11:00 SS2 **153.20** Prospective follow up study of neuroendocrine and prognostic indices in adolescents with eating disorders. T. GOLTZER*; R. GIESSER; A. SHALEV; A. MELTZER; R. MASARWA; D. PEVZNER; L. CANNETI; E. GALILI-WEISSTUB; R. SEGMAN. *Mol. Psychiatry Lab. - Dept. of Ps, Hadassah Univ. Hosp., Hadassah Univ. Hosp.*

- 8:00 SS3 **153.21** Observing a sibling experience a stressor alters behavioral and endocrine stress reactivity in prairie voles. O. AKINBO*; J. J. WARDWELL; W. T. WATANASRIYAKUL; M. C. NORMANN; M. COX; S. CIOSEK; S. SUJET; N. HOLZAPFEL; A. J. GRIPPO. *Northern Illinois Univ., Northern Illinois Univ. Dept. of Psychology.*
- 9:00 SS4 **153.22** Developmental origins of social behavior and neuroendocrine function. T. SOLOMON-LANE*; H. A. HOFMANN. *Univ. of Texas at Austin.*
- 10:00 SS5 **153.23** Sex differences in social reward and sex-specific effects of oxytocin in the ventral tegmental area on social motivation. J. M. BORLAND*; K. O'LAUGHLIN; K. GRANTHAM; L. AIANI; K. J. FRANTZ; H. E. ALBERS. *Georgia State Univ. Neurosci. Inst., Ctr. for Behavioral Neurosci.*
- 11:00 SS6 **153.24** Analysis of neuronal activation in response to novel social interaction in forebrain oxytocin target neurons of young and old F344 female rats. J. R. RAVENEL*; A. E. PERKINS; A. DEFENDINI; T. DEAK; R. L. SPENCER. *Univ. of Colorado, Binghamton Univ.*
- 8:00 SS7 **153.25** Role of the vasopressin V1b receptor in the amygdaloid modulation of social behaviors. O. R. HERNANDEZ PEREZ*; M. CRESPO-RAMIREZ; K. FUXE; M. PEREZ DE LA MORA. *Inst. de Fisiologia Celular, UNAM, Karolinska Institutet.*
- 9:00 SS8 **153.26** The effects of acute intranasal oxytocin on anxiety and social behaviors using the valproic acid model of autism spectrum disorder. S. M. HARDING*; A. C. AGUDELO RIVERA; N. S. LOCURTO. *Fairfield Univ., Fairfield Univ.*
- 10:00 SS9 **153.27** Differential effects of androgen signaling on social behavior in a cichlid fish. B. A. ALWARD*; A. AGRAWAL; P. H. CATHERS; S. A. JUNTTI; R. D. FERNALD. *Stanford Univ.*
- 11:00 SS10 **153.28** Impact of life style, physical and mental training on brain structure and functioning. R. COURA*; S. GRANON. *Neurotelos, Inst. des Neurosciences Paris-Saclay (CNRS).*
- 8:00 SS11 **153.29** Heterogeneity of social rejection experiences: A comparison of affective, behavioral, and physiological responses. S. KISTER*; E. BASS; I. FRENCH; K. MOSER; R. BRODSKY; A. NELSON; K. REIDELBERGER; E. OBAID; D. SCHNEIDER. *Univ. of Nebraska At Omaha, Univ. of Nebraska Omaha.*
- 10:00 SS14 **154.03** 5-hydroxymethylcytosine as a stable epigenetic mark possibly involved in sexual differentiation of the brain. C. D. CISTERNAS*; L. CORTES; E. C. BRUGGEMAN; B. YAO; N. G. FORGER. *Georgia State Univ., Emory Univ.*
- 11:00 TT1 **154.04** Effects of a neonatal testosterone and a DNA methyltransferase inhibitor on the sexual differentiation of cell phenotype in the mouse brain. L. R. CORTES*; C. D. CISTERNAS; I. GOLYNKER; N. G. FORGER. *Georgia State Univ.*
- 8:00 TT2 **154.05** miRNA regulation of androgen receptor mediated sexual differentiation in the spinal nucleus of the bulbocavernosus (SNB) system. J. A. JOHANSEN*; M. ALTEMUS; M. N. FLORENDO. *Baker Col. of Muskegon, Vanderbilt Univ. Med. Ctr., Central Michigan Univ.*
- 9:00 TT3 **154.06** Estrogen's role in suppression and refinement of the sexually dimorphic song learning system in zebra finches. H. N. CHOE*; H. MATSUNAMI; E. D. JARVIS. *Duke Univ., Duke Univ., The Rockefeller Univ.*
- 10:00 TT4 **154.07** Key role of estrogen receptors beta (ER β) in the sexual differentiation of Japanese quail. L. COURT; L. FAGOT; J. BALTHAZART; C. A. CORNIL*. *Univ. of Liege.*
- 11:00 TT5 **154.08** Sex differences in gene expression profiles of various brain regions in adolescent rodents with implications for behavioral vulnerabilities. K. KROLICK*; J. CAO; D. TAPP; M. MCMURRAY; A. J. KISS; H. SHI. *Miami Univ., Miami Univ., Miami Univ.*
- 8:00 TT6 **154.09** Sex, age, and regional differences of estrogen receptors and aromatase in the rat striatum. A. A. KRENTZEL*; A. JOHNSON; J. WILLETT; J. E. MEITZEN. *North Carolina State Univ.*
- 9:00 TT7 **154.10** Dynamic hormone regulation of corticotropin releasing factor receptor 1-expressing cells in the anteroventral periventricular nucleus. R. M. DE GUZMAN*; Z. J. ROSINGER; J. S. JACOBSSKIND; M. MALONE; N. BULANCHUK; N. J. JUSTICE; D. G. ZULOAGA. *Univ. at Albany, State Univ. of New York, Univ. of Texas, Houston.*
- 10:00 TT8 **154.11** Calbindin-D28K cell distribution in neonatal progesterone receptor knockout (PRKO) mice. D. LALITSASIVIMOL*; C. K. WAGNER. *Univ. At Albany.*
- 11:00 TT9 **154.12** Progesterone receptor expression in the SF-1knockoutmouse brain during postnatal development. Y. IKEDA*; A. TAGAMI; M. MAEKAWA. *Aichi-Gakuin Univ. Sch. of Dent.*
- 8:00 TT10 **154.13** Pituitary genetic signature common to short-term sleep deprivation and stress in male and female mice. M. G. OYOLA*; E. A. SHUPE; A. SOLTIS; G. SUKUMAR; C. L. DALGARD; M. WILKERSON; S. ROTHWELL; O. LARCO; T. J. WU. *Uniformed Services Univ., Uniformed Services Univ. of the Hlth. Scienc, Uniformed Services Univ., Uniformed Services Univ. of the Hlth. Sci., Uniformed Services Univ., Uniformed Services Univ.*
- 9:00 TT11 **154.14** Sex differences in rat basolateral amygdala projections to the bed nucleus of the stria terminalis and prolonged cued fear conditioning responses. J. E. VANTREASE*; B. AVONTS; J. H. URBAN; J. A. ROSENKRANZ. *Rosalind Franklin Univ. of Med. & Sci., Rosalind Franklin Univ. of Med. & Sci.*

POSTER

154. Neuroendocrine Processes: Sexual Differentiation

Theme F: Integrative Physiology and Behavior

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 SS12 **154.01** A conserved genetic timer regulates the sexual maturation of neural circuits and behavior. D. S. PORTMAN*; H. LAWSON. *Univ. of Rochester, Univ. of Rochester.*
- 9:00 SS13 **154.02** Phagoptosis by microglia determines the size of the sexually dimorphic nucleus (SDN) of the POA. L. A. PICKETT*; M. M. MCCARTHY. *Univ. of Maryland Sch. of Med.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 10:00 TT12 **154.15** Changes in morphology and spine densities in orexin neurons after repeated stress in male and female rats. L. GRAFE*; K. R. URBAN; E. GENG; S. BHATNAGAR. *Children's Hosp. of Philadelphia, Children's Hosp. of Philadelphia, Univ. of Pennsylvania, Univ. Pennsylvania, Children's Hosp Philadelphia.*
- 11:00 TT13 **154.16** Exposure to a synthetic progestin in clinical use to prevent preterm birth alters innervation of the postnatal rat medial prefrontal cortex: Differential effects in males and females. M. LOLIER*; C. K. WAGNER. *Univ. At Albany.*
- 8:00 TT14 **154.17** ▲ Early life abuse alters GABAergic synaptic contacts in the basolateral amygdala of juvenile rats in a sexually dimorphic manner. K. Y. LIM*; A. N. SANTIAGO; M. OPENDAK; R. M. SULLIVAN; C. J. AOKI. *New York Univ., New York Univ., NKI & NYU Sch. of Med.*
- 9:00 TT15 **154.18** Differential response in male and female infant rats to maternal presence during fear conditioning. A. M. WHITE*; J. DEBIEC. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*
- 10:00 TT16 **154.19** The role of progesterone in stress and binge-like eating behaviors and its influence on the central nervous system in male and female rats. G. GUÉVREMONT*; S. CHOMETTON; C. DE AVILA DAL BO; E. TIMOFEEVA; I. V. TIMOFEEV. *CRIUCPQ, Laval Univ., Univ. Laval.*
- 8:00 TT21 **155.05** Evidence for involvement of the bed nuclei of the stria terminalis in memory consolidation via an HPA-modulatory circuit. R. LINGG*; S. B. JOHNSON; E. B. EMMONS; R. M. ANDERSON; S. A. ROMIG-MARTIN; N. S. NARAYANAN; R. T. LALUMIERE; J. J. RADLEY. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa Roy J and Lucille A Carver Col. of Med.*
- 9:00 TT22 **155.06** Cell type specific expression of muscarinic receptors in the oval nucleus of BNST: Modulation by chronic stress. J. GUO*; A. MENIGOZ; L. J. YOUNG; D. G. RAINNIE. *Emory Univ.*
- 10:00 TT23 **155.07** Functional dissection of the bed nucleus of the stria terminalis in stress-related states. S. KIM*; G. HEO; H. PARK; S. KIM. *Seoul Natl. Univ.*
- 11:00 TT24 **155.08** ▲ Downregulation of bdnf expression within mesolimbic brain structures following intranasal oxytocin treatment on cocaine conditioning in male rats. S. D. FONSECA*; D. O. OJEDA; G. C. MOLINA; A. DEFENDINI; C. S. MALDONADO. *Univ. of Puerto Rico, Univ. of Puerto Rico.*
- 8:00 UU1 **155.09** Determination of steady-state transcriptome modifications associated with repeated homotypic stress in the rat posterior hypothalamic region. S. CAMPEAU*; R. DOWELL; J. STANLEY; S. K. SASSE; P. R. DURGEMPUDI; A. KEEFER. *Univ. Colorado Boulder, Univ. Colorado Boulder, Univ. Colorado Boulder, Natl. Jewish Hlth., Univ. Colorado Boulder.*
- 9:00 UU2 **155.10** The impact of stress on synaptic function and appetite regulation in the dorsomedial nucleus of the hypothalamus. K. M. CROSBY*; S. A. WILSON; E. J. STEEVES. *Mount Allison Univ.*
- 10:00 UU3 **155.11** Chronic unpredictable stress modulates neuronal activity of AgRP and POMC neurons in hypothalamic arcuate nucleus. X. FANG*; S. JIANG; J. WANG; Z. ZHANG; Y. LEI; X. LU. *Med. Col. of Georgia At Augusta Univ., Binzhou Med. Univ.*
- 11:00 UU4 **155.12** Acute-, repeated- and chronic stress differentially affects central metabolic homeostasis. K. J. KOVÁCS*; D. KUTI; D. ZELENÁ; S. FERENCZI; Z. WINKLER. *Inst. of Exptl. Med., Inst. of Exptl. Med., Inst. of Exptl. Med.*
- 8:00 UU5 **155.13** Sex dependent effects of binge alcohol exposure on a thalamolimbic stress circuit. O. LEVINE*; K. E. PLEIL; M. SKELLY; J. MILLER. *Weill Cornell Med., Weill Cornell Med., Univ. of North Carolina.*
- 9:00 UU6 **155.14** Persistent female social defeat stress and escalated alcohol drinking in female C57BL/6J mice. E. L. NEWMAN*; K. C. BURK; M. B. BICAKCI; J. F. DEBOLD; K. A. MICZEK. *Tufts Univ., Tufts Univ.*
- 10:00 UU7 **155.15** Estrus stage modulates stress reactivity and alcohol drinking in female mice. J. RIVERA*; H. TAKASHIMA; M. J. SKELLY; J. D. MILLER; K. E. PLEIL. *Weill Cornell Med., Weill Cornell Med.*
- 11:00 UU8 **155.16** The effect of stress on the object recognition memory in female rats during the diestrus and proestrus. M. R. GONZALEZ LOPEZ*; N. L. GARCÍA-SALDÍVAR; J. C. ROMERO-GUADIANA; J. P. C. ARRIAGA-RAMÍREZ; S. E. CRÚZ-MORALES. *UNAM FES-Iztacala.*
- 8:00 UU9 **155.17** A profile of hypothalamic-pituitary-adrenal axis function following photoperiod alteration and the influence of dietary isoflavones. K. BUBAN*; B. M. BAUMAN; A. L. RUSSELL; R. J. HANDA; T. J. WU. *Uniformed Services Univ., Uniformed Services Univ., Uniformed Services Univ., Colorado State Univ.*

POSTER

155. Stress and the Hypothalamus, Amygdala, and Bed Nucleus

Theme F: Integrative Physiology and Behavior

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 TT17 **155.01** A potential pathway mediating sound-induced anxiety-like behavior. W. YIWEI*; M. LIU; D. CAI; F. XIE; L. YOU; Y. YUE; K. YUAN. *Inst. of Neural Engin., Inst. of Neural Engin., Tsinghua Univ., Sch. of Medicine, Tsinghua Univ., Tsinghua Univ.*
- 9:00 TT18 **155.02** Bed nucleus of stria terminalis (BNST) CRF microcircuits for chronic stress-induced anxiety-like behaviors. A. GARCIA*; S. E. CANETTA; T. KASH; A. HARRIS; E. D. LEONARDO. *Columbia University, New York Psychiatry Inst., Columbia Univ., UNC- Chapel Hill, Columbia Univ., Columbia/New York State Psych Inst.*
- 10:00 TT19 **155.03** ● Preimmunization with a heat-killed preparation of Mycobacterium vaccae reduces corticotropin-releasing hormone mRNA expression in the central nucleus of the amygdala and the bed nucleus of the stria terminalis in a fear-potentiated startle paradigm. K. M. LOUPY*; M. R. ARNOLD; J. E. HASSELL, Jr.; M. LIEB; L. N. MILTON; K. E. CLER; J. H. FOX; P. H. SIEBLER; D. SCHMIDT; S. I. S. R. NORONHA; H. E. W. DAY; C. LOWRY. *Univ. of Colorado at Boulder, Univ. of Munich, Univ. of Ouro Preto.*
- 11:00 TT20 **155.04** Parallel bed nuclei of stria terminalis --> lateral hypothalamus circuits for opposing emotional states. W. J. GIARDINO*; A. EBAN-ROTHSCHILD; D. J. CHRISTOFFEL; S. LI; R. C. MALENKA; L. DE LECEA. *Stanford Univ., Univ. of Michigan, Ann Arbor.*

- 9:00 UU10 **155.18** A mechanical acupuncture instrument mitigates the endoplasmic reticulum stress and oxidative stress of ovariectomized rats. S. SEO*. *Korea Inst. of Oriental Med.*
- 10:00 UU11 **155.19** Hypothalamic CRF neurons integrate multimodal stimuli to program a functional circuitry for avoidance behavior. M. WAGLE*; J. SCHULKIN; S. GUO. *Univ. of California San Francisco, Georgetown Univ.*
- 11:00 UU12 **155.20** Differential cortical and limbic brain inputs to dorsal lateral and medial subregions of the anterior bed nucleus of the stria terminalis revealed by new viral genetic mapping. X. XU*; T. C. HOLMES; Y. SUN. *Univ. California, Irvine, Univ. California, Irvine.*
- 8:00 UU13 **155.21** Gut microbiota regulate social behavior via stress response pathways in the brain. W. WU*; M. D. ADAME; W. TANG; C. E. SCHRETTTER; M. I. WANG; R. ABDEL-HAQ; K. BEADLE; B. E. DEVERMAN; V. GRADINARU; S. K. MAZMANIAN. *Caltech.*
- POSTER**
- 156. Stress-Modulated Pathways: Hypothalamus, Amygdala, and Bed Nucleus**
- Theme F: Integrative Physiology and Behavior**
- Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H
- 8:00 UU14 **156.01** Homeostatic synaptic scaling maintains stability in stress circuits. N. RASIAH*; D. G. ROSENEGGER; N. DAVIU; T. FUZESI; T. STERLEY; J. S. BAINS. *Hotchkiss Brain Inst. - Univ. of Calgary, Univ. of Calgary, Univ. of Calgary, Hotchkiss Brain Inst.*
- 9:00 UU15 **156.02** Vasopressin decreases synaptic metaplasticity after stress. S. P. LOEWEN*; J. S. BAINS. *Univ. of Calgary.*
- 10:00 UU16 **156.03** A novel method to study chloride homeostasis in brain slices. A. J. LANZ*; G. R. GORDON; J. S. BAINS. *Univ. of Calgary.*
- 11:00 UU17 **156.04** Fear and anxiety in the hypothalamus. T. FUZESI*; D. G. ROSENEGGER; N. DAVIU; N. RASIAH; G. PERINGOD; G. R. GORDON; J. S. BAINS. *Hotchkiss Brain Inst.*
- 8:00 UU18 **156.05** ▲ A mouse model of stress-enhanced fear and anxiety-like behavior. A. M. HASSIEN*; F. SHUE; M. LEE; B. E. BERNIER; M. R. DREW. *The Univ. of Texas At Austin.*
- 9:00 UU19 **156.06** Identification of whole-brain structural connectivity patterns of stress-activated basolateral amygdala neurons in resilient versus susceptible mice. C. FILLINGER*; Y. S. GROSSMAN; A. MANGANARO; J. ZHANG; H. BITO; C. A. DENNY; D. DUMITRIU. *Icahn Sch. of Med. At Mount Sinai, Duke Univ. Med. Ctr., Icahn Med. Sch. at Mount Sinai, Univ. Tokyo Grad Sch. Med., Columbia Univ., Icahn Sch. of Med. at Mount Sinai.*
- 10:00 UU20 **156.07** Circuit mapping of medial amygdala (MeA) to the paraventricular nucleus (PVN). L. AKBARI*; J. YEOH; C. D. ADAMS; C. S. MITCHELL; J. S. BAINS; Z. B. ANDREWS; B. A. GRAHAM; C. V. DAYAS. *The Univ. of Newcastle, Univ. of Calgary, Monash Uni.*
- 11:00 UU21 **156.08** A potential role of non-lemniscal auditory thalamic inputs to lateral amygdala in diverse sound-induced defensive behaviors. M. LIU*; Y. WANG; D. CAI; F. XIE; L. YOU; Y. YUE; K. YUAN. *Inst. of Neural Engin., USC, Tsinghua Univ., Sch. of Medicine, Tsinghua Univ., Inst. of Neural Engin., Tsinghua Univ.*
- 8:00 UU22 **156.09** Altered mPFC-amygdala circuits of the extinction impaired animal model of PTSD following fear conditioning and extinction. K. PARK*; C. CHUNG. *Konkuk Univ.*
- 9:00 VV1 **156.10** Physiology and function of amygdalo-cortical endocannabinoid signaling. D. MARCUS*; G. BEDSE; A. GAULDEN; A. HAYMER; S. PATEL. *Vanderbilt Univ.*
- 10:00 VV2 **156.11** Glucagon-like peptide 1 receptor (GLP1R) signaling promotes excitation of central amygdala (CEA) neurons innervating the bed nucleus of the stria terminalis (BST). N. V. POVYSHEVA*; H. ZHENG; L. M. RINAMAN. *Univ. of Pittsburgh Dept. of Neurosci., Florida State Univ., Florida State Univ.*
- 11:00 VV3 **156.12** Inhibition of the BLA to BST pathway induces behavioral resilience to restraint stress. M. BOMPOLAKI*; J. A. ROSENKRANZ; W. F. COLMERS; J. H. URBAN. *Rosalind Franklin Univ. Med. & Sci., Rosalind Franklin Univ. Med. & Sci., Univ. of Alberta, Rosalind Franklin Univ. Med. & Sci.*
- 8:00 VV4 **156.13** Altered miRNA expression in amygdala mediates learned helplessness behavior through Wnt signaling. B. ROY*; M. DUNBAR; J. AGRAWAL; L. A. ALLEN; Y. DWIVEDI. *Univ. of Alabama At Birmingham.*
- 9:00 VV5 **156.14** MARCKSL1 in the amygdala controls the HPA axis and anxiety behaviors. T. TANAKA*; S. MIYATA. *Kanazawa Med. University, Sch. of Med., Kindai Univ.*
- 10:00 VV6 **156.15** Conservation of retinohypothalamic, hippocampal and amygdalar PACAPergic circuits in mouse and rat. L. ZHANG; S. Z. JIANG; V. S. HERNÁNDEZ; E. WEIHE; P. T. LINDBERG; M. K. H. SCHÄFER; J. W. MITCHELL; C. BEAULE; M. U. GILLETTE; L. E. EIDEN*. *Natl. Autonomous Univ. of Mexico, NIH, NIMH-IRP, UNAM, Inst. of Anat. & Cell Biology, Mol. Neurosciences, Univ. of Illinois, Philipps-University Marburg.*
- 11:00 VV7 **156.16** Chronic amphetamine treatment and withdrawal increases anxiety-like behaviors in association with altered corticotropin-releasing hormone systems in the rat extended amygdala. J. D. HEINZE*; J. L. SCHOLL; J. M. KOPELMAN; K. KELLY; M. ARNOLD; K. J. RENNER; M. J. WATT; G. L. FORSTER; C. A. LOWRY. *Univ. of Colorado Boulder, Univ. of South Dakota, Univ. of Pittsburgh, Univ. of South Dakota, Univ. of Otago, Univ. of South Dakota, Univ. of Colorado Boulder.*
- 8:00 VV8 **156.17** Noradrenergic activation of patterned inhibitory synaptic transmission in the basolateral amygdala. X. FU*; J. G. TASKER. *Tulane Univ.*
- 9:00 VV9 **156.18** Voluntary exercise or systemic propranolol ameliorates maladaptive behavior following trauma in intact female rats. C. CHRIST*; M. M. CAHILL; S. J. ALDRICH; E. TAYLOR-YEREMEEVA; S. ROBINSON. *Hamilton Col., USC Upstate.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

POSTER

157. Emotion: Human Emotion II

Theme G: Motivation and Emotion

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 VV10 **157.01** Aggressiveness and impulsive behaviors in different contexts in adolescence: How far can we expect them and when it goes beyond the limit? A. R. WILLHELM*; A. S. PEREIRA; F. R. CZERMAINSKI; R. B. VOLPATO; R. M. DE ALMEIDA. *Univ. Federal Do Rio Grande Do Sul, Univ. Federal do Rio Grande do Sul, UFRGS.*
- 9:00 VV11 **157.02** Cortisol promotes the neural network underlying cognitive emotion regulation. V. L. KINNER; C. J. MERZ; O. T. WOLF*. *Ruhr-Universitaet Bochum.*
- 10:00 VV12 **157.03** Resting-state networks associated with the sensory perception of dyspnea induced by effort breath. A. YORITA; T. KAWAYAMA; T. KINOSHITA; H. ODA; Y. TOKUNAGA; Y. SAKAZAKI; H. KIDA; T. HOSHINO; T. TANIWAKI*. *Dept Med, Kurume Univ.*
- 11:00 VV13 **157.04** Music and emotion in Alzheimer's disease. A. M. BELFI*; A. RESCHKE-HERNANDEZ; E. GUZMAN-VELEZ; D. TRANEL. *Missouri Univ. of Sci. and Technol., Univ. of Iowa, Harvard Med. Sch., Univ. of Iowa.*
- 8:00 VV14 **157.05** Functional MRI study of the human amygdala using multi-echo multi-band EPI at 7 Tesla. U. CHOI; T. TANAKA; M. HARUNO; I. KIDA*. *NICT, Osaka Univ.*
- 9:00 VV15 **157.06** Cross-modal emotion processing in children raised in institutional settings: An event-related potentials study. I. OVCHINNIKOVA*; A. DAVYDOVA; M. ZHUKOVA; M. PETROV; T. LOGVINENKO; I. GOLOVANOVA; S. KORNILOV; E. GRIGORENKO. *St. Petersburg State Univ., Univ. of Houston, Baylor Col. of Med., Haskins Labs., Yale Univ.*
- 10:00 VV16 **157.07** ▲ Emotional discrimination of female caregivers of palliative cancer patients. X. CORTIJO-PALACIOS*; E. ACOSTA-MARI; B. REYES-BAEZ; E. DIAZ-DOMINGUEZ; A. ESCALANTE-VARELA; B. BERNAL-MORALES; T. CIBRIAN-LLANDERAL. *Univ. Veracruzana, Facultad de Medicina, Inst. Veracruzano de Salud Mental Dr. Rafael Velasco Fernandez, Ctr. Estatal de Cancerologia Dr. Miguel Dorantes Mesa, Lab. de Neurofarmacologia. Inst. de Neuroetologia, Univ. Veracruzana, CONACYT. Inst. de Neuroetologia, Univ. Veracruzana.*
- 11:00 VV17 **157.08** Self-assessment scale proposal for the measurement of emotional recognition. T. CIBRIAN-LLANDERAL*; O. ROMERO-MOLINA; M. CADENA-BARAJAS; T. C. CIBRIAN-LLANDERAL; A. CARDOSO-VILLEGAS. *Univ. Veracruzana, Univ. Veracruzana, Benemerita Univ. Autonoma de Puebla.*
- 8:00 VV18 **157.09** LPFC representations support goal-oriented responses during emotional processing. R. C. LAPATE*; M. HECKNER; J. MARTIN; J. WU; M. D'ESPOSITO. *Univ. of California Berkeley.*
- 9:00 VV19 **157.10** Sexually dimorphic autonomic responses to affective manipulation as reflected by heart rate variability. R. J. HJELLE; J. HAMBRICK; R. L. LLOYD*. *Univ. of Minnesota, Univ. of Minnesota.*
- 10:00 VV20 **157.11** Altered neural regulation of emotional conflict in resilient trauma-exposed individuals. C. A. CORNELSSEN*; R. N. WRIGHT; C. DE LOS ANGELES; A. NRUSIMHA; A. TULSEJA; J. JIANG; C. MILLS-FINNERTY; R. EDELSTEIN; B. ROSENBERG; Y. ZAIKO; A. ETKIN. *Stanford Univ.*
- 11:00 VV21 **157.12** Dynamic modeling and brain decoding of internal thoughts and emotions. B. E. KIM*; C. WOO. *Ctr. for Neurosci. Imaging Res., Univ. of Colorado Boulder.*
- 8:00 VV22 **157.13** ● Facial emotional expression as a predictor of moral decision making. K. RIVERA FERNÁNDEZ DE LOS RONDEROS*; R. I. RUMIATI; M. MENGONI. *SISSA (Internacional Sch. For Advanced Studies), Polytecnic Univ. of Marche.*
- 9:00 WW1 **157.14** Reduced empathy associated with medical experience is perspective-dependent. S. KIM*; Y. LEE; H. YOON; A. KIM; K. KIM; S. KIM. *Korea Univ., Korea Univ. Col. of Med.*
- 10:00 WW2 **157.15** The effect of transcranial direct current stimulation over The right temporal parietal junction on microexpression training. R. SU*; Y. GE; C. LIU. *Beijing Normal Univ.*
- 11:00 WW3 **157.16** ▲ Emotional faces incongruity interferes with word affective evaluation. V. CHAVEZ*; J. RAMOS-LOYO. *Inst. De Neurociencias, Inst. De Neurociencias.*
- 8:00 WW4 **157.17** Comparison of automated and manual systems for coding pain-related facial expressions. J. QUINDE*; M. D. FAILLA; P. A. DEPALMA; C. J. CASCIO. *Vanderbilt Univ., Vanderbilt Univ.*
- 9:00 WW5 **157.18** Exercise-induced changes in delta, theta, alpha, and beta frequencies predict improvements in general positive affect. J. C. BASSO*; C. E. O'BRIEN; C. CROSTA; A. DAS; S. SEWNAUTH; E. NEAL; J. ELLEN; D. J. OBERLIN; W. A. SUZUKI. *New York Univ., Middlebury Col.*
- 10:00 WW6 **157.19** Apolipoprotein ε4 carrier status impacts affective and cognitive empathy. T. E. CHOW*; I. J. SIBLE; E. KOSIK; S. DATTA; J. S. YOKOYAMA; A. KARYDAS; K. P. RANKIN; J. H. KRAMER; G. COPPOLA; B. L. MILLER; W. W. SEELEY; V. E. STURM. *Univ. of California, San Francisco, UCLA.*
- 11:00 WW7 **157.20** A hopeful heart: The impact of hopeful imagery on heart rate variability and emotion. L. ROOT LUNA*; C. V. O. WITVLIET; F. J. RICHIE; N. BERNAL. *Hope Col., Hope Col., Michigan State Univ.*
- 8:00 WW8 **157.21** The effects of cortisol administration on emotion, stress reactivity, and brain activity in depression. K. D. SUDHEIMER*; D. DUVIO; D. JAMES; E. HEINEMEYER; S. PIROG. *Stanford Univ. Dept. of Psychiatry and Behavioral Sci., Stanford Univ.*
- 8:00 DP10/WW9 **157.22** (Dynamic Poster) The role of accessible and inaccessible rewards in eliciting emotional states such as happiness and anger. R. T. PHILIPS*; X. GU. *Ctr. for Brainhealth, UT Dallas.*

POSTER

158. Emotion: Positive and Negative Emotional States

Theme G: Motivation and Emotion

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 WW10 **158.01** Decoding natural, spontaneous emotional behavior from human fronto-temporal mesolimbic circuits. M. BIJANZADEH*; M. DESAI; H. E. DAWES; E. F. CHANG. *Univ. of California San Francisco.*
- 9:00 WW11 **158.02** EEG decoding of emotional states: Neural substrates revealed by simultaneous EEG-fMRI. K. BO*; S. YIN; Y. LIU; A. KEIL; M. DING. *Univ. of Florida, Univ. of Florida, Univ. of California Davis Ctr. for Mind and Brain, Univ. Florida.*
- 10:00 WW12 **158.03** Premenstrual syndrome and anhedonia: Evidence from the reward process. L. HOU*; R. ZHOU, SR. *Nanjing Univ., Nanjing Univ., Ctr. for Exptl. Social and Behavioral Res. of Jiangsu Province.*
- 11:00 WW13 **158.04** How short-term contemplative practices with vocalization alter psychological states in an unexperienced sample. H. MIYATA*; A. TANAKA; Y. SASE; N. SUZUKI; D. OH. *Waseda Univ., Waseda Univ.*
- 8:00 WW14 **158.05** Emotional facial expressions in healthy women during REM sleep. A. P. RIVERA*; E. LÓPEZ-RUIZ; I. RAMÍREZ-SALADO; J. J. GONZÁLEZ-OLVERA; F. AYALA; A. JIMENEZ-ANGUIANO. *Inst. Nacional de Psiquiatría Ramón de la Fuen, Doctorado en Ciencias Biológicas y de la Salud, Univ. Autónoma Metropolitana, Inst. Nacional de Psiquiatría Ramon de la Fuente Muñiz, Inst. Nacional de Psiquiatría Ramón de la Fuente Muñiz, Inst. Nacional de Psiquiatría, UNAM, Univ. Autonoma Metropolitana-Iztapalapa.*
- 9:00 XX1 **158.06** Predictors of life and health satisfaction among elderly Koreans: A machine-learning approach. S. LEE*; I. CHOI; W. AHN; B. OH. *Seoul Natl. Univ., Seoul Natl. Univ., SMG-SNU Boramae Med. Ctr.*
- 10:00 XX2 **158.07** Evidence indicating no effects of neighborhood affluence on brain functions and behaviors of positive/negative valence systems among mood/anxiety disorders. K. L. FORTHMAN*; C. FENG; R. KUPLICKI; H. YEH; M. PAULUS. *Laureate Inst. for Brain Res., Univ. of Tulsa.*
- 11:00 XX3 **158.08** Neighborhood affluence accounts for inter-individual variations in the left insula volume among mood/anxiety disorders. C. FENG*; K. FORTHMAN; H. YEH; R. KUPLICKI; M. PAULUS. *Laureate Inst. for Brain Res., Univ. of Tulsa.*
- 8:00 XX4 **158.09** ▲ Association between reward-related electrocortical activity and gambling behavior. E. TUNISON*, IV; R. SYLVAIN; V. HILEY; J. CARLSON; J. DAAR. *Northern Michigan Univ.*
- 9:00 XX5 **158.10** Role of dopamine in the primate caudate for the dexision making under different emotional context. Y. UEDA*; M. YASUDA; K. NAKAMURA. *Kansai Med. Univ.*
- 10:00 XX6 **158.11** A new method to evaluate emotional valence and arousal of each visual stimulus in monkeys. H. IWAOIKI*; K. NAKAMURA. *Kyoto Univ. Primate Res. Inst.*
- 11:00 XX7 **158.12** Rats will aid a distressed conspecific independent of social reward. S. COX*; C. M. REICHEL. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*
- 8:00 XX8 **158.13** Responses to positive and aversive stimuli in female rats treated with estradiol + progesterone and housed in seminatural environment: Effects of yohimbine and chlordiazepoxide. O. LE MOENE*; M. KVALHEIM; A. AGMO. *Univ. of Tromso Fac. of Hlth. and Sci., Inst. for Psychology, Univ. of Tromsø.*
- 9:00 XX9 **158.14** Sex differences in suppression of conditioned fear during a safety cue in a fear-safety-reward cue discrimination task. M. R. NORRIS; E. GREINER; I. MUELLER; K. H. NG; S. SANGHA*. *Purdue Univ., Purdue Inst. for Integrative Neurosci., Purdue Univ.*
- 10:00 XX10 **158.15** Adolescent conditioning affects fear expression and rate of safety learning during adult discriminative conditioning. I. MUELLER*; A. L. BRINKMAN; E. M. SOWINSKY; S. SANGHA. *Purdue Univ., Purdue Inst. of Integrative Neurosci.*
- 11:00 XX11 **158.16** Next-gen sequencing of TRAP/RiboTag mRNA from serotonergic raphe neurons identifies a small subset of stress-sensitive genes. A. J. LESIAK*; K. COFFEY; J. H. COHEN; C. I. CHAVKIN; J. F. NEUMAIER. *Univ. of Washington, Univ. of Washington.*
- 8:00 XX12 **158.17** Microendoscopy in the dorsal raphe nucleus reveals functionally-distinct subpopulations of serotonergic neurons. G. PAQUELET*; K. CARRION; C. LACEFIELD; P. ZHOU; L. PANINSKI; R. HEN; B. MILLER. *Columbia Univ., New York State Psychiatric Inst., Columbia Univ.*
- 9:00 XX13 **158.18** Cortical involvement in RMTg-mediated aversive signaling. E. J. GLOVER*; E. M. STARR; W. N. WAYMAN; J. J. WOODWARD; L. CHANDLER. *Univ. of Illinois at Chicago, Med. Univ. of South Carolina, Med. Univ. of South Carolina, Med. Univ. S Carolina.*
- 10:00 XX14 **158.19** Corticolimbic interactions in emotional behaviors. D. KARGL*; J. KACZANOWSKA; F. GROESSL; M. PASIEKA; P. OPRIESSNIG; J. ZINNANTI; W. E. HAUBENSACK. *Res. Inst. of Mol. Pathology, The Vienna Biocenter Core Facilities.*
- 8:00 DP11/YY1 **158.20** (Dynamic Poster) Neural instantiation of regulatory processes for dynamic emotional stimuli. Y. HAO*; L. YAO; D. M. SMITH; E. SOREL; A. K. ANDERSON; E. H. SCHUMACHER; G. W. EVANS. *Cornell Univ., Georgia Inst. of Technol., Psychology Resource Group.*
- 8:00 YY2 **158.21** Neurobiological effects of probiotic-supplemented diets in chronically stressed male Long-Evans rats: Evidence of enhanced resilience. K. G. LAMBERT*; N. NATALE; M. H. KENT; D. VAVRA. *Univ. of Richmond.*
- 9:00 YY3 **158.22** Kappa opioid receptor-mediated depressive-like states and suppression of nucleus accumbens dopamine release are blunted in female rats. S. CONWAY; D. PUTTICK; S. OSMOND; M. F. ROITMAN; E. H. CHARTOFF*. *Univ. of Illinois at Chicago Dept. of Psychology, Harvard Med. Sch.*
- 10:00 YY4 **158.23** Basolateral amygdala (bla) activity during an approach-avoidance conflict task. P. KYRIAZI*; D. B. HEADLEY; D. PARE. *Rutgers University, The State Univ. of New Je, Rutgers, The State Univ. of New Jersey, Rutgers Univ. Newark.*
- 11:00 YY5 **158.24** Involvement of the anterior insular cortex in empathic response in rats. M. CONTRERAS; J. FELLOUS*. *Univ. of Arizona, Univ. of Arizona.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:00 YY6 **158.25** The association of bmi, cognitive restraint, and stress with confusion. P. WHEELER*; C. MURPHY; M. MARVIN. *San Diego State Univ., San Diego State University/University of California, San Diego State Univ.*
- 9:00 YY7 **158.26** Tac2 controls a brain state induced by stress. M. ZELIKOWSKY*; M. HUI; T. KARIGO; A. CHOE; B. YANG; M. R. BLANCO; K. BEADLE; V. GRADINARU; B. E. DEVERMAN; D. J. ANDERSON. *Caltech.*
- 10:00 YY8 **158.27** Characterization of cell-types in the ventromedial hypothalamus which mediate innate social behaviors. D. KIM*; L. LO; T. KIM; Z. YAO; K. A. SMITH; L. T. GRAYBUCK; O. FONG; L. YI; S. SHAH; N. KOULENA; L. CAI; L. PACHTER; B. TASIC; H. ZENG; D. J. ANDERSON. *Caltech, Caltech, Caltech, Allen Inst. for Brain Sci.*
- 11:00 YY9 **158.28** Unable to Attend Models of fear-related persistent neural activity in VMHdm. A. KENNEDY*; P. S. KUNWAR; L. LI; D. J. ANDERSON. *Caltech.*
- 8:00 YY10 **158.29** Male interneurons that underlie reward learning associated with mating in *Drosophila*. E. D. HOOPFER*; D. J. ANDERSON. *Caltech, Howard Hughes Med. Inst.*
- 9:00 YY11 **158.30** In the heat of love - How mating inhibits vigilance in fruit flies. R. SUN*; T. KATSUKI; Y. HUANG; R. J. GREENSPAN. *UCSD, Thorlabs, Inc., UCSD, Univ. of California San Diego Kavli Inst. for Brain and Mind.*

POSTER

159. Drugs of Abuse and Addiction: Alcohol: Neural Mechanisms I

Theme G: Motivation and Emotion

Sun. 8:00 AM – *San Diego Convention Center, SDCC Halls B-H*

- 8:00 YY12 **159.01** Projections of RXFP3 positive cells from the zona incerta. C. J. PERRY*; A. B. SIMON; A. J. LAWRENCE. *Florey Neurosciences Inst., Univ. of Melbourne, Florey Inst. of Neurosci. & Mental Hlth.*
- 9:00 YY13 **159.02** ▲ Potential role of lateral habenula CB2 expression on impulsive behaviours and alcohol consumption in rats. Y. A. ALVARADO RAMÍREZ*; B. M. ROMERO TORRES; D. A. RANGEL RANGEL; A. E. RUIZ-CONTRERAS; O. PROSPERO-GARCIA; M. MENDEZ DIAZ. *Univ. Nacional Autonoma de Mexico, Lab. Neurogenomica Cognitiva, Fac. Psicologia, UNAM, UNAM, Univ. Nacional Autonoma de Mexico Facultad de Medicina.*
- 10:00 YY14 **159.03** D5 dopamine receptor in ethanol-induced behavioral disinhibition. I. MERCADO*; K. HAN. *Univ. of Texas at El Paso.*
- 11:00 YY15 **159.04** Cell-specific targeting of individual nicotinic acetylcholine receptor subunits in alcohol and nicotine reward. J. K. MOEN*; J. C. TOUCHETTE; J. J. MAERTENS; A. M. LEE. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota.*
- 8:00 YY16 **159.05** Investigating the neural mechanisms of compulsive reward seeking in rats. A. M. MINNAARD; J. A. S. SMEETS; H. M. B. LESSCHER; G. M. J. RAMAKERS; R. A. H. ADAN; L. J. VANDERSCHUREN*. *Utrecht University, Fac. of Vet. Med., Brain Ctr. Rudolf Magnus, Univ. Med. Ctr. Utrecht.*
- 9:00 YY17 **159.06** Habitual alcohol seeking in rats: Individual differences and the role of the dorsolateral striatum. J. A. S. SMEETS; A. M. MINNAARD; G. M. J. RAMAKERS; R. A. H. ADAN; H. M. LESSCHER*; L. J. M. J. VANDERSCHUREN. *UU, Fac. Vet. Med., Brain Ctr. Rudolf Magnus, Univ. Med. Ctr. Utrecht.*
- 10:00 YY18 **159.07** Effects of mineralocorticoid receptor antagonism on alcohol self-administration and seeking behavior in female and male rats. V. MAKHIJANI*; K. VAN VOORHIES; J. BESHEER. *Univ. of North Carolina - Chapel Hill, Univ. of North Carolina - Chapel Hill, Univ. of North Carolina - Chapel Hill.*
- 11:00 YY19 **159.08** ● ▲ Effects of chronic chemogenetic stimulation of nucleus accumbens on binge drinking and transcriptome. D. Y. POZHIDAYEVA*; K. G. TOWNSLEY; E. J. FIRSICK; A. T. D. TRAN; O. D. IANCU; A. R. OZBURN. *Portland State University/Oregon Hlth. & Sci., Oregon Hlth. & Sci. University/Portland Veterans Affairs Med. Ctr.*
- 8:00 YY20 **159.09** Ethanol inhibition of lateral orbitofrontal cortex neuron firing is mediated via D1 receptor induced release of glycine. S. NIMITVILAI; J. J. WOODWARD*. *Med. Univ. of South Carolina, Med. Univ. of South Carolina.*
- 9:00 YY21 **159.10** Chronic alcohol drinking enhances basal extracellular glutamate levels within the prelimbic cortex of alcohol-preferring (P) rats. Z. DING*; C. INGRAHAM; A. M. SENTIR; E. A. ENGLEMAN; W. J. MCBRIDE. *IPR, Neurosci. Res. Building, Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med.*
- 10:00 YY22 **159.11** Ethanol-induced presynaptic GABA release depends on internal calcium store homeostasis in the mouse central amygdala nucleus. Q. LI; S. D. MOORE*. *Duke Univ. Med. Ctr., Duke Univ.*
- 11:00 YY23 **159.12** Subunit-dependent cross-talk between p2x4 and nmda receptors. L. RODRIGUEZ*; J. CHEN; T. HASAN; E. JEONG; M. RYU; A. GUAN; J. LIANG; L. ASATRYAN; J. J. WOODWARD; M. S. BRODIE; D. L. DAVIES. *USC, USC, USC, Med. Univ. of South Carolina, Univ. Illinois-Chicago, USC.*
- 8:00 YY24 **159.13** Increased brain diffusivity and reduction in microglia in a rat model of alcohol abuse. L. VARGOVA*; I. VORISEK; R. CICCOCIOPPO; W. H. SOMMER; S. CANALS. *Charles University, 2nd Fac. of Med., Inst. of Exptl. Med. ASCR, Univ. Camerino, Central Inst. of Mental Health, Univ. of Heidelberg, Inst. de Neurociencias (CSIC-UMH).*
- 9:00 ZZ1 **159.14** Fecal microbiota transplantation: Targeting the gut-brain axis in alcohol use. R. M. CAIN; H. C. STEWART; J. E. CAUGHORN; J. E. ASPELMEIER; P. A. JACKSON; D. M. HAYES*. *Radford Univ.*
- 10:00 ZZ2 **159.15** Dose-dependent effects of ethanol on pro-enkephalin mRNA expression in the rat brain. K. HERNANDEZ FONSECA*; M. MENDEZ. *Inst. Nacional de Psiquiatría Ramón de la Fuente.*
- 11:00 ZZ3 **159.16** A chemogenetic investigation of striatal and cortical contributions to aversion-resistant alcohol drinking. E. A. SNEDDON*; J. FRANKEL; A. NADER; K. SCHUH; J. SETTERS; A. K. RADKE. *Miami Univ.*
- 8:00 ZZ4 **159.17** Binge ethanol drinking and the central amygdala: A possible role for a unique population of corticotropin-releasing factor neurons. S. ARONI*; J. M. IRVING; H. QADIR; D. R. SPARTA. *Univ. of Maryland, Sch. of Med., Univ. of Maryland Sch. of Med., Univ. of Maryland, Baltimore, Univ. of Maryland.*

9:00 ZZ5 **159.18** Characterization of a new mouse with an ethanol insensitive alpha 2 glycine receptor. S. S. GALLEGOS*; R. VIVEROS; L. SAN MARTIN; A. ARAYA; G. E. HOMANICS; D. M. LOVINGER; L. G. AGUAYO. *Univ. of Concepcion, Univ. Pittsburgh, Natl. Inst. on Alcohol Abuse and Alcoholism Rockville Office.*

10:00 ZZ6 **159.19** Effects of ethanol on accumbal neurons in glycine receptor alpha2 subunit knockout mice. L. S. SAN MARTIN*; S. GALLEGOS; R. VIVEROS; R. J. HARVEY; J. RIGO; B. BRONE; L. AGUAYO. *Univ. de Concepcion, Univ. of the Sunshine Coast, Hasselt Univ.*

11:00 ZZ7 **159.20** Endocannabinoid control of the insular-BNST circuit regulates negative affective behaviors associated with alcohol abstinence. S. CENTANNI*; T. L. FETTERLY; S. PATEL; D. G. WINDER. *Vanderbilt Univ., Vanderbilt Univ.*

8:00 ZZ8 **159.21** Identification and characterization of a control network for BNST-projecting insular neurons. J. LUCHSINGER*; S. CENTANNI; T. L. FETTERLY; D. G. WINDER. *Vanderbilt Univ., Vanderbilt Univ.*

9:00 ZZ9 **159.22** The role of somatostatin positive interneurons in the prelimbic cortex in alcohol consumption. N. A. CROWLEY*; S. N. MAGEE; A. J. BOURCIER. *Penn State Univ., Pennsylvania State Univ.*

10:00 ZZ10 **159.23** The $\alpha 5$ nicotinic acetylcholine receptor subunit may mediate anxiety and alcohol reinforcement through progesterone signaling in the interpeduncular nucleus in a sex specific manner. S. CALIGIURI*; V. P. MATHIS; M. V. MICONI DI BONAVENTURA; P. J. KENNY. *Icahn Sch. of Med. at Mount Sinai.*

11:00 ZZ11 **159.24** Accumbal kappa-opioidergic mechanisms in relapse-like ethanol intake in rats: Effect of kappa-opioid receptor antagonist JD1c. J. K. UHARI-VÄÄNÄNEN*; T. ETELÄINEN; P. BÄCKSTRÖM; F. I. CARROLL; V. OINIO; A. RAASMAJA; K. KIIANMAA; P. PIEPPONEN. *Univ. of Helsinki, Natl. Inst. for Hlth. and Welfare, RTI Intl.*

8:00 ZZ12 **159.25** Activity in the lateral orbitofrontal cortex during operant self administration of sucrose and ethanol. D. A. GIOIA*; J. J. WOODWARD. *Med. Univ. of South Carolina.*

9:00 ZZ13 **159.26** Activation of orphan G protein-coupled receptor GPR139 specifically in the habenula decreases compulsive-like alcohol drinking and hyperalgesia in alcohol-dependent rats. D. E. CONLISK*; J. KONONOFF; M. KALLUPI; A. J. KIMBROUGH; G. DE GUGLIELMO; O. GEORGE. *The Scripps Res. Inst.*

10:00 ZZ14 **159.27** Chemogenetic inhibition of dynorphinergic projections from the central amygdala to the BNST attenuates binge-like ethanol consumption male mice. H. L. HAUN*; W. C. GRIFFIN; M. F. LOPEZ; H. C. BECKER. *Med. Univ. of South Carolina, VAMC.*

11:00 ZZ15 **159.28** Nucleus accumbens shell ox1rs are critical mediators of the excessive alcohol drinking in excessive-binging individuals. K. LEI*; C. KWOK; V. G. PEDROZO; S. GHOTRA; M. FOUAD, MARY; L. ANDERSON; J. YU; L. NAKAYAMA; F. W. HOPF. *Univ. of California, San Francisco.*

8:00 ZZ16 **159.29** Anterior insula-locus coeruleus area inputs promote compulsive alcohol drinking via $\alpha 1$ -adrenergic signaling. T. DE OLIVEIRA SERGIO*; K. LEI; C. KWOK; L. NAKAYAMA; J. YU; S. WEGNER; S. GHOTRA; V. PEDROZO; L. ANDRESON; F. W. HOPF. *Univ. of California, UCSF.*

9:00 ZZ17 **159.30** Early-life stress augments kappa opioid receptor function selectively on glutamate and dopamine terminals in caudal nucleus accumbens of rats. S. EWIN*; S. ALBERTSON; S. JONES; J. WEINER; A. KARKHANIS. *Wake Forest Sch. of Med.*

POSTER

160. Neural Mechanisms of Amphetamine Addiction

Theme G: Motivation and Emotion

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

8:00 ZZ18 **160.01** Phosphodiesterase inhibitor roflumilast attenuates relapse to methamphetamine self-administration after forced abstinence. J. J. BAEK*; C. M. MITCHELL; R. NATARAJAN; B. K. YAMAMOTO. *Indiana Univ. Sch. of Med., Indiana Univ. Sch. of Med.*

9:00 ZZ19 **160.02** A novel psychoactive substance, alpha-PVT, produces behavioral sensitization in rat with implications for GSK3beta signaling in the nucleus accumbens. M. KU*; H. YOON; W. CAI; J. KIM. *Yonsei Univ. Col. of Med.*

10:00 ZZ20 **160.03** Inactivation of AKT in ventral tegmental area prevents social stress-induced psychostimulant cross-sensitization and GABA-A receptor expression in rats. Z. T. MORRISON; M. L. RUDOLPH; Z. YELLOWMAN; T. C. WILLIAMS; R. L. NEVE; R. P. HAMMER, Jr; E. M. NIKULINA*. *Univ. of Arizona, Arizona State Univ., Massachusetts Gen. Hosp.*

11:00 ZZ21 **160.04** ▲ Expression and functionality of adenylate cyclase V in rats under chronic treatment with amphetamine. D. G. MELCHOR*; J. AVALOS-FUENTES; C. RANGEL BARAJAS; F. PAZ-BERMÚDEZ; D. ERLIJ; G. B. FLORAN. *Ctr. De Investigacion Y De Estudios Avanzados De, Ctr. de Investigación y de Estudios Avanzados del IPN, Indiana Univ., SUNY Downstate Med. Ctr. Col. of Med., CINVESTAV IPN.*

8:00 ZZ22 **160.05** Chromatin immunoprecipitation (ChIP) analysis of histone H3/4 acetylation at HDAC promoters: Differential effects of modafinil and methamphetamine on the mouse prefrontal cortex. B. GONZÁLEZ; A. BERNARDI; O. V. TORRES; S. JAYANTHI; N. GOMEZ; M. SOSA; F. J. URBANO; E. E. GARCIA-RILL; J. L. CADET; V. BISAGNO*. *ININFA-CONICET, San Diego Mesa Col., NIDA/NIH, IFIBYNE-CONICET, Ctr. for Translational Neurosci, NIH.*

9:00 ZZ23 **160.06** Role of histone deacetylase inhibition and environmental condition in altering phases of amphetamine self-administration. T. J. WUKITSCH*; D. L. ARNDT; E. J. GARCIA; M. E. CAIN. *Kansas State Univ.*

10:00 ZZ24 **160.07** Overexpression of membrane lipid raft protein caveolin-1 in D1R expressing neurons in the dorsal striatum promotes meth addiction-like behavior. M. FANNON; S. WANG; M. TERRANOVA; S. S. SOMKUWAR*; B. HEAD; C. MANDYAM. *VA San Diego.*

11:00 ZZ25 **160.08** Chronic methamphetamine alters expression and activation of corticotropin-releasing factor receptor 1 cells in the hypothalamus and extended amygdala. J. JACOBSKIND*; R. M. DE GUZMAN; Z. J. ROSINGER; D. N. FICO; B. SAGLIMBENI; K. SZAFRANSKA; N. J. JUSTICE; D. G. ZULOAGA. *SUNY Albany, Univ. of Texas, Houston.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 8:00 ZZ26 **160.09** Cell-specific spinophilin function following psychostimulant-induced behavioral sensitization regimens. D. S. WATKINS*; A. J. BAUCUM II. *Indiana Univ. Sch. of Med., Indiana University-Purdue Univ. Indianapolis.*
- 9:00 AAA1 **160.10** The role of Parkin in mediating the rewarding and reinforcing effects of methamphetamine in young adult rats. A. SHARMA*; A. HARUTYUNYAN; A. MOSZCZYNSKA. *Wayne State Univ.*
- 10:00 AAA2 **160.11** Overexpression of radixin in the nucleus accumbens blocks the expression of conditioned locomotor activity induced by amphetamine. W. CAI*; W. KIM; M. KWAK; J. KIM. *Yonsei Univ. College of Med.*
- 11:00 AAA3 **160.12** Social stress-induced amphetamine cross-sensitization: Essential role of GluA1 AMPA receptors in ventral tegmental area dopamine neurons of male and female rats. M. L. RUDOLPH*; A. F. AZUMA; T. J. ZAFAR; R. L. NEVE; R. P. HAMMER, Jr; E. M. NIKULINA. *Univ. of Arizona Col. of Med., Arizona State Univ., Mass. Gen. Hosp.*
- 8:00 AAA4 **160.13** Methamphetamine-induced heterogeneous catecholamine regulation in limbic brain areas. J. PARK*; R. BHIMANI; A. FIMMEL. *Univ. at Buffalo.*
- 9:00 AAA5 **160.14** METH self-administration selectively increases phasic glutamate in female rats. A. LAVIN*; J. I. PENA-BRAVO; C. M. REICHEL. *Med. Univ. South Carolina.*
- 10:00 AAA6 **160.15** ▲ Inhibition of the prelimbic to nucleus accumbens core pathway decreases methamphetamine cued reinstatement. A. M. KEARNS; R. A. WEBER; J. S. CARTER; S. S. COX; J. PETERS; C. M. REICHEL*. *Med. Univ. of South Carolina.*
- 11:00 AAA7 **160.16** Identification of neural circuits that are recruited during psychostimulant withdrawal using whole-brain imaging. A. J. KIMBROUGH*; A. COLLAZO; M. KALLUPI; O. GEORGE. *The Scripps Res. Inst., Caltech, The Scripps Res. Inst., Scripps Resch Inst.*
- 8:00 AAA8 **160.17** Neural predictors of relapse to stimulant use. K. H. MACNIVEN*; E. L. S. JENSEN; S. I. HUDSON; K. HUMPHREYS; B. KNUTSON. *Stanford Univ., VA Palo Alto Hlth. Care Syst.*
- 9:00 AAA9 **160.18** Neuroimaging classification of substance use disorder. W. F. HOFFMAN*; M. KOHNO; H. H. MCCREADY; L. H. DENNIS. *Portland VA Med. Ctr., VA Portland Med. Ctr., VA Portland Med. Ctr.*
- 10:00 AAA10 **160.19** Cell assembly logic underlying increased risk-taking behavior associated with drug abuse. G. FOX*; K. XIE; J. Z. TSIEN. *Med. Col. of Georgia, Augusta Univ.*
- 11:00 AAA11 **160.20** White-matter tract supporting incentivized inhibition links trait impulsivity to stimulant use disorder. J. K. LEONG*; S. I. HUDSON; K. H. MACNIVEN; B. KNUTSON. *Stanford Univ.*
- 9:00 AAA13 **161.02** Adolescent stress reprograms the medial amygdala transcriptome and sex differences in reward. D. M. WALKER*; X. ZHOU; A. RAMAKRISHNAN; M. E. CAHILL; C. K. LARDNER; C. J. PENA; H. M. CATES; O. ISSLER; R. C. BAGOT; E. S. CALIPARI; G. E. HODES; M. A. DOYLE; E. A. RIBEIRO; S. J. RUSSO; P. J. KENNEDY; A. WOLFE; B. ZHANG; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med., Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, McGill Univ., Vanderbilt Univ. Sch. of Med., Virginia Tech., Michigan State Univ., Icahn Sch. of Med. at Mount Sinai, Univ. of California Los Angeles, Johns Hopkins Univ. Sch. of Med., Icahn Sch. of Med. at Mount Sinai, Icahn Sch. Med. at Mount Sinai.*
- 10:00 AAA14 **161.03** Elucidating the cell type-specific transcriptional patterns differentiating stimulant versus opiate addiction. C. K. LARDNER*; P. J. HAMILTON; H. G. KRONMAN; H. M. CATES; D. M. WALKER; J. FENG; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Florida State Univ.*
- 11:00 AAA15 **161.04** Mechanisms of epigenetic priming in cocaine addiction. P. MEWS*; H. KRONMAN; A. RAMAKRISHNAN; S. SIDOLI; E. G. PECK; B. GARCIA; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Perelman Sch. of Med. Univ. of Pennsylvania.*
- 8:00 AAA16 **161.05** The changes in the levels of DNA methyltransferases and demethylases in cocaine-induced behavioral sensitization model in rats with different exploratory activity. K. ANIER*; K. VAHER; K. LAUGUS; M. JÜRGENSON; J. HARRO; A. KALDA. *Univ. of Tartu, Univ. of Tartu, Inst. of Psychology.*
- 9:00 AAA17 **161.06** ● Cocaine-specific induction of Nr4a regulates dopaminergic target gene expression during abstinence. M. CARPENTER*; Q. HU; S. I. LOMBROSO; M. E. WIMMER; C. PIERCE; E. A. HELLER. *Univ. of Pennsylvania, Temple Univ., Univ. Pennsylvania Sch. of Med., Perelman Sch. of Medicine, Univ. of Pennsylv.*
- 10:00 AAA18 **161.07** Microtubule-associated proteins control dendritic spine morphology in the nucleus accumbens and promote cocaine seeking. A. GODINO*; E. S. CALIPARI; M. SALERY; E. G. PECK; D. DAMEZ-WERNO; J. A. LANDRY; M. E. CAHILL; D. M. DIETZ; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Vanderbilt Univ. Sch. of Med., Univ. of Wisconsin Sch. of Vet. Med., State Univ. of New York At Buffalo.*
- 11:00 AAA19 **161.08** Role of IL-1 receptor-associated kinases in cocaine addiction. R. WU*; J. LIU; B. JOHNSON; J. VU; J. LI. *SUNY At Buffalo, SUNY at Buffalo.*
- 8:00 AAA20 **161.09** Effects of cocaine self-administration on melanocortin-4 receptors in selected rat brain structures. D. GAWLINSKI*; K. MUDLAFF; M. FRANKOWSKA; K. WYDRA; M. FILIP. *Inst. of Pharmacology, Polish Acad. of Scien.*
- 9:00 AAA21 **161.10** Growth hormone secretagogue receptor 1 α (GHSR1 α) antagonism differentially impacts cocaine intake and cue reactivity in male rats. E. J. GARCIA*; V. D. BREHM; R. G. FOX; N. C. ANASTASIO; K. A. CUNNINGHAM. *Univ. of Texas Med. Br. at Galveston.*
- 10:00 AAA22 **161.11** Allosteric neurotensin receptor 1 modulator confers β -arrestin bias and selectively attenuates addiction-associated behaviors. L. M. SLOSKY*; K. TOTH; Y. BAI; L. ROCHELLE; V. POGORELOV; C. RAY; R. CHANDRASEKHAR; H. YUAN; A. BADEA; W. WETSEL; A. PINKERTON; M. G. CARON; L. S. BARAK. *Duke Univ., Univ. of North Carolina at Chapel Hill, Sanford Burnham Prebys Med. Discovery Inst.*

POSTER

161. Molecular and Pharmacological Effects of Cocaine

Theme G: Motivation and Emotion

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 AAA12 **161.01** Candidate gene targets identified in the rat medial prefrontal cortex (mPFC) associated with impulsivity. C. R. MERRITT*; D. J. SHOLLER; K. P. PAZRAK; V. D. BREHM; K. T. DINELEY; N. C. ANASTASIO; K. A. CUNNINGHAM. *Univ. of Texas Med. Br., Univ. of Texas Med. Br., Univ. of Texas Med. Br.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 11:00 AAA23 **161.12** Cocaine-induced deficit in orbitofrontal function is prevented by systemic administration of a sigma-1 receptor antagonist. Y. KIMURA*; M. SHARPE; A. ZAPATA; A. WRIGHT; L. MUELLER; C. LUPICA; G. SCHOENBAUM; T. SU. *NIDA/IRP/NIH, NIDA/IRP/NIH, NIDA/IRP/NIH.*
- 8:00 AAA24 **161.13** Role of medial prefrontal cortex NMDA receptors in inherent impulsivity. B. D. DAVIS-REYES*; V. M. CAMPBELL; H. L. CHAPMAN; S. STAFFORD; N. C. ANASTASIO. *Univ. of Texas Med. Br., Univ. Texas Med. Br.*
- 9:00 AAA25 **161.14** Glutamate delta-1 subunit regulates cocaine-induced plasticity in the nucleus accumbens. J. LIU*; P. GANDHI; R. PAVULURI; G. SHELKAR; S. DRAVID. *Creighton Univ.*
- 10:00 AAA26 **161.15** • The 5-HT_{2A} receptor (5-HT_{2A}R) antagonist/inverse agonist pimavanserin suppresses impulsive action and cocaine cue reactivity in rats. D. J. SHOLLER*; S. J. STUTZ; R. G. FOX; N. C. ANASTASIO; F. G. MOELLER; K. A. CUNNINGHAM. *Univ. of Texas Med. Br. at Galveston, Virginia Commonwealth Univ.*
- 11:00 BBB1 **161.16** On the role of trpv1 receptors within the brain in anxiety elicited by cocaine cues. W. NORZE*; A. LOYOLA; E. TORRES; C. MALDONADO VLAAR. *Univ. of Puerto Rico.*
- 8:00 BBB2 **161.17** Novel serotonin (5-HT) 5-HT₂ receptor neuroprobes exhibit unique pharmacological properties. E. HOLLIDAY*; Y. CHEN; Y. YANG; R. G. FOX; D. J. SHOLLER; C. SOTO; F. G. MOELLER; S. R. GILBERTSON; N. C. ANASTASIO; K. A. CUNNINGHAM. *Univ. of Texas Med. Br., Univ. of Texas Med. Br., Univ. of Houston, Virginia Commonwealth Univ., Univ. of Texas Med. Br.*
- 9:00 BBB3 **161.18** • Cys23ser single nucleotide polymorphism alters function and localization of the serotonin 2C receptor (5-ht_{2C}r) *in vitro*. M. LAND*; H. L. CHAPMAN; K. A. CUNNINGHAM; G. F. MOELLER; L. A. ELFERINK; N. C. ANASTASIO. *Univ. of Texas Med. Br., Univ. of Texas Med. Br. at Galveston, Virginia Commonwealth Univ., Univ. of Texas Med. Br.*
- 10:00 BBB4 **161.19** Perineuronal nets alter intrinsic excitability and synaptic transmission following cocaine conditioned place preference. E. T. JORGENSEN*; D. J. BURCHI; B. A. SORG; T. E. BROWN. *Univ. of Wyoming, Washington State Univ., Univ. of Wyoming.*
- 11:00 BBB5 **161.20** Selective manipulation of inhibitory signaling in dopamine neurons of the ventral tegmental area alters behavioral response to cocaine. N. M. MCCALL*; E. MARRON; K. D. WICKMAN. *Univ. of Minnesota, Univ. of Minnesota.*
- 8:00 BBB6 **161.21** A new tool for high-precision *in situ* pharmacokinetic and pharmacodynamic measurements within the brain. K. PLOENSE*; N. ARROYO-CURRAS; J. GERSON; K. W. PLAXCO; T. E. KIPPIN. *Univ. of California Santa Barbara, Johns-Hopkins, Univ. of California, Santa Barbara, Univ. of California, Santa Barbara, Univ. of California, Santa Barbara.*
- 9:00 BBB7 **161.22** Down-regulation of K⁺, Cl⁻ cotransporter KCC2 in the ventral tegmental area contributes to the motivational properties of cocaine. A. OSTROUMOV*; Y. ZHANG; A. MCHUGH; E. REGO; J. DANI. *Univ. of Pennsylvania.*

POSTER

162. Animal Cognition and Behavior: Decision Making: Corticolimbic Circuits**Theme H: Cognition**

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 BBB8 **162.01** Dynamics of neuronal signals in primate midbrain dopamine neurons and orbitofrontal cortex neurons during value-to-decision transformation. M. YUN*; T. KAWAI; M. NEJIME; H. YAMADA; M. MATSUMOTO. *Univ. of Tsukuba, Univ. of Tsukuba.*
- 9:00 BBB9 **162.02** Stable and unstable signals for encoding expected values in ventral and dorsal striatum of monkeys. H. YAMADA*; M. MATSUMOTO. *Univ. of Tsukuba/Faculty of Med.*
- 10:00 BBB10 **162.03** ▲ The amygdala is implicated in stimulus-based, but not action-based, reinforcement learning in rhesus macaques. K. SCARIM*; V. D. COSTA; C. A. TASWELL; E. A. MURRAY; B. B. AVERBECK. *NIH, NIMH/NIH, NIH, NIMH, NIH, NIMH/NIH.*
- 11:00 BBB11 **162.04** Dissociable roles of anterior cingulate cortex and basolateral amygdala in learning and choice under perceptual uncertainty. A. STOLYAROVA*; M. RAKHSHAN; M. A. PETERS; H. LAU; A. SOLTANI; A. IZQUIERDO. *Univ. of California Los Angeles, Dartmouth Col., Univ. of California Riverside, Univ. of California Los Angeles, Dartmouth Col., UCLA.*
- 8:00 BBB12 **162.05** The effect of 5-HT_{1A}, 2A, 4 receptor antagonists on reward-based decision-making. F. AKIZAWA; T. MIZUHIKI; T. SETOGAWA; R. KUBOKI; M. SHIDARA*. *Grad Sch. of Comprehensive Human Sci., Univ. of Tsukuba, Univ. Tsukuba, Lab. Neuropsychol, NIMH, NIH.*
- 9:00 BBB13 **162.06** Comparing the role of noradrenaline and serotonin in the effort-reward trade off: Pharmacological approach in monkeys. S. BOURET*; J. MATTIONI; N. BORDERIES; S. BALTASSIS; C. I. JAHN. *Inst. du Cerveau et de la Moelle Epiniere, CNRS.*
- 10:00 BBB14 **162.07** Network computation of threat from sensory evidence. D. CAMPAGNER*; R. VALE; P. IORDANIDOU; T. BRANCO. *Sainsbury Wellcome Centre, UCL.*
- 11:00 CCC1 **162.08** Neurogenesis impacts delay-based decision making and affects neuronal activity in the ventral hippocampus. D. R. SEIB*; D. ESPINUEVA; O. PRINCZ-LEBEL; E. CHAHLEY; S. B. FLORESCO; J. S. SNYDER. *Univ. of British Columbia, Univ. of British Columbia.*
- 8:00 CCC2 **162.09** Primate insular cortex represents contextual information that modulates risk-attitude. Y. YANG*; X. LI; V. STUPHORN. *Johns Hopkins Univ., Johns Hopkins Univ.*
- 9:00 CCC3 **162.10** Neuroigin-1 in complex cognitive behaviour. J. LUO*; N. BROSE; J. NITHIANANTHARAJAH. *Univ. of Melbourne, Max Planck Inst. for Exptl. Med.*
- 10:00 CCC4 **162.11** Neurons in the primate amygdala differentially encode self and other's decisions. R. CIRILLO*; S. GILARDEAU; M. JAZAYERI; C. DUPUIS; S. C. WIRTH; J. DUHAMEL. *ISC - Inst. des Sci. Cognitives.*
- 11:00 CCC5 **162.12** Hippocampal sequences and model-based planning in the rat. S. C. VENDITTO*; K. J. MILLER; N. D. DAW; M. M. BOTVINICK; C. D. BRODY. *Princeton Neurosci. Inst., Princeton Univ., DeepMind, HHMI / Princeton Univ.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:00 CCC6 **162.13** Modulation of evoked spiking in nucleus accumbens by medial orbitofrontal cortex stimulation. M. K. LOH*; J. A. ROSENKRANZ. *Rosalind Franklin Univ. of Med. & Sci.*
- 9:00 CCC7 **162.14** Hippocampal-septal neural projections of male and female rats: An analysis of projection specific expression of androgen receptors. G. NAGARAJAN*; Y. CHUDASAMA. *Natl. Inst. of Mental Hlth.*
- 10:00 CCC8 **162.15** Chemogenetic disconnection of the hippocampus and orbitofrontal cortex in adaptive decision making. G. LARYEA*; M. B. LEVENTHAL; Y. CHUDASAMA. *NIMH, NIMH.*
- 11:00 CCC9 **162.16** Segregated cortical and subcortical relays connecting the dorsal hippocampus and prefrontal cortex: A transsynaptic tracing study. K. MESSANVI*; M. Q. PERKINS; Y. CHUDASAMA. *NIH.*
- 8:00 CCC10 **162.17** Comparisons between contingency encoding in prelimbic cortex and CA1 on a contingency-switching task for rats. B. HASZ*; A. D. REDISH. *Univ. of Minnesota, Univ. of Minnesota.*
- 9:00 CCC11 **162.18** Non-local representation of future decisions in dorsal hippocampal CA1 during anxiety-like hesitation behavior in a robotic predator-inhabited foraging task. C. J. WALTERS*; M. ADKINS; A. D. REDISH. *Univ. of Minnesota, Univ. of Minnesota.*
- 10:00 CCC12 **162.19** ▲ Mice learn to avoid regret. A. E. MCLAUGHLIN; B. M. SWEIS; M. J. THOMAS; A. D. REDISH*. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota Dept. of Neurosci.*
- 11:00 CCC13 **162.20** Altering gain of the infralimbic to accumbens shell circuit alters economically dissociable decision-making algorithms. B. SWEIS*; C. E. HUTCHISON; A. E. MCLAUGHLIN; E. B. LARSON; A. D. REDISH; M. J. THOMAS. *Univ. of Minnesota, Univ. of Minnesota.*
- POSTER**
- 163. Animal Cognition and Behavior: Executive Function: Learning and Memory I**
- Theme H: Cognition**
- Sun. 8:00 AM – *San Diego Convention Center, SDCC Halls B-H*
- 8:00 CCC14 **163.01** Thanks for being flexible: Cognitive flexibility training can attenuate the effects of a trauma model on fear learning and memory in rats. L. CHABY*; S. A. PERRINE; M. J. LISIESKI; K. KARAVIDHA; I. LIBERZON. *Univ. of Michigan, Wayne State Univ., Wayne State Univ. Sch. of Med., Univ. of Michigan Hlth. Syst.*
- 9:00 DDD1 **163.02** Neuronal mechanisms supporting the context-dependent use of item-location association memory in the primate medial temporal lobe. C. YANG*; Y. NAYA. *Peking Univ., Peking Univ., Peking Univ., Peking Univ., Zhejiang Univ.*
- 10:00 DDD2 **163.03** Efficacy of selective activators of SK channels to rescue attention deficit and memory in a mouse model of schizophrenia. C. A. RICE-KUCHERA*; R. W. STACKMAN, Jr. *Florida Atlantic Univ. Dept. of Psychology.*
- 11:00 DDD3 **163.04** Novel experience impacts hippocampal-prefrontal synchrony and enhances learning. A. J. PARK*; A. HARRIS; A. I. ABBAS; J. GOGOS; J. A. GORDON. *Columbia Univ., Columbia Univ., New York State Psychiatric Inst., The Mortimer B. Zuckerman Mind Brain Behavior Inst. at Columbia Univ., Natl. Inst. of Mental Hlth.*
- 8:00 DDD4 **163.05** Contributions and interactions of prefrontal and temporal lobe cortical areas to recognition memory for novel and familiar visual stimuli in non-human primates. Z. WU*; M. O'NEILL; E. BOSCHIN; J. M. GALEAZZI; M. J. BUCKLEY. *Univ. of Oxford.*
- 9:00 DDD5 **163.06** ▲ The domestic rabbit (*Oryctolagus cuniculus*): A novel animal model for studying tactile object recognition memory. P. RODRÍGUEZ XOCHICALE; E. BASURTO; K. L. HOFFMAN*. *Univ. Autónoma De Tlaxcala-CINVESTAV, Univ. Autónoma Tlaxcala-Cinvestav.*
- 10:00 DDD6 **163.07** ▲ Evaluation of executive function and nociceptive response in rats exposed to neonatal status epilepticus. S. P. B*; P. B. DOS SANTOS; G. DA SILVEIRA; D. P. TAROZZO; R. M. CYSNEIROS. *Univ. Presbiteriana Mackenzie.*
- 11:00 DDD7 **163.08** Evaluation of the neuroprotective effect of solid lipid nanoparticles of sesamol against radiation-induced cognitive impairment and mood disorders. N. KUMAR*; P. DUTTA; K. GOURISHETTI; L. KUMAR; S. CHERUKU; K. SHARAN; V. K. PARIHAR; C. RAO. *Manipal Col. of Pharmaceut. Sci., Manipal Col. of Pharmaceut. Sci., Kasturba Med. Col., Univ. of California.*
- 8:00 DDD8 **163.09** Behavioral flexibility regulated by metabotropic glutamate receptor 5(mGluR5). H. NOH*; J. LIM; C. KIM. *Yonsei Univ. Col. of Med.*
- 8:00 DP12/DDD9 **163.10** (Dynamic Poster) Touchscreen testing elucidates specific cognitive abnormalities of learning and perseveration in mice lacking metabotropic glutamate receptor 5 and their rescue by environmental enrichment. A. ZELEZNIKOW-JOHNSTON*; T. RENOIR; E. BURROWS; A. HANNAN. *Florey Inst. of Neurosci. and Mental Hlth.*
- 10:00 DDD10 **163.11** Neuromodulator mediated learning in a closed loop reinforcement system. C. FOO*; A. F. LOZADA; E. LACIN; E. AISENBERG; P. A. SLESINGER; D. KLEINFELD. *UCSD, UCSD, Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai.*
- 11:00 DDD11 **163.12** Neural codes underlying outcome encoding in anterior cingulate cortex. B. VOLOH*; M. OEMISCH; T. WOMELSDORF. *Vanderbilt Univ., Yale Univ.*
- 8:00 DDD12 **163.13** Activation of the eEF2 pathway in the dentate gyrus excitatory neurons enhances cognitive function and neurogenesis in young and old mice. E. TAHA*; S. PATIL; I. BARRERA; C. G. PROUD; C. R. BRAMHAM; K. ROSENBLUM. *Haifa Univ., Univ. of Bergen, Haifa Univ., Nutr. and Metabolism, South Australian Hlth. and Med. Res. Institute, Sch. of Biol. Sciences, Univ. of Adelaide, Adelaide, Haifa Univ.*
- 9:00 DDD13 **163.14** Social interaction is not necessary for learning reciprocal altruism in rats trained on the Iterated Prisoner's Dilemma. G. E. DELMAS; M. T. MARINO; S. E. LEW; B. S. ZANUTTO*. *Univ. de Buenos Aires, Univ. de Favaloro, Univ. de Buenos Aires, Univ. Buenos Aires-CONICET.*
- 10:00 DDD14 **163.15** Do medial prefrontal neurons encode predicted value of a cue or the action elicited by a cue during classical conditioning? B. KAMINSKA*; D. E. MOORMAN. *Univ. of Massachusetts, Univ. of Massachusetts Amherst.*

11:00 DDD15 **163.16** Attention selection in projection-defined prefrontal projection neurons. T. SPELLMAN*; C. M. LISTON. *Weill Cornell Med. Col., Weill Cornell Med. Col.*

8:00 DDD16 **163.17** A method for automatic partial sleep deprivation in songbirds. S. M. TER HAAR*; A. K. DWULIT, Jr; J. J. BOLHUIS, Sr; G. J. L. BECKERS. *Utrecht Univ.*

9:00 DDD17 **163.18** Nutritional ketosis enhances cognitive resilience in young and aged rats. A. HERNANDEZ*; C. M. HERNANDEZ, III; K. CAMPOS; L. M. TRUCKENBROD; Q. P. FEDERICO; B. M. MOON; J. A. MCQUAIL; A. P. MAURER; J. L. BIZON; S. N. BURKE. *McKnight Brain Institute, Univ. of Florida.*

10:00 DDD18 **163.19** Inhibitory and excitatory populations have similar accuracy yet different redundancy in predicting the choice during perceptual learning. F. NAJAFI*; G. F. ELSAYED; E. PNEVMATIKAKIS; J. P. CUNNINGHAM; A. K. CHURCHLAND. *Cold Spring Harbor Lab., Columbia Univ., Simons Fndn.*

11:00 DDD19 **163.20** Consider the cascade- A classical physics turbulence description of LFP energy interaction in the hippocampus. A. P. MAURER*; A. SHEREMET. *Univ. of Florida, Univ. of Florida.*

8:00 DDD20 **163.21** The role of CD4 positive T cells subsets in cognitive function. T. BROMBACHER*; K. S. DE GOUVEIA; O. TAMGUE; M. SCIBIOREK; N. MAKENA; J. WOMERSLEY; F. BROMBACHER. *Univ. of Cape Town, Univ. of Cape Town.*

9:00 DDD21 **163.22** Challenging the point neuron dogma: FS basket cells as 2-stage nonlinear integrators. P. POIRAZI*; A. TZILIVAKI. *IMBB-FORTH, Einstein Ctr. in Neurosciences.*

10:00 DDD22 **163.23** Hotspots of dendritic spine dynamics facilitate learning and memory. S. HUANG*; A. FRANK; M. ZHOU; A. GDALYAHU; G. KASTELLAKIS; T. SILVA; E. LU; X. WEN; P. POIRAZI; J. TRACHTENBERG; A. SILVA. *UCLA, Tel Aviv Univ., Inst. of Mol. Biol. and Biotech., UCLA.*

11:00 DDD23 **163.24** Contribution of apical and basal dendrites of L2/3 pyramidal neurons to orientation encoding in mouse V1. J. PARK*; A. PAPOUTSI; R. T. ASH; P. POIRAZI; S. M. SMIRNAKIS. *Brigham and Women's Hospital, Harvard Med. Scho, IMBB-FORTH, Brigham and Women's H., Harvard Med. Sch.*

8:00 DDD24 **163.25** Two-photon calcium imaging of memory engrams throughout the hippocampal formation in behaving mice. T. HAINMUELLER*; M. BARTOS. *Univ. of Freiburg, Spemann-Graduate Sch. of Biol. and Med. (SGBM).*

9:00 EEE1 **163.26** Knockdown of a cortical circRNA associated with psychiatric disorders impairs Homer1 mRNA isoform synaptic trafficking and executive control. A. ZIMMERMAN*; J. P. WEICK; N. MELLIOS; J. L. BRIGMAN. *Univ. of New Mexico HSC, Univ. of New Mexico, Univ. of New Mexico Sch. of Med., Univ. of New Mexico.*

10:00 EEE2 **163.27** Exploring neuronal alterations mediating executive dysfunction as a result of prenatal alcohol exposure. J. A. KENTON*, JR; K. L. MARQUARDT; C. F. VALENZUELA; J. L. BRIGMAN. *Univ. of New Mexico, Med. Univ. of South Carolina, New Mexico Alcohol Res. Ctr.*

11:00 EEE3 **163.28** Evaluating translational neurophysiological measures to improve efficacy of preclinical therapeutic target discovery. J. F. CAVANAGH*; D. C. GREGG; S. L. OLGUIN; G. A. LIGHT; J. W. YOUNG; J. L. BRIGMAN. *Univ. of New Mexico, Univ. of New Mexico Sch. of Med., Univ. of New Mexico, Univ. of California San Diego, UCSD, Univ. of New Mexico.*

8:00 EEE4 **163.29** Cognitive control on the touch-screen five-choice continuous performance task is impaired by moderate prenatal alcohol exposure in mice. J. L. BRIGMAN*; S. L. OLGUIN; D. J. GREGG; C. F. VALENZUELA. *Univ. of New Mexico, Univ. of New Mexico Sch. of Med., Univ. New Mexico HSC.*

POSTER

164. Animal Cognition and Behavior: Learning and Memory: Hippocampal Circuits I

Theme H: Cognition

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

8:00 EEE5 **164.01** Paradoxical response of interneurons in both CA3 and CA1 during optogenetic inactivation of CA3. L. WATKINS DE JONG*; D. LYTTLE; K. DIBA. *Univ. of Wisconsin-Milwaukee, Univ. of Michigan.*

9:00 EEE6 **164.02** Prolonged reactivation of neuronal activity following novel experience. B. K. GIRI*; H. MIYAWAKI; K. DIBA. *Univ. of Michigan, Osaka City Univ., Univ. of Michigan.*

10:00 EEE7 **164.03** Hippocampome.org: A dynamic open-access knowledge base of rodent hippocampal neuron types and their properties. D. W. WHEELER*; C. M. WHITE; A. O. KOMENDANTOV; C. L. REES; D. J. HAMILTON; S. VENKADESH; K. MORADI; S. M. ATTILI; C. TECUATL; G. A. ASCOLI. *George Mason Univ., George Mason Univ., Harvard Med. Sch.*

11:00 EEE8 **164.04** Hippocampome.org: The integrated electrophysiological data of hippocampal synapses. K. MORADI*; G. ASCOLI. *Krasnow Inst. for Advanced Study, Volgenau Sch. of Engin.*

8:00 EEE9 **164.05** Interconnections of horizontal cells in CA1 stratum oriens. N. KOGO*; É. KÓKAI; P. SZUCS; Y. ISOMURA; T. AIHARA. *Radboud Univ., Univ. of Debrecen, Tamagawa Univ., Tamagawa Univ.*

9:00 EEE10 **164.06** Dissociable effects of reward and navigation history on forward and reverse replays. B. BHATTARAI*; J. W. LEE; M. W. JUNG. *Korea Advanced Inst. of Sci. and Technol., Inst. for Basic Sci. (IBS).*

10:00 EEE11 **164.07** Impact of mossy fiber stimulation on CA3 activity during spatial exploration is inhibitory and transient. J. LEE*; M. YUN; E. CHO; J. LEE; D. LEE; M. JUNG. *Ctr. for Synaptic Brain Dysfunctions, IBS, Korea Advanced Inst. of Sci. and Technol. (KAIST), Inst. For Basic Sci.*

11:00 EEE12 **164.08** Hippocampal place cells demonstrate pattern completion and separation deficits in Alzheimer's disease model mice in a novel tactile gradient task. O. RECHNITZ*; D. DERDIKMAN. *Technion - Israel Inst. of Technol.*

8:00 EEE13 **164.09** VTA dopaminergic stimulation controls "spatial foveation" in the hippocampus. D. KHATIB; G. TOCKER; J. GROSS; G. MORRIS; D. DERDIKMAN*. *Technion - Israel Inst. of Technol., Univ. of Haifa.*

9:00 EEE14 **164.10** Optogenetic stimulation of the prefrontal cortex induces spatial alternation deficits and alters hippocampal local field potentials in rats. K. S. KIDDER*; P. M. BAKER; Z. M. RIVERA; S. M. LEWIS; D. H. GIRE; S. J. MIZUMORI. *Univ. of Washington, Univ. of Washington, Univ. Washington.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 10:00 EEE15 **164.11** ▲ Hippocampus and lateral habenula interact to support delayed alternation performance in rats. Z. M. G. RIVERA*; P. M. BAKER; S. J. Y. MIZUMORI. *Univ. of Washington, Seattle Univ., Univ. Washington.*
- 11:00 EEE16 **164.12** The rat lateral habenula contributes to flexible responding during maze-based delayed discounting. Y. RAO*; J. CAVALLI; M. MANAVALAN; Y. JO; J. DAVIS; K. E. WRIGHT; J. J. KIM; S. J. Y. MIZUMORI. *Univ. of Washington.*
- 8:00 EEE17 **164.13** Impact of spatial and behavioral input on place coding mechanism in CA1. F. SHARIF*; J. LEE; B. TAYEBI; A. SARIEV; S. ROYER. *KIST, Univ. of Sci. and Technol., Korea Univ.*
- 9:00 EEE18 **164.14** Local remapping responses of dentate granule and mossy cells to change in object layout. D. JUNG*; S. KIM; A. SARIEV; F. SHARIF; D. KIM; S. ROYER. *Korea Inst. of Sci. and Technol., Korea Advanced Inst. of Sci. and Technol., Korea Univ. of Sci. and Technol.*
- 10:00 EEE19 **164.15** Dentate gyrus place map genesis via competitive learning and information binding. S. KIM*; D. JUNG; S. ROYER. *Korea Inst. of Sci. and Technol., Korea Advance Inst. of Sci. and Technol.*
- 11:00 EEE20 **164.16** Hilar mossy cells decentralize hippocampal information back into dentate circuits. A. OUCHI*; Y. IKEGAYA. *The Univ. of Tokyo.*
- 8:00 EEE21 **164.17** Dentate granule cell recruitment of feedforward inhibition governs engram maintenance and remote memory generalization. N. GUO*; M. SODEN; C. HERBER; M. KIM; A. BESNARD; P. LIN; X. MA; C. CEPKO; L. ZWEIFEL; A. SAHAY. *Ctr. For Regenerative Med., Harvard Med. Sch., Harvard Stem Cell Inst., Dept. of Pharmacology, Univ. of Washington, Dept. of Psychiatry and Behavioural Sciences, Univ. of Washington, Howard Hughes Med. Inst., Dept. of Genetics, Harvard Med. Sch., BROAD Inst. of Harvard and MIT.*
- 9:00 EEE22 **164.18** Presynaptic inputs to hippocampal ventral mossy cells. M. A. SILVA SIFUENTES*; Y. BEN SIMON; R. SHIGEMOTO; F. FREDES. *IST Austria.*
- POSTER**
- 165. Animal Cognition and Behavior: Learning and Memory: Hippocampal Circuits II**
- Theme H: Cognition**
- Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H
- 8:00 EEE23 **165.01** The effect of diets high in fat and sugar on spatial- and context-dependent memory in rats. K. N. ABBOTT*; Y. CHEN; R. F. WESTBROOK; D. P. BEGG. *UNSW Sydney.*
- 9:00 EEE24 **165.02** Optogenetic stimulation of hippocampal PV+ interneurons ameliorates memory of APP/PS1 transgenic mice. E. AMBRAD GIOVANNETTI*; S. POLL; D. JUSTUS; H. KANEKO; F. FUHRMANN; J. STEFFEN; S. REMY; M. FURHMANN. *German Ctr. for Neurodegenerative Dis., German Ctr. for Neurodegenerative Dis.*
- 10:00 EEE25 **165.03** Reconstruction and simulation of a full-scale model of rat hippocampus ca1. A. ROMANI*; N. ANTILLE; J. COURCOL; A. DEVRESSE; A. ECKER; J. FALCK; C. P. H. FAVREAU; M. GEVAERT; A. I. GULYAS; R. MIGLIORE; M. PEZZOLI; O. HAGENS; J. V. HERNANDO; L. KANARI; J. G. KING; S. LANGE; C. A. LUPASCU; S. RAMASWAMY; A. POVOLOTSKY; M. W. REIMANN; C. A. RÖSSERT; S. SÁRAY; Y. SHI; W. A. H. VAN GEIT; T. F. FREUND; S. KALI; H. MARKRAM; M. MIGLIORE; A. M. THOMSON; E. B. MULLER. *Blue Brain Project, EPFL, Blue Brain Project, EPFL, Univ. Col. London, Inst. of Exptl. Medicine, Hungarian Acad. of Sci., Inst. of Biophysics, CNR, Lab. of Neural Microcircuitry, EPFL, Blue Brain Project, EPFL, Geneva.*
- 11:00 EEE26 **165.04** ▲ An increase in NCX1 expression and/or activity induces anxiety and ameliorates hippocampal-dependent spatial learning and memory. S. NATALE; P. MOLINARO*; S. ANZILOTTI; T. PETROZIELLO; R. CICCONE; A. SERANI; L. CALABRESE; F. FRECENTESE; A. SECONDO; A. PANNACTIONE; V. SANTAGADA; G. CALIENDO; L. D'ESPOSITO; G. DI RENZO; L. ANNUNZIATO. *Federico II Univ. of Naples, Federico II Univ. of Naples, IRCCS SDN Naples, Federico II Univ. of Naples.*
- 8:00 FFF1 **165.05** ▲ A proteomics approach of effects of ginkgo biloba treatment in the dorsal hippocampal formation. R. B. GAIARDO; T. F. ABREU; A. K. TASHIMA; M. M. TELLES; S. M. CERUTTI*. *Univ. Federal de Sao Paulo.*
- 9:00 FFF2 **165.06** ● Functional coherence between proximal CA3, distal CA1 and proximal CA1 during non-spatial memory processes. S. KU*; E. ATUCHA; P. VAVRA; K. KAEFER; M. SAUVAGE. *Leibniz Inst. for Neurobio., Leibniz-Institute for Neurobio., Otto von Guericke University, Med. Fac., Inst. of Sci. and Technol. Austria.*
- 10:00 FFF3 **165.07** ▲ Median raphe projections specifically alter hippocampal information processing. J. BAUMANN*; O. A. MASSECK. *Ruhr Univ. Bochum.*
- 11:00 FFF4 **165.08** The hippocampus of birds in a view of evolutionary connectomics. C. HEROLD*; D. GRÄSEL; P. SCHLÖMER; I. MAFOPPA-FOMAT; J. MEHLHORN; K. AMUNTS; M. AXER. *C. and O. Vogt Inst. of Brain Res., Inst. of Neurosci. and Med. INM-1, Res. Ctr. Jülich, Inst. of Anat. I, Univ. of Düsseldorf, C. and O. Vogt Inst. of Brain Research, Med. Faculty, Heinrich Heine Univ. of Düsseldorf.*
- 8:00 FFF5 **165.09** Distinct subpopulations of somatostatin interneurons in dorsolateral septum relay fear signals to govern activation of subcortical circuits. A. BESNARD*; Y. GAO; M. TAEWOO KIM; T. LANGBERG; W. FENG; X. XU; D. SAUR; I. G. DAVISON; A. SAHAY. *Harvard Stem Cell Inst., Boston Univ., Univ. California, Irvine, Technische Univ. Munchen.*
- 9:00 FFF6 **165.10** Reasons why Alzheimer's disease is "diabetes of the brain". A. S. SHINGO*; T. KANABAYASHI; S. KITO; T. MURASE. *Okinaka Mem. Inst. For Med. Res., BioPathology Inst., Shonan Hosp., Okinaka Mem. Inst. for Med. Res.*
- 10:00 FFF7 **165.11** Examination of how hypothalamic supramammillary activity alters area CA2 output to modulate area CA1. V. ROBERT*; L. THERREAU; R. BOEHRINGER; A. HUANG; T. J. MCHUGH; V. CHEVALEYRE; R. A. PISKOROWSKI. *INSERM U894, RIKEN BSI.*
- 11:00 FFF8 **165.12** Neuromodulation of spike timing-dependent plasticity controls memory stability - a local excitation attractor model. M. R. ZOCHOWSKI*; J. P. ROACH; N. OGNJANOVSKI; S. J. ATON; L. SANDER. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan Aton Lab., Univ. of Michigan.*

- 8:00 FFF9 **165.13** Hippocampal Homer1b/c is necessary for contextual fear conditioning and for group 1 metabotropic glutamate receptor mediated long-term depression. K. GIMSE*; A. OLIN; S. OSTING; C. BURGER. *Univ. of Wisconsin Madison*.
- 9:00 FFF10 **165.14** ▲ Investigating the effects of selective pacemaker channel (I_h) blocker ZD7288 in epileptogenesis and adenosine A1 receptor mediated hippocampal neuronal damage. J. SAINI*; E. JAKOVA; J. STOCKWELL; F. S. CAYABYAB. *Univ. of Saskatchewan*.
- 10:00 FFF11 **165.15** Characterization of “non-significant” sharp wave ripple associated events. J. CHU*; E. ACKERMANN; C. KEMERE. *Rice Univ.*
- 11:00 FFF12 **165.16** Recordings in awake behaving rodents show disruptions in hippocampal laminar field structure and CA1 spike-field interactions post-TBI. K. GAGNON*; C. D. ADAM; C. COTTONE; P. KOCH; J. ALAMAR; R. J. RUSSO; J. A. WOLF. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania, Corporal Crescenz VA Med. Ctr.*
- 8:00 FFF13 **165.17** Physiological role of hyperpolarization-activated, cyclic nucleotide-gated channels in parvalbumin-positive basket cell terminals. E. W. BUSS*; F. LEROY; B. SANTORO; S. A. SIEGELBAUM. *Columbia Univ., Columbia Univ.*
- 9:00 FFF14 **165.18** Investigating GABAergic neurons of the lateral septum using calcium imaging in freely behaving mice. S. VAN DER VELDT*; G. ETTER; B. RIVARD; F. MANSEAU; S. WILLIAMS. *Douglas Mental Hlth. Univ. Institute, McGill*.
- 10:00 FFF15 **165.19** The effect of teleportation in virtual reality on the hippocampal place code. E. R. REDINGTON*; S. SOLTANIAN-ZADEH; A. SILBERSTEIN; M. ZHANG; H. ZHAO; S. FARSIU; Y. GONG. *Duke Univ.*
- 11:00 FFF16 **165.20** ● ▲ Effects of brassicaceae and asteraceae plants on high-fat diet induced deficits in spatial learning and memory impairment in the Morris water maze on pre-diabetic C57BL/6 mice. S. SHATELA*; T. SIMON; D. HICKS; B. TENG; L. R. BANNER. *California State University, Northridge*.
- 8:00 FFF17 **165.21** Characterization of a novel head-fixed paradigm for navigation in virtual acoustic space. S. GAO*; A. BANTA; Z. H. MRIDHA; W. ZHANG; C. KEMERE; M. J. MCGINLEY. *Rice Univ., Baylor Col. of Med.*
- 9:00 FFF18 **165.22** Opening the black box: Probing the role of neural gene expression and hippocampal circuit activity in neuroinflammation-induced memory retrieval impairment. J. F. GUZOWSKI*; T. E. WHITE; J. CZERNIAWSKI. *Univ. of California Irvine Dept. of Neurobio. and Behavior, Univ. of California, Irvine*.
- 10:00 FFF19 **165.23** ● Single prolonged stress leads to deficient retention of fear extinction and corresponding changes in hippocampal function. J. J. WINTERS*; E. RODRIGUEZ; I. LIBERZON. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan Hlth. Syst.*
- 11:00 FFF20 **165.24** Ventral hippocampal neuronal excitability and immediate early gene expression following trace fear learning. V. L. EHLERS*; H. YOUSUF; C. W. SMIES; J. R. MOYER, Jr. *Univ. of Wisconsin Milwaukee Dept. of Psychology, Univ. of Wisconsin Milwaukee*.

POSTER

166. Animal Cognition and Behavior: Learning and Memory: Dentate Gyrus and Neurogenesis**Theme H: Cognition**

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 FFF21 **166.01** The role of ventral dentate gyrus mossy cells in anxiety-related behavior. J. BERRY*; G. F. TURI; N. MANFRED; M. OGBU; S. YUSUFOV; R. HEN. *Columbia Univ., Columbia Univ., New York State Psychiatric Inst.*
- 9:00 FFF22 **166.02** Excitation and inhibition of granule cells by mossy cells of the adult mouse dentate gyrus. H. E. SCHARFMAN*; H. L. BERNSTEIN; Y. LU; J. J. BOTTERILL. *The Nathan Kline Inst. For Psych. Res., New York Univ. Langone Hlth.*
- 10:00 FFF23 **166.03** Dentate granule cell representation is modulated by reinforcement learning. J. SHEN*; S. GE; Q. XIONG. *State Univ. of New York At Stony Brook, Stony Brook Univ.*
- 11:00 FFF24 **166.04** The effect of exercise on cognitive function in gonadectomized male rats. C. VASQUEZ*; A. ELZANIE; M. AZIZ; T. IRVING; A. COLE; U. AKPARA; T. ADEBOWALE; K. Y. SALAS-RAMIREZ. *CUNY Sch. of Med., CUNY Sch. of Med., CUNY Sch. of Med.*
- 8:00 GGG1 **166.05** Memory modification by beta-adrenergic receptor activation via intracellular Zn^{2+} signaling in the amygdala. H. TAMANO*; M. KUBOTA; R. SHIMAYA; R. ITOH; M. SUZUKI; A. TAKEDA. *Univ. of Shizuoka*.
- 9:00 GGG2 **166.06** A hippocampal age-related eleven gene signature conserved across the species. J. PARDO*; M. C. ABBA; E. LACUNZA; L. FRANCELLE; G. R. MOREL; T. F. OUTEIRO; R. G. GOYA. *CINIBA, Inst. of Human Genetics, Ruprecht-Karls-University, INIBIOLP, Univ. Med. Ctr. Goettingen*.
- 10:00 GGG3 **166.07** New-born-neuron-mediated social experiences regulate retrieval of contextual fear memory. B. LEI*; B. KANG; H. CHEN; Y. ZHONG. *Tsinghua Univ.*
- 11:00 GGG4 **166.08** Sex-specific effect of maternal exercise on promoting adult hippocampal neurogenesis, improving learning and memory and depression-like behaviour in adult offspring. H. LEE*; C. LI; S. YAU. *The Hong Kong Polytechnic Univ.*
- 8:00 GGG5 **166.09** Parvalbumin-expressing interneurons permit pattern separation in the dentate gyrus by lateral inhibition and structured connectivity. C. ESPINOZA; S. J. GUZMAN; J. L. CSICSVARI*; P. JONAS. *Inst. of Sci. and Technol. (IST) Austria, Inst. for Mol. Biotech. (IMBA)*.
- 9:00 GGG6 **166.10** Sparse coding in identified dentate gyrus granule cells in head-fixed running mice. X. ZHANG*; A. SCHLOEGL; P. JONAS. *Inst. of Sci. and Technology, Austria*.
- 10:00 GGG7 **166.11** Relationships between home range size and markers of cellular turnover in the dentate gyrus of wild male meadow voles (microtus pennsylvanicus). M. D. SPRITZER*; M. R. SINKS; D. E. MORRISON; R. A. RAMDEV; S. LENTZOU. *Middlebury Col.*
- 11:00 GGG8 **166.12** Interrogating hilar mossy cell circuits using a genetically-encoded hybrid optical voltage sensor. Y. MA*; P. O. BAYGUINOV; M. B. JACKSON. *Univ. of Wisconsin Madison, Washington Univ. in St. Louis, Univ. of Wisconsin-Madison*.

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 8:00 GGG9 **166.13** Two distinct populations of neurons from the lateral supramammillary nucleus, both displaying a dual glutamatergic and GABAergic neurotransmission phenotype, innervate the dorsal dentate gyrus. H. ELSEEDY; J. SCAPULA; A. GHESTEM; H. BRAS; S. A. SALAM; N. E. ABDELMEGUID; M. ESCLAPEZ*. *Aix Marseille Univ, INSERM, INS, Inst. Neurosci Sys, Alexandria University, Fac. of Science, Zoology Dept., Aix Marseille Univ, CNRS, INT, Inst. Neurosci Timone.*
- 9:00 GGG10 **166.14** Adult-born neurons inhibit developmentally-born neurons. A. ASH*; J. CLEMANS-GIBBON; T. P. O'LEARY; D. R. SEIB; E. CHAHLEY; J. S. SNYDER. *Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia, Univ. of British Columbia.*
- 10:00 GGG11 **166.15** Investigation of age-related impairment in pattern separation employing modified version of water maze beacon task. G. SMITH*; A. RANI; A. KUMAR; T. C. FOSTER. *Univ. of Florida, Univ. of Florida Med. Col., Univ. of Florida, Evelyn F. and William L. McKnight Brain Inst. Univ. Florida.*
- 11:00 GGG12 **166.16** Dietary curcumin enhances adult hippocampal neurogenesis and two types of neurogenesis-dependent learning. H. KHANDAKER*; A. AUBRY; R. RAVENELLE; D. GORDIAN; C. UBRI; S. HANIF; G. SCHAFE; N. BURGHARDT. *The Grad. Center, City Univ. of New York, Hunter College, City Univ. of New York.*
- 11:00 GGG20 **167.08** Oscillatory mechanisms of planning vs. memory. R. J. GOUGELET*; M. MIYAKOSHI; B. VOYTEK; S. MAKEIG. *UCSD, Inst. of Neural Computation.*
- 8:00 GGG21 **167.09** tRSA reveals information embedded in prestimulus affected poststimulus in congruency sequence effect. P. Z. CHENG*; T. HSU. *Taipei Med. Univ., Grad. Inst. of Hlth. and Biotech. Law.*
- 9:00 GGG22 **167.10** Testing the necessity of the rostralateral prefrontal cortex for sequence monitoring with continuous theta burst stimulation (cTBS). A. R. SPIRO*; T. H. MCKIM; D. BADRE; T. M. DESROCHERS. *Brown Univ., Brown Univ., Brown Univ., Brown Univ.*
- 10:00 GGG23 **167.11** Multivoxel coding on error trials links neural activity in frontoparietal cortex to behaviour. A. WOOLGAR*; N. DERMODY; S. AFSHAR; M. A. WILLIAMS; A. N. RICH. *Univ. of Cambridge, Macquarie Univ., Max Planck Inst. for Human Cognitive Brain Sci.*
- 11:00 GGG24 **167.12** Two distinct processes underlie control policy learning. A. BHANDARI*; D. BADRE. *Brown Univ., Carney Inst. for Brain Sci.*
- 8:00 GGG25 **167.13** Regions and laterality of the prefrontal cortex and their participation in creativity. L. V. ORTEGA LEONARD*; E. AGUILAR CASTAÑEDA; I. Y. DEL RÍO PORTILLA. *Univ. Nacional Autónoma de México, Inst. Nacional de Neurología y Neurocirugía.*
- 9:00 GGG26 **167.14** Supramodal involvement of the cognitive control network in uncertainty processing. T. WU*; A. SPAGNA; P. R. HOF; J. FAN. *Queens College, the City Univ. of New York, Queens College, the City Univ. of New York, Icahn Sch. of Med. At Mount Sinai, Queens College, CUNY.*
- 10:00 GGG27 **167.15** Does high-groovy rhythm facilitate the effects of acute mild exercise on executive functions?: Possible role of the subjective sensitivity in exercise with music. T. FUKUIE*; K. SUWABE; G. OCHI; K. HYODO; K. BYUN; H. SOYA. *Univ. of Tsukuba, Univ. of Tsukuba, Meiji Yasuda Life Fndn. of Hlth. and Welfare.*

POSTER

167. Human Cognition and Behavior: Executive Function

Theme H: Cognition

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 GGG13 **167.01** The influence of reward on abstract sequential monitoring dynamics in the rostralateral prefrontal cortex and striatum. T. H. MCKIM*; T. M. DESROCHERS. *Brown Univ.*
- 9:00 GGG14 **167.02** Human habenula tracks task and motivational context. D. FURMAN*; M. D'ESPOSITO. *Univ. of California Berkeley.*
- 10:00 GGG15 **167.03** Differential representation of broad context and task details in default mode and executive control networks. V. SMITH*; D. J. MITCHELL; J. DUNCAN. *MRC Cognition and Brain Sci. Unit, MRC Cognition and Brain Sci. Unit.*
- 11:00 GGG16 **167.04** ▲ Resting state and task-related brain dynamics supporting creativity. S. RAJ*; A. SCHPERBERG; B. TSAI; S. BROWN; T. JUNG; Y. WU. *Univ. of California San Diego, Univ. of California Los Angeles, Carnegie Mellon, Univ. of California San Diego.*
- 8:00 GGG17 **167.05** Neural representations of the transfer of proportion congruency effect. T. XIA*; H. LI; L. YANG; L. WANG. *Guangdong Univ. of Technol., South China Normal Univ., South China Normal Univ.*
- 9:00 GGG18 **167.06** Different patterns of multiple network membership underly regions of the rostrocaudal hierarchy. S. L. COOKSON*; D. J. LURIE; M. D'ESPOSITO. *Univ. of California, Berkeley, Univ. of California, Berkeley.*
- 10:00 GGG19 **167.07** Proactive control in context: Context-cued predictions of control demands facilitate perceptual decisions in virtual environments. J. JIANG*; A. D. WAGNER. *Stanford Univ., Stanford Univ.*
- 11:00 HHH1 **167.16** Effect of fatigue of executive function on its cognitive processes. N. KANEKAR*; A. CHIMMILI. *Indian Inst. of Technol. Bombay.*
- 8:00 HHH2 **167.17** Brain network dynamics during fast strategy shifts and incremental task optimisation. F. C. REVERBERI*; S. SEYED-ALLAEI; N. SCHUCK; D. AMATI; A. LAIO; M. ALLEGRA. *Univ. Degli Studi di Milano-Bicocca, Max Planck Inst. for Human Develop., Scuola Internazionale Superiore di Studi Avanzati.*
- 9:00 HHH3 **167.18** The cost of cognitive control and the balance of random versus directed exploration. L. A. BUSTAMANTE*; A. R. BURTON; A. L. BAKER; A. SHENHAV; N. D. DAW; J. D. COHEN. *Princeton Univ., Univ. of Delaware, Brown Univ.*

POSTER

168. Human Cognition and Behavior: Cognitive Development

Theme H: Cognition

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 HHH4 **168.01** Learning to read increases the informativeness of distributed ventral temporal responses. M. NORDT*; J. GOMEZ; V. NATU; B. JESKA; M. BARNETT; K. GRILL-SPECTOR. *Vision and Perception Neurosci. Lab, Stanford, Ruhr-Universität Bochum.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 9:00 HHH5 **168.02** ● Discovering and aligning cognitive functions during infant fMRI. C. ELLIS*; L. SKALABAN; J. S. TUREK; V. R. BEJANKI; N. B. TURK-BROWNE. *Yale Univ., Intel Labs, Intel Corp., Hamilton Col.*
- 10:00 HHH6 **168.03** Intrinsic connectivity of the human adult brain after removal of one hemisphere. D. KLIEMANN*; J. M. TYSZKA; R. NAIR; J. DUBOIS; R. ADOLPHS; L. K. PAUL. *Caltech, Cedars-Sinai Med. Ctr. LA.*
- 11:00 HHH7 **168.04** Children's learning from distraction varies by selective attention ability. J. KING*; J. C. MARKANT. *Tulane Univ., Tulane Univ., Tulane Univ.*
- 8:00 HHH8 **168.05** The role of physical education on academic performance in primary school. P. WOLLSEIFFEN*; S. SCHNEIDER. *German Sport Univ. Cologne, German Sport Univ. Cologne.*
- 9:00 HHH9 **168.06** Desflurane and isoflurane exposure during pregnancy decreased neuronal gene expression and induced functional deficits in juvenile offspring mice. S. ZOU*; H. ZHENG; Z. Z. WEI; Y. YUE; L. WEI; A. S. WU. *Beijing Chaoyang Hosp., Capital Med. Univ., Cancer Hosp. Chin. Acad. Med. Sci., Emory Univ. Sch. Med.*
- 10:00 HHH10 **168.07** Adults vs. kids: Changes in connectivity between the amygdala subnuclei and occipitotemporal cortex. H. A. HANSEN*; Z. M. SAYGIN. *The Ohio State Univ.*
- 11:00 HHH11 **168.08** Different developmental trajectories for working memory and reinforcement learning contributions to learning in adolescence. A. G. COLLINS*; M. K. ECKSTEIN; S. MASTER; R. DAHL; L. E. WILBRECHT. *Univ. of California Berkeley, UC Berkeley, UC Berkeley, UC Berkeley.*
- 8:00 HHH12 **168.09** ▲ Cognitive development in deaf children with cochlear implant and hearing peers, aged 5 to 12 years old: A comparative study. M. Y. PULIDO*; H. MACÍAS-REYES; T. VILLASEÑOR-CABRERA; G. RIZO-CURIEL; E. LÓPEZ-TORRES; A. TORRES-VERGARA. *Univ. de Guadalajara, Ctr. Universitario D, Hosp. Civil Fray Antonio Alcalde, Univ. de Guadalajara, Ctr. Universitario D, Ctr. Universitario de Sonora.*
- 9:00 HHH13 **168.10** Inter-subject dynamic functional connectivity: Tracking functional network fluctuations during movie watching. M. D. ROSENBERG*; D. C. GRUSKIN; E. S. FINN; A. J. HOLMES. *Yale Univ., Natl. Inst. of Mental Hlth.*
- 10:00 HHH14 **168.11** ▲ Cognitive processes of preschool children exposed to neurotoxic substances, living in Agua Caliente, Poncitlan Jal, Mexico. A. L. RODRIGUEZ*; K. A. CASTELLANOS-HUERTA; T. VILLASEÑOR-CABRERA; J. GARCIA-ESTRADA; G. RIZO-CURIEL; F. LOZANO-KASTEN; A. A. P. LUCANO. *Univ. de Guadalajara, Univ. de Guadalajara, Univ. de Guadalajara.*
- 11:00 HHH15 **168.12** Implicit and explicit Theory of Mind tasks are related to maturation of gray matter structure in distinct networks in the brain. C. GROSSE WIESMANN*; A. D. FRIEDERICI; N. STEINBEIS; T. SINGER. *Univ. of Copenhagen, Max Planck Inst. for Cognitive and Brain Sci., Max Planck Inst. for Cognitive and Brain Sci., Univ. Col. London.*
- 8:00 HHH16 **168.13** Neural correlates of phonological processing in dyslexia and comorbid dyslexia-ADHD. D. WILMOT*; A. D'MELLO; R. ROMEO; C. PEEK; O. MEEGODA; T. CENTANNI; K. HALVERSON; J. D. E. GABRIELI; J. CHRISTODOULOU. *MIT, Boston Children's Hosp., MGH IHP, Texas Christian Univ., Univ. of Houston.*
- 9:00 HHH17 **168.14** Early active non-linguistic acoustic experience supports more efficient syllabic processing in infants. S. ORTIZ-MANTILLA*; T. REALPE-BONILLA; A. A. BENASICH. *Rutgers Univ. Newark.*
- 10:00 HHH18 **168.15** ● Learning to make decisions based on sampling of probabilistic outcomes. J. ADRIAN; J. SNIDER; L. CHUKOSKIE*. *UC San Diego, UCSD, UCSD.*
- 11:00 HHH19 **168.16** Assessment of developmental outcome and serum BDNF in young infants exposed to general anesthesia. J. C. CUPUL GARCIA*; Y. RUVALCABA DELGADILLO; F. JAUREGUI. *Univ. de Guadalajara, Univ. de Guadalajara.*
- 8:00 HHH20 **168.17** Word selectivity in high-level visual cortex and reading skill. E. KUBOTA*; S. J. JOO; E. HUBER; J. D. YEATMAN. *Univ. of Washington, Univ. of Washington.*
- 9:00 HHH21 **168.18** Left inferior parietal connectivity is correlated with motor skill representation in typically developing children. N. F. WYMBES*; S. H. MOSTOFSKY. *Kennedy Krieger Inst., Johns Hopkins Univ. Sch. of Med.*
- 10:00 HHH22 **168.19** Network motifs in the developing brain support multi-domain cognitive function in naturalistic settings. C. STAMOULIS*; F. H. DUFFY; P. L. PEARL. *Harvard Med. Sch., Harvard Med. Sch.*
- 11:00 HHH23 **168.20** Better understanding but reduced functional integration across brain regions for vocoded speech in autism. I. LIN*; T. ITAHASHI; M. KASHINO; N. KATO; R. HASHIMOTO. *Natl. Hlth. Res. Inst., Showa Univ., NTT Communication Sci. Labs., Sch. of Engineering, Tokyo Inst. of Technol., Showa Univ.*
- 8:00 HHH24 **168.21** Functional connectivity during stimulus-driven and goal-directed threat processing in childhood risk for anxiety. B. C. TABER-THOMAS*; X. FU; E. AUDAY; K. PEREZ-EDGAR. *SUNY Geneseo, Univ. at Buffalo, Pennsylvania State Univ.*

POSTER

- 169. Human Cognition and Behavior: Timing and Temporal Processing**
- Theme H: Cognition*
- Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H
- 8:00 HHH25 **169.01** Neural oscillatory mechanisms for interpersonal entrainment in music ensembles. A. CHANG*; P. CHRAPKA; D. J. BOSNYAK; L. J. TRAINOR. *McMaster Univ., McMaster Univ., McMaster Univ., Baycrest Ctr.*
- 9:00 HHH26 **169.02** Perspective-taking interacts with temporal information processing in sentence comprehension. S. TOKIMOTO*; N. TOKIMOTO. *Mejiro Univ., Shobi Univ.*
- 10:00 HHH27 **169.03** Expert musicians keep brain ageing at bay: Neural mechanisms protect movement timing skills from decline. R. KRAMPE*; N. WENDEROTH; S. SWINNEN. *KU Leuven, ETH Zurich.*
- 11:00 HHH28 **169.04** The role of temporal coupling of neural activities in mutual information underlying action and perception. D. S. GUPTA*; A. BAHMER. *Camden County Col., Comprehensive Hearing Center, ENT Clinic, Univ. of Wuerzburg.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 8:00 HHH29 **169.05** Neural correlates of resynchronization in a paced finger-tapping task with step-change perturbations. L. G. CACERES*; L. BAVASSI; J. KAMIENKOWSKI; R. LAJE. *Natl. Univ. of Quilmes, Inst. for Physiology, Mol. Biol. and Neurosciences (IFIBYNE CONICET-UBA), Applied Artificial Intelligence Lab. (Computational Sci. Institute, FCEyN, UBA - CONICET).*
- 9:00 HHH30 **169.06** Finding the beat: A neuro-mechanistic model for rhythmic beat generation. Á. BYRNE*; A. BOSE; J. M. RINZEL. *Ctr. For Neural Sci., New Jersey Inst. of Technol., New York Univ. Ctr. for Neural Sci.*
- 10:00 HHH31 **169.07** Anticipation of events in time is independent of sensory input modality. M. GRABENHORST*; G. MICHALAREAS; L. T. MALONEY; D. POEPEL. *Max-Planck-Institute For Empirical Aesthetics, New York Univ., Max-Planck-Institute For Empirical Aesthetics.*
- 11:00 HHH32 **169.08** Human neocortical neurosolver (HNN): A new software tool for interpreting the circuit level origin of human MEG/EEG data. S. A. NEYMOTIN*; D. S. DANIELS; N. PELED; R. A. MCDUGAL; N. T. CARNEVALE; C. I. MOORE; M. L. HINES; M. HAMALAINEN; S. R. JONES. *Brown Univ., Brown Univ., Massachusetts Gen. Hosp., Yale Univ., Yale Univ. Sch. Med., Providence VAMC.*
- 8:00 HHH33 **169.09** Frontopolar cortex activation during far future thinking in depression. N. KATAYAMA*; A. NAKAGAWA; S. UMEDA; Y. TERASAWA; H. TABUCHI; T. KIKUCHI; M. MIMURA. *Keio Univ. of Med., Keio Univ.*
- 9:00 HHH34 **169.10** ● Perceptual deterioration for self-produced timing can be caused by common noise between motor and perceptual timing. K. MITANI*; M. KASHINO. *Tokyo Inst. of Technol., Japan Society for the Promotion of Sci., Nippon Telegraph Telephone and Corp.*
- 10:00 HHH35 **169.11** Temporal metacognition as the decoding of self-generated brain dynamics. T. W. KONONOWICZ*; C. ROGER; V. VAN WASSENHOVE. *CEA, NeuroSpin Center, INSERM, Univ. Paris-Sud, Univ. of Lille, CEA.DSV.I2BM. Neurospin.*
- 11:00 HHH36 **169.12** Decoding the influence of context on time perception. A. DAMSMA*; N. SCHLICHTING; R. EIKE; H. VAN RIJN. *Univ. of Groningen.*
- 8:00 HHH37 **169.13** Quantifying attention and its effect on interval timing. N. SCHLICHTING*; A. DAMSMA; M. ZIEGLER; R. DE JONG; H. VAN RIJN. *Univ. of Groningen.*
- 9:00 HHH38 **169.14** One clock: Shared mechanisms for implicit and explicit timing? S. K. HERBST*; J. OBLESER; V. VAN WASSENHOVE. *Cognitive Neuroimaging Unit, CEA DRF/Joliot, INSERM, Univ. of Luebeck.*
- 10:00 HHH39 **169.15** Accuracy in chunk retrieval is correlated with the presence of acoustically driven delta brain waves. J. M. RIMMELE*; D. POEPEL; O. GHITZA. *Max Planck Inst. For Empirical Aesthetics, Boston Univ.*
- 11:00 HHH40 **169.16** The rate of birdsong as a window into auditory aesthetic perception. T. C. ROESKE*; P. LARROUY-MAESTRI; Y. SAKAMOTO; D. POEPEL. *Max Planck Inst. for Empirical Aesthetics.*
- 8:00 HHH41 **169.17** Timing of memory induced activations across the parietal and frontal nodes of the default network. Y. FANG*; O. RACCAH; L. SHI; A. ARETI; J. PARVIZI. *Stanford Univ., South China Normal Univ.*
- 9:00 HHH42 **169.18** Role of cerebellar-dependent interval representations in shifting attention to off-beat times of rhythmic streams. A. BRESKA*; R. IVRY. *Univ. of California Berkeley, Univ. California.*
- 10:00 HHH43 **169.19** ▲ Neurocognitive function and sensory gating differences in bipolar patients with and without a history of psychosis. M. ALI*; N. AFKHAMI; J. V. PATTERSON. *Univ. of California, Irvine, Univ. of California, Irvine.*
- 11:00 HHH44 **169.20** Contribution of movement trajectories to error correction and timekeeping during sensorimotor synchronization and syncope to auditory and visual metronomes. A. PABST*; R. BALASUBRAMANIAM. *Univ. of California, Merced.*
- 8:00 HHH45 **169.21** A map of time in the medial cerebral cortex: A cross-linguistic fMRI study with speech stimuli. L. W. TANG*; T. TAKAHASHI; S. KITAZAWA; T. SHIMADA; M. KOMACHI; N. IMANISHI; Y. NISHIYAMA; T. IIDA; Y. OTSU. *Grad. Sch. of Frontier Biosci., Grad. Sch. of Frontier Biosciences, Osaka Univ., Ctr. for Information and Neural Networks, Natl. Inst. of Information and Communications Technol., Fac. of Languages and Cultures, Meikai Univ., Fac. of Humanities and Social Sciences, Shizuoka Univ., Grad. Sch. of Humanities and Sociology, Univ. of Tokyo, Inst. of Cultural and Linguistic Studies, Keio Univ., Col. of Humanities and Sciences, Nihon Univ.*
- 9:00 HHH46 **169.22** Enhanced delta band phase alignment reflects temporal prediction processes during cross-modal time perception. J. DAUME*; A. K. ENGEL. *Univ. Med. Ctr. Hamburg-Eppendorf.*
- 10:00 HHH47 **169.23** The timescale of brain processing in the human cortex. J. CRUZAT; M. L. KRINGELBACH; G. DECO*. *Univ. Pompeu Fabra, Univ. of Oxford, Univ. Pompeu Fabra.*
- 11:00 HHH48 **169.24** ▲ Human neuroanatomical and neurophysiological markers for timing variability during a synchronization-continuation task. G. PAMELA*; C. I. DE LEÓN-ANDREZ; R. RODRÍGUEZ-CRUCES; Y. AYALA; L. CONCHA; H. MERCHANT. *Inst. de Neurobiología, Inst. de Neurobiología, UNAM, UNAM, Inst. de Neurobiología UNAM.*
- 8:00 HHH49 **169.25** Occipital-parietal alpha frequency correlates with visual-temporal acuity but is not entrained by visual stimulation. M. J. GRAY*; T. EMMANOUIL. *City Univ. of New York, Baruch Col., City Univ. of New York, Baruch Col.*
- 9:00 HHH50 **169.26** ▲ Time perception and satiety: Does hunger dilate subjective time? L. MARK*; J. C. J. LIU. *Yale-Nus Col., Yale-NUS Col.*
- 10:00 HHH51 **169.27** Topographical representation of auditory stimulus durations. S. KULASHEKHAR*; S. MAASS; O. REYNAUD; H. VAN RIJN; D. BUETI. *Intl. Sch. for Advanced Studies (SISSA), Fac. of Behavioural and Social Sci., Ctr. for Biomed. Imaging (CIBM) EPFL, Univ. of Groningen.*
- 11:00 HHH52 **169.28** Topology of signal variability of ongoing spontaneous brain activity and its impact on task-induced neural activation. S. TUMATI*; M. GOLESORKHI; G. NORTHOFF. *Univ. of Ottawa.*
- 8:00 HHH53 **169.29** The effect of aging on fMRI activity during a sequence memory task. A. GUDMUNDSON*; S. M. STARK; C. E. STARK. *Univ. of California Irvine, Univ. of California, Irvine.*
- 9:00 HHH54 **169.30** Differential generation of saccade, fixation and image onset event-related potentials in the human mesial temporal lobe. C. KATZ*; K. PATEL; O. TALAKOUB; K. L. HOFFMAN; T. A. VALIANTE. *Univ. of Toronto Univ. Hlth. Network, York Univ., Vanderbilt Univ., Toronto Western Hosp.*

POSTER

170. Anatomical Methods: Staining, Tracing, and Imaging Techniques: Sample Preparation**Theme I: Techniques**

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 HHH55 **170.01** Optical clearing technique for quick reconstruction of whole-cell recorded neurons. Y. SATO*; T. MIYAWAKI; A. OUCHI; A. NOGUCHI; S. YAMAGUCHI; Y. IKEGAYA. *The Univ. of Tokyo, Gifu Univ. Grad. Sch. of Med.*
- 9:00 HHH56 **170.02** Comparative imaging allows for an easy estimation of protein copy numbers. K. N. RICHTER*; H. WILDHAGEN; S. O. RIZZOLI. *Univ. Med. Ctr. Goettingen, KWS SAAT SE, Univ. Med. Ctr. Goettingen.*
- 10:00 HHH57 **170.03** The effects of DeepLabel™ antibody staining solution for antibody penetration in diverse organs after X-clarity tissue clearing process. H. SHIN*; D. KIM; J. JANG; S. PARK; N. JUNG; Y. CHOE. *Logos Biosystems, Korea Brain Res. Inst. (KBRI).*
- 11:00 HHH58 **170.04** Preliminary study to find conditions for efficient generations of cerebral ischemic brain damages using optical thrombosis. J. CHOI*; H. PARK; S. OH; J. KIM; R. RYU; S. AHN; S. KIM; H. MIN; D. KIM; S. KIM; S. LEE; B. KANG; J. SOHN. *DGMIF.*
- 8:00 HHH59 **170.05** Developing a novel tissue clearing protocol for visualizing the rat brain. K. LEE*; H. M. LAI; C. C. C. PANG; R. C. C. CHANG. *LKS Fac. of Medicine, The Univ. of Hong Kong, Sch. of Biomed. Sciences, The Univ. of Hong Kong, Inst. of Psychiatry, Psychology and Neuroscience, Dept. of Basic and Clin. Neuroscience, King's Col. London, State Key Lab. of Brain and Cognitive Sciences, The Univ. of Hong Kong.*
- 9:00 HHH60 **170.06** STORM imaging of synaptic proteins in super-resolved cellular and subcellular contexts. M. ZÖLDI*; Z. LÁSZLÓ; B. BARTI; I. KATONA. *Inst. of Exptl. Medicine, HAS, Szentágotthai János Doctoral Sch. of Neurosciences, Semmelweis Univ.*
- 10:00 HHH61 **170.07** A scalable processing pipeline for high-throughput optical clearing and labelling of very large formalin-fixed human brain samples. S. HILDEBRAND*; A. SCHUETH; S. SENGUPTA; A. ROEBROECK. *Maastricht Univ.*
- 11:00 III1 **170.08** Volumetric mGRASP: Large-scale 3D mapping of mammalian synaptic connectivity with light microscopy. D. KOO*; M. AN; J. KWEON; H. PARK; H. LEE; J. KIM; S. KIM. *Seoul Natl. Univ., Korea Inst. of Sci. and Technol.*
- 8:00 III2 **170.09** vDISCO panoptic imaging reveals remote CNS injury effects in intact transparent mice. R. CAI*; C. PAN; A. GHASEMIGHARAGOZ; M. I. TODOROV; B. FÖRSTERA; S. ZHAO; D. THEODOROU; M. KERSCHENSTEINER; A. ERTÜRK. *Inst. for Stroke and Dementia Res., Grad. Sch. of Neurosci. (GSN), Ludwig Maximilian Univ. of Munich (LMU), Inst. of Clin. Neuroimmunology, Biomed. Ctr., Munich Cluster for Systems Neurol. (SyNergy).*
- 9:00 III3 **170.10** DISCO-Vascular: A complete 3D mouse brain vascular atlas at micrometer scale. M. I. TODOROV*; J. C. PAETZOLD; O. SCHOPPE; B. MENZE; A. ERTURK. *Klinikum der Univ. München, Tech. Univ. of Munich.*
- 10:00 III4 **170.11** A plastic embedding method for preservation of multi color fluorescent protein. M. REN*; J. TIAN; X. LI; H. GONG. *Huazhong Univ. of Sci. and Technol.*
- 11:00 III5 **170.12** Scalable embedding method with a modified hydrogel for optical imaging of fluorescent sample. C. ZHOU*; T. LUO; X. LI; H. GONG. *Huazhong Univ. of Sci. and Technol.*
- 8:00 III6 **170.13** Hybrid of magnetic particle imaging and optical multimodality imaging system for brain imaging. H. HUI*; X. YANG; J. TIAN. *Inst. of Automation, Chinese Acad. of Scienc, Key Lab. of Mol. Imaging, CAS.*
- 9:00 III7 **170.14** ● Improved axial dimension resolution in 3D fluorescence imaging by refractive index matching and specimen clearing. D. W. BEACHAM*; D. D. CASH; A. W. YORK; B. BOAL; O. GOLUB; M. WICKMAN; E. J. WELCH. *Thermo Fisher Scientific, Thermo Fisher Scientific.*
- 10:00 III8 **170.15** ● Pressurized Immunohistochemistry (pIHC) of cleared human and mouse brain tissue. R. FIORELLI*; G. SIDHU; A. CEBRIAN-SILLA; E. MENDELEZ; S. V. MEHTA; J. GARCIA-VERDUGO; N. SANAI. *St. Joseph's Hosp. and Med. Ctr., Inst. Cavanilles, Univ. of Valencia.*
- 11:00 III9 **170.16** A modified iDISCO+ protocol for clearing and visualization of intact human teeth. P. M. LOCOCO; M. WIDBILLER; A. R. DIOGENES; K. M. HARGREAVES*. *Univ. of Texas Hlth. Sci. Ctr. at San Antonio, Univ. Hosp. Regensburg.*
- 8:00 III10 **170.17** eTANGO: A technology platform for rapid, uniform, cost-effective staining of intact brains. D. YUN*; Y. PARK; J. H. CHO; G. DRUMMOND; Y. TIAN; H. CHOI; T. KU; L. RUELAS; K. CHUNG. *Massachusetts Inst. of Technol. (MIT), MIT, MIT, MIT, Broad Inst. of Harvard Univ. and MIT.*
- 9:00 III11 **170.18** Immersion media, custom tools, and protocols for single-cell resolution mapping of intact brains using lightsheet microscopy. N. EVANS*; Y. PARK; D. YUN; V. LILASCHAROEN; B. LIM; K. CHUNG. *MIT, UCSD.*
- 10:00 III12 **170.19** SHIELD: Simultaneous global protection of biomolecules, protein fluorescence, and tissue architecture via polyfunctional crosslinkers. Y. PARK*; C. SOHN; R. CHEN; M. MCCUE; G. T. DRUMMOND; T. KU; D. YUN; N. B. EVANS; H. C. OAK; W. TRIEU; H. CHOI; X. JIN; V. LILASCHAROEN; J. WANG; M. C. TRUTTMANN; H. W. QI; H. L. PLOEGH; T. R. GOLUB; S. CHEN; M. P. FROSCH; H. J. KULIK; B. LIM; K. CHUNG. *MIT, MIT, MIT, MIT, Broad Inst. of Harvard Univ. and MIT, UCSD, The Chinese Univ. of Hong Kong, Boston Children's Hosp. and Harvard Med. Sch., MIT, MIT, Boston Children's Hosp. and Harvard Med. Sch., Massachusetts Gen. Hosp. and Harvard Med. Sch.*
- 11:00 III13 **170.20** A high-throughput platform for large-scale mapping of the human brain at subcellular resolution. T. KU*; H. CHOI; J. WANG; D. H. YUN; N. B. EVANS; S. CHEN; M. P. FROSCH; K. CHUNG. *MIT, MIT, The Chinese Univ. of Hong Kong, Massachusetts Gen. Hosp., MIT, MIT, Broad Inst. of Harvard Univ. and MIT.*
- 8:00 III14 **170.21** An open-source image-processing library for quantitative multidimensional analysis of volumetric microscopy images. J. SWANEY*; L. D. KAMENTSKY; K. CHUNG. *MIT, MIT.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

POSTER

171. Anatomical Methods: Staining, Tracing, and Imaging Techniques: Circuit Tracing

Theme I: Techniques

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 III15 **171.01** TRACT: A transsynaptic tool to investigate brain connectivity and to genetically manipulate neurons connected by synapses. C. LOIS*; T. HUANG; A. DE LA CRUZ; A. CALLEJAS. *Caltech*.
- 9:00 III16 **171.02** Mapping brain-wide inputs to parvalbumin-expressing interneurons with intersectional rabies virus tracing. G. HAFNER*; M. WITTE; J. GUY; E. M. CALLAWAY; K. DEISSEROTH; K. CONZELMANN; J. F. STAIGER. *Inst. of Neuroanatomy, Salk Inst., Stanford Univ. Dept. of Psychology, Max von Pettenkofer-Institute & Gene Ctr.*
- 10:00 III17 **171.03** A novel anterograde trans-synaptic tracer. R. KERY*; L. CHEN; Q. XIONG; S. GE. *Stony Brook Univ., Stony Brook Univ. Sch. of Med.*
- 11:00 III18 **171.04** Rabies virus pseudotyped with CVS-N2C glycoprotein as a powerful tool for retrograde tracing input neural networks. X. ZHU*; Z. ZHANG; H. MI; X. HUANG; X. YUE; K. LIN; X. HE; F. XU. *Wuhan Inst. of Physics and Mathematics, CAS, Wuhan Inst. of Physics and Mathematics.*
- 8:00 III19 **171.05** Stereotaxic surgery for genetic manipulation in neuronal cells in specific regions of neonatal mouse brains. S. CHEN; H. KUO; F. LIU*. *Inst. Neurosci, Natl. Yang-Ming Univ.*
- 9:00 III20 **171.06** All-optical, large scale mapping of synaptic connectivity in living tissue using patterned illumination. K. P. LILLIS*; K. J. STALEY. *Massachusetts Gen. Hosp.*
- 10:00 III21 **171.07** High-throughput mapping of corticocortical connectivity of single mouse brains at single neuron resolution. L. HUANG*; J. M. KESCHULL; S. MUSALL; M. T. KAUFMAN; A. K. CHURCHLAND; A. M. ZADOR. *Cold Spring Harbor Lab., Univ. of Chicago.*
- 11:00 III22 **171.08** Directed stepwise tracing and controlling of long-range polysynaptic memory circuits. E. LI; W. DU; J. GUO; Y. CHEN; S. OH; A. SAMUEL; Y. LI; H. K. OYIBO; W. XU*. *UT Southwestern, Friedrich Miescher Inst. for Biomed. Res.*
- 8:00 III23 **171.09** Retrograde mapping of afferent inputs to direct and indirect pathway neurons in the dorsomedial striatum. Y. CHENG*; J. LU; B. BARBEE; X. WANG; J. WANG. *Texas A&M Univ. Hlth. Sci. Ctr., Texas A&M Univ. Hlth. Sci. Ctr., Texas A&M Hlth. Sci. Ctr.*
- 9:00 III24 **171.10** The mouse connectome project at USC: Progress toward assembling neural networks of the mammalian brain. H. HINTIRYAN*; M. S. BIENKOWSKI; I. BOWMAN; N. N. FOSTER; L. GOU; M. BECERRA; M. ZHU; M. Y. SONG; N. L. BENAVIDEZ; K. COTTER; S. YAMASHITA; D. LO; D. L. JOHNSON; N. S. KHANJANI; S. S. AQUINO; H. DONG. *USC.*
- 8:00 DP14/III25 **171.11** (Dynamic Poster) Reconstructing single neurons from defined cell types at the whole-brain level. R. LIN*; R. WANG; J. YUAN; Q. FENG; H. GONG; M. LUO. *Natl. Inst. of Biol. Sci., Huazhong Univ. of Sci. and Technol.*
- 11:00 III26 **171.12** Investigator. L. NG; D. FENG; P. LEAHY; T. TICKLE; L. BECKER; R. YOUNG; T. GILLESPIE; J. S. GRETHE; A. E. BANDROWSKI; S. MUFTI; A. BERNARD; J. C. GEE; A. PHILIPPAKIS; M. E. MARTONE; M. J. HAWRYLYCZ*. *Allen Inst. for Brain Sci., Broad Inst., UCSD, UCSD, Allen Inst. Brain Sci., Univ. of Pennsylvania, Allen Inst. Brain Sci.*
- 8:00 III27 **171.13** Input-output organization of the mouse claustrum. B. ZINGG*; H. DONG; H. TAO; L. ZHANG, 90033. *USC, USC Keck Sch. of Med.*
- 9:00 III28 **171.14** A modified rapid silver stain technique in a high-throughput neurohistological pipeline. J. NAGASHIMA*; M. HANADA; M. LIN; Y. S. TAKAHASHI; B. HUO; A. S. TOLPYGO; J. JAYAKUMAR; H. OKANO; P. P. MITRA. *Riken, Cold Spring Harbor Lab., India Inst. of Technologies, Keio Univ. Sch. of Med.*
- 10:00 III29 **171.15** Large-scale quantitative analysis of neurons in *Drosophila* connectome via morphological structures by NeuroRetriever. T. WANG*; N. CHEN; K. CHEN; C. SHIH; T. LEE. *Inst. of Physics, Academia Sinica, Natl. Ctr. for High-performance Computing, Natl. Applied Res. Labs., Dept. of Applied Physics, Tunghai Univ.*
- 11:00 III30 **171.16** An integrated web based computational framework for terabyte size mesoscopic whole mouse brain data. X. LI*; K. RAM; F. XU; P. MITRA. *Cold Spring Harbor Lab., IIT Madras.*
- 8:00 DP13/III31 **171.17** (Dynamic Poster) An automated image analysis pipeline for registration and quantification of volumetric serial two-photon images in animal models of brain injury and disease. D. M. RAMIREZ*; A. D. AJAY; V. O. TORRES; A. M. STOWE; M. P. GOLDBERG; J. P. MEEKS. *Univ. of Texas Southwestern Med. Ctr., Peter O'Donnell, Jr. Brain Inst., Univ. of Texas Southwestern Med. Ctr.*
- 9:00 III32 **171.18** Visualizing cross-modal connectivity via iDISCO+. R. SAHA*; H. LEE. *Johns Hopkins Univ., Johns Hopkins Univ.*
- 10:00 III33 **171.19** ● Transcriptomic correlates of long-range cortical projections revealed by barcode sequencing. X. CHEN*; Y. SUN; A. M. ZADOR. *Cold Spring Harbor Lab.*
- 11:00 III34 **171.20** Heterogeneity of dopaminergic neurons defined by their projections. S. H. JØRGENSEN*; S. NØRR; M. A. CHRISTIANSEN; U. GETHER; K. RICKHAG; A. TOFT SØRENSEN. *Univ. of Copenhagen.*
- 8:00 III35 **171.21** A viral receptor complementation strategy overcomes CAV-2 tropism for efficient retrograde targeting of neurons. S. LI*; A. VAUGHAN; J. F. STURGILL; A. KEPECS. *Cold Spring Harbor Lab.*
- 9:00 III36 **171.22** ● MAPseq - democratizing high-throughput neuroanatomy using sequencing. A. VAUGHAN*; H. ZHAN; A. M. ZADOR. *Cold Spring Harbor Lab., Cold Spring Harbor Lab.*
- 10:00 III37 **171.23** Semantic segmentation framework for Neuronal cell detection and tracing. K. UMADEVI VENKATARAJU*; J. GORNET; A. NARASIMHAN; U. SÜMBÜL; H. SEUNG; P. OSTEN. *Cold Spring Harbor Lab., Columbia Univ., Cold Spring Harbor Lab., Allen Inst. for Brain Sci., Princeton Univ.*
- 11:00 III38 **171.24** ▲ Generating brain atlases across diverse brain sample types. J. GORNET*; K. UMADEVI VENKATARAJU; U. SÜMBÜL; P. OSTEN. *Cold Spring Harbor Lab., Cold Spring Harbor Lab., Allen Inst. For Brain Sci., Cold Spring Harbor Lab.*

POSTER

172. Physiological Methods: Optogenetics I

Theme I: Techniques

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 III39 **172.01** ● High channel count wireless neural recording and stimulation for *in vivo* electrophysiology for nhps. J. C. MORIZIO*; V. GO. *Triangle Biosystems, Inc.*
- 9:00 III40 **172.02** Simultaneous two-photon manipulation and imaging of neural activity based on spectral-temporal modulation of supercontinuum light. Y. LIU; C. RENTERIA; T. KOHLFAERBER; S. YOU; H. TU; P. SENGUPTA; S. A. BOPPART*. *Univ. of Illinois at Urbana-Champaign.*
- 10:00 III41 **172.03** A compact closed-loop artifact-free optogenetics system based on transparent graphene microelectrodes. Y. SHI; X. LIU; Y. LU; E. ISERI; D. KUZUM*. *Univ. of California San Diego.*
- 11:00 III42 **172.04** Deep 2-photon imaging and artifact-free optogenetics through transparent graphene microelectrode arrays. X. LIU*; M. THUNEMANN; Y. LU; K. KILIÇ; M. DESJARDINS; M. VANDENBERGHE; S. SADEGH; P. SAISAN; Q. CHENG; K. WELDY; H. LYU; S. DJUROVIC; O. ANDREASSEN; A. DALE; A. DEVOR; D. KUZUM. *Univ. of California San Diego, Oslo Univ. Hosp., Oslo Univ. Hosp. and Univ. of Oslo.*
- 8:00 III43 **172.05** Development of micro LED-based optical stimulation device combined with microdialysis for detecting the release of neurotransmitters. Y. OHTA*; K. NAGANUMA; M. KAWAHARA; A. KIMURA; M. HARUTA; T. NODA; K. SASAGAWA; T. TOKUDA; J. OHTA. *Nara Institute of Sci. and Technol.*
- 9:00 III44 **172.06** Near-infrared deep brain stimulation via upconversion nanoparticle-mediated optogenetics. S. CHEN*; A. Z. WEITEMIER; X. ZENG; L. HE; X. WANG; Y. TAO; A. HUANG; Y. HASHIMOTODANI; M. KANO; H. IWASAKI; L. K. PARAJULI; S. OKABE; D. LOONG; A. H. ALL; I. TSUTSUI-KIMURA; K. F. TANAKA; X. LIU; T. J. MCHUGH. *RIKEN Ctr. for Brain Sci., RIKEN Brain Sci. Inst., Dept. of Chemistry, Natl. Univ. of Singapore, RIKEN Ctr. for Brain Sci., RIKEN Ctr. for Brain Sci., RIKEN Brain Sci. Institute, BSI, Doshisha Univ., Dept Neurophysiol, Grad Sch. Med, Univ. Tokyo, The Univ. of Tokyo, Univ. of Tokyo, Natl. Univ. of Singapore, Natl. Univ. of Singapore, Harvard Univ., Keio Univ. Sch. of Med. Dept. of Neuropsychiatry, RIKEN BSI.*
- 10:00 III45 **172.07** Ultra-soft and highly stretchable hydrogel optical fibers for *in vivo* optogenetic modulations. L. WANG*; C. ZHONG; F. YE; J. TU; L. WANG; Y. LU. *Shenzhen Inst. of Advanced Technology, CAS.*
- 11:00 III46 **172.08** Optogenetic activation of cutaneous and proprioceptive afferent in the rat sciatic nerve. S. KUBOTA*; W. SIDIKEJIANG; M. KUDOH; K. INOUE; T. UMEDA; M. TAKADA; K. SEKI. *Natl. Inst. of Neuroscience, NCNP, Res. Fellow of the Japan Society for the Promotion of Sci., Primate Res. Institute, Kyoto Univ.*
- 8:00 III47 **172.09** OptoStim: Opensource software for design and control of optogenetic experiments. C. STEFENS; S. DUNKLEY; J. JOHNSTON*. *Univ. of Leeds, Univ. of Leeds.*
- 9:00 III48 **172.10** Remote control of neural activity *in vivo* in zebrafish: Which opsin to chose and why? A. S. DUMITRESCU*; C. DELEUZE; P. ANTINUCCI; F. KUBO; M. WU; H. BAIER; I. H. BIANCO; C. WYART. *Inst. du Cerveau et de la Moelle Epinière, Univ. Col. London, Natl. Inst. of Genet., Max Planck Institute of Neurobio.*
- 10:00 III49 **172.11** Towards multipoint fiber photometry with tapered optical fibers. F. PISANELLO*; M. PISANELLO; F. PISANO; A. BALENA; E. MAGLIE; B. SPAGNOLO; L. SILEO; B. L. SABATINI; M. DE VITTORIO. *Inst. Italiano Di Tecnologia, Inst. Italiano Di Tecnologia, Italian Inst. of Technol., Inst. Italiano di Tecnologia, Inst. Italiano di Tecnologia, Harvard Med. Sch. Dept. of Neurobio.*
- 11:00 III50 **172.12** Optogenetic, calcium-sensing, voltage-sensing and chemogenetic mouse models available from The Jackson Laboratory. J. BECKWITH*; S. F. ROCKWOOD; C. LUTZ. *The Jackson Lab.*
- 8:00 III51 **172.13** An optogenetic approach to test the functional consequences of dopamine transporter multimer formation. S. M. INGAM*; T. RANA; N. BERRYMAN; J. S. GOODWIN. *Meharry Med. Col., Meharry Med. Col., Fisk Univ., Meharry Med. Col.*
- 9:00 III52 **172.14** A multi-channel injector for the introduction of viral vectors to the lateral surface of the rhesus monkey brain. E. JASKOT*; M. A. G. ELDRIDGE; J. M. FREDERICKS; T. W. BENNETT; K. DASH; W. LERCHNER; B. RICHMOND. *Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth., Icahn Sch. of Med. at Mount Sinai, NIH.*
- 10:00 III53 **172.15** Cellular-resolution recording and biasing of short-term memory in the anterior lateral motor cortex (ALM). K. DAIE*; H. INAGAKI; K. SVOBODA; S. DRUCKMANN. *Janelia Res. Campus, Stanford Univ.*
- 11:00 III54 **172.16** Engineering next-generation optogenetic pannexin-1 channels. A. W. LOHMAN*; R. E. CAMPBELL; R. J. THOMPSON. *Univ. of Calgary, Univ. of Alberta, Univ. of Calgary.*
- 8:00 III55 **172.17** Two-colour optogenetic control of cAMP and cGMP in target synapses and neurons of brain regions. M. VALENCIA*; K. OKAMOTO. *Mount Sinai Hosp., Univ. of Toronto.*
- 9:00 III56 **172.18** Opsin-independent suppression of striatal neuron firing by high-intensity illumination. S. F. OWEN*; M. H. LIU; A. C. KREITZER. *Gladstone Inst. of Neurolog. Dis., UCSF.*
- 10:00 III57 **172.19** Light delivery in extended brain structures by high NA tapered fibers. E. MAGLIE*; M. PISANELLO; F. PISANO; G. MANDELBAUM; L. SILEO; E. BELLISTRI; B. SPAGNOLO; B. L. SABATINI; M. DE VITTORIO; F. PISANELLO. *Inst. Italiano di Tecnologia, Univ. del Salento, Harvard Med. Sch. Dept. of Neurobio., Inst. Italiano di Tecnologia.*
- 11:00 III58 **172.20** Optogenetic stimulation of prefrontal glutamatergic transmission drives hyperkinesia and ameliorates motor dysfunctions following depletion of dopamine. L. V. MAGNO*; H. TENZA-FERRER; M. COLLODETTI; A. P. C. RODRIGUES; M. F. G. AGUIAR; R. S. SILVA; D. V. F. ROSA; M. A. ROMANO-SILVA. *Univ. Federal de Minas Gerais.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

POSTER

173. Physiological Methods: Electrophysiology: Neural Networks

Theme I: Techniques

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 III59 **173.01** Pharmacological investigation of transcranial magnetic stimulation evoked short and long-latency afferent inhibition. C. V. TURCO*; J. EL-SAYES; M. LOCKE; S. BAKER; R. CHEN; A. J. NELSON. *McMaster Univ., McMaster Univ., Toronto Western Hosp, McMaster Univ.*
- 9:00 III60 **173.02** Interlamellar dentate gyrus neurons in hippocampus. G. CHOI*; H. KANG; S. PAK; S. YANG; S. YANG. *City Univ. of Hong Kong, Incheon Natl. Univ., City Univ. of Hong Kong, Incheon Natl. Univ., City Univ. of Hong Kong.*
- 10:00 III61 **173.03** Detection of electroencephalographic changes in rats during auditory processing and reward anticipation using a two-tone auditory discrimination task. B. LAURSEN*; J. F. BASTLUND. *Lundbeck.*
- 11:00 III62 **173.04** Changes in ventral horn networks when cocultured with astrocytes or striated muscle. A. THARANEETHARAN*; M. A. HARRINGTON. *Delaware State Univ., Delaware State Univ.*
- 8:00 III63 **173.05** Electric field dynamics in the brain during phase-varying transcranial alternating current stimulation. I. ALEKSEICHUK*; A. Y. FALCHIER; G. LINN; T. XU; M. P. MILHAM; C. E. SCHROEDER; A. OPITZ. *Univ. of Minnesota, Nathan Kline Inst. for Psychiatric Res., Child Mind Inst., Columbia Univ. Col. of Physicians and Surgeons.*
- 9:00 III64 **173.06** Navigating in neural and behavioral manifolds with closed-loop multi-site electrical microstimulation system. S. TAFAZOLI*; C. MACDOWELL; K. LETAI; D. CHE; T. BUSCHMAN. *Princeton Univ., Princeton Univ., Princeton Univ.*
- 10:00 III65 **173.07** ● Fabrication and modification of implantable optrode arrays for *in vivo* optogenetic applications. C. ZHONG*; L. WANG; Y. CAO; S. PAN; K. HUANG; L. WANG; Y. LU. *Shenzhen Inst. of Advanced Technol.*
- 11:00 III66 **173.08** Recapitulating complex neuronal-glia networks in an *in vitro* system. H. A. ENRIGHT*; D. LAM; A. SALES; J. CADENA; J. OSBURN; S. PETERS; D. SOSCIA; K. KULP; E. WHEELER; N. O. FISCHER. *Lawrence Livermore Natl. Lab.*
- 8:00 III67 **173.09** Enabling multimodal interrogation of the primate brain via a modular neural interface. J. KLEINBART*; A. L. ORSBORN; J. CHOI; C. WANG; S. QIAO; M. F. KHAZALI; B. FERRENTINO; J. VIVENTI; B. PESARAN. *New York Univ., Duke Univ., Duke Univ. Dept. of Electrical and Computer Engin.*
- 9:00 III68 **173.10** High-throughput and high-speed data acquisition of compounds responses on calcium oscillation of human ipsc-derived cortical neurons with astrocyte. J. LU*; K. XU. *Codex Biosolutions, Inc, BrainXell, Inc.*
- 10:00 JJJ1 **173.11** Brain signal acquisition with miniaturized electronic systems for the investigation of local neural networks. A. BAHR*. *Univ. of Kiel.*

- 11:00 JJJ2 **173.12** Magnetic platform for modulating and monitoring neuronal networks. O. SHEFI*; M. MARCUS; N. VARDI; H. SCHORI; A. SHARONI. *Fac. of Engin., Bar Ilan Univ., Bar Ilan Univ., Bar Ilan Univ.*
- 8:00 JJJ3 **173.13** Seizure Detection based on “imaged-EEG” signals through statistical learning. C. GOMEZ*; P. A. ARBELÁEZ; M. VALDERRAMA. *Univ. De Los Andes, Univ. de los Andes, Univ. of Los Andes.*
- 9:00 JJJ4 **173.14** Virtual reality embodied therapy technique for increasing emotional processing. C. KROGMEIER*. *Purdue Univ.*

POSTER

174. Physiological Methods: Electrophysiology: Stimulating Neurons

Theme I: Techniques

Sun. 8:00 AM – San Diego Convention Center, SDCC Halls B-H

- 8:00 JJJ5 **174.01** Inter-day repeatability of spinal reflexes evoked by transcutaneous spinal cord stimulation. A. SAITO*; Y. MASUGI; K. NAKAGAWA; H. OBATA; K. NAKAZAWA. *The Univ. of Tokyo, Japan Society for the Promotion of Sci., Tokyo Intl. Univ., Kyushu Inst. of Technol.*
- 9:00 JJJ6 **174.02** Regulation of viral vector gene expression in the hippocampus by medial septal nucleus deep brain stimulation. D. J. LEE*; C. MCKINNON; M. DE SNOO; A. FOMENKO; E. LEE; V. AGAPOVA; S. NGANA; C. HAMANI; A. LOZANO; L. V. KALIA; S. K. KALIA. *Univ. of Toronto, Univ. of Toronto, Toronto Western Res. Inst., Movement Disorders Centre, Toronto Western Hosp.*
- 10:00 JJJ7 **174.03** Heat transport from stimulated activity in neurons studied through transient intracellular temperature measurements. M. C. RAJAGOPAL*; J. W. BROWN; K. V. VALAVALA; D. GELDA; D. LLANO; R. GILLETTE; S. SINHA. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign, Univ. of Illinois At Urbana-Champaign.*
- 11:00 JJJ8 **174.04** ▲ Characterization of goat’s retinal ganglion cells firing patterns evoked by pulses of different wavelengths and widths through the evaluation of inherent features for stimulus-response mapping between light and electrical stimulation parameters. G. BIANCHETTI*; S. BISWAS; D. SIKDAR; M. MAHADEVAPPA. *Univ. Cattolica Del Sacro Cuore, Indian Inst. of Technol., Indian Inst. of Technol.*
- 8:00 JJJ9 **174.05** ● Single-neuron sub-cellular-resolution electrical stimulation with high-density microelectrode arrays. S. RONCHI*; M. FISCELLA; C. MARCHETTI; J. MUELLER; V. VISWAM; U. FREY; A. HIERLEMANN. *ETH Zurich.*
- 9:00 JJJ10 **174.06** ● ▲ A method for automated, long-term neural stimulation with temporally-interfering electric fields in freely-moving mice. I. DALLA BETTA*; B. NELTNER; M. S. MANN; D. BONO; M. A. WILSON; E. S. BOYDEN; N. GROSSMAN; E. N. BROWN; F. J. FLORES. *Wellesley Col., MIT, Neltner Labs, MIT, MIT, MIT, MIT, MIT, MIT, MIT, Imperial Col. London, Massachusetts Gen. Hosp., MIT, Harvard Univ.*
- 10:00 JJJ11 **174.07** Defensive effect of deep brain stimulation on hippocampus apoptosis in the rat. C. PENG*; S. CHEN, 11031. *Taipei Med. Univ., Taipei Med. Univ. Hosp.*

- 11:00 JJJ12 **174.08** No effect of transcranial direct current stimulation (tDCS) on auditory-evoked potentials. K. KUNZELMANN*; L. MEIER; Y. MORISHIMA; T. DIERKS. *Univ. Hosp. of Psychiatry Bern.*
- 8:00 JJJ13 **174.09** Resolving the tACS paradox: If the electric field in the brain is too weak to cause neural entrainment, how can the observed behavioural effects be explained? B. ASAMOAH*; A. KHATOUN; M. MC LAUGHLIN. *KU Leuven.*
- 9:00 JJJ14 **174.10** A user-friendly, universal, robust algorithm for real-time detection and phase prediction of oscillatory episodes in the LFP for closed-loop phase-locked stimulation. C. M. RODRIGUEZ RIVERO*, SR; J. DITTERICH. *Ctr. for Neurosci. - Univ. of California, Univ. of California.*
- 10:00 JJJ15 **174.11** ▲ Effects of high definition transcranial direct current stimulation on inhibitory control. M. T. RODRIGUEZ*; A. E. ROACH. *Univ. of South Carolina Aiken, Univ. of South Carolina Aiken.*
- 11:00 JJJ16 **174.12** A closed-loop architecture to allow hybrid bi-directional interaction between neuronal assemblies *in vitro*. S. BUCCELLI*; I. COLOMBI; Y. BORNAT; V. PASQUALE; L. MARTINES; F. DIFATO; A. AVERNA; J. TESSADORI; M. TEDESCO; P. MASSOBRIO; T. LEVI; M. CHIAPPALONE. *Inst. Italiano di Tecnologia, Univ. degli studi di Genova, IMS Lab, Univ. of Bordeaux.*
- 8:00 JJJ17 **174.13** Large-scale modulation of spontaneous neural activity in sensorimotor cortex using somatosensory electrical stimulation. A. K. HISHINUMA*; T. GULATI; M. BURISH; K. GANGULY. *Univ. of California San Francisco, San Francisco Veterans Affairs.*
- 9:00 JJJ18 **174.14** Flat electrodes for peripheral nerve stimulation and non-invasive dose-response curves of vagus nerve stimulation. J. BUCKSOT*; A. WELLS; K. RAHEBI; M. P. KILGARD; R. L. RENNAKER; S. A. HAYS. *Univ. of Texas At Dallas, The Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas At Dallas, UT Dallas.*
- 10:00 JJJ19 **174.15** Design and testing of a multi-channel asynchronous neurostimulator with stimulation artifact rejection for cortical prosthesis. S. ELYAHOODAYAN*; D. SONG. *USC, USC.*
- 11:00 JJJ20 **174.16** Modifying behavior of a rat during a Brain-Machine Interface experiment by deep brain stimulation. N. SUDO*; O. FUKAYAMA; K. MABUCHI; T. ISOYAMA. *The Univ. of Tokyo.*
- 8:00 JJJ21 **174.17** Wireless, injectable neural interfaces (WINI) for peripheral nerve neuromodulation *in vivo*. A. SRIDHARAN*; S. CHIRANIA; B. TOWE; J. MUTHUSWAMY. *Arizona State Univ., Arizona State Univ.*
- 9:00 JJJ22 **174.18** The effect of transcranial direct current stimulation (tdcs) in a rodent postoperative delirium. K. KIM*; J. HAM; J. OH; D. CHO; B. LEE. *Gwangju Inst. of Sci. and Technol.*
- 10:00 JJJ23 **174.19** Combining non-invasive brain technologies to detect and stimulate brain activity. A. J. GARBIN*; A. M. HOOYMAN; J. J. KUTCH; B. E. FISHER. *USC.*
- 11:00 JJJ24 **174.20** Behavioral and functional assessment of low frequency low intensity ultrasound stimulation on *Caenorhabditis elegans*. Q. XIAN*; Z. QIU; J. GUO; L. SUN. *The Hong Kong Polytechnic Univ., The Hong Kong Polytechnic Univ., Univ. of California, Irvine.*
- 8:00 JJJ25 **174.21** Examining local direct neural activation during transcranial focused ultrasound neuromodulation. X. NIU*; K. YU; B. HE. *Carnegie Mellon Univ., Univ. of Minnesota Twin Cities.*
- 9:00 JJJ26 **174.22** Assessing optimal transcranial magnetic stimulation parameters for probing inhibitory function in the visual cortex. D. KHAMMASH*; M. SIMMONITE; T. A. POLK; S. F. TAYLOR; S. K. MEEHAN. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan Dept. of Psychology, Univ. of Michigan, Ann Arbor, Univ. of Michigan.*
- 10:00 JJJ27 **174.23** Focused ultrasound reversibly suppresses action potential propagation. Y. BABA*; B. U. HOFFMAN; S. A. LEE; E. E. KONOFAGOU; E. A. LUMPKIN. *Columbia Univ. Med. Ctr., Columbia Univ. Med. Ctr., Columbia Univ. Med. Ctr.*
- 11:00 JJJ28 **174.24** Remote magnetomechanical stimulation of sensory neurons mediated by magnetic nanodiscs. A. SENKO*; D. GREGUREC; I. TAFEL; P. REDDY; D. ROSENFELD; S. RAO; M. CHRISTIANSEN; P. CHIANG; S. PARK; P. ANIKEEVA. *MIT, MIT, MIT.*
- 8:00 JJJ29 **174.25** Magnetolectric materials for miniature, wireless neural interfaces. A. WICKENS*; B. AVANTS; S. DUTTA; J. CHEN; N. VERMA; J. CHU; A. FELDMAN; M. BEIERLEIN; C. KEMERE; J. T. ROBINSON. *Rice Univ., Rice Univ., Rice Univ., Rice Univ., Univ. of Texas Med. Sch. at Houston, Rice Univ.*
- 9:00 JJJ30 **174.26** Non-invasive mesenchymal stem cell transplantation and changes of Intercellular adhesion molecule-1 and vascular cell adhesion molecule-1 by low intensity focused ultrasound in the rat brain. J. LEE*; J. SHIN; C. KONG; Y. SEO; B. SONG; B. KIM; W. CHANG; J. CHANG. *Brain Korea 21 Plus Project Med. Science, Yonsei Univ. Col. of Med., EIT/LOFUS R&D Center, Inst. for Integrative Medicine, Col. of Medicine, Catholic Kwandong Univ., Catholic Kwandong Univ. Intl. St. Mary's Hosp.*
- 10:00 JJJ31 **174.27** Improvements of cognitive function by focused ultrasound associated with adult hippocampal neurogenesis in immunotoxin 192-Saporin rat model of cholinergic degeneration. C. KONG*; J. SHIN; J. LEE; C. KOH; J. SIM; Y. NA; W. CHANG; J. CHANG. *Yonsei Univ. Col. of Med., Yonsei Univ. Col. of Med., Catholic Kwandong Univ. Col. of Med.*
- 11:00 JJJ32 **174.28** The role of vesicular zinc on adult hippocampal neurogenesis induced by focused ultrasound. J. SHIN*; B. CHOI; C. KONG; S. LEE; J. SIM; J. CHANG; W. CHANG; S. SUH. *Yonsei Univ. Col. of Med., Yonsei Univ. Col. of Med., Hallym University, Col. of Med.*
- 8:00 JJJ33 **174.29** Manipulation of rat movement with liquid crystal polymer based electrodes in 3d-maze. C. KOH*; S. AHN; M. YOON; J. SHIN; C. KONG; S. YUN; C. KIM; W. CHANG; H. JUNG; S. KIM; J. CHANG. *Yonsei Univ. Col. of Med., Dept. of Electrical and Computer Engineering, Seoul Natl. Univ., Dept. of Neurosurgery, Yonsei Univ. Col. of Med.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

Sunday PM

LECTURE *San Diego Convention Center*

175. **CLINICAL NEUROSCIENCE LECTURE: From Axon Regeneration to Functional Recovery After CNS Injury** — CME

Sun. 1:00 PM - 2:10 PM — SDCC Ballroom 20

Speaker: Z. HE, *Boston Children's Hosp.*

In the adult mammalian CNS, the inability of injured axons to regenerate contributes to unrecoverable functional deficits. This lecture will present recently uncovered cellular and molecular mechanisms regulating the processes of neuronal injury responses and axon regeneration. Further discussion will focus on the progress in developing effective strategies to promote axon regeneration and functional recovery in experimental injury models *in vivo*, such as spinal cord injuries and optic nerve crush.

SYMPOSIUM *San Diego Convention Center*

176. **Local Field Potentials and Deep Brain Stimulation** — CME

Sun. 1:30 PM - 4:00 PM — SDCC 6A

Chair: C. C. MCINTYRE, *Case Western Reserve University*

This symposium will provide an integrated story of scientifically driven clinical translation in deep brain stimulation (DBS) using local field potentials (LFPs). The talks will span from the basic science and fundamentals of LFP signals, to techniques and strategies for performing the clinical research necessary to define the appropriate LFP biomarkers, to direct application of adaptive DBS algorithms in clinical practice.

1:30 **176.01** Introduction.

1:35 **176.02** Biophysics of local field potentials. C. C. MCINTYRE. *Case Western Reserve Univ.*

2:10 **176.03** Identification of clinically relevant LFP biomarkers. A. KUHN. *Charite.*

2:45 **176.04** Chronic recording of LFPs in humans. H. BRONTE-STEWART. *Stanford Univ.*

3:20 **176.05** Deployment of adaptive DBS. P. BROWN. *Univ. of Oxford.*

3:55 **176.06** Closing Remarks.

SYMPOSIUM *San Diego Convention Center*

177. **Blood-Brain Barrier in Health and Disease: Role in Neurodegeneration, CNS Autoimmunity, and Gene Transfer** — CME

Sun. 1:30 PM - 4:00 PM — SDCC 6B

Chair: B. V. ZLOKOVIC, *Keck School of Medicine of the University of Southern California*

This symposium summarizes current advances on the role of the blood-brain barrier (BBB) in health and disease, including major human neurodegenerative disorders, such as Alzheimer's disease, and neuroimmune disease. It highlights single-cell approaches to understanding the role of brain vasculature in health and CNS disorders; cellular and molecular mechanisms at the BBB causing neurodegeneration and CNS autoimmunity; and gene transfer across the BBB to treat neurodegenerative and CNS disorders.

1:30 **177.01** Introduction.

1:35 **177.02** Blood-brain barrier: Structure, function, and role in neurodegeneration. B. V. ZLOKOVIC. *Keck Sch. of Med. of the Univ. of Southern California.*

2:10 **177.03** Molecular definition of the blood-brain barrier and cerebral blood vessels: Cell types and zonation in the brain vasculature. C. BETSHOLTZ. *Karolinska Institutet.*

2:45 **177.04** Blood-brain barrier crosstalk with immune cells determines entry of immune cells in the CNS during health and disease. R. KLEIN. *Washington Univ. Sch. of Med. in St. Louis.*

3:20 **177.05** Gene transfer across the blood-brain barrier to modulate mammalian neurons and treat neurodegenerative and other CNS disorders. V. GRADINARU. *CALTECH.*

3:55 **177.06** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

178. **High-Level Cognition in Low-Level Brain Regions** — CME

Sun. 1:30 PM - 4:00 PM — SDCC 6C

Chair: R. A. COWELL, *University of Massachusetts*

Mounting evidence now contests the idea that high-level brain regions such as the medial temporal lobe engage only in high-level functions like declarative memory. This challenges the broader assumption that the brain comprises discrete anatomical units specialized for distinct cognitive functions. This minisymposium extends that challenge by asking the question: Can high-level cognitive functions such as recognition memory, recall, and spatial cognition be mediated by low-level cortical regions?

1:30 **178.01** Introduction.

1:35 **178.02** How is memory organized? Memory Systems versus the Representational-Hierarchical View. T. J. BUSSEY. *Western Univ.*

1:55 **178.03** Visual recollection: Episodic memory-like retrieval of visual information outside of hippocampus. R. A. COWELL. *Univ. of Massachusetts.*

2:15 **178.04** How primary sensory cortex retrieves memory to detect novelty. S. F. COOKE. *Kings Col. London.*

- 2:35 **178.05** The role of early visual regions in the construction of false memories for spatial location. J. M. KARANIAN. *John Jay Col. of Criminal Justice, The City Univ. of New York*.
- 2:55 **178.06** Combined integration of visual cues and distance traveled in the visual cortex and hippocampus during navigation. J. FOURNIER. *Univ. Col. London*.
- 3:15 **178.07** Coding spatiotemporal information in cortical networks: What we know and what we don't. J. P. GAVORNIK. *Boston Univ.*
- 3:35 **178.08** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

179. Telling Stories of Science

Sun. 1:30 PM - 4:00 PM — SDCC 6E

Chair: W. A. SUZUKI, *New York University*

Now more than ever, it is essential that scientists actively engage with the public. Through storytelling, or the use of a personal narrative, we can bring science to life and improve communication not only with the public but also within the community. In this minisymposium, presentations about the science of storytelling and why and how to tell stories, as well as three powerful personal stories, will demonstrate how storytelling can transform science communication and promote scientific progress.

- 1:30 **179.01** Introduction.
- 1:35 **179.02** Who speaks for science?: Storytelling and cultural diversity in science communication. M. I. FELIU-MOJER. *Massachusetts Gen. Hosp.*
- 1:55 **179.03** Cause and effect. R. YEHUDA. *Mount Sinai Sch. of Med.*
- 2:15 **179.04** Science and stagecraft: Using lessons from the performing arts. B. LILLIE. *Story Collider*.
- 2:35 **179.05** Before the abstract. J. ZARATE. *Nature Neurosci.*
- 2:55 **179.06** Using storytelling to share memories across brains. U. HASSON. *Princeton Univ.*
- 3:15 **179.07** My cousin's meds. C. HART. *Columbia Univ.*
- 3:35 **179.08** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

180. More Than Just a "Motor": Recent Surprises From the Frontal Cortex — CME

Sun. 1:30 PM - 4:00 PM — SDCC 28A

Chair: C. L. EBBESEN, *New York University School of Medicine*

Motor and premotor cortices are crucial for motor control. While classic primate studies have emphasized a role for motor cortices in movement generation, recent rodent studies implicate motor cortical neurons in sensory integration, behavioral strategizing, working memory, and decision making — underrated higher-order functions of the motor cortex that deserve better attention and study. This minisymposium will review recent findings, which highlight that the motor cortex is much more than just a "motor."

- 1:30 **180.01** Introduction.

- 1:35 **180.02** The role of rat frontal orienting fields in decision commitment. C. D. KOPEC. *Princeton Univ.*
- 1:55 **180.03** Whisker movement suppression and socio-sensory signals in vibrissa motor cortex. C. L. EBBESEN. *New York Univ. Sch. of Med.*
- 2:15 **180.04** Neural substrates of action timing decisions. M. MURAKAMI. *Univ. of Yamanashi*.
- 2:35 **180.05** Nominally non-responsive frontal cortical cells encode behavioral variables via ensemble consensus-building. M. INSANALLY. *New York Univ.*
- 2:55 **180.06** *In vivo* spiking dynamics and encoding of forelimb movements in rat M1/M2. A. SAIKI. *Northwestern Univ.*
- 3:15 **180.07** Spatio-temporal receptive fields in the rodent frontal orienting field. J. C. ERLICH. *NYU Shanghai*.
- 3:35 **180.08** Closing Remarks.

MINISYMPOSIUM *San Diego Convention Center*

181. Cell Adhesion Molecules at the Intersection of Cell Type Identity and Neural Circuit Connectivity — CME

Sun. 1:30 PM - 4:00 PM — SDCC 29D

Chair: C. FOLDY, *University of Zurich*

Co-Chair: J. DE WIT, *VIB-KU Leuven Center for Brain & Disease Research*

Cell adhesion molecules (CAMs) play critical roles in neural circuit assembly and are frequently associated with neurodevelopmental and psychiatric disorders. Because hundreds of CAMs exist in the brain, their functional analysis has been challenging. Single-cell RNAseq, gene isoform-specific, and synapse-specific analyses are breaking barriers. This minisymposium will present the most recent insight into the role of CAMs in defining cell type identity, circuit connectivity, and function.

- 1:30 **181.01** Introduction.
- 1:35 **181.02** Classifying *Drosophila* olfactory neuron subtypes by single-cell RNA-seq. H. LI. *Stanford University/HHMI*.
- 1:55 **181.03** Molecular mechanisms controlling the precision of neural connectivity in the *Drosophila* visual system. M. Y. PECOT. *Harvard Med. Sch.*
- 2:15 **181.04** Complement-related proteins and synapse identity in the mammalian brain. F. SELIMI. *CIRB-Collège de France*.
- 2:35 **181.05** Selective cell adhesion in synapse specificity of hippocampal circuits. M. E. WILLIAMS. *Univ. of Utah*.
- 2:55 **181.06** Functional mapping of a synaptic adhesive code. A. M. GOMEZ. *Univ. of Basel*.
- 3:15 **181.07** Functional interrogation of a disease-relevant mutation reveals a unique synaptic role for extracellular sequences of neuroligin-3. J. N. AOTO. *Univ. of Colorado, Denver*.
- 3:35 **181.08** Closing Remarks.

• Indicated a real or perceived conflict of interest, see page 139 for details.

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* Indicates abstract's submitting author

LECTURE San Diego Convention Center

182. PETER AND PATRICIA GRUBER LECTURE: Decision, Reward, and the Basal Ganglia

Sun. 2:30 PM - 3:40 PM — SDCC Ballroom 20

Speakers: A.M. GRAYBIEL, MIT; O. HIKOSAKA, Natl. Eye Institute, NIH; W. Schultz, Univ. of Cambridge

Support contributed by: The Gruber Foundation

The Striatum and Decision-Making Based on Value

Ann M. Graybiel, PhD

McGovern Institute for Brain Research at the Massachusetts Institute of Technology

The striatum was once thought to be a primitive part of the forebrain, despite evidence that basal ganglia dysfunction underlies major extrapyramidal disorders. Our work has contributed to the surprising realizations that the striatum actually has a sophisticated compartmental structure, that striatal circuits are implicated in decision-making and in neuropsychiatric as well as motor disorders, and that special modules in the striatum, called striosomes, are focal points in circuits linking mood-related neocortex with midbrain dopamine-containing neurons and other neuromodulatory regions. The striatum thus modulates a broad range of circuits affecting our behavioral state in health and disease.

Parallel Basal Ganglia Circuits for Cooperative and Competitive Decision-Making

Okhide Hikosaka, MD, PhD

National Eye Institute, NIH

The basal ganglia control active behavior by disinhibiting a goal-directed action while inhibiting irrelevant actions. This is based on short-term and long-term memories, which are selectively processed in parallel circuits in the basal ganglia including dopamine neurons. These parallel circuits, together or separately, are essential for engendering motivation, attention, and skill.

About Reward

Wolfram Schultz, MD

University of Cambridge

The talk will describe the properties of neurons in the brain's reward systems and how their action contributes to economic decision-making. Each of several reward systems, including those involving the dopamine neurons, striatum, amygdala, and orbitofrontal cortex, plays a unique role in this process. The details of this function are currently being investigated using designs based on behavioral theories, such as animal learning theory, machine learning, and economic utility theory.

LECTURE San Diego Convention Center

183. PRESIDENTIAL SPECIAL LECTURE: Neurobiology of Social Behavior Circuits

Sun. 5:15 PM - 6:30 PM — SDCC Ballroom 20

Speaker: C. DULAC, Harvard University, Howard Hughes Med. Inst.

Support contributed by: Tianqiao & Chrissy Chen Institute

Social interactions are essential for animals to reproduce, defend their territory, and raise their young. This lecture will describe new data aimed at deciphering the identity and functioning principles of neural circuits underlying various social behaviors, with an emphasis on a particularly important form of social interaction: parental care. This lecture will discuss how these findings open new avenues to deconstruct the neural bases of maternal and paternal behaviors and may help to further understanding of variations in the neural control of parenting in different animal species.

NANOSYMPOSIUM

184. Postnatal Neurogenesis: Molecular Mechanisms

Theme A: Development

Sun. 1:00 PM – San Diego Convention Center, SDCC 1

- 1:00 **184.01** The impact of age on cell proliferation in hippocampal subgranular zone in adult mouse brain. M. SEMENOV*; O. L. BORDIUK; K. SMITH. *Edith Nourse Rogers Mem. Veterans Hosp., Boston Univ. Sch. of Med.*
- 1:15 **184.02** Persistence of adult hippocampal neurogenesis through aging and cognitive dysfunction. O. LAZAROV*; K. MUSARACA; A. BHERI; N. KIM; D. BENNETT; M. TOBIN. *Univ. Illinois, Chicago, Rush Med. Ctr.*
- 1:30 **184.03** ● Alzheimer amyloid beta peptide as a driver of cell-cycle re-entry and aneuploidy in neurons. N. ELDER*; A. WANG; H. POTTER. *Univ. of Colorado, Anschutz Med. Campus.*
- 1:45 **184.04** Tau phosphorylation at AT8 pathological site during brain development. D. TUERDE*; K. FURUSAWA; T. TAKASUGI; T. KIMURA; S. ISHIGAKI; K. ANDO; G. SOBUE; S. HISANAGA. *Nagoya Univ., Tokyo Metropolitan Univ.*
- 2:00 **184.05** A mouse model of Kabuki syndrome to study neurogenesis and hippocampal function. M. ALAM*; M. DURHAM; K. HALDAR. *Univ. of Notre Dame, Univ. of Notre Dame.*
- 2:15 **184.06** Autophagy mediated lipid metabolism sustained mTORC1 activation in TSC1-deficient neural stem cells. C. WANG*; M. HAAS; S. YEO; F. YANG; J. WEN; S. CHEN; T. OKAMOTO; P. SARMA; D. PLAS; J. GUAN. *Univ. of Cincinnati, COM.*
- 2:30 **184.07** Tight control of thyroid hormone availability regulates neural stem cell fate in the adult mouse brain. S. REMAUD*; C. LUONGO; A. SÉBILLOT; J. GOTHIE*; K. LE BLAY; L. BUTRUILLE; H. HEUER; B. DEMENEIX. *CNRS MNHN 7221, Univ. of Naples Federico II, Univ. Duisburg-Essen.*
- 2:45 **184.08** SoxD genes in the control of adult hippocampal neurogenesis. A. V. MORALES*; L. LI; M. CIORRAGA; C. CORDOBA; V. ZINCHUK; E. CALLEJA; S. NICOLIS; V. LEFEBVRE. *Inst. Cajal (CSIC), Univ. of Milano-Bicocca, Cleveland Clin. Lerner Res. Inst.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

3:00 **184.09** • Roles of nuclear lamin in adult neurogenesis and brain aging. T. TODA^{*}; T. A. BEDROSIAN; N. NOVARES; L. HU; S. GHASSEMZADEH; S. G. YOUNG; F. H. GAGE. *Salk Inst. For Biol. Studies, Paul F. Glenn Ctr. for Biol. of Aging Res. at the Salk Inst., UCLA.*

3:15 **184.10** Coupling of regional cerebral blood flow and functional connectivity at the default-mode-network hubs during infant development. Q. YU^{*}; H. KANG; M. OUYANG; Y. PENG; F. FANG; H. HUANG. *Children's Hosp. of Philadelphia, Univ. of Pennsylvania, Beijing Children's Hospital, Capital Med. Univ., Peking Univ.*

NANOSYMPOSIUM

185. Neural Stem Cells: Reprogramming, Regeneration, and Transplantation

Theme A: Development

Sun. 1:00 PM – San Diego Convention Center, SDCC 2

1:00 **185.01** Direct reprogramming of astrocytes to neurons leads to functional recovery after stroke. M. FAIZ^{*}; T. LEE; C. PHILLIPS; A. KRASSIKOVA; J. LIVINGSTON-THOMAS; B. DONVILLE; N. SACHEWSKY; I. VONDERWALDE; C. MORSHEAD. *Univ. of Toronto.*

1:15 **185.02** Chemical conversion of human astrocytes into neurons through modulation of multiple pathways. J. YIN^{*}; L. ZHANG; X. HOU; Z. LEI; N. MA; F. ZHANG; G. LEE; Y. WANG; F. DONG; G. WU; G. CHEN. *Penn State Univ., Sch. of Life Science, South China Normal Univ.*

1:30 **185.03** Neural stem cell transplantation improves the ability of learning and memory of tau/tta mice by eliminating neurofibrillary tangles. H. ZHANG; C. YUAN; Z. QUAN^{*}; H. QING. *Beijing Inst. of Technol.*

1:45 **185.04** Functional and sustainable 3-dimensional human neural network tissue models from pluripotent stem cells. W. L. CANTLEY; C. DU; S. LOMOIO; T. DEPALMA; E. PEIRENT; D. KLEINKNECHT; M. HUNTER; T. J. F. NIELAND^{*}; M. SCHOMER; G. TESCO; D. L. KAPLAN. *Tufts Univ., Tufts Univ., Tufts Univ., Tufts Univ., The Jackson Lab., Tufts Univ. Sch. of Med.*

2:00 **185.05** Intravenous infusion of mesenchymal stem cells promotes functional recovery in a model of chronic spinal cord injury. T. MORITA^{*}; M. SASAKI; Y. K. SASAKI; M. NAKAZAKI; H. NAGAHAMA; S. OKA; J. D. KOCSIS; O. HONMOU; T. YAMASHITA. *Sapporo Med. Univ. Sch. of Med., Sapporo Med. Univ. Sch. of Med., Yale Univ. Sch. of Med.*

2:15 **185.06** • Investigating the mechanism of regulation of select tight junctions implicated in neurovascular dysfunction by human umbilical cord perivascular cells after modelled traumatic brain injury. T. BARRETTO^{*}; E. PARK; E. LIU; D. GALLAGHER; A. J. BAKER. *Univ. of Toronto, St. Michael's Hosp., Create Fertility Ctr., Univ. of Toronto, Inst. of Med. Scienc, St. Michael's Hosp.*

2:30 **185.07** iPSC-derived neuronal/astrocyte composite cultures identify functional and bioenergetic defects in Leigh syndrome patients carrying SURF1 mutations. G. INAK^{*}; R. JUETTNER; A. ZINK; P. LISOWSKI; B. MLODY; M. GOTTHARDT; R. KUEHN; E. E. WANKER; M. SCHUELKE; A. PRIGIONE. *Max Delbrueck Ctr. for Mol. Med., Charité Universitaetsmedizin, Berlin Inst. for Med. Systems Biol. (BIMSB).*

2:45 **185.08** Caudalised brain organoids for modelling human brain development. S. M. MOLCHANOVA^{*}; M. CHEREPKOVA; S. ABDURAKHMANOVA; T. P. TAIRA; T. OTONKOSKI; M. M. BESPALOV. *Univ. of Helsinki, Univ. of Helsinki, Univ. of Helsinki.*

NANOSYMPOSIUM

186. Brain Wellness and Aging: Molecular Mechanisms

Theme C: Neurodegenerative Disorders and Injury

Sun. 1:00 PM – San Diego Convention Center, SDCC 30B

1:00 **186.01** A genome-wide RNAi screen identifies conserved epigenetic modulators that prevent healthy aging. J. YUAN^{*}; S. CHANG; S. YIN; X. CHENG; X. LIU; Z. LIU; X. KANG; J. YIN; Q. JIANG; P. HAO; L. JIANG; S. CAI. *Inst. of Neuroscience, CAS, Inst. Pasteur of Shanghai, Chinese Acad. of Sci.*

1:15 **186.02** A chronic low dose of delta-9-tetrahydrocannabinol restores cognitive function in old mice by histone acetylation. A. BILKEI-GORZO^{*}; O. ALBAYRAM; A. DRAFFEHN; K. MICHEL; A. PIYANOVA; H. OPPENHEIMER; M. DVIRGINZBERG; I. RACZ; T. ULAS; S. IMBEAULT; I. BAB; J. SCHULTZE; A. ZIMMER. *Univ. of Bonn, LIMES Inst., Hebrew Univ.*

1:30 **186.03** Natural variation in glia-neuron signaling modulates aging rate. G. GAO^{*}; J. YIN; X. LIU; Z. HAO; K. LI; X. KANG; H. LI; Y. SHAN; W. HU; H. LI; S. CAI. *Inst. of Neurosci., CAS-MPG Partner Inst. for Computat. Biol., Inst. of Biochem. and Cell Biol., Inst. of Plant Physiol. and Ecology.*

1:45 **186.04** Origins of age-related neurogenesis decline. A. IBRAYEVA^{*}; E. PU; M. BAY; D. JÖRG; D. BERG; H. SONG; B. SIMONS; M. BONAGUIDI. *Broad CIRM Ctr. At USC, Cambridge Univ., Univ. of Pennsylvania.*

2:00 **186.05** An epidermal antimicrobial peptide and its neuronal receptor regulate dendrite degeneration in aging and infection. L. E^{*}; T. ZHOU; S. KOH; M. CHUANG; R. SHARMA; N. PUJOL; A. D. CHISHOLM; C. EROGLU; H. MATSUNAMI; D. YAN. *Duke Univ., Duke Univ., Duke Univ., UCSD, Duke Univ., 4Centre d'Immunologie de Marseille-Luminy, Univ. of California San Diego, Duke Univ, DUMC.*

2:15 **186.06** Endophilin A1- mediated synaptic failure links to mitochondrial stress in Alzheimer's disease. Q. YU^{*}; F. DU; S. YAN. *Higuchi Biosci. Center, Sch. of Pharmacy, Uni.*

2:30 **186.07** PINK1-mediated mitochondrial quality control contributes to amyloid pathology in Alzheimer's disease. F. DU^{*}; Q. YU; S. YAN. *Higuchi Biosci. Center, Sch. of Pharmacy, Uni.*

2:45 **186.08** An MRI study of the effect of mutant amyloid precursor protein (APP) decoupled from effect of plaque on axonal transport in the live mouse brain. C. MEDINA^{*}; F. CHAVES; R. E. JACOBS; E. L. BEARER. *Univ. of New Mexico Hlth. Sci. Ctr., Univ. of New Mexico, USC Keck Sch. of Med., UNM Sch. of Med.*

3:00 **186.09** Cellular aging potentiates synapse loss due to neuronal beta-amyloid production by increasing APP endocytosis. C. G. ALMEIDA^{*}; T. BURRINHA. *CEDOC - Chronic Dis. Res. Ctr. NMS-UNL.*

3:15 **186.10** Myelin redundancy: A brain biomarker for "aging" versus Alzheimer's disease in Down syndrome. A. N. VAN HOEK^{*}; L. DAI; J. R. KORENBERG. *Univ. of Utah, Univ. of Utah.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

3:30 **186.11** Effect of healthy aging on blood-brain barrier morphology and function. Does it have any impact on the memory and the protein expression? A comparative study in aged and young rats. F. ERDO*; K. TÓTH; Á. BAJZA; B. PÉTERFIA; E. TÓTH; A. CSORBA; L. BORS; D. MÁTHÉ; G. PERLAKI; G. ORSI; J. MOLNÁR; I. WILHELM; I. GYERTYAN. *Pázmány Péter Catholic Univ., MTA TTK Inst. of Cognitive Neurosci. and Psychology, Fac. of Information Technol. and Bionics, Pázmány Péter Catholic Univ., Univ. of Szeged, Fac. of Pharmacy, Department of Pharmacognosy, Semmelweis University, Fac. of Medicine, Dept. of Biophysics and Radiation Biol., MTA-PTE Clin. Neurosci. MR Res. Group, Pécs, Solvo Biotech., MTA-SZBK Szeged, Semmelweis University, Dept. of Pharmacol.*

NANOSYMPOSIUM

187. Alzheimer's Disease: Synapses, Mechanisms, and Models

Theme C: Neurodegenerative Disorders and Injury

Sun. 1:00 PM – San Diego Convention Center, SDCC 33

1:00 **187.01** Developing a monkey model of Alzheimer's disease focused on women's health. D. BECKMAN*; K. DONIS-COX; S. OTT; W. G. JANSSEN; M. G. BAXTER; J. H. MORRISON. *UC Davis, Icahn Sch. of Med. at Mount Sinai.*

1:15 **187.02** Targeting translation impairment to restore cognitive deficits in Alzheimer's disease models. M. M. OLIVEIRA*; M. V. LOURENCO; F. LONGO; N. KASICA; W. YANG; T. MA; F. G. DE FELICE; E. KLANN; S. T. FERREIRA. *Federal Univ. of Rio De Janeiro, New York Univ., Wake Forest Baptist Hlth., Wake Forest Baptist Med. Ctr., Wake Forest Sch. of Med., Fed Univ. Rio De Janeiro, New York Univ. Ctr. for Neural Sci.*

1:30 **187.03** S-Nitrosylation of Uch-L1 contributes to synaptic damage in models of Alzheimer's disease. T. NAKAMURA*; C. OH; L. LIAO; A. J. ROBERTS; J. R. YATES, III; S. A. LIPTON. *The Scripps Res. Inst., The Scripps Res. Inst., Univ. of California, San Diego, Sch. of Med.*

1:45 **187.04** cindr, the *Drosophila* homolog of CD2AP, plays a conserved role in synapse function and protein turnover. S. A. OJELADE*; T. V. LEE; N. GIAGTZOGLU; J. SHULMAN. *Baylor Col. of Med.*

2:00 **187.05** Exercise-linked FNDC5/irisin corrects synapse and memory defects in mouse models of Alzheimer's disease. M. V. LOURENCO*; O. ARANCIO; S. T. FERREIRA; F. G. DE FELICE. *Fed Univ. of Rio de Janeiro, Columbia Univ., Fed. Univ. Rio de Janeiro, Fed Univ. Rio de Janeiro.*

2:15 **187.06** Reducing tau in synapses is associated with amelioration of behavioural deficits in a novel model of Alzheimer's disease. T. L. SPIRES*; E. K. PICKETT; J. TULLOCH; A. G. HERRMANN; O. NETSYK; P. JAIN; S. DUNNETT; S. S. SEDEH; M. FJELDSTAD; W. CALKIN; L. MURISON; R. J. JACKSON; J. MCQUEEN; R. PITSTICK; C. MCKENZIE; E. ALLISON; G. CARLSON; C. SMITH; I. OREN; O. M. HARDT; C. M. HENSTRIDGE. *The Univ. of Edinburgh, McLaughlin Res. Inst., McGill.*

2:30 **187.07** Tau silences neuronal circuits and blocks the effects of amyloid- β *in vivo*. M. A. BUSCHE*; S. WEGMANN; S. DUJARDIN; J. SCHIANTARELLI; T. KAMATH; I. NELKEN; B. T. HYMAN. *Massachusetts Gen. Hosp., Hebrew Univ. of Jerusalem.*

2:45 **187.08** A β 1-42 causes intracellular calcium dysregulation and arcuate npy neuron dysfunction through Cav1.3-like calcium currents. G. WANG*; M. ISHII; A. HILLER; C. IADECOLA. *Weill Cornell Med. Col., Weill Cornell Med., Weill Cornell Med.*

3:00 **187.09** A peptide derived from the PS1/ γ -secretase-mediated cleavage of ephrinB2 rescues the angiogenic function of brain endothelial cells expressing PS1 FAD mutants. A. GEORGAKOPOULOS*; Y. YOON; N. WARREN; G. VOLOUDAKIS; N. K. ROBAKIS. *Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med., Mount Sinai Hlth. Syst.*

3:15 **187.10** The regulatory role of GHSR in Alzheimer's disease related hippocampal synaptic dysfunction. J. TIAN*; L. GUO; S. SUI; C. DRISKILL; A. PHENSY; J. ZIGMAN; R. H. SWERDLOW; S. KROENER; H. DU. *The Univ. of Texas At Dallas, UT-southwestern, Univ. Kansas Sch. Med., Univ. of Texas at Dallas Sch. of Behavioral and Brain Sci.*

3:30 **187.11** Cyclophilin d-oscpr interaction mediates mitochondrial f1fo atp synthase dysfunction in Alzheimer's disease. E. GAUBA*; L. GUO; H. DU. *Univ. of Texas At Dallas.*

3:45 **187.12** Innate immune system modulates gamma-secretase with aging and in Alzheimer's disease. J. HUR*; G. R. FROST; X. WU; S. PAN; C. CRUMP; J. WANG; J. TCW; A. MCKENZIE; Y. SAGI; K. R. SADLEIR; R. RISSMAN; R. VASSAR; B. ZHANG; D. S. JOHNSON; E. MASLIAH; P. GREENGARD; A. GOATE; Y. LI. *Mem. Sloan Kettering Cancer Ctr., Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. at Mount Sinai, Rockefeller Univ., Northwestern Univ., Univ. of California San Diego, Pfizer.*

NANOSYMPOSIUM

188. Alzheimer's Disease and Other Dementias: Tau and TDP-43 Proteinopathies

Theme C: Neurodegenerative Disorders and Injury

Sun. 1:00 PM – San Diego Convention Center, SDCC 5

1:00 **188.01** Distribution of tdp-43 pathology in hippocampal synaptic relays suggests trans-synaptic propagation in primary progressive aphasia. D. T. OHM*; P. JAMSHIDI; G. KIM; K. BOLBOLAN; S. WEINTRAUB; E. H. BIGIO; M. M. MESULAM; C. GEULA. *Northwestern Univ.*

1:15 **188.02** ● Discovery and development of diagnostics and therapeutics for TDP-43 proteinopathies. T. AFROZ; T. SEREDENINA; V. DARMENCY; C. BOUDOU; J. KOCHER; M. CHAUHAN; A. MARCHAND; H. KROTH; O. ADOLFSSON; A. PUROHIT; D. PATERSON; L. MARTARELLO; M. NEUMANN; J. STOEHR; A. PFEIFER; A. MUHS*. *AC Immune SA, Biogen, Inc., Univ. of Tübingen.*

1:30 **188.03** Clinicopathological correlations of mixed pathology in Alzheimer's disease. J. M. SCHAEVERBEKE*; F. S. H. AL-SHAIKH; N. O. AZU; K. J. VINSON; A. M. LIESINGER; N. ERTEKIN-TANER; O. A. ROSS; R. DUARA; N. R. GRAFF-RADFORD; D. W. DICKSON; M. E. MURRAY. *KU Leuven, Mayo Clin., Mayo Clin., Mount Sinai Med. Ctr., Mayo Clin.*

1:45 **188.04** Detection of Alzheimer's disease (AD) specific tau pathology in co-morbid frontotemporal lobar degeneration-tau (FTLD-tau) with a conformation-selective anti-tau monoclonal antibody. G. S. GIBBONS*; S. KIM; J. L. ROBINSON; L. CHANGOLKAR; D. J. IRWIN; V. M. LEE; J. Q. TROJANOWSKI. *Univ. of Pennsylvania.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

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* Indicates abstract's submitting author

- 2:00 **188.05** • Network tau spreading in human neurodegeneration. J. C. MASDEU*; B. PASCUAL; Q. FUNK; E. ROCKERS; P. ZANOTTI-FREGONARA; M. YU; N. PAL; C. KARMONIK; B. SPANN; G. ROMAN; P. SCHULZ. *Houston Methodist Res. Inst., McGovern Med. Sch. of UT Hlth.*
- 2:15 **188.06** Reduced C9ORF72 function exacerbates gain-of-toxicity from ALS/FTD-causing repeat expansion in C9ORF72. Q. ZHU*; J. JIANG; T. GENDRON; M. MCALONIS-DOWNES; P. KING; Y. ZHANG; M. MALDONADO; A. E. TAYLOR; S. GARCIA; M. J. RODRIGUEZ; B. MYERS; S. G. DASTIDAR; J. KIM; C. HEYSER; A. R. L. SPADA; L. PETRUCCELLI; S. D. CRUZ; J. RAVITS; C. LAGIER-TOURENNE; D. W. CLEVELAND. *Univ. of California San Diego, Mayo Clin., UCSD, Univ. of California at San Diego, Duke Univ., Massachusetts Gen. Hosp.*
- 2:30 **188.07** TDP-43 protein variants as biomarkers in frontotemporal dementia. L. VENKATARAMAN*; G. KHAN; B. T. HARRIS; M. R. SIERKS. *Arizona State Univ., Georgetown Univ. Med. Ctr.*
- 2:45 **188.08** Impact of silica nanoparticles-induced neurodegeneration and cognitive impairment, an example on the effect of environmental pollutant. R. C. CHANG*; R. YOU; Y. LIU; C. HUANG; H. W. LI; Y. S. HO. *Lab. of Neurodegenerative Diseases, LKS Fac. of Medicine, Univ. of Hong Kong, State Key Lab. of Brain and Cognitive Sciences, The Univ. of Hong Kong, Dept. of Anaesthesiology, LKS Fac. of Medicine, The Univ. of Hong Kong, Dept. of Chemistry, Hong Kong Baptist Univ., Sch. of Nursing, The Hong Kong Polytechnic Univ.*
- 3:00 **188.09** Chaperone-mediated autophagy is activated by ER stress via p38 for dopaminergic neuron survival. W. LI*; J. ZHU; J. DOU; H. SHE; H. TAO; H. XU; Q. YANG; Z. MAO. *Emory Univ. Sch. of Med., New York Univ. at Buffalo, Emory Univ. Sch. of Med., The Fourth Military Med. Univ.*

NANOSYMPOSIUM

189. Parkinson's Disease: LRRK2 Mechanisms, Targets, and Pathways

Theme C: Neurodegenerative Disorders and Injury

Sun. 1:00 PM – San Diego Convention Center, SDCC 25

- 1:00 **189.01** The role of Parkinson's disease-linked Irk2 protein at cortico- and thalamo-striatal synapses. N. KUHLMANN*; L. CAO; M. J. FARRER; A. J. MILNERWOOD. *Univ. of British Columbia, Univ. of British Columbia, Montreal Neurolog. Inst.*
- 1:15 **189.02** Effects of LRRK2 kinase inhibition on cellular phenotypes in a VPS35 p.D620N knock-in mouse model of Parkinson's disease. C. KADGIEN*; M. FARRER; A. J. MILNERWOOD. *Univ. of British Columbia, Univ. of British Columbia, Montreal Neurolog. Inst.*
- 1:30 **189.03** Rab GTPases and the presynapse in Parkinson's disease. A. KAMESH*; A. J. MILNERWOOD. *McGill Univ., Montreal Neurolog. Inst.*
- 1:45 **189.04** Alterations in spindle coordination in the LRRK2-G2019S mouse model of Parkinson's disease. Y. ZHANG*; A. J. DUSZKIEWICZ; A. PEYRACHE; A. J. MILNERWOOD. *McGill Univ., McGill Univ., McGill Univ., Montreal Neurolog. Inst.*

- 2:00 **189.05** Influence of genetic background on induced synucleinopathy in neuronal models of Parkinson's disease. B. VIEIRA*; S. E. MACISAAC; C. A. KADGIEN; M. J. FARRER; A. J. MILNERWOOD. *Montreal Neurolog. Inst., Ctr. for Applied Neurogenetics.*
- 2:15 **189.06** Genetic modifiers of Irk2 g2019s Parkinson's disease-related phenotypes in *Drosophila*. I. MARTIN*; S. LAVOY; V. CHITTOOR; C. CHOW. *Oregon Hlth. and Sci. Univ., Univ. of Utah.*

NANOSYMPOSIUM

190. Stroke Recovery: Non-Pharmacological Approaches and Novel Diagnostics

Theme C: Neurodegenerative Disorders and Injury

Sun. 1:00 PM – San Diego Convention Center, SDCC 32

- 1:00 **190.01** • Brain repair via *in situ* astrocyte-to-neuron conversion. G. CHEN*; Z. GUO; L. ZHANG; Y. CHEN; J. YIN; Z. WU; Y. WANG; L. GE. *Penn State Univ., Chinese Acad. of Sciences, Inst. of Zoology.*
- 1:15 **190.02** Treatment with activated mesenchymal stem cells increases long-term functional recovery following ischemic stroke via reduction of microglia activation and induction of oligodendrogenesis. M. K. TOBIN*; K. LOPEZ; M. R. PERGANDE; A. M. BARTHOLOMEW; S. M. COLOGNA; O. LAZAROV. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*
- 1:30 **190.03** Activity dependent optimization of vascular function after stroke. M. BALBI*; D. XIAO; L. BERNIER; M. VANNI; J. BOYD; J. LEDUE; B. MACVICAR; T. MURPHY. *Univ. of British Columbia.*
- 1:45 **190.04** Food for thoughts: Imaging the dietary effects on brain ischemic stroke. I. SHAKED*; R. LIU; C. MATEO; B. FRIEDMAN; D. KLEINFELD. *Univ. of California At San Diego.*
- 2:00 **190.05** *In vivo* bioluminescence imaging shows an increase of Gap43 and Casp3 activity in Tlr2-deficient mouse brain after ischemic lesion. S. GAJOVIC*; D. GORUP; S. SKOKIC; J. KRIZ. *Univ. of Zagreb Sch. of Med., Laval Univ.*
- 2:15 **190.06** Reduced expression of conserved dopamine neurotrophic factor in the platelets of stroke patients. R. K. MISHRA*; H. JOSHI; S. GABRIELE; A. SIDDIQI; M. RATHBONE; W. OCZKOWSKI; B. CONNOLLY; D. BARANOWSKI; J. GABRIELE. *McMaster Univ. Hsc-4N 78, McMaster Univ.*
- 2:30 **190.07** Nanoelectroporated cells for brain injury therapy. N. HIGUITA-CASTRO*; J. MOORE; M. BALCH; H. N. HARRIS; W. LAURENCE; R. STEWARD; A. SUNYECZ; C. K. SEN; S. KHANNA; C. L. RINK; D. GALLEGO-PEREZ. *The Ohio State Univ., The Ohio State Univ.*
- 2:45 **190.08** Corticospinal tract morphometry at the cervical spinal cord in chronic hemiparetic stroke. H. KARBASFOROUSHAN*; J. COHEN-ADAD; J. P. DEWALD. *Northwestern Univ., MGH - Harvard Med. Sch., Northwestern Univ.*
- 3:00 **190.09** Influence of descending cortical projections on spinal reflex excitability in post-stroke individuals. A. J. LOPEZ*; J. XU; S. P. EICHOLTZ; M. R. BORICH; T. M. KESAR. *Emory Univ.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

NANOSYMPOSIUM

191. Auditory Processing: Adaptation, Learning, and Memory

Theme D: Sensory Systems

Sun. 1:00 PM – San Diego Convention Center, SDCC 24

- 1:00 **191.01** Adaptation to simple sounds in the auditory field of insular cortex in anesthetized rats. M. M. JANKOWSKI*; A. POLTEROVICH; A. KAZAKOV; A. YARON; I. NELKEN. *The Hebrew Univ. of Jerusalem, The Hebrew Univ. of Jerusalem.*
- 1:15 **191.02** Cochlear deafferentation induced by noise exposure in rodent models causes structural and functional changes in the auditory cortex. M. V. PODDA; F. PACIELLO; S. COCCO; R. ROLES; D. TROIANI; A. R. FETONI; G. PALUDETTI; C. GRASSI*. *Inst. of Human Physiology, Univ. Cattolica, IRCCS Fondazione Policlinico Universitario A. Gemelli, Univ. Cattolica del Sacro Cuore, CNR.*
- 1:30 **191.03** Layer 5 parvalbumin-expressing neurons: A distinct functional group of GABAergic neurons with inhibitory interhemispheric projections. A. J. APICELLA*; P. FEYEN. *Northwestern Univ., UTSA.*
- 1:45 **191.04** Distinct neural selectivities for music, speech, and song in human auditory cortex. S. V. NORMAN-HAIGNERE; J. J. FEATHER; P. BRUNNER*; A. RITACCIO; J. H. MCDERMOTT; G. SCHALK; N. G. KANWISHER. *HHMI Postdoctoral Fellow of the Life Sci. Res. Fndn., École Normale Supérieure, PSL Res. University, CNRS, MIT, Wadsworth Ctr, NYSDOH, Albany Med. Col., Harvard Univ., State Univ. of New York.*
- 2:00 **191.05** Neural correlates of delayed auditory feedback during speech production investigated by electrocorticography. M. OZKER*; M. MCALISTER; L. FANDA; J. SHUM; P. DUGAN; D. FRIEDMAN; W. DOYLE; O. DEVINSKY; A. FLINKER. *NYU Sch. of Med.*
- 2:15 **191.06** Statistical learning of infant distress sounds during maternal experience. J. SCHIAVO*; R. C. FROEMKE. *New York Univ. Med. Ctr., NYU Med., Skirball Inst.*

NANOSYMPOSIUM

192. Sleep: Hot Topics

Theme F: Integrative Physiology and Behavior

Sun. 1:00 PM – San Diego Convention Center, SDCC 7

- 1:00 **192.01** Sleep upregulates chromosome dynamics and enables activity-dependent nuclear maintenance. L. APPELBAUM*; D. ZADA; I. BRONSHEIN-BERGER; T. LERER-GOLDSHEIN; Y. GARINI. *Bar Ilan Univ., Bar Ilan Univ.*
- 1:15 **192.02** Serotonergic regulation of sleep in zebrafish larvae. G. OIKONOMOU*; M. ALTERMATT; J. CHO; V. GRADINARU; D. PROBER. *Caltech.*
- 1:30 **192.03** Chemo-genetic activation of corticotropin releasing factor neurons in the hypothalamic paraventricular nucleus acutely disrupts sleep in mice. S. KUMAR*; K. HSIEH; D. MCGINTY; R. SZYMUSIAK. *Veteran Affairs Med. Ctr., Webosciences Intl., California Hlth. Sci. Univ., UCLA, UCLA, UCLA.*
- 1:45 **192.04** Cholinergic modulation of hippocampal activity across the sleep-wake cycle. S. N. GOMPERTS*; H. ZHOU; K. NEVILLE; N. KAUSAR; N. GOLDSTEIN; S. KABU; R. YE; S. NGUYEN; N. GELWAN. *Massachusetts Gen. Hosp.*

- 2:00 **192.05** • Auditory stimulation during sleep transiently increases delta power and all-night proportion of NREM stage 3 sleep while preserving total sleep time and continuity. M. M. SCHADE*; D. M. ROBERTS; D. GARTENBERG; G. M. MATHEW; O. M. BUXTON. *Pennsylvania State Univ., Mobile Sleep Technologies, Pennsylvania State Univ., Harvard Univ.*
- 2:15 **192.06** Sleep stage classification using deep learning on electrocardiography (ECG) data only. A. M. JONES*; B. R. SHETH. *USC, Univ. of Houston.*
- 2:30 **192.07** REM sleep has two distinct roles in learning: Stabilization of pre-sleep learning and promotion of new post-sleep learning. M. TAMAKI*; A. BERARD; T. WATANABE; Y. SASAKI. *Brown Univ.*
- 2:45 **192.08** Focal thalamic activity at the moment of awakening identified through simultaneous EEG and fast fMRI. L. D. LEWIS*; G. BONMASSAR; K. GUPTA; K. SETSOMPOP; R. STICKGOLD; B. R. ROSEN; J. R. POLIMENI. *MGH/Harvard Med. Sch., Wellesley Col., Beth Israel Deaconess Med. Ctr.*
- 3:00 **192.09** Increases in brain activation within an autonomic network following one night of total sleep deprivation. E. SHOKRI-KOJORI*; S. B. DEMIRAL; D. TOMASI; C. E. WIERS; A. ZEHRA; C. FREEMAN; V. RAMIREZ; T. SRIVASTAVA; G. WANG; N. D. VOLKOW. *NIH, NIH, NIH, Natl. Inst. On Alcohol Abuse and Alcoholism, Natl. Inst. On Alcohol Abuse and Alcoholism, Natl. Inst. of Alcohol Abuse and Alcoholism, NIH/NIDA.*
- 3:15 **192.10** Dissecting the impact of a brain insult on human sleep homeostatic and circadian processes *in vivo* and *ex vivo*. M. ST. PIERRE; C. PATTINSON; A. GRILLAKIS; J. MANTUA; A. MCKEON; V. CAPALDI; C. L. GRAY*; J. GILL; A. M. YARNELL; A. BRAGER. *Walter Reed Army Inst. of Res., Natl. Inst. of Nursing Res., Morehouse Sch. of Medicine/ MRC F-F14, United States Military Acad.*
- 3:30 **192.11** Under slept and Overanxious: The neural correlates of sleep-loss induced anxiety in the human brain. E. B. SIMON*; M. P. WALKER. *Univ. of California.*
- 3:45 **192.12** Sleep-more in Seattle: Later high school start times are associated with better student sleep and academic performance. G. DUNSTER*; L. DE LA IGLESIA; C. NAVE; J. FLEISCHER; S. PANDA; H. O. DE LA IGLESIA. *Univ. of Washington, Salk Inst.*

NANOSYMPOSIUM

193. Human Cognition and Behavior: Decision Making and Cognitive Aging

Theme H: Cognition

Sun. 1:00 PM – San Diego Convention Center, SDCC 23

- 1:00 **193.01** Perceptual and conceptual processing across the adult lifespan. R. BRUFFAERTS*; L. K. TYLER; B. RANDALL; K. A. TSVETANOV; C. CAN; A. CLARKE. *KULeuven, Univ. of Cambridge, Univ. of Cambridge.*
- 1:15 **193.02** Age-related changes in memory representational networks. Z. A. MONGE*; M. RITCHEY; R. E. CABEZA. *Duke Univ., Boston Col.*
- 1:30 **193.03** Neural and behavioral correlates of episodic memory are associated with temporal discounting in older adults. K. M. LEMPERT*; D. A. WOLK; J. W. KABLE. *Univ. of Pennsylvania, Univ. of Pennsylvania.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:45 **193.04** Age differences in the neural correlates of loss aversion. K. HALFMANN*; W. HEDGCOCK; N. L. DENBURG. *Univ. of Wisconsin - Platteville, Univ. of Minnesota, Univ. of Iowa.*
- 2:00 **193.05** Time preferences and neural representation of subjective value across adulthood. K. L. SEAMAN*; C. PUTTINGER; R. MATA; D. H. ZALD; G. R. SAMANEZ-LARKIN. *Duke Univ., Univ. of Basel, Vanderbilt Univ.*
- 2:15 **193.06** Effects of human aging on model-based control during learning and decision-making. B. EPPINGER*; M. WALTER; S. LI. *Concordia Univ., TU Dresden, Univ. of St. Gallen.*
- 2:30 **193.07** Uncovering age-related vulnerabilities in trust-related decision making: A brain-behavior analysis. N. C. EBNER*; D. S. OLIVEIRA; G. R. TURNER; R. N. SPRENG. *Univ. of Florida, York Univ., McGill Univ.*
- 2:45 **193.08** Dissociation in neural components of memory-dependent value judgments is maintained in healthy aging. N. R. LIGHTHALL*; L. B. CONNER; N. C. EBNER. *Univ. of Central Florida, Univ. of Florida.*
- 3:00 **193.09** Changes in economic rationality and brain morphometry in human aging. H. CHUNG*; A. TYMULA; I. LEUNG; M. VALENZUELA; P. W. GLIMCHER. *New York Univ., Univ. of Sydney, Univ. of Sydney, New York Univ. Ctr. for Neural Sci.*
- 3:15 **193.10** Neural mechanisms of motivational integration and cognitive control: Implications for healthy aging. D. YEE*; T. S. BRAVER. *Washington Univ. In St. Louis, Washington Univ. in St. Louis.*
- 3:30 **193.11** Reward-dependent cognition in pre-symptomatic and symptomatic Huntington's disease. M. SHARP*; P. WASSERMAN; K. MARDER; D. SHOHAMY. *McGill Univ., Columbia Univ. Med. Ctr., Columbia Univ.*
- 3:45 **193.12** Does frontostriatal white matter integrity mediate the dopaminergic influence on value learning in old age? L. DE BOER*; B. GARZON; J. AXELSSON; K. RIKLUND; L. NYBERG; L. BÄCKMAN; M. GUITART-MASIP. *Aging Res. Center, Karolinska Institutet, Umea Univ.*
- 4:00 **193.13** Cognitive aging and the anterior cingulate cortex: Glucose metabolism, amyloid, and APOE genotype. S. M. NYABWARI; J. T. LEE; J. V. PARDO*. *Univ. of Minnesota, Minneapolis VAHCS, Univ. of Minnesota Dept. of Psychiatry.*
- 4:15 **193.14** Creative thinking is associated with dissociable patterns of intrinsic functional connectivity in older and younger adults. A. ADNAN*; R. BEATY; J. LAM; N. SPRENG; G. R. TURNER. *York Univ., Harvard Univ., York Univ., Montreal Neurolog. Inst. and Hosp.*
- 1:15 **194.02** G1 and G4 PAMAM dendrimers delivery to the brain after systemic and intracranial injections in C57BL/6J mice. B. SRINAGESHWAR*; S. T. PERUZZARO; M. M. ANDREWS; A. WEDSTER; A. DILS; J. STURGIS; P. OTERO; S. CLIMIE; K. JOHNSON; A. HIETPAS; J. KIPPE; B. CLARK; A. N. STEWART; O. V. LOSSIA; D. STORY; A. AL-GHARAIBEH; A. ANTCLIFF; N. MUNRO; R. CULVER; D. SWANSON; G. L. DUNBAR; A. SHARMA; J. ROSSIGNOL. *Central Michigan Univ., Field Neurosciences Inst. Lab. for Restorative Neurol., Col. of Med., Central Michigan Univ., Central Michigan Univ., Central Michigan Univ., Field Neurosciences Inst.*
- 1:30 **194.03** Dynamic observation of focused ultrasound induced blood-brain barrier opening in cat brain via contrast-enhanced 7T MRI. X. YU*; X. FENG; T. HE; C. TSAI; W. CHAI; K. WANG; H. LIU; H. LAI. *Zhejiang Univ., Zhejiang Univ., Chang Gung Univ., Chang Gung Mem. Hosp., Zhejiang Univ.*
- 1:45 **194.04** Physiology and clinical potential of the cerebrospinal/perivascular therapy delivery route. M. PAPISOV*; V. BELOV; P. GIFFENIG; J. APPLETON; B. DURCANOVA; C. GILLOOLY; J. PASS. *Massachusetts Gen. Hosp., Massachusetts Gen. Hosp.*
- 2:00 **194.05** • Nanoparticle delivery of CRISPR into the brain rescues a mouse model of fragile X syndrome from exaggerated repetitive behaviors. H. LEE*; N. MURTHY; B. LEE; S. PANDA; R. GONZALES; K. LEE. *The Univ. of Texas Hlth. Sci. Ctr. at S, Univ. of California, Berkeley, GenEdit.*
- 2:15 **194.06** A nanostructured carbon nanotube array for *in vitro* neural diseases study through a size-based extracellular vesicle capture. Y. YEH*; Y. ZHOU; Y. MAO; M. TERRONES. *The Pennsylvania State Univ., Children's Hosp. of Philadelphia.*
- 2:30 **194.07** Automated hippocampal subfield segmentation using 7T MRI in patients with epilepsy. J. ALPER*; R. E. FELDMAN; A. PAI; J. W. RUTLAND; K. HUANG; L. XIE; L. FLEYSHER; A. L. RUS; L. V. MARCUSE; M. C. FIELDS; H. LIN; B. N. DELMAN; P. R. HOF; P. BALCHANDANI. *Icahn Sch. of Med. At Mount Sinai, City Col. of New York, Icahn Sch. of Med. at Mount Sinai, Univ. of Pennsylvania, Icahn Sch. of Med. at Mount Sinai, Mount Sinai Hosp., Icahn Sch. of Med. at Mount Sinai, Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. At Mount Sinai.*
- 2:45 **194.08** • Analysis of cerebrospinal fluid by data-independent acquisition mass spectrometry reveals biomarkers specific for Parkinson's disease. M. ROTUNNO*; M. LANE; P. WOLF; W. ZHANG; P. OLIVA; C. SCHERZER; R. ALCALAY; K. ZHANG; L. SHIHABUDDIN; P. SARDI. *Sanofi, Inc., Brigham and Women's Hospital, Harvard Med., Dept. of Neurology, Columbia Univ.*

NANOSYMPOSIUM

194. Biomarker and Drug Discovery: Drug Delivery and Assay Development

Theme I: Techniques

Sun. 1:00 PM – San Diego Convention Center, SDCC 4

- 1:00 **194.01** • Imaging neurogenic inflammation in the skin: A translational measure of TRPA1 activation. V. JOSEPH*; X. YANG; S. GAO; W. THEESE; J. LIN; R. WEIMER; R. BAUER. *Genentech, Inc., Genentech, Inc.*

POSTER

195. Neural Cell Lineage Specification

Theme A: Development

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 A1 **195.01** A whole genome library for genetic mosaic analysis. X. CONTRERAS*; J. SONNTAG; L. ANDERSEN; A. HEGER; R. L. JOHNSON; L. SCHWARZ; L. LUO; T. RUELICKE; S. HIPPENMEYER. *Inst. of Sci. and Technol. Austria, Univ. of Vet. Med., Univ. of Texas, Stanford Univ.*

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* Indicates abstract's submitting author

- 2:00 A2 **195.02** Development of ependymal and postnatal neural stem cells; their origin from a common embryonic progenitor. S. REDMOND*; J. I. PARRAGUEZ; K. OBERNIER; M. FIGUERES-OÑATE; L. LÓPEZ-MASCARAQUE; L. C. FUENTEALBA; A. ALVAREZ-BUYLLA. *Univ. of California San Francisco, Inst. Cajal-CSIC.*
- 3:00 A3 **195.03** Multicolor cell lineage tracing in the developing ferret cerebral cortex. E. M. DEGENNARO*; R. S. SMITH; D. M. GONZALEZ; C. A. WALSH. *MIT, Boston Childrens Hosp. / Harvard Med. Sch., Boston Children's Hosp.*
- 4:00 A4 **195.04** Developmental characterization of the pig ganglionic eminence. M. L. CASALIA*; P. J. ROSS; K. SANDOVAL; M. PAREDES; S. C. BARABAN. *Univ. of California San Francisco, Univ. California Davis, Univ. of California San Francisco, Univ. California San Francisco.*
- 1:00 A5 **195.05** • Maf^b and c-Maf control the fate, migration and maturation of MGE-derived PV⁺ and SST⁺ CINs. L. PAI*; D. VOGT; A. C. PEREZ; G. MCKINSEY; J. S. HU; R. PLA; F. CHO; L. V. GOODRICH; J. T. PAZ; J. L. RUBENSTEIN. *Univ. of California, San Francisco, Michigan State Univ., Univ. of California, San Francisco, Gladstone Inst. of Neurolog. Dis., Stanford Univ., Univ. of California, San Francisco, Harvard Med. Sch.*
- 2:00 A6 **195.06** Gene regulatory networks in embryonic basal ganglia at single cell resolution. L. SU-FEHER*; A. N. RUBIN; S. N. SILBERBERG; K. J. LIM; J. L. R. RUBENSTEIN; A. S. NORD. *Univ. of California, Davis, Univ. of California San Francisco.*
- 3:00 A7 **195.07** Towards developmental correlates of connectivity. B. MARK*; C. Q. DOE. *Univ. of Oregon.*
- 4:00 A8 **195.08** Enrichment of astrocyte-biased cells with a hydrodynamic oblique angle parallel electrode sorter (HOAPES). T. ADAMS*; A. Y. L. JIANG; A. P. LEE; L. A. FLANAGAN. *Univ. of California Irvine, Univ. of California Irvine, UCI Neurol.*
- 1:00 A9 **195.09** ZNF335 regulates progenitor and neuronal cell identity in mammalian brain development. Y. YANG*; E. A. MURPHY; D. M. GONZALEZ; C. A. WALSH. *Columbia Univ., Rockefeller Univ., Boston Children's Hosp., Boston Children's Hosp.*
- 2:00 A10 **195.10** Epigenetic modalities of allelic gene dosage: Implications in disease. L. MARION-POLL*; B. FORET; A. GENDREL; D. ZIELINSKI; M. ATTIA; A. LE SAUX; L. SYX; E. HEARD. *Curie Inst.*
- 3:00 A11 **195.11** Transcriptional targets of NeuroD1 during embryonic cortical development. F. BEDOGNI*; L. SCARAMUZZA; C. COBOLLI GIGLI; N. LANDSBERGER. *San Raffaele Hosp., Francis Crick Inst., Univ. Statale di Milano.*
- 4:00 A12 **195.12** Dissecting the developmental origins of forebrain cholinergic neuron diversity. K. C. ALLAWAY*; R. MACHOLD; G. FISHELL. *Broad Inst., Harvard Med. Sch., New York Univ.*
- 1:00 A13 **195.13** Functional and molecular characterization of cone photoreceptor lineage restricted progenitors. J. J. BELAIR-HICKEY*; S. KHALILI; B. G. BALLIOS; K. N. GRISE; B. L. K. COLES; D. VAN DER KOOY. *Univ. of Toronto, Univ. of Toronto.*
- 2:00 A14 **195.14** Defining the role of L-type calcium channels and calcineurin/NFAT signaling in neuronal specification. R. I. PETROVA*; T. TORRES; A. ARJUN; C. KI; G. PANAGIOTAKOS. *UCSF, UCSF, UCSF, Univ. of California, Berkeley, UCSF.*
- 3:00 A15 **195.15** microRNA controls corticospinal motor neuron development by modulating LMO4 activity. J. L. DIAZ*; V. B. SITHTHANANDAN; V. LU; J. L. MACDONALD; N. GONZALEZ-NAVA; L. PASQUINA; P. SARNOW; T. PALMER; J. D. MACKLIS; S. A. THARIN. *Stanford Univ., Stanford Univ., Dept. of Neurosurg., Syracuse Univ., Harvard Univ., Stanford Univ., Harvard Univ., Stanford Univ. Sch. of Med.*
- 4:00 A16 **195.16** Highly-branched N-glycans generated by MGAT5 control neural stem cell differentiation and cell surface protein expression. A. R. YALE*; E. KIM; L. CHO; C. REEVES; L. VERMA; E. S. MONUKI; P. D. GERSHON; M. DEMETRIOU; L. A. FLANAGAN. *Univ. of California, Irvine, Univ. of California, Irvine, California State University, Fullerton, Univ. of California, Irvine, Univ. of California, Irvine.*
- 1:00 A17 **195.17** Cell surface complexity modulates membrane capacitance and fate choice of human neural stem cells. S. TIWARI*; E. KIM; C. REEVES; J. L. NOURSE; C. SOEMARDY; L. A. FLANAGAN. *UCI Sch. of Med., Cal State Fullerton.*
- 2:00 A18 **195.18** Plasticity in neurogenic competence of cortical progenitors in the developing mouse neocortex. P. OBERST*; C. CONCETTI; D. JABAUDON. *Univ. of Geneva, Geneva Univ. Hosp.*
- 3:00 A19 **195.19** ASD-linked gene FoxG1 controls inhibitory circuit development in a dose-dependent manner. G. MIYOSHI*; Y. UETA; H. OSAKI; Y. YAGASAKI; R. MACHOLD; G. J. FISHELL; M. MIYATA. *Tokyo Women's Med. Univ., New York Univ., Harvard Med. Sch.*
- 1:00 DP01/A20 **195.20** (Dynamic Poster) Generating *in vivo* somatic mouse mosaics with locus-specific, stably-integrated transgenic elements for studies of gene function in neural development. G. KIM; D. RINCON FERNANDEZ PACHECO; D. SAXON; A. YANG; S. SABET; M. DUTRA-CLARKE; R. LEVY; A. WATKINS; H. PARK; A. A. AKHTAR; P. W. LINESCH; N. KOBRITZ; S. CHANDRA; J. MOLINA; K. HOANG; J. A. TSYPORIN; K. SEDIVAKOVA; S. BANNYKH; B. CHEN; M. DANIELPOUR; J. J. BREUNIG*. *Cedars-Sinai Med. Ctr., Cedars-Sinai Med. Ctr., Cedars-Sinai Med. Ctr., Cedars-Sinai Med. Ctr., Cedars-Sinai Med. Ctr., UCSC, UCSC, Univ. of California Santa Cruz, Cedars-Sinai Hosp.*
- 1:00 A21 **195.21** Characterization of the MAPK pathway in the embryonic mouse ventral telencephalon. M. TALLEY*; L. A. EHRMAN; D. NARDINI; S. QIN; R. R. WACLAW. *Univ. of Cincinnati, Cincinnati Children's Hosp. Med. Ctr.*
- 2:00 A22 **195.22** Using cerebral organoids to investigate the role of Foxg1 in forebrain development. J. J. MARSHALL*; A. GONZALEZ RAMOS; P. KAKNI; S. LOWELL; J. O. MASON. *Univ. of Edinburgh, Univ. of Edinburgh, Univ. of Edinburgh.*
- 3:00 A23 **195.23** *In vivo* dynamics of the notch ligand in dividing radial glia. X. ZHAO*; S. GUO. *Univ. of California, San Francisco.*
- 4:00 A24 **195.24** Developmental diversification of forebrain inhibitory neurons. R. C. BANDLER*; C. MAYER; C. HAFEMEISTER; R. MACHOLD; R. SATIJA; G. FISHELL. *New York Univ. Sch. of Med., Max Planck Inst. of Neurobio., New York Genome Ctr., New York Univ., Harvard Med. Sch.*
- 1:00 A25 **195.25** Loss of VCAM1 expression in embryonic hippocampal NSCs impairs adult neurogenesis and hippocampus dependent memory. G. CHEN*; Q. SHEN. *Tsinghua Univ., Tongji Univ.*

- 2:00 A26 **195.26** HMG2 deficiency develops microcephaly through impaired chromatin accessibility. X. GAO*; W. TIAN; Q. SHEN. *Sch. of Life Sciences, Peking Univ., Tongji Univ., Tongji Hosp., Tsinghua Univ.*
- 3:00 A27 **195.27** Dynamic RNA localization and local translation in the radial glial cells of the mammalian brain. L. PILAZ*; D. L. SILVER. *Duke Univ. Med. Ctr., Duke Univ. Med. Ctr.*
- 4:00 A28 **195.28** Clonal lineage tracing and single cell analyses of neural stem and progenitor cells in the embryonic mouse ventral forebrain germinal zone. S. YAMMINE*; I. BURNS; J. GOSIO; D. J. VAN DER KOOY. *Univ. of Toronto, Univ. of Toronto, Univ. Toronto.*
- 1:00 A29 **195.29** Studying cell lineage and clonal distribution in adult human brain using somatic mutations. S. N. KIM*; R. N. DOAN; A. R. BARTON; J. W. TSAI; M. A. LODATO; S. LEE; P. J. PARK; C. A. WALSH. *Harvard University, Boston Children's Hosp., Harvard Univ., Howard Hughes Med. Inst., Harvard Med. Sch., Harvard Med. Sch.*
- 2:00 A30 **195.30** Heterogeneous progenitor behaviour orchestrates mammalian cortical development. A. LLORCA; G. CICERI; R. BEATTIE; C. STREICHER; S. HIPPEMEYER; M. MARAVALL*; O. MARÍN. *King's Col. London, IST Austria, Univ. of Sussex.*
- 2:00 B2 **196.06** Astrocytes regulate the developmental timeline of retinal ganglion cells differentiated from human pluripotent stem cells. K. LANGER*; R. VIJ; S. OHLEMACHER; A. SRIDHAR; E. FEDER; M. C. EDLER, JR; A. J. BAUCUM II; T. R. CUMMINS; J. S. MEYER. *IUPUI, Stark Neurosci. Res. Inst., Dept. of Med. and Mol. Genet.*
- 3:00 B3 **196.07** A standardized *in vitro* neural differentiation platform of induced pluripotent stem cells to model complex psychiatric diseases. C. RUMMEL*; M. J. ZILLER. *Max-Planck Inst. For Psychiatry.*
- 4:00 B4 **196.08** Modeling aspects of the chromosome 16p11.2 duplication in neural progenitor cell, neurons from patient-specific induced pluripotent stem cells. X. J. JIANG; L. WILLE; E. BESANCON; L. KASSEM; W. CORONA; S. D. DETERA-WADLEIGH*; F. J. MCMAHON. *NIH.*
- 1:00 B5 **196.09** Bottom-up engineering and characterization of human neural culture systems. R. TAM*; T. RUDIBAUGH. *North Carolina State Univ.*
- 2:00 B6 **196.10** Widespread transcripts analysis in purified human neuronal nuclei using cage-seq. M. ISHIKAWA*; H. OKANO. *Dept. Physiol., Keio Univ. Sch. Med., Keio Univ. Sch. of Med.*
- 1:00 DP02/B7 **196.11** (Dynamic Poster) Self-organized human neuronal network activity derived from cerebral organoids. H. SAKAGUCHI*; J. TAKAHASHI. *Ctr. for iPSC Cell Res. and Application.*
- 4:00 B8 **196.12** Silver nanoparticles inhibit neural induction via mitochondrial dysfunction in human induced pluripotent stem cells. S. YAMADA; D. YAMAZAKI*; Y. KANDA. *Natl. Inst. of Hlth. Sciences, Pharmacol. Evaluation Inst. of Japan, Natl. Inst. of Hlth. Sci.*
- 1:00 B9 **196.13** Purification of mouse ES cell-derived hypothalamic progenitors using cell surface markers. Y. KODANI*; H. SUGA; N. YAMAMOTO; Y. S. KANEKO; A. NAKASHIMA; H. NAGASAKI. *Fujita Hlth. Univ. Sch. of Med., Nagoya Univ. Grad. Sch. of Med., Fujita Hlth. Univ. Inst. of Joint Res., Fujita Hlth. Univ. Sch. of Med.*
- 2:00 B10 **196.14** Network activity development of cultured cortical neurons: Comparison between embryonic rat and human pluripotent stem cell -derived systems. T. HYVÄRINEN*; A. HYYSALO; E. KAPUCU; L. YLÄ-OUTINEN; S. NARKILAHTI. *Univ. of Tampere, Aarhus Univ., Aarhus Univ.*
- 3:00 B11 **196.15** Human pluripotent stem cell-derived retinal ganglion cells display extensive neurite outgrowth in response to intrinsic and extrinsic signals. C. FLIGOR*; P. W. CAMPBELL; K. B. LANGER; C. ZHANG; D. M. SUTER; W. GUIDO; J. S. MEYER. *IUPUI, Univ. of Louisville, Indiana Univ., Purdue Univ., Univ. of Louisville.*
- 4:00 B12 **196.16** ● Dantrolene inhibits impairment of neurogenesis and synaptogenesis in the iPSC from Alzheimer's disease patients. H. WEI*; Y. WANG; G. LIANG; Y. SHI; J. KESSLER. *Univ. of Pennsylvania, The First Affiliated Hosp. of Guangzhou Univ. of Chinese Med., Dept. of Anesthesiol. and Critical Care, Perelman Sch. of Medicine, Univ. of Pennsylvania, Dept. of Anesthesiology, Children's Hosp. of Fudan Univ., Departments of Neurology, Northwestern University's Feinberg Sch. of Medicine, Feinberg Sch. of Medicine, 303 East Chicago Avenue.*
- 1:00 B13 **196.17** Transient activation of Rb promotes human pluripotent stem cell differentiation. J. LI*; C. NARAYANAN; D. SAMBO; J. BIAN; T. BRICKLER; S. CHETTY. *Stanford Univ.*

POSTER

196. Stem Cells and Neural Differentiation

Theme A: Development

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 A31 **196.01** Transplantation of hypothalamic neuron from mouse embryonic stem cell. H. NAGASAKI*; Y. KODANI; H. SUGA; Y. S. KANEKO; A. NAKASHIMA. *Fujita Hlth. Univ., Nagoya Univ., Fujita Hlth. Univ. Sch. of Med.*
- 2:00 A32 **196.02** ▲ Survival, differentiation and migration of the EGFP-expressing neural stem cells transplanted into a mouse model of spinal cord injury. C. WANG*; X. LI; F. TIAN; P. LI. *Shanxi Med. Univ.*
- 3:00 A33 **196.03** The neurodevelopmental toxin methylazoxymethanol (MAM) induces DNA methylation changes in differentiated human iPSC-derived neuroprogenitor cells (hNPCs). G. E. KISBY*; A. C. CHLEBOWSKI; D. GRYGORYEV; L. CARBONE; B. DAVIS; K. A. NEVONEN; S. A. RODDY; A. MITINA; K. M. NAGAI; M. TURKER. *Western Univ. of Hlth. Sci., Oregon Hlth. Sci. Univ., Oregon Hlth. Sci. Univ.*
- 4:00 A34 **196.04** A new approach to model human brain-like tissue in a dish using silk as a scaffold. R. WILLEN*; S. LOMOIO; W. CANTLEY; D. H. COX; D. L. KAPLAN; G. TESCO. *Tufts Univ. Sch. of Med., Tufts Univ.*
- 1:00 B1 **196.05** Spontaneous functional network activity in organoids resembles programmed early human brain development. C. A. TRUJILLO*; R. GAO; P. NEGRAES; I. A. CHAIM; A. DOMISSY; M. VANDENBERGHE; A. DEVOR; G. W. YEO; B. VOYTEK; A. R. MUOTRI. *Univ. of California - San Diego, Univ. of California - San Diego, Univ. of California - San Diego.*

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 * Indicates abstract's submitting author

- 2:00 B14 **196.18** Accelerating the fate specification of human pluripotent stem cell-derived forebrain progenitors into cortical neuronal subgroups. C. HUTCHINSON*; Z. S. JORDAN; M. C. VARELA; K. THANGAMANI; A. M. MAROOF. *Univ. of Texas at San Antonio, Univ. of Texas at San Antonio, Univ. of Texas at San Antonio.*
- 3:00 B15 **196.19** Comparison of human embryonic stem cell-derived Purkinje cells to mouse Purkinje cells over development. D. E. BUCHHOLZ*; T. S. CARROLL; A. KOCABAS; X. ZHU; H. BEHESTI; L. STALBOW; Y. FANG; M. E. HATTEN. *The Rockefeller Univ.*
- 4:00 B16 **196.20** Generation of expandable, transplantable, sendai virus-reprogrammed human iPSC-derived neural precursors (NPCs): An *in vitro* and *in vivo* NPCs grafting study. M. SHIGYO*; Y. KOBAYASHI; S. MARSALA; T. KATO; N. TAKAMURA; A. KISHINO; T. KIMURA; M. MARSALA. *Univ. of California San Diego, Keio Univ. Sch. of Med., Regenerative & Cell. Med. Kobe Center, Sumitomo Dainippon Pharma Co., Ltd, Regenerative & Cell. Med. Kobe Center, Sumitomo Dainippon Pharma Co., Ltd.*
- 1:00 B17 **196.21** Wnt5a induces differentiation and development of adult neural progenitor cells through activation of non-canonical Wnt signaling cascades. S. B. ARREDONDO*; A. HERRERA-SOTO; S. H. SANTIBANEZ; L. VARELA-NALLAR. *Ctr. Inv. Biomédicas, Univ. Andrés Bello.*
- 2:00 B18 **196.22** Modeling human oligodendrocyte development and maturation in 3D neural spheroids. R. P. MARTON; Y. MIURA; Q. QI; S. A. SLOAN; R. LEVY; O. REVAH; S. P. PASCA*. *Stanford Univ., Stanford Univ., Stanford Univ.*
- 3:00 B19 **196.23** Differentiation of human pluripotent stem cells to functional mature forebrain neurons *in vitro* and integration *in vivo* upon transplantation. A. COMELLA BOLLA; J. ORLANDI; M. STRACCIA; A. MIGUEZ; P. SANDERS; G. BOMBAU; M. GALOFRÉ; J. BLASI; N. ALLEN; J. ALBERCH; J. SORIANO; J. M. CANALS*. *Lab. of Stem Cells and Regenerative Medicine, Fac. of Med. and Hlth. Sciences, Univ. of Barcelona, Production and Validation Ctr. of Advanced Therapies (Creatio), Fac. of Med. and Hlth. Sciences, Univ. of Barcelona, Neurosci. Institute, Univ. of Barcelona, Networked Biomed. Res. Ctr. for Neurodegenerative Disorders (CIBERNED), Univ. of Calgary, Fac. of Med. and Hlth. Science, Biomed. Res. Inst. of Bellvitge (IDIBELL), Univ. of Barcelona, Cardiff Repair Group, Sch. of Biosci. and medicine, Cardiff Univ., Production and Validation Ctr. of Advanced Therapies (Creatio), Fac. of Med. and Hlth. Sciences, Univ. of Barcelona, August Pi i Sunyer Biomed. Res. Inst. (IDIBAPS), Lab. of Pathophysiology of Neurodegenerative Diseases, Fac. of Med. and Hlth. Science, Univ. of Barcelona, Univ. de Barcelona, Lab. of Stem Cells and Regenerative Medicine, Fac. of Med. and Hlth. Sciences, Univ. of Barcelona.*
- 4:00 B20 **196.24** Exosomes from Bipolar patient iPSC-derived astrocytes. K. WALKER; A. M. LASZCZYK; C. DELONG; K. LIM; R. DHOND; T. KULHANEK; M. MCINNIS; K. O'SHEA*. *Univ. of Michigan, Univ. of Michigan, PhD, Univ. of Michigan, Univ. of Michigan Med. Sch.*
- 1:00 B21 **196.25** • The differentiation of episomally reprogrammed icell hematopoietic progenitor cells into functional microglia. N. MADFIS*; D. RAJESH; M. HANCOCK; S. BURTON; C. MUNN; S. HILCOVE; K. KIM; T. BURKE. *Fujifilm Cell. Dynamics.*
- 2:00 B22 **196.26** Proneural factors Ascl1 and Neurog2 contribute to neuronal subtype identities by establishing distinct chromatin landscapes. B. AYDIN*; A. KAKUMANU; M. G. ROSSILLO; N. RINGSTAD; S. MAHONY; E. MAZZONI. *New York Univ., NYU Sch. of Med., The Pennsylvania State Univ., NYU Sch. of Med.*
- 3:00 B23 **196.27** A novel protocol to induce retinal ganglion cell differentiation from human pluripotent stem cells. C. SUN*; K. CHANG; S. WU; X. XIA; J. L. GOLDBERG. *Stanford, Stanford Univ.*
- 4:00 B24 **196.28** A time course analysis of cell components and electrophysiological properties in cerebral organoids derived from human induced pluripotent stem cells. S. LOGAN*; Y. YAN; C. JIANG; X. LIU; L. YU; T. ARZUA; Z. BOSNJAK; Q. LIU; X. BAI. *Med. Col. of Wisconsin.*
- 1:00 B25 **196.29** • 3D spheroid culture workflow using iPSC-derived human neurons. K. XU*; Z. DU; A. DANG. *BrainXell Inc., S-BIO, Sumitomo Bakelite Co., Ltd.*
- 2:00 B26 **196.30** Intrinsic determinants of human CGE-like GABAergic interneurons. C. FLORUTA*; P. CHANDER; J. P. WEICK. *Univ. of New Mexico.*

POSTER

197. Axon and Dendrite Development: Axon Growth and Guidance: Axonal Transport and Trafficking

Theme A: Development

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 B27 **197.01** • Investigating molecular mechanisms regulating polarity establishment in mouse hippocampal neurons. M. J. DEEPAK*; V. CHAUHAN; C. CHANNAKESHAHA; M. TANWAR; D. NAIR. *Indian Inst. of Sci., Indian Inst. of Sci.*
- 2:00 B28 **197.02** Evaluating the effects of inducing autophagy inunc-33mutants. H. TROMBLEY; M. WILSON; A. HOLGADO*. *St. Edward's Univ.*
- 3:00 B29 **197.03** ▲ Analyzing how environmental and developmental factors affect UNC-33 expression. F. HERNANDEZ*; B. ROSAS; H. TROMBLEY; A. HOLGADO. *St. Edward's Univ.*
- 4:00 B30 **197.04** ▲ Proteins associated with the RNA sequences regulating axonal trafficking of TH mRNA. A. J. BERNDT*; A. ASCHRAFI; J. KOWALAK; M. COLT; C. CHEN; A. E. GIOIO; B. B. KAPLAN. *NIMH, Natl. Inst. of Mental Hlth. and the Inst. of Neurodegenerative Disorders, Natl. Inst. of Mental Hlth., NIH, NIMH-, NIMH.*
- 1:00 B31 **197.05** JNK-dependent phosphorylation sites of GAP-43 is a marker of axon growth/regeneration, revealed by growth cone phosphoproteomics. A. KAWASAKI*; A. TAMADA; M. OKADA; S. OKUDA; M. IGARASHI. *Niigata Univ. Grad Sch. Med. Dent. Sci., Brain Res. Institute. Niigata Univ., Niigata Univ. Grad Sch. Med. Dent. Sci.*
- 2:00 B32 **197.06** The effects of AHI1 mutations on optic nerve projection in zebrafish. L. ZHU*; S. LI; X. LI; H. XU. *Dept. of Human Genetics, Emory Univ. Sch., Inst. of life science.*

- 3:00 C1 **197.07** Decreased axonal caspase-9 activity in neurons dysregulates mitochondrial dynamics and affects axon outgrowth *in vitro*. J. A. BELARDE*; S. J. SNIPAS; G. S. SALVESEN; U. HENGST; C. M. TROY. *Columbia Univ., Sanford Burnham Prebys Med. Discovery Inst., Columbia Univ., Columbia Univ.*
- 4:00 C2 **197.08** Role of canonical wnt/ β -catenin signaling in commissural neuron development. R. TIAN*; K. ONISHI; Y. ZOU. *Univ. of California, San Diego.*
- 1:00 C3 **197.09** Intrinsic expression of G protein-coupled receptor 3 facilitates formation of neuronal polarity in hippocampal neurons. S. TANAKA*; N. SHIMADA; H. SHIRAKI; T. MIYAGI; I. HIDE; N. SAKAI. *Hiroshima Univ. Sch. of Biomed. Sci.*
- 2:00 C4 **197.10** Tropomyosin Tpm3.1 is required to maintain the structure and function of the axon initial segment. P. HOTULAINEN*; A. ABOUELEZZ; H. STEFEN; C. C. HOOGENRAAD; P. W. GUNNING; T. FATH. *Minerva Inst. for Med. Res., Univ. of New South Wales, Utrecht Univ., 3Oncology Res. Unit, Sch. of Med. Sci.*
- 3:00 C5 **197.11** Dynamics of axonal β -actin mRNA in live hippocampal neurons. B. LEE*; S. BANG; S. LEE; N. JEON; H. PARK. *Seoul Natl. Univ., Div. of WCU (World Class University) Multiscale Mechanical Design Sch. of Mechanical and Aerospace Engin. Inst. of Advanced Machinery and Design Seoul Natl. University, Seoul 08826, Korea.*
- 4:00 C6 **197.12** Identifying regulators of axonal (intracellular) transport. M. FEOLE*; V. POZO DEVOTO; M. NOVAKOVA; V. LACOVICH; G. STOKIN. *Fakultni Nemocnice U Sv Anny V Brne/, Intl. Clin. Res. Center, St.Anne's Univ. Hosp.*
- 1:00 C7 **197.13** Regulation of axonal mRNA storage depots to accelerate axon regeneration post injury: A novel therapeutic approach. P. K. SAHOO*; S. J. LEE; P. B. JAISWAL; S. ALBER; A. N. KAR; S. M. RANDOLPH; T. SMITH; B. SINGH; S. Y. HO; U. ANATOLY; S. CHAND; A. L. BURLINGAME; C. J. WOOLF; M. FAINZILBER; A. W. ENGLISH; J. L. TWISS. *Univ. of South Carolina, Emory Univ., Weismann Inst., Boston Children's Hosp. and Harvard Med. Sch., Univ. of California San Francisco.*
- 2:00 C8 **197.14** Subcellular growth cone molecular machinery in subtype-specific cortical circuit formation. J. HATCH*; A. POULOPOULOS; J. D. MACKLIS. *Harvard Univ., Univ. of Maryland Sch. of Med., Harvard Univ.*
- 3:00 C11 **198.03** Nordihydroguaraietic acid (NDGA) increases hippocampal synaptic density and enhances excitatory amino acid transporter 2 (EAAT2) function. L. FOURGEAUD*; A. W. HARRINGTON; Q. WANG; G. WOODRUFF; N. PHILLIPS; P. BONAVENTURE; A. BHATTACHARYA. *Janssen Res. and Develop.*
- 4:00 C12 **198.04** ▲ Disruption of C-terminal tyrosine-based internalization motifs and putative N-terminal ubiquitination sites increase the cell surface expression and activity of System xc-. M. A. SCHMIDT*; A. GIBSON; J. LARSON; L. CHASE. *Hope Col.*
- 1:00 C13 **198.05** Short-term exposure to manganese on Bergmann glial cells: Relevance to the Glu/Gln cycle. J. SOTO-VERDUGO*; L. HERNANDEZ-KELLY; E. LOPEZ-BAYGHEN; A. ORTEGA. *Cinvestav-IPN.*
- 2:00 C14 **198.06** Modafinil regulates glutamine synthetase in cerebellum. J. SILVA*; L. MENDEZ; E. BEJARANO-PÉREZ; L. C. R. HERNÁNDEZ-KELLY; A. ORTEGA. *Ctr. de Investigación y de Estudios Avanzados de.*
- 3:00 C15 **198.07** Modafinil regulates SNAT3 and the translation process in Bergman Glial Cells. L. I. MENDEZ*. *CINVESTAV.*
- 4:00 C16 **198.08** Ceftriaxone attenuates alcohol drinking behavior and hydrocodone reinstatement: Role of modulating astroglial glutamate transporters in alcohol-preferring P rats. F. ALSHEHRI*; A. Y. HAKAMI; Y. ALTHOBAITI; Y. SARI. *Univ. of Toledo, Univ. of Toledo, Taif Univ., Univ. of Toledo Col. of Pharm. and Pharmaceut. Sci.*
- 1:00 C17 **198.09** GLT-1 regulates distinct glutamate receptor activation during excitatory transmission to MCH neurons. S. C. BOWES; C. L. BRIGGS; K. SEMBA; M. HIRASAWA*. *Mem. Univ., Dalhousie Univ., Dalhousie Univ., Mem. Univ.*
- 2:00 C18 **198.10** Translational activation of GLT-1 in astrocytes decreases the infarct size after focal ischemia. F. A. TEJEDA*; D. E. RIVERA-APONTE; C. J. MALPICA NIEVES; Y. HERNÁNDEZ; S. N. SKATCHKOV; M. J. EATON. *Univ. Central del Caribe, Univ. Central del Caribe, Univ. Central del Caribe, Univ. Central del Caribe, Univ. Central del Caribe.*
- 3:00 C19 **198.11** Circadian regulation of astrocyte morphology and glutamate uptake. J. MCCAULEY*; A. SCIMEMI. *SUNY Albany, SUNY Albany.*
- 4:00 C20 **198.12** Role of astroglial glutamate transporters in P rats co-exposed to alcohol and cannabinoid receptor agonist, CP 55,940. A. Y. HAKAMI*; F. S. ALSHEHRI; Y. S. ALTHOBAITI; Y. SARI. *Univ. of Toledo, Taif Univ.*
- 1:00 C21 **198.13** CB1R activation increases GLAST activity in a PLC dependent pathway. J. RIBEIRO*; T. P. MORAIS; A. SEBASTIÃO; S. H. VAZ. *Inst. Medicina Mol. João Lobo Antunes, Inst. de Farmacologia e Neurociências, Sch. of Biosciences, Cardiff Univ.*
- 2:00 C22 **198.14** ▲ Higher ambient synaptic glutamate at inhibitory versus excitatory neurons differentially impacts NMDA receptor activity. L. YAO*; J. HANSON; P. PAOLETTI; Q. ZHOU. *Peking Univ., Genentech, Inc, PSL Res. Univ.*
- 3:00 C23 **198.15** Developmental NMDA receptor ablation specific to a subset of interneurons confers schizophrenia-like impairments. V. MAHADEVAN*; R. CHITTAJALLU; K. A. PELKEY; D. ABEBE; X. YUAN; S. HUNT; C. J. MCBAIN. *Section on Cell. and Synaptic Physiol.*
- 4:00 C24 **198.16** Cell type specific input from mediodorsal thalamus to prefrontal cortical interneurons. S. YANG*; W. GAO. *Drexel Univ. Sch. of Med.*

POSTER

198. Glutamate Transport and Signaling

Theme B: Neural Excitability, Synapses, and Glia

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 C9 **198.01** Measuring glutamate uptake *in vitro* in real time with high-sensitivity microelectrode probe. T. A. MURRAY; C. TAN; J. L. SCOGGIN; N. NGYUEN; U. KANSAKAR; S. SIDDIQUI; P. U. ARUMUGAM; M. A. DECOSTER*. *Louisiana Tech. Univ., Louisiana Tech. Univ., Louisiana Tech. Univ.*
- 2:00 C10 **198.02** C-terminal truncation at serine 505 increases EAAT2 activity and is not involved in EAAT2 downregulation associated with staurosporine-induced caspase 3 activation. T. VOSS*; J. LEWERENZ. *Ulm Univ., Ulm Univ.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:00 C25 **198.17** Chronic adolescent exposure to Delta9-tetrahydrocannabinol decreases neuronal responses to NMDA and GluN1 expression in region-specific dendrites defined by size and input from axon terminals containing CB1 receptors in the medial prefrontal cortex of adult mice. V. M. PICKEL*; J. CHAN; K. MACKIE; G. WANG. *Weill Cornell Med., Linda and Jack Gill Ctr. for Biomed. Sci.*
- 2:00 C26 **198.18** Regulation of glutamatergic neurotransmission in a *C. elegans* chemotaxis circuit by a novel vesicular transporter. J. CHOI*; L. BAYER-HOROWITZ; N. RINGSTAD. *New York Univ.*
- POSTER**
- 199. Monoamines I**
- Theme B: Neural Excitability, Synapses, and Glia**
- Sun. 1:00 PM – *San Diego Convention Center, SDCC Halls B-H*
- 1:00 C27 **199.01** SKF-10047, a prototype sigma-1 receptor agonist, facilitated the membrane trafficking and uptake activity of serotonin transporter and its mutant through the sigma-1 receptor- independent mechanism. M. ASANO; H. YAMAMOTO; I. HIDE; S. TANAKA; N. SAKAI*. *Grad Sch. of Biomed&Health Sci, Hiroshima Univ., Biosignal Res. Ctr, Kobe Univ., Hiroshima Univ.*
- 2:00 C28 **199.02** Fast analysis of dopamine and serotonin for high time resolution in microdialysis experiments. M. EYSBERG*; H. BROUWER; L. M. VAN HEERWAARDEN; N. J. REINHOUD. *Antec Scientific (USA), Antec Scientific.*
- 3:00 C29 **199.03** Dopamine neuron-derived IGF-1 controls dopamine neuron firing, skill learning and exploration. A. PRISTERA*; C. BLOMELEY; S. THRELFELL; D. BURDAKOV; S. CRAGG; F. GUILLEMOT; S. ANG. *The Francis Crick Inst., Univ. of Oxford.*
- 4:00 C30 **199.04** Fast and sensitive analysis of acetylcholine, GABA, glutamate, monoamines and metabolites using the UHPLC ALEXYS neurotransmitter analyzer. L. M. VAN HEERWAARDEN*; H. BROUWER; M. EYSBERG; N. J. REINHOUD. *Antec Scientific, Antec Scientific (USA).*
- 1:00 C31 **199.05** • Serotonin 5-HT_{1A} receptor biased agonists differentially facilitate rat social interaction under high luminosity conditions. M. A. VARNEY; R. DEPOORTÈRE; L. BARDIN; A. NEWMAN-TANCREDI*. *Neurolix, Neurolix, Pierre Fabre Médicament.*
- 2:00 C32 **199.06** RGS12 modulates dopamine transporter (DAT) function in ventral striatum via a kappa-opioid receptor (KOR)-dependent mechanism. J. D. GROSS*; S. W. KASKI; A. B. SCHROER; D. P. SIDEROVSKI; V. SETOLA. *West Virginia Univ., West Virginia Univ., West Virginia Univ.*
- 3:00 C33 **199.07** Selective filtering of accumbal inputs by neuromodulators. P. HOERBELT*; D. J. CHRISTOFFEL; J. J. WALSH; B. D. HEIFETS; K. DEISSEROTH; C. RAMAKRISHNAN; L. KING-ADAS; R. C. MALENKA. *Stanford Univ., Nancy Pritzker Lab., Stanford Univ. Sch. of Med., Dept. of Bioengineering, Dept. of Psychiatry and Behavioral Sciences, and Howard Hughes Med. Inst.*
- 4:00 C34 **199.08** Sex-steroid mediation of OCT3s as a mechanism for regulation of serotonin in the female rat medial hypothalamus and related behaviors. J. L. SCHOLL*; J. T. ROGERS; N. FENG; G. L. FORSTER; M. J. WATT; J. D. W. YAEGER; M. W. BUCHANAN; C. A. LOWRY; K. J. RENNER. *Univ. of South Dakota, Univ. of South Dakota, Univ. of South Dakota, Univ. of Otago, Univ. of Colorado Boulder.*
- 1:00 C35 **199.09** An intracellular trace amine-associated receptor 1 (TAAR1) couples to different G-protein pathways in distinct subcellular compartments to initiate the changes in neurotransmitter transporter trafficking elicited by amphetamines. S. M. UNDERHILL*; S. S. SCOTT; S. G. AMARA. *Natl. Inst. of Mental Hlth., Natl. Institutes of Hlth., Natl. Inst. of Mental Hlth.*
- 2:00 C36 **199.10** O-glycosylation of β 2-adrenergic receptor regulates agonist-mediated signaling in hek293 cells. S. RYU*; T. SHIM; C. MOON. *DGIST.*
- 3:00 C37 **199.11** Serotonin 5-HT_{1B} receptors decrease lateral inhibition in the mouse striatum by reducing the probability of GABA release from spiny projection neurons. S. POMMER*; J. R. WICKENS. *Okinawa Inst. of Sci. and Technol.*
- 4:00 C38 **199.12** Cholesterol-independent effects on serotonin transporter regulation: Role of simvastatin. C. M. MITCHELL*; A. SCHROERING; B. K. YAMAMOTO. *Indiana Univ., The Univ. of Toledo, Indiana Univ. Sch. of Med.*
- 1:00 D1 **199.13** Noradrenergic modulation of somatosensory cortex during tactile detection. H. YANG*; B. A. BARI; J. Y. COHEN; D. H. O'CONNOR. *Univ. of California, Riverside, Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ., The Johns Hopkins Univ. Sch. of Med.*
- 2:00 D2 **199.14** Validating PET dopamine receptor imaging with microPET and microdialysis. M. AUMANN*; M. BUBSER; A. SHEKARA; C. JONES; D. ZALD. *Vanderbilt Univ.*
- 3:00 D3 **199.15** Steady-state monoamine measures reveal diverse neuromodulatory compartments across macaque cortex. N. J. WARD*; W. ZINKE; J. J. COPPOLA; A. A. DISNEY. *Vanderbilt Univ., Vanderbilt Univ.*
- 4:00 D4 **199.16** The deep structure of the brain serotonergic matrix. M. T. HINGORANI; K. C. MAYS; N. DETERING; S. JANUSONIS*. *Univ. of California, Santa Barbara, Santa Barbara, Univ. of California, Santa Barbara.*
- 1:00 D5 **199.17** Orexin regulates the increase in dopamine extracellular levels in the ventral tegmental area induced by the stimulation of the lateral septum. I. M. VEGA-QUIROGA; H. E. YARUR; K. GYSLING*. *Pontificia Univ. Católica de Chile.*
- 2:00 D6 **199.18** Withdrawn
- 3:00 D7 **199.19** Molecular and neurochemical heterogeneity of dopaminergic terminals. C. DUCROT*; C. MICHAUD-TARDIF; A. RACINE; S. BURKE NANI; M. BOURQUE; B. G. ROBINSON; J. T. WILLIAMS; L. TRUDEAU. *Univ. de Montréal, Oregon Hlth. and Sci. Univ.*
- 4:00 D8 **199.20** Functional domains in the dopamine transporter intracellular C-terminus. J. GARCIA-OLIVARES*; S. A. WASSERMAN; C. FENOLLAR-FERRER; S. G. AMARA. *Natl. Inst. of Mental Hlth.*

- 1:00 D9 **199.21** Investigation of the developmental downregulation of Vglut2 expression in developing DA neurons: Implication of the dorsal striatum. W. M. KOUWENHOVEN*; C. DUCROT; M. BOURQUE; J. POULIN; R. AWATRAMANI; L. TRUDEAU. *Univ. de Montréal, Univ. De Montréal, Northwestern Univ. - Chicago, Northwestern Univ.*
- 2:00 D10 **199.22** Direct simultaneous comparison of a novel fluorescent dopamine sensor (dLight) with fast-scan cyclic voltammetry in cortex and striatum. A. G. SALINAS*; Y. MATEO; S. M. AUGUSTIN; J. O. LEE; T. PATRIARCHI; L. TIAN; D. M. LOVINGER. *Natl. Inst. On Alcohol Abuse and Alcoholism, George Mason Univ., Univ. of California Davis.*
- 3:00 D11 **199.23** Identification of residues involved in the dopamine transporter-Gbetagamma functional interaction. J. A. PINO*; G. M. HIDALGO; M. QUIROZ; G. E. TORRES. *Univ. of Florida.*
- 4:00 D12 **199.24** ▲ Localization of histidine decarboxylase and histamine in peripheral and central neural tissues of *Drosophila melanogaster*. B. VANDENBERG; L. ROBB; J. HOWE; M. G. BURG*. *Grand Valley State Univ., Grand Valley State Univ.*
- 1:00 D13 **199.25** *In utero* exposure to stress and SSRI antidepressant differentially affect serotonin-dependent developmental processes in the fetal mouse brain. Q. ZHAO*; J. C. VELASQUEZ; Y. CHAN; L. C. GALINDO NOVAES; I. BURD; A. M. ANDREWS; A. BONNIN. *USC, Keck Sch. of Med. of USC, Federal Univ. of Pernambuco, Johns Hopkins Univ., UCLA, USC - ZNI.*
- 2:00 D14 **199.26** ● Slc22a3, a potential second presynaptic serotonin transporter. M. R. ARNOLD*; A. O. WILLIAMS; A. AGRAWAL; H. E. DAY; J. S. TALBOOM; M. ORCHINIK; C. A. LOWRY. *Univ. of Colorado Boulder, Univ. of Colorado Boulder, Univ. of Colorado Boulder, Banner Hlth., Arizona State Univ.*
- 3:00 D15 **199.27** Withdrawn
- 4:00 D16 **199.28** Multiple mechanisms underlying the modulation of Locus coeruleus neuronal excitability by serotonin in the newborn rat. V. BIANCARDI*; T. S. ALVARES; L. H. GARGAGLIONI; G. D. FUNK. *Univ. of Alberta, UNESP, Univ. of Alberta, Univ. of Alberta.*
- 1:00 D17 **199.29** G protein β subunits play a critical role in the actions of amphetamine. S. S. HARRIS*; J. C. MAUNA; J. A. PINO; E. THIELS; G. E. TORRES. *Univ. of Florida, Univ. of Pittsburgh Dept. of Neurobio., Natl. Sci. Fndn.*
- 2:00 D18 **199.30** Activation of estrogen receptor alpha enhances ethanol excitation of ventral tegmental area neurons in female mice. B. J. VANDEGRIFT; M. S. BRODIE*; A. W. LASEK. *Univ. Illinois-Chicago, Univ. of Illinois At Chicago.*
- 2:00 D20 **200.02** ● Flurazepam modulation of GABA_A receptor gating depends on the receptor ligation. M. JATCZAK-SLIWA*; K. TEREJKO; M. BRODZKI; M. A. MICHAŁOWSKI; M. M. CZYZEWSKA; J. M. NOWICKA; A. ANDRZEJCZAK; R. SRINIVASAN; J. W. MOZRZYMAS. *Wroclaw Med. Univ., Univ. of Wroclaw.*
- 3:00 D21 **200.03** Single ethanol withdrawal regulates extrasynaptic delta-GABA_A receptors via PKCdelta activation. J. CHEN; Y. HE; Y. WU; H. ZHOU; L. SU; W. LI; R. W. OLSEN; J. LIANG; Y. ZHOU; Y. SHEN*. *Mail Box 22, Zhejiang Univ. Sch. of Med., Neurosci. Care Unit, Second Affiliated Hosp. of Zhejiang Univ. Sch. of Med., Geffen Sch. of Med. At UCLA, USC.*
- 4:00 D22 **200.04** GABA-evoked spike initiation in the central axon terminals of primary afferent neurons requires concurrent changes in chloride regulation and neuronal excitability: An *ex vivo* two-photon GCaMP imaging study. P. TAKKALA*; S. A. PRESCOTT. *Univ. of Toronto, Univ. of Toronto, Hosp. For Sick Children.*
- 1:00 D23 **200.05** Molecular mechanisms of GABA_A receptor trafficking to the axon initial segment. A. J. NATHANSON*; R. M. HINES; T. Z. DEEB; P. A. DAVIES; S. J. MOSS. *Tufts Univ., Univ. of Nevada Las Vegas, Tufts-Astra Zeneca Lab.*
- 2:00 D24 **200.06** Different benzodiazepines bind with distinct binding modes to GABA_A-receptors. P. SCHOLZE*; A. A. ELGARF; D. C. B. SIEBERT; F. STEUDLE; A. DRAXLER; M. ERNST; G. LI; S. HUANG; J. M. COOK. *Med. Univ. of Vienna, TU Wien, Univ. WI-Milwaukee.*
- 3:00 D25 **200.07** Global expression patterns of GABA_A receptor subunits in humans differentiate brain regions into ontogenically related groups. A. LIMON*; P. A. SEQUEIRA. *UTMB, Univ. of California Irvine.*
- 4:00 D26 **200.08** ● Importance of the GABA_A receptors from invertebrates to vertebrates. K. KAMBARA*; D. BERTRAND; S. BERTRAND; Y. MORENO; J. HARRINGTON. *Hiqscreen Sarl, Boehringer Ingelheim.*
- 1:00 D27 **200.09** Faster emergence and recovery from sevoflurane anesthesia in mice lacking the alpha-4 subunit of the gaba(a) receptor. K. S. EDOKPOLOR*; S. SCHWERIN; J. FIDLER; S. KRATZER; P. S. GARCIA. *Emory Univ., Technische Univ. München, Emory Univ. / Atlanta VAMC, Technische Univ. München, Columbia Univ. Med. Ctr.*
- 2:00 D28 **200.10** Enhancement of extrasynaptic GABA_A receptors by GABA_B receptors and L-type calcium channels. S. N. KHATRI*; W. WU; J. R. PUGH. *UT Hlth. San Antonio, UTHSCSA.*
- 3:00 D29 **200.11** Kinase-dependent behaviour of delta-containing GABA-A receptors disguises the efficacy of orthosteric agonists and reveals agonistic effects of gabazine. P. WELLENDORPH*; U. LEURS; C. B. FALK-PETERSEN; P. SCHOLZE; B. FRØLUND; N. O. DALBY. *Univ. of Copenhagen, Med. Univ. of Vienna.*
- 4:00 D30 **200.12** GABR mutations identified in Chinese patients with major depressive disorder. W. KUANG; T. LU; J. LI; Q. GONG; Z. DONG; Y. LUO; L. TIAN*. *Sichuan Univ., Chengdu Med. Col., Sichuan Univ.*
- 1:00 D31 **200.13** MeHg-induced cell death in the ventral lumbar spinal cord region of C57BL6J mice. M. RIOS CABANILLAS*; W. D. ATCHISON. *Michigan State Univ., Michigan State Univ. Dept. of Pharmacol. and Toxicology.*

POSTER

200. GABA(A) Receptors

Theme B: Neural Excitability, Synapses, and Glia

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 D19 **200.01** Inhibitory synapse deficits caused by familial $\alpha 1$ GABA_A receptor mutations in epilepsy. X. CHEN*; N. DURISIC; A. KERAMIDAS; J. LYNCH. *Queensland Brain Inst.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 2:00 D32 **200.14** Identification of a novel scaffold with competitive antagonist activity at ionotropic GABA_A receptors. C. B. FALK-PETERSEN*; T. M. TSONKOV; M. S. NIELSEN; K. HARPSØE; D. E. GLORIAM; P. WELLENDORPH. *Univ. of Copenhagen.*
- 3:00 D33 **200.15** Characteristics of delta-subunit containing GABA_A IPSCs in dentate granule neurons. M. SUN*; S. MENNERICK. *Washington Univ. in St. Louis, Washington Univ. in St. Louis, Washington Univ. in St. Louis.*
- 4:00 D34 **200.16** Neuronal glutamate transporters control striatal inhibition. M. A. PETROCCIONE*; A. SCIMEMI. *Univ. at Albany - SUNY, SUNY Albany.*
- 1:00 D35 **200.17** ● Primary and secondary consequences of altered phasic GABA_A inhibition. L. ZIOLKOWSKI; M. SUN; H. SHU; A. BENZ; N. RENSING; M. WONG; S. J. MENNERICK*. *Washington Univ. Sch. of Med.*
- 2:00 D36 **200.18** ● Concatenated GABA_A receptors reveal diverse molecular phenotype of epilepsy-causing mutations. N. ABSALOM*; V. W. Y. LIAO; P. K. AHRING; M. T. BOWEN; J. ARNOLD; I. MCGREGOR; M. CHEBIB. *Univ. of Sydney, Univ. of Sydney, Univ. of Sydney.*
- 3:00 D37 **200.19** Screening for novel modulators of the GABA receptor insecticide-resistance using an in silico approach. C. F. BURGOS*; C. MUÑOZ; G. E. YÉVENES; G. MORAGA-CID. *Univ. of Concepcion.*
- 4:00 D38 **200.20** Concatenated γ -aminobutyric acid type A receptors revisited; creating order in chaos. P. K. AHRING*; V. W. Y. LIAO; H. C. CHUA; N. M. KOWAL; M. CHEBIB; T. BALLE. *The Univ. of Sydney.*
- 1:00 D39 **200.21** SorCS1 regulates neurotransmission in the hippocampus and psychiatric disease-related behaviors in mice. P. L. OVESEN*; U. BOELCHO; M. M. HOLM; A. NYKJAER. *Aarhus Univ., Aarhus Univ., Aarhus Univ.*
- 2:00 D40 **200.22** Ligand-activation of gaba_A receptors on the automated patch clamp platforms qpatch and qube 384 using conventional electrophysiology and optopharmacology. M. SCHUPP*; K. BODDUM; D. R. SAUTER; P. SKAFTE-PEDERSEN; L. BLOMSTER; H. L. OLSEN; R. B. JACOBSEN. *Sophion Biosci., Sophion Biosci., Saniona.*
- 3:00 D41 **200.23** Single transmembrane domain residues control cell surface expression of GABA_A receptor subunits. S. HANNAN*; T. G. SMART. *Univ. Col. London.*
- 4:00 D42 **200.24** ● SAGE-516, a synthetic neuroactive steroid GABA_A receptor positive allosteric modulator, reduces tremor activity in a mouse model of essential tremor. S. GEE*; C. MARCIAG; T. KAZBODA; S. MCTIGHE; B. FARLEY; M. QUIRK; F. SALITURO; J. DOHERTY; A. ROBICHAUD; R. HAMMOND. *Sage Therapeut.*
- 1:00 D43 **200.25** Modulation of both β 2- and β 3-containing GABA_A Rs is necessary for etomidate-induced suppression of LTP *in vitro*. G. SURGES*; A. FIGUEROA; C. LOR; N. KUNZ; G. E. HOMANICS; R. A. PEARCE. *Univ. of Wisconsin, Univ. Pittsburgh.*
- 2:00 D44 **200.26** Folic acid supplementation alters Smad3, DnMT1, and DnMT3a in SH-SY5Y neuronal cells. K. VAZQUEZ*; A. EL IDRISSEI. *Hunter College- CUNY, Col. of Staten Island- City Univ. of New York.*

POSTER

201. Structural Plasticity I

Theme B: Neural Excitability, Synapses, and Glia

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 D45 **201.01** Parvalbumin interneurons of visual primary sensory cortex in adult mice express Acan and several other genes involved in the making of the PeriNeuronal Net (PNN). J. P. ROSSIER*; L. T. GRAYBUCK; M. J. HAWRYLYCZ; E. LEIN; B. TASIC; H. ZENG. *Univ. Pierre et Marie Curie, Allen Inst. For Brain Sci., Allen Inst. Brain Sci., Allen Inst. for Brain Sci., Allen Inst. For Brain Sci., Allen Inst. for Brain Sci.*
- 2:00 D46 **201.02** Activity-induced structural changes at the nucleus and endoplasmic reticulum of hippocampal neurons. J. TAO-CHENG*. *NIH.*
- 3:00 D47 **201.03** Physical exercise improves dendritic spine plasticity and enhances synaptic transmission in mouse frontal cortex. L. ZHANG*; K. CHEN; Y. ZHENG; J. WEI; H. OU-YANG; K. SO. *Jinan Univ.*
- 4:00 D48 **201.04** Cytoplasmic structure inside dendritic spine modulates molecular mobility. K. OBASHI*; A. MATSUDA; Y. INOUE; S. OKABE. *Univ. of Tokyo, CREST, JST, Kyoto Univ.*
- 1:00 D49 **201.05** Control of perineuronal net and cortical plasticity by the activity of fast spiking-parvalbumin interneurons. G. DEVIENNE*; B. CAULI; I. COHEN; S. PICAUD; L. TRICOIRE; J. ROSSIER; B. LAMBOLEZ. *Neurosciences Paris Seine UMR8246.*
- 2:00 D50 **201.06** Potentiation of presynaptic functions by mechanical forces generated by spine enlargement. H. UCAR; S. WATANABE; J. NOGUCHI; S. YAGISHITA; Y. MORIMOTO; N. TAKAHASHI; H. KASAI*. *Grad. Sch. of Medicine, The Univ. of Tokyo, Intl. Res. Ctr. for Neurointelligence (WPI-IRCIN), UTIAS, The Univ. of Tokyo, Natl. Ctr. of Neurol. and Psychiatry, Intl. Res. Ctr. for Neurointelligence (WPI-IRCIN), UTIAS, The Univ. of Tokyo, Tokyo, Japan, Dept. of Physiology, Kitasato Univ. Sch. of Med.*
- 3:00 D51 **201.07** Cyclase-associated protein 2 role in the cytoskeletal organization of the spine. S. C. PELUCCHI*; L. VANDERMEULEN; S. MUSARDO; D. LIM; D. DI MARINO; M. PASSAFARO; M. MIKHAYLOVA; F. GARDONI; M. DI LUCA; E. MARCELLO. *Univ. of Milan, Univ. di Firenze, Univ. de Genève, Univ. degli Studi del Piemonte Orientale "Amedeo Avogadro", Univ. della Svizzera italiana, CNR-IN, Univ. Med. Ctr. Hamburg-Eppendorf.*
- 4:00 E1 **201.08** NMDA receptor signaling mechanisms driving structural plasticity of dendritic spines. D. K. PARK; I. S. STEIN*; J. N. JAHNCKE; K. M. ZITO. *UC Davis.*
- 1:00 E2 **201.09** Features in the structural & functional reorganization of the screen and nuclear nerve centers of white rats after acute transient ischemic attack. V. AKULININ*; A. STEPANOV; D. AVDEEV; A. GORBUNOVA. *Omsk State Med. Univ.*
- 2:00 E3 **201.10** Activity-dependent form and function of chandelier cells and their synapses. A. PAN VAZQUEZ*; W. WEFELMEYER; J. BURRONE. *Ctr. For Developmental Neurobio.*

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* Indicates abstract's submitting author

- 3:00 E4 **201.11** Isoflurane inhibits brain-derived neurotrophic factor release leading to reduced synaptic vesicle exocytosis and dendritic spine loss. K. W. JOHNSON; F. S. LEE; H. C. HEMMINGS, Jr.; J. PLATHOLI*. *Weill Cornell Med., Weill Cornell Med., Joan and Sanford I Weill Med. Col. of Cornell Univ.*
- 4:00 E5 **201.12** Sexually dimorphic synaptic organization of the posterodorsal medial amygdala. F. DE SOUZA DALPIAN; A. A. RASIA-FILHO; M. E. CALCAGNOTTO*. *NNNESP Lab-UFRGS, UFCSPA.*
- 1:00 E6 **201.13** Interfering with Semaphorin3A in perineuronal nets to enhance plasticity. D. CARULLI; R. BROERSEN; F. DE WINTER*; H. BOELE; B. HOBBO; C. CANTO; E. M. MUIR; C. I. DE ZEEUW; J. VERHAAGEN. *Netherlands Inst. for Neurosci., Univ. of Turin, Netherlands Inst. for Neurosci., Erasmus MC, Univ. of Cambridge.*
- 2:00 E7 **201.14** Postsynaptic density protein 95 (PSD-95) is transported by kinesin motor to synaptic regions. K. YOO*; K. LEE; J. OH; H. KIM. *Col. of Med, Chungbuk Nat'L Univ.*
- 3:00 E8 **201.15** Dynamic morphological and physiological remodeling of the diaphragm neuromuscular junction of mice with aging. M. A. FAHIM*; M. SEGHIER; M. HASAN; C. HABAK. *Emirates Col. For Advanced Educ., UAE Univ.*
- 1:00 DP03/E9 **201.16** (Dynamic Poster) Lactate derived from astrocytic glycogen is necessary for stabilization of synapses following learning. C. CALI*; E. VEZZOLI; L. PONZONI; E. SOGNE; N. GAGNON; M. SALA; M. FRANCOLINI; D. BRAIDA; A. FALQUI; P. J. MAGISTRETTI. *KAUST, Univ. of Milan, Univ. of Milan, Prof, KAUST.*
- 1:00 E10 **201.17** Environmental regulation of silent synapses in the dorsolateral striatum. A. MEYERS*; J. A. BEELER. *Queens Col., Queens Col. CUNY.*
- 2:00 E11 **201.18** • The novel NMDA receptor modulator NYX-2925 enhances dendritic spine-autonomous structural and functional plasticity *in vitro*. R. M. MITCHELL*; L. P. CACHEAUX; M. BOWERS; A. I. SHANKER; R. A. KROES; J. R. MOSKAL. *Aptinix Inc., Falk Ctr. for Mol. Therapeutics, McCormick Sch. of Engineering, Northwestern Univ.*
- 3:00 E12 **201.19** • A complex-selective and safe HDAC inhibitor with pro-synaptic effects - A promising therapy for neurodegenerative disorders. A. PIRONE*; N. O. FULLER; M. HEWITT; M. QUINTON; T. D. MCKEE; B. A. LYNCH; A. ROSENBERG; M. IVARSSON. *Rodin Therapeut.*
- 4:00 E13 **201.20** Nogo receptor 1 protein levels are rapidly downregulated by metabotropic N-methyl-D-aspartate receptor signalling. A. T. BRODIN*; E. BECHER; K. WELLFELT; L. OLSON; T. E. KARLSSON. *Karolinska Institutet.*
- 1:00 E14 **201.21** Post-ischemic cortical excitability is modulated by transplanted human neural stem cells. T. N. WEERAKKODY; R. AZEVEDO-PEREIRA*; J. VU; F. DU; X. LIANG; T. BLISS; J. R. HUGUENARD; G. K. STEINBERG. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*
- 2:00 E15 **201.22** RhoA-associated kinases ROCK1 and ROCK2 mediate amyloid- β induced synaptic degeneration in Alzheimer's disease. B. W. HENDERSON*; S. V. BACH; J. J. DAY; J. H. HERSKOWITZ. *Univ. of Alabama at Birmingham, UAB, The Univ. of Alabama at Birmingham.*
- 3:00 E16 **201.23** ADAR-dependent RNA editing of complexin regulates activity-mediated structural and functional plasticity at the *Drosophila* neuromuscular junction. E. BRIJA*; R. W. CHO; J. T. LITTLETON. *MIT, MIT.*
- 4:00 E17 **201.24** • Directed cortical plasticity as a function of vagus nerve stimulation rate, train duration, and pulses. E. BUELL*; K. LOERWALD; M. BORLAND; J. BUELL; C. KELLY; C. CHANDLER; M. KILGARD. *Univ. of Texas at Dallas.*
- 1:00 E18 **201.25** Chronic *in vivo* imaging of excitatory synapses on cortical interneurons. J. B. MELANDER*; B. C. JONGBLOETS; M. QIN; E. AARTS; T. MAO; H. ZHONG. *Stanford Univ., Oregon Hlth. & Sci. Univ., Utrecht Univ.*
- 2:00 E19 **201.26** Spine dynamics and experience dependent structural plasticity in the barrel cortex of layer 2/3 neurons. G. SEATON*; A. M. DE HAAN; G. HODGES; K. D. FOX. *Cardiff Univ.*
- 3:00 E20 **201.27** Neuronal and synaptic organization of layer 1 in the human temporal lobe neocortex. J. M. STÖHR*; A. ROLLENHAGEN; K. SÄTZLER; M. VON LEHE; J. H. R. LÜBKE. *Res. Ctr. Juelich GmbH, Res. Ctr. Juelich GmbH, Univ. of Ulster, Brandenburg Med. Sch., RWTH/Aachen Univ., Res. Ctr. Juelich GmbH, RWTH/Aachen Univ.*

POSTER

202. Structural Plasticity II

Theme B: Neural Excitability, Synapses, and Glia

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 E21 **202.01** Regulation of dendritic spine morphology by small form of ankyring and homer1. S. YOON*; L. E. DIONISIO; P. PENZES. *Northwestern Univ., Northwestern Univ., Northwestern Univ. Feinberg Sch. Med., Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ.*
- 2:00 E22 **202.02** Neuronal sheddome analysis uncovers a novel mechanism for CNTNAP2 ectodomain in the regulation of calcium dynamics. M. D. MARTIN-DE-SAAVEDRA*; M. DOS SANTOS; O. VAREA; B. SPIELMAN; R. GAO; M. FORREST; K. MYCZEK; A. SANZ-CLEMENTE; D. COMOLETTI; J. N. SAVAS; P. PENZES. *Northwestern Univ., Northwestern, Inst. for Res. in Biomedicine, Northwestern Univ., Northwestern Univ. - Chicago, CHINJ Rutgers, Northwestern University, Feinberg Sch. of Medici, Northwestern Univ. Feinberg Sch. Med.*
- 3:00 E23 **202.03** Proteomic profiling of the 16p11.2 microduplication mouse model: Implications for neuropsychiatric disease. M. FORREST*; Y. WANG; N. H. PIGUEL; L. E. DIONISIO; N. A. HAWKINS; C. P. PRATT; V. BAGCHI; J. A. KEARNEY; J. N. SAVAS; P. PENZES. *Northwestern Univ., Northwestern Univ., Northwestern Univ., Northwestern Univ.*
- 4:00 E24 **202.04** Synaptic plasticity revealed by spatial light interference microscopy(slim) coupled with fluorescence imaging. Y. LEE*; M. KANDEL; C. BEST. *Univ. of Illinois Urbana-Champaign, Univ. of Illinois Urbana-Champaign, Univ. of Illinois Urbana-Champaign.*
- 1:00 E25 **202.05** Increased M1 structural plasticity and enhanced motor learning in mice lacking PirB. E. ALBARRAN*; J. B. DING; C. J. SHATZ. *Stanford Univ. - Neurosciences Program, Stanford Univ. Dept. of Neurosurg., James H. Clark Ctr.*
- 2:00 E26 **202.06** Specificity of optically-evoked LTP at area CA1 pyramidal neuron synapses. O. I. OSTROVSKAYA*; M. KUWAJIMA; K. M. HARRIS; B. V. ZEMELMAN. *The Univ. of Texas At Austin.*

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* Indicates abstract's submitting author

- 3:00 E27 **202.07** Effects of testosterone and surgical stress on hippocampal dendritic morphology in adult male rats. L. K. ISAACS*; E. M. LAWTON; A. L. MENDELL; N. J. MACLUSKY. *Univ. of Guelph*.
- 4:00 E28 **202.08** Biological Roles of Microglial cells in Spinal Cord synaptic plasticity after peripheral nerve injury. R. P. CAMPOS*; M. B. DA SILVA; V. RIBEIRO-RESENDE. *Univ. Federal Do Rio De Janeiro, UFRJ*.
- 1:00 E29 **202.09** NanoPaint: Tracking of the cannabinoid type 1 receptor with biofunctional quantum dot nanoconstructs reveals fast nanoscopic structural plasticity of the neuronal cell membrane. D. ZALA*; T. PONS; N. LEQUEUX; Z. LENKEI; M. TASSO. *Ctr. of Psychiatry and Neurosci., ESPCI, INIFTA*.
- 2:00 E30 **202.10** Enrichment of plasticity-related synaptic proteins at functionally identified V1 synapses during ocular dominance plasticity *in vivo*. P. IP*; T. KU; S. EL-BOUSTANI; K. CHUNG; M. SUR. *MIT, MIT, Ecole Polytechnique Fédérale de Lausanne*.
- 3:00 E31 **202.11** Presynaptic ultrastructure changes in response to LTP stimulation in stratum radiatum of hippocampal CA1 neuropil. L. M. KIRK*; K. ZATYKO; C. BROMER; T. M. BARTOL, JR; T. J. SEJNOWSKI; K. HARRIS. *Univ. of Texas, Austin, Salk Inst. For Biol. Studies, Salk Inst.*
- 4:00 E32 **202.12** ● Increased Fkbp5 expression slows GR activity and neurogenesis, impacting learning and memory. I. OZSAN*; X. WANG; J. J. SABBAGH; E. J. WEEBER; L. J. BLAIR. *Univ. of South Florida, Univ. of South Florida*.
- 1:00 E33 **202.13** Reliable learning with unreliable synapses. D. V. RAMAN*; T. S. O'LEARY. *Univ. of Cambridge*.
- 2:00 E34 **202.14** Fragile X mental retardation protein regulates dendritic branching and spine morphology in the dorsal striatum following repeated cocaine administration. J. HUEBSCHMAN*; L. SMITH. *Texas A&M Hlth. Sci. Ctr.*
- 3:00 E35 **202.15** Synaptic nanomodules underlie the organization and plasticity of spine synapses. M. HRUSKA*; N. HENDERSON; S. J. LE MARCHAND; M. B. DALVA. *Thomas Jefferson Univ., Univ. of Delaware*.
- 4:00 E36 **202.16** *In vivo* imaging of synapse assembly/disassembly across a full dendritic arbor on a minute time scale. J. BOIVIN*; K. P. BERRY; Y. XUE; P. T. C. SO; E. NEDIVI. *MIT*.
- 3:00 E39 **203.03** Single-cell RNA and electrophysiological profiling of D1+ and D2+ principal neurons of the prefrontal cortex. R. DE SA*; A. DIJKE; J. WINTERER; K. LE CORF; C. FOLDY; A. FRICK. *Neurocentre Magendie U1215, Technische Univ. München in Munich, Univ. of Zurich*.
- 4:00 E40 **203.04** TRPC3 and NALCN channels are essential for pacemaking of nigral dopamine neurons. K. UM*; L. BIRNBAUMER; H. KIM; M. PARK. *Sch. of Medicine, Sungkyunkwan Univ., Inst. of Biomed. Res. (BIOMED), Univ. Católica Argentina*.
- 1:00 E41 **203.05** Investigating the analog modulation of action-potential waveforms in axonal arbors of cortical neurons using whole-cell patch-clamp recordings and high-density microelectrode arrays. V. EMMENEGGER*; J. BARTRAM; S. SITNIKOV; A. HIERLEMANN. *Bio Engin. Laboratory, ETH Zurich*.
- 2:00 E42 **203.06** ▲ Characterization of intrinsic and network-dependent discharges in different types of basolateral amygdala neurons. G. WANG*; Y. YANG. *Chang Gung Univ., Chang Gung Mem. Hosp., Chang Gung Mem. Hosp.*
- 3:00 E43 **203.07** The effect of static magnetic fields on the membrane excitability of pyramidal neurons in mice. Y. TAKAMATSU*; A. S. SINHA; T. AKITA; A. FUKUDA; T. MIMA. *Ritsumeikan Univ., Hamamatsu Univ. Sch. Med., Ritsumeikan Univ.*
- 4:00 E44 **203.08** Projection specificity of *in vivo* electrophysiological properties of ventral tegmental area dopamine neurons. K. OTOMO*; N. FARASSAT; K. M. COSTA; C. A. PALADINI; J. ROEPER. *Goethe Univ. Frankfurt, Max Planck Inst. for Brain Res., Univ. of Texas at San Antonio*.
- 1:00 E45 **203.09** Morphologically realistic computational models of bursting and rebound properties of medial and lateral substantia nigra dopamine neurons. C. J. KNOWLTON*; K. OTOMO; S. STOJANOVICH; J. ROEPER; C. C. CANAVIER. *Louisiana State Univ. Hlth. Sci. Ctr., Goethe Univ. Frankfurt, Goethe Univ. Frankfurt, LSU Hlth.*
- 2:00 E46 **203.10** Intrinsic excitability of retrosplenial cortical neurons varies as a function of age and sex. H. YOUSUF*; J. R. MOYER, Jr. *Univ. of Wisconsin-Milwaukee*.
- 3:00 E47 **203.11** Combined biophysical and statistical modeling of central projection neurons reveals roles of ion channels in stimulus encoding. N. G. GLASGOW*; Y. CHEN; R. E. KASS; A. KORNGREEN; N. N. URBAN. *Univ. of Pittsburgh, Carnegie Mellon Univ., Carnegie Mellon Univ., Bar-Ilan Univ.*
- 4:00 E48 **203.12** The contribution of intrinsic K⁺ current to subthalamic burst discharges and locomotor behavior. C. HUANG*; G. WANG; Y. YANG. *Chang Gung Univ., Chang Gung Univ., Chang Gung Mem. Hospital, Linkou Med. Ctr.*
- 1:00 E49 **203.13** Trim69 E3 ubiquitin ligase regulates neuronal excitability in the mouse hippocampus. S. LEE*; H. JEONG; H. SO; Y. KIM; J. LEE; M. HAHN; J. KANG; H. CHO. *Sungkyunkwan University, Sch. of Med., Sungkyunkwan University, Sch. of Med., Sungkyunkwan University, Sch. of Med.*
- 2:00 E50 **203.14** Activity-dependent long-term intrinsic plasticity in dentate gyrus granule cells. P. MISHRA*; R. NARAYANAN. *Indian Inst. of Sci.*

POSTER

203. Control of Neuronal Firing

Theme B: Neural Excitability, Synapses, and Glia

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 E37 **203.01** Theta frequency selectivity in signal gain in stellate cells of the medial entorhinal cortex under mimicked *in vivo* conditions. N. KATYARE*; S. SIKDAR. *Indian Inst. of Sci.*
- 2:00 E38 **203.02** Nicotine modulates electrophysiological properties of hippocampal subicular neurons through block of HCN channels. S. VASNIK*; S. K. SIKDAR. *Indian Inst. of Sci., Indian Inst. of Sci.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 3:00 E51 **203.15** Voltage gated sodium channel accessory proteins in the cell-type and circuit-specific regulation of neuronal excitability. J. L. RANSELL*; J. M. NERBONNE. *Washington Univ., Washington Univ.*
- 4:00 F1 **203.16** The role of ampk in regulating basolateral amygdala principal neuron excitability. B. O'FLAHERTY*; J. GUO; P. A. WENNER; D. G. RAINNIE. *Emory Univ., Emory Univ., Emory Univ. Sch. of Med.*
- 1:00 F2 **203.17** Characteristics of the action potential waveform at mammalian and amphibian neuromuscular junctions. S. P. GINEBAUGH*; K. OJALA; A. HOMAN; E. MILLER; S. D. MERINEY. *Univ. of Pittsburgh, UC Berkeley.*
- 2:00 F3 **203.18** Opposing effects of AdipoR1 and AdipoR2 on hippocampal neuronal excitability. W. WANG; B. LIU; C. LI; X. LU*. *Med. Col. of Georgia at Augusta Univ.*
- 3:00 F4 **203.19** Mechanisms of EPSP-Spike potentiation in memory circuits of the hippocampus. J. K. CLARK*; D. V. MADISON. *Stanford Univ.*
- 4:00 F5 **203.20** Regulation of the orexin-enhanced slow afterhyperpolarization (oeAHP) and the orexin-mediated inward current by intra- and extracellular Ca²⁺ in serotonergic dorsal raphe neurons. M. ISHIBASHI; N. E. MOLINA; E. A. BERRY; C. S. LEONARD*. *New York Med. Coll.*
- 1:00 F6 **203.21** Rebound depolarization in medial prefrontal cortex pyramidal neurons. P. KUROWSKI*; P. SZULCZYK. *Med. Univ. of Warsaw.*
- 2:00 F7 **203.22** Mechanisms of noradrenergic modulation of synaptic transmission and neuronal excitability in ventral horn neurons of the rat spinal cord. H. SHOJI; M. OHASHI; T. HIRANO; K. WATANABE; N. ENDO; T. KOHNO*. *Niigata Univ. Grad. Sch. of Med. and Dent. Sci., Tohoku Med. and Pharmaceut. Univ.*
- 3:00 F8 **203.23** HCN channel and type III action potential. M. TROJAN; D. KANIGOWSKI; & BIJOCH; M. PEKAIA; D. LEGUTKO; A. BEROUN; M. BEKISZ; L. COLOM; E. KNAPSKA; S. KODIROV*. *Univ. of Texas, Nencki, Nencki.*
- 4:00 F9 **203.24** Mechanisms of CO₂-induced inhibition of cortical neuronal activity. P. S. HOSFORD*; A. HADJIHAMBI; J. MILLAR; A. V. GOURINE. *UCL, Barts and The London Sch. of Med. and Dent.*
- 3:00 F12 **204.03** Activation of the necroptosis machinery in cortical neurons in progressive MS. C. PICON*; R. JAMES; R. REYNOLDS. *Imperial Col. London.*
- 4:00 F13 **204.04** Lipid biochemistry probed with Nile Red spectral microscopy reveals myelin lipids alterations in MS. W. TEO*; A. LUCHICCHI; A. V. CAPRARIELLO; G. SCHENK; M. MORGAN; J. GEURTS; P. K. STYS. *Hotchkiss Brain Institute, Univ. of Calgary, VU Univ. Med. Ctr., Univ. of Calgary, VU Univ. Med. Ctr., Univ. of Calgary, Univ. Calgary.*
- 1:00 F14 **204.05** Remyelination in the optic nerve detected by visual evoked potentials in a large animal model of demyelination. M. HEIDARI*; K. C. SNYDER; S. L. DEJANOVICH; A. RADCLIFF; J. N. VERHOEVE; G. J. MCLELLAN; I. D. DUNCAN. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*
- 2:00 F15 **204.06** LGN abnormalities in a macaque model of ZIKV infections. A. M. SEELKE*; P. DOUGHERTY; J. H. MORRISON; E. BLISS-MOREAU. *Univ. of California Davis, Univ. of California Davis.*
- 3:00 F16 **204.07** Intrathecal delivery of primary progressive multiple sclerosis-derived antibodies induces motor deficits and CNS pathology in mice. A. L. TSE; A. FINNEY-STABLE; S. J. E. SHIMSHAK; J. K. WONG; J. LIN*; S. A. SADIQ. *Tisch MS Res. Cntr NY.*
- 4:00 F17 **204.08** Early and regional-specific myeloid immune response in multiple system atrophy. A. HOFFMANN*; S. REIPRICH; E. MASLIAH; M. WEGNER; A. REIS; M. J. RIEMENSCHNEIDER; T. KUHLMANN; J. WINKLER. *Erlangen Univ. Hosp., Friedrich-Alexander Univ. Erlangen, Natl. Inst. of Aging, Erlangen Univ. Hosp., Regensburg Univ. Hosp., Muenster Univ. Hosp.*
- 1:00 F18 **204.09** Primary progressive MS cerebrospinal fluid delays remyelination after lysolecithin-induced demyelination. S. J. E. SHIMSHAK; N. J. KUNG; J. K. WONG*; S. A. SADIQ. *Tisch MS Res. Ctr. of New York, Tisch MS Res. Ctr.*
- 2:00 F19 **204.10** Persistent TNF and IFN γ production induced in the cerebral meninges in a rat model of MS gives rise to chronic cortical pathology. R. JAMES*; N. D. MAZARAKIS; R. REYNOLDS. *Imperial Col. London.*
- 3:00 F20 **204.11** Neonatal hyperthyroidism induced developmental myelination model for multiple sclerosis. K. LARIOSAWILLINGHAMA; D. LEONOUKAKIS; D. MISZCZUK; K. LEHTIMÄKI; L. TOLPPANEN*; M. FLANAGAN; J. GIBSON; A. J. NURMI. *Teva Pharmaceut. Industries, Charles River Discovery, Sword Diagnostics.*
- 4:00 F21 **204.12** Role of regulatory T cells in remyelination following cuprizone-induced demyelination. R. G. PEÑALVA*; N. DE LA VEGA GALLARDO; M. NAUGHTON; J. W. FALCONER; Y. DOMBROWSKI; D. C. FITZGERALD. *Queen's Univ. Belfast.*
- 1:00 F22 **204.13** An oral gavage model for cuprizone-induced brain demyelination: Improved repeatability along with robust and specific phenotype. A. KÄRKKÄINEN*; K. LEHTIMÄKI; A. HAAPALA; T. PARKKARI. *Charles River Discovery.*
- 2:00 F23 **204.14** High fat diet impacts behavioral deficits associated with cuprizone-induced demyelination. M. R. LANGLEY*; H. YOON; H. KIM; L. KLEPPE; W. SIMON; I. R. LANZA; N. K. LABRASSEUR; A. MATVEYENKO; I. A. SCARISBRICK. *Mayo Clin., Mayo Clin., Mayo Clin.*

POSTER

204. Myelin-Related Disorders

Theme B: Neural Excitability, Synapses, and Glia

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 F10 **204.01** White matter microstructural abnormalities are linked to cerebral metabolite disturbances and neurocognitive impairment in treated HIV+ individuals. T. M. NIR*; C. CORBIN; C. R. K. CHING; N. JAHANSHAD; H. Y. LAM; J. HAREZLAK; G. SCHIFITTO; T. ZHU; R. A. COHEN; B. A. NAVIA; P. M. THOMPSON. *USC, Indiana Univ. Sch. of Publ. H, Univ. of Rochester, Univ. of North Carolina, Univ. of Florida, Tufts Univ. Sch. of Med.*
- 2:00 F11 **204.02** ▲ Hippocampal neuropathology in patients with seizures secondary to multiple sclerosis. K. PARRA*; A. S. LAPATO; S. K. TIWARI-WOODRUFF. *Univ. of California, Riverside, Univ. of California Riverside Sch. of Med., Univ. of California Riverside Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 3:00 F24 **204.15** Early postnatal exposure to general anesthesia disrupts oligodendrocyte development and myelin formation in hippocampus. Q. LI*; R. P. MATHENA; J. XU; C. D. MINTZ. *Johns Hopkins Univ. Sch. of Med.*
- 1:00 DP04/F25 **204.16** ▲ (Dynamic Poster) Behavioral consequences of demyelination in a *Xenopus laevis* model of inducible-demyelination and myelin repair. B. ZALC*; E. HENRIET; A. MANNIOUI; A. S. KHAKHALIN. *Sorbonne Université; Inserm, CNRS, Sorbonne Université, Inserm, CNRS, ICM, Bard Col.*
- 1:00 F26 **204.17** The effect of HIV and antiretroviral therapies on oligodendrocyte maturation. L. ROTH*; B. ZIDANE; C. AKAY ESPINOZA; K. L. JORDAN-SCIUTTO; J. B. GRINSPAN. *Children's Hosp. of Philadelphia, Univ. of Pennsylvania, Univ. of Pennsylvania Sch. of Dent. Med.*
- 2:00 G1 **204.18** Mycobacterium leprae accelerates myelin breakdown in Schwann cells. B. S. MIETTO*; B. J. SOUZA; P. M. F. SANTOS; M. BERREDO-PINHO; P. S. ROSA; M. V. PESSOLANI; F. A. LARA; E. N. SARNO. *Fiocruz, Inst. Lauro de Souza Lima.*
- 3:00 G2 **204.19** ▲ The role of oligodendrocyte precursor cells after cerebral ischemia. N. KISHIDA*; T. MAKI; K. YASUDA; H. KINOSHITA; K. YOSHIDA; H. KATAOKA; Y. TAKAGI; S. MIYAMOTO; R. TAKAHASHI. *Kyoto Univ. Grad. Sch. of Med., Kyoto Univ. Graduate Sch. of Med., Tokushima Univ. Grad. Sch. of Med.*

POSTER

205. Altered Energy Homeostasis in Alzheimer's Disease

Theme C: Neurodegenerative Disorders and Injury

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 G3 **205.01** *In vivo* deletion of Kir6.2 in a APP/PS1 mouse model abolishes hyperglycemic increase in interstitial fluid amyloid-beta but does not affect brain plaque burden. M. PAIT*; W. R. MORITZ; C. M. CARROLL; M. STANLEY; K. WINKEY; C. HOLLINGSWORTH; M. S. REMEDI; C. M. YUEDE; C. NICHOLS; D. M. HOLTZMAN; S. L. MACAULEY. *Wake Forest Univ., Washington Univ. Sch. of Med., Wake Forest Sch. of Med., Washington Univ. In St. Louis, Wake Forest Sch. of Med., Washington Univ. In St. Louis, Washington Univ., Washington Univ., Wake Forest Sch. of Med.*
- 2:00 G4 **205.02** Involvement of hippocampal insulin signaling in deterioration mechanisms of Alzheimer's disease with type 2 diabetes. D. TANOKASHIRA*; Y. FUKUI; M. KASHIWADA; K. TAKEI; M. MARUYAMA; S. SATO; T. SAITO; T. C. SAIDO; A. TAGUCHI. *Natl. Ctr. For Geriatrics and Gerontology, RIKEN Brain Sci. Inst.*
- 3:00 G5 **205.03** Energy metabolic regulation in Alzheimer's disease; Applied natural-derived protein. J. PARK; M. JO; R. ULLAH; M. JO; M. KIM; B. P. F. RUTTEN; M. KIM*. *Gyeongsang Natl. Univ., Maastricht Univ.*
- 4:00 G6 **205.04** Basal forebrain afferent activation in response to homeostatically relevant stimuli. B. L. SOMERA*. *USC Sch. of Med.*
- 1:00 G7 **205.05** Mitochondrial and metabolic dysfunction in iPSC-derived neural precursor cells of Alzheimer's disease-associated presenilin 1 mutation. P. MARTIN-MAESTRO*; H. MARTINEZ; A. SPROUL; S. NOGGLE; A. STARKOV. *Weill Cornell Med., New York Stem Cell Fndn., Columbia Univ.*
- 2:00 G8 **205.06** Isoform-specific dysregulation of AMP-activated protein kinase signaling in a non-human primate model of Alzheimer's disease. X. WANG*; C. SHIVELY; T. MA. *Wake Forest Univ. Sch. of Med., Wake Forest Univ. Sch. of Med., Wake Forest Univ. Sch. of Med.*
- 3:00 G9 **205.07** Reduced hyperemia with both K⁺-induced and ischemic spreading depression with age in CVN-AD Alzheimer's mice. D. A. TURNER*; C. COLTON; S. DEGAN; U. HOFFMANN; F. GALEFFI. *Duke Univ. Med. Ctr., Duke Univ. Med. Ctr.*
- 4:00 G10 **205.08** Investigating the effect of apolipoprotein ε4 on neurovascular function using two-photon microscopy. O. BONNAR*; K. SHAW; D. M. GRIJSELS; L. BELL; C. N. HALL. *Univ. of Sussex.*
- 1:00 G11 **205.09** Loss of mitofusin 2 promotes mitophagy in neurons. H. CHEN*; H. DU; L. GUO; F. XUE. *Univ. of Texas at Dallas, Univ. of Texas at Dallas, Univ. of Texas Dallas, The Univ. of Texas at Dallas.*
- 2:00 G12 **205.10** Microvascular degeneration participates in the Alzheimer's disease pathology in aged triple transgenic mouse model of Alzheimer's disease. D. D. QUINTANA*; Y. ANANTULA; J. A. GARCIA; S. E. LEWIS; J. Z. CAVENDISH; S. SARKAR; C. M. BROWN; J. W. SIMPKINS. *West Virginia Univ.*
- 3:00 H1 **205.11** Effects of APOE genotype and obesity on metabolic and inflammatory outcomes in male mice. C. H. SAMPLE*; V. A. MOSER; C. J. PIKE. *USC, USC, USC.*
- 4:00 H2 **205.12** ▲ Effect of the consumption of hypercaloric diets on the integrity of the blood-brain barrier in hippocampus of rats. N. GOMEZ-CRISOSTOMO*; C. F. AGUILAR-GAMMAS; E. MARTINEZ-ABUNDIS; E. N. DE LA CRUZ-HERNÁNDEZ. *Univ. Juárez Autónoma de Tabasco (DIVISION A, Univ. Juárez Autónoma de Tabasco., Univ. Juárez Autónoma de Tabasco.*
- 1:00 H3 **205.13** Perimenopausal aging brain is characterized by a bioenergetic-inflammatory transition state that indicates Alzheimer's vulnerability. Y. SHANG*; J. BERGHOUT; Y. LUSSIER; F. YIN; R. D. BRINTON. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*
- 2:00 H4 **205.14** Impact of APOE genotype on the sex differences in bioenergetics and Alzheimer's risks in aging mouse brain. F. YIN*; M. DESAI; Y. SHANG; Y. WANG; Z. MAO; A. MISHRA; R. D. BRINTON. *Univ. of Arizona, Univ. of Arizona, USC, Univ. of Arizona, Univ. of Arizona.*
- 3:00 H5 **205.15** Chronic exposure to the therapeutic progestin nesterone promotes neurogenesis: Implications for sustaining regeneration in female brain. S. CHEN*; N. KUMAR; Z. MAO; T. WANG; R. SITRUK-WARE; R. D. BRINTON. *Univ. of Arizona, Population Council, Univ. of Arizona.*
- 4:00 H6 **205.16** Allopregnanolone rescues mitochondrial dysfunction in ovariectomized triple-transgenic Alzheimer's mouse brain and familial Alzheimer's neural stem cells. T. WANG*; J. YAO; C. M. SOLINSKY; S. CHEN; R. D. BRINTON. *Univ. of Arizona, Univ. of Southern California, USC, Univ. of Arizona, Univ. of Arizona.*
- 1:00 H7 **205.17** Sex differences in metabolic and inflammatory aging in humanized APOE-ε4 knock-in rat brain. A. MISHRA*; F. YIN; Z. MAO; Y. SHANG; L. DO; T. P. TROUARD; R. D. BRINTON. *USC, Univ. of Arizona, Univ. of Arizona.*

- 2:00 H8 **205.18** Allopregnanolone restores cognitive function in APOE4+ females and males and promotes metabolism of fuels required for ATP generation. M. K. DESAI*; R. W. IRWIN; M. PRAJAPATI; K. PATHAK; P. PIRROTTE; R. D. BRINTON. *USC, USC, Translational Genomics Res. Inst., Univ. of Arizona.*
- 3:00 H9 **205.19** Hormone loss and intervention initiated at different endocrine status differentially regulate brain bioenergetic function: Implications for Alzheimer's disease. Z. MAO*; F. YIN; Y. SHANG; R. BRINTON. *Univ. of Arizona, Univ. of Arizona.*
- 4:00 H10 **205.20** Combining mitochondrial haplogroup, APOE genotype, and sex as a predictive responder identifier to regenerative therapeutic allopregnanolone for Alzheimer's disease. Y. WANG*; C. SOLINSKY; G. HERNANDEZ; L. SCHNEIDER; R. D. BRINTON. *USC, Univ. of Arizona, Univ. of Arizona.*
- 1:00 H11 **205.21** Allopregnanolone as a regenerative therapeutic for Alzheimer's disease: Phase 1 clinical trial outcomes. G. D. HERNANDEZ*; C. M. LOPEZ; C. M. SOLINSKY; N. KONO; R. W. IRWIN; K. E. RODGERS; B. AYDOGAN; Y. SHI; M. LAW; W. MACK; L. SCHNEIDER; R. D. BRINTON. *Univ. of Arizona, USC, USC, USC, Univ. of Arizona, USC, USC.*
- 2:00 H12 **205.22** Effect of sex and ApoE genotype on regional brain volumes and white matter integrity in mice using high resolution MR imaging. R. D. BRINTON*; L. DO; A. S. BERNSTEIN; A. MISHRA; F. YIN; M. K. DESAI; T. P. TROUARD. *Univ. of Arizona, Univ. of Arizona, NIH, USC.*
- 3:00 H13 **205.23** Soluble β -amyloid₄₂ stimulates gender specific hippocampal lactate release in C57BL/6 mice. K. N. HASCUP*; N. ESPERANT-HILAIRE; E. R. HASCUP. *Southern Illinois Univ. Sch. of Med.*
- 1:00 H18 **206.05** Progranulin deficiency causes early lipofuscinosis and structural abnormalities in the periphery of knockout mice. A. WALKER*; S. RAYAPROLU; J. GASS; J. HOWARD; C. DUFFY; L. PETRUCELLI; J. LEWIS. *Univ. of Florida, UF Col. of Med., Mayo Clin., Univ. of Florida.*
- 2:00 I1 **206.06** Characterization of epigenetic histone marks in the hippocampus of a mouse model of amyotrophic lateral sclerosis and frontotemporal dementia. M. V. GUERRA*; A. HERRERA-SOTO; I. DIAZ; N. JURY; B. VAN ZUNDELT; L. VARELA-NALLAR. *Ctr. Inv. Biomedicas, Univ. Andres Bello, Ctr. Envejecimiento y Regeneracion (CARE), P. Univ. Catolica de Chile.*
- 3:00 I2 **206.07** • Gene expression profile and comparative pathway analysis in FTLT-DTP and FTLT-tau pathological cases. E. SUH; S. PROKOP; K. R. MILLER; E. B. LEE; J. Q. TROJANOWSKI; V. M. VAN DEERLIN*. *Univ. Pennsylvania, Nanostrig Technologies.*
- 4:00 I3 **206.08** TDP-43 and tau oligomer interactions in ad pathology. S. A. MCALLEN*; A. ELLSWORTH; N. BHATT; M. MONTALBANO; U. SENGUPTA; R. KAYED. *Univ. of Texas Med. Br.*
- 1:00 I4 **206.09** Aberrant interaction between FUS and SFPQ in the nucleus of neurons in sporadic FTLT/ALS and PSP brains. Y. FUJIOKA*; S. ISHIGAKI; Y. RIKU; M. ISHIBASHI; S. YOKOI; K. ENDO; N. IWANE; K. KAWAI; H. WATANABE; M. KATSUNO; M. YOSHIDA; G. SOBUE. *Nagoya Univ., Aichi Med. Univ., Nagoya Univ.*
- 2:00 I5 **206.10** Silencing of FUS in the caudate nucleus of non-human primates induces disruption of its fiber bundles. K. ENDO*; S. ISHIGAKI; N. HATANAKA; J. HATA; H. WATANABE; M. KATSUNO; A. NAMBU; H. OKANO; G. SOBUE. *Nagoya Univ. Grad. Sch. of Med., Natl. Inst. Physiol. Sci., RIKEN Ctr. for Brain Sci., Keio Univ. Sch. of Med., Nagoya Univ. Grad. Sch. of Med.*
- 3:00 I6 **206.11** Whole exome sequencing (WES) of DNA from a patient with disinhibition, stereotypy and frontolobar degeneration reveals a rare but deleterious SNP in MAPT gene associated with frontotemporal dementia (FTD). M. XI; R. ZHANG; H. WANG; Y. CAI; A. BASKYS*. *Xijing Hospital, Air Force Med. Univ., Xuanwu Hosp., Western Univ. of Hlth. Sciences, GCBS.*
- 4:00 I7 **206.12** Tau pathology, type 2 diabetes, and serum/glucocorticoid regulated kinase 1 (SGK1) in tauopathy mice. M. ELAHI*; Y. MOTOL; N. HATTORI. *Juntendo Univ., Juntendo Univ. Sch. Med., Juntendo Univ. Sch. Med.*
- 1:00 I8 **206.13** Cognitive and biochemical abnormalities in diabetic mice are age and sex dependent. D. CEPEDA; V. ESCOBAR; D. GONZALEZ; L. BUITRAGO; J. LI; F. BARONE; A. M. BRICKMAN; J. A. LUCHSINGER; H. W. MORENO*. *SUNY Downstate, Univ. Icesi, Univ. del Valle, SUNY Downstate, Columbia Univ., Columbia Univ., SUNY Downstate.*
- 2:00 I9 **206.14** Role of tau on synaptic and cognitive deficits in type 1 and type 2 diabetes mellitus. L. TRUJILLO-ESTRADA*; C. NGUYEN; R. KUANG; C. DA CUNHA; S. FORNER; A. C. MARTINI; R. AGER; A. PRIETO; C. W. COTMAN; D. BAGLIETTO-VARGAS; F. LAFERLA. *Univ. of California Irvine, Inst. for Memory Impairments and Neurolog. Disorders.*

POSTER

206. Alzheimer's Disease and Other Dementias: Frontotemporal Lobar Degeneration: Vascular Disease

Theme C: Neurodegenerative Disorders and Injury

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 H14 **206.01** Specificity of nuclear pore complex abnormalities in C9orf72 ALS/FTD and Tau AD/FTD. A. COYNE; J. G. DAIGLE; B. EFTEKHARZADEH; L. R. HAYES*; J. CHEW; J. C. GLATZER; J. D. ROTHSTEIN. *Johns Hopkins Univ. Sch. of Med., Abbvie Foundational Neurosci. Ctr., Massachusetts Gen. Hospital/ Harvard Med. Sc, Johns Hopkins Univ., Johns Hopkins Med., Johns Hopkins Univ.*
- 2:00 H15 **206.02** Modeling of lysosome dysfunction due to progranulin deficiency. F. PONTARELLI*; J. JOYCE; A. W. DUNAH. *Biogen.*
- 3:00 H16 **206.03** Progranulin-mediated deficiency of cathepsin D results in FTD and NCL-like phenotypes in neurons derived from FTD patients. C. B. VALDEZ*; Y. WONG; M. SCHWAKE; G. BU; Z. WSZOLEK; D. KRAINIC. *Northwestern Univ., Mayo Clinic, Neurosci. Res., Mayo Clin.*
- 4:00 H17 **206.04** The role of neuronal and microglial progranulin deficiency in FTD- and NCL-like pathology. A. E. ARRANT*; M. Q. HOFFMANN; A. R. PATEL; E. D. ROBERSON. *Univ. of Alabama At Birmingham, Univ. of Alabama At Birmingham.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 3:00 I10 **206.15** Brain insulin sensitivity and peripheral metabolic changes in tau transgenic mice. E. FAIVRE*; A. LÉBOUCHER; T. AHMED; E. CARON; A. TAILLEUX; S. RAISON; A. JOLY-AMADO; E. MARCINIAK; K. CARVALHO; M. HAMDANE; K. BANTUBUNGI; S. LANCEL; S. EDDARKAOU; R. CAILLIEREZ; E. VALLEZ; B. STAELS; D. VIEAU; D. BALSCHUN; L. BUÉE; D. BLUM. *Inserm UMR_S1172, Lab. of Biol. Psychology, Fac. of Psychology & Educational Sci., Inserm U1011- EGID, Inst. des Neurosciences Cellulaires et Intégratives, CNRS UPR-3212, Byrd Alzheimer's Institute, Dept. of Mol. Pharmacol. and Physiology, Univ. of South Florida.*
- 4:00 I11 **206.16** Fatty acid damages astrocytes and induced diabetes encephalopathy. X. WANG*; F. MA. *Inst. Materia Med.*
- 1:00 I12 **206.17** ▲ Secreted amyloid precursor protein alpha as a therapeutic for diabetic encephalopathy. Y. HUANG*; B. D. AULSTON; G. L. ODERO; G. W. GLAZNER. *Univ. of Manitoba, Albrechtsen Res. Ctr.*
- 2:00 I13 **206.18** Extensive white matter changes and brainstem calcification in an autopsy case of bilateral striopallidodentate calcinosis (Fahr's syndrome). T. IWASE*; M. YOSHIDA; I. YAZAWA. *Nagoya City Koseiin Med. Welfare Ctr., Aichi Med. Univ., Natl. Ctr. for Geriatrics and Gerontology.*
- 3:00 I14 **206.19** The effects of aquaporin-4 mislocalization on tau accumulation. M. SMITH*; J. J. ILIFF. *Oregon Hlth. and Sci. Univ.*
- 4:00 I15 **206.20** ● The importance of the glymphatic system in the migration of therapeutic monoclonal antibodies. P. C. CHRISTENSEN*; M. NEDERGAARD; J. T. PEDERSEN. *H. Lundbeck A/S, H. Lundbeck A/S, Univ. of Copenhagen.*
- 1:00 DP05/I16 **206.21** ● (Dynamic Poster) Pharmacological blockade of aquaporin-4 inhibits glymphatic flow and clearance of tau from the mouse brain. I. F. HARRISON*; O. ISMAIL; Y. OHENE; P. NAHAVANDI; J. A. WELLS; M. F. LYTHGOE. *Univ. Col. London.*
- 2:00 I17 **206.22** Neurodegeneration in dolphins and whales: New comparative natural models? S. SACCHINI*; A. ESPINOSA DE LOS MONTEROS; J. DÍAZ-DELGADO; Y. PAZ; Y. BERNALDO DE QUIRÓS; A. FERNÁNDEZ. *Univ. of Las Palmas de Gran Canaria, Univ. of São Paulo.*
- 3:00 J1 **206.23** Critical validation of reagents in CHCHD10 and CHCHD2 research. C. L. TROTTER*; T. LIU; X. ZHAO; C. FANG; J. WOO; D. KANG. *Univ. of South Florida, Byrd Alzheimers Inst., Byrd Alzheimers Inst.*
- 4:00 J2 **206.24** Identifying novel fluid and imaging biomarkers for small-vessel disease-mediated vascular cognitive impairment and dementia (VCID). T. L. SUDDUTH*; O. M. AL-JANABI; A. A. BAHRANI; C. D. SMITH; Q. CHENG; B. T. GOLD; G. A. JICHA; D. M. WILCOCK. *Univ. of Kentucky, Univ. of Kentucky.*
- 1:00 J3 **206.25** ● Evaluation of an innovative inhibitor of tau toxicity and aggregation in pre-clinical models of fronto-temporal dementia. L. FIORITI*; A. LEVINE; L. COLNAGHI. *Plico Biotech Inc.*
- 2:00 J4 **206.26** Determining whether splicing repression is a major function of TDP-43 in forebrain neurons. X. WEN*; B. PANG; A. N. DONDE; J. P. LING; P. REDDY; H. WU; P. C. WONG. *Johns Hopkins Univ. Sch. of Med.*
- 3:00 J5 **206.27** Characterization of the effects of adenosine augmentation compound (J4) on AD mouse models of amyloidogenesis (APP/PS1) and tauopathy (THY-Tau22). C. CHANG*; C. LEE; Y. CHANG; S. CHENG; H. CHEN; L. BUEE; D. BLUM; J. FANG; Y. CHERN. *Academia Sinica, Neurosci. Program In Academia Sinica, NPAS, Inserm UMR_S1172, Natl. Taiwan Univ.*
- 4:00 J6 **206.28** Adenosine A_{2A} receptor dysregulation in Alzheimer's disease: impact of astrocytic A_{2A}R upsurge in a mouse model of tauopathy. V. GOMEZ MURCIA*; E. FAIVRE; K. CARVALHO; J. COELHO; L. CELLAI; C. MERIAUX; M. DUMOULIN; D. TAILLEU; D. VIEAU; M. HAMDANE; L. BUÉE; L. V. LOPES; D. BLUM. *UMR-S1172, Inserm, Lille, France, Inst. de Medicina Molecular, Faculdade de Medicina de Lisboa, Univ. de Lisboa.*
- 1:00 J7 **206.29** Adenosine A_{2A} receptor dysregulation in Alzheimer's disease: Impact of neuronal A_{2A} receptor upsurge in a mouse model of tauopathy. K. CARVALHO*; E. FAIVRE; V. GOMEZ-MURCIA; J. E. COELHO; L. CELLAI; C. MERIAUX; A. DELEAU; S. EDDARKAOU; S. LE GRAS; M. DUMOULIN; S. BÉGAR; D. TAILLIEU; D. VIEAU; M. HAMDANE; L. BUEE; A. BOUTILLIER; L. V. LOPES; D. BLUM. *Inserm Umr_s1172, Inst. De Medicina Mol., Plateforme GenomEast I.G.B.M.C., Plateforme de ressources expérimentales, EOPS, UMR 7364 Unistra Cnrs.*
- 2:00 J8 **206.30** Characterization of two new humanized tau knock-in models. D. BLUM*; S. EDDARKAOU; T. BOSCHETTI; L. DURIEUX; H. BENDERRADJI; C. MACHALA; E. FAIVRE; K. CARVALHO; A. BOGDANOVA; S. BEGAR; L. MORANT; S. HALLIEZ; M. CAILLET-BOUDIN; N. SERGEANT; L. BUEE; V. BUEE-SCHERRER. *Inserm UMR_S1172.*

POSTER

207. Parkinson's Disease: Cellular Mechanisms

Theme C: Neurodegenerative Disorders and Injury

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 J9 **207.01** Properties of oscillatory neuronal activity in the basal ganglia and thalamus in patients with Parkinson's disease. P. ZHUANG*; M. HALLETT; G. DU; Y. ZHANG; Y. LI. *Xuanwu Hosp, Capital Med. Uni, Natl. Inst. of Neurolog. Disorders and Stroke.*
- 2:00 J10 **207.02** NMDA receptors in the substantia nigra pars reticulata. G. SITZIA*; K. CHERGUI. *Karolinska Institutet, Karolinska Institutet.*
- 3:00 J11 **207.03** GluN2D-containing NMDA receptors are involved in the pathophysiology of levodopa-induced dyskinesias. M. MELLONE*; E. ZIANNI; J. STANIC; A. LONGHI; M. THIOLAT; Q. LI; E. BEZARD; M. DI LUCA; F. GARDONI. *Univ. Degli Studi Di Milano, Univ. De Bordeaux, CNRS, Motac Neurosci. Ltd, China Acad. of Med. Sci.*
- 4:00 J12 **207.04** Detection and quantification of alpha-synuclein aggregates in models of synucleinopathies and human pathological tissue by aggregate-specific antibodies. C. BETZER*; S. ELFARRASH; L. LASSEN; E. GREGERSEN; R. KOFOED; Y. FU; G. HALLIDAY; P. JENSEN. *Aarhus Univ., Univ. of Sydney.*

- 1:00 J13 **207.05** Tweak promotes NLRP3 inflammasome activation via PKC delta and mitochondria dependent oxidative stress mechanisms in astrocytes. A. KANTHASAMY*; C. GOMEZ-ESTRADA; V. LAWANA; H. JIN; V. ANANTHARAM; A. G. KANTHASAMY. *Iowa State Univ., Iowa State Univ.*
- 2:00 J14 **207.06** The role of ISP1 in PAR-dependent cell death (parthanatos) and regulation. S. CHOU*; T. KAM; H. PARK; Y. WANG; T. M. DAWSON; V. L. DAWSON. *Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ., UT Southwestern Med. Ctr., Johns Hopkins Univ. Inst. for Cell Engin., Johns Hopkins Univ. Sch. Med.*
- 3:00 K1 **207.07** Quantitative study of electrical activities in subthalamic nucleus neuron: Role of MDMA as a modulator in Parkinson's disease. C. MAHAPATRA*; R. M. MANCHANDA. *IIT Bombay, IIT Bombay.*
- 4:00 K2 **207.08** Rotenone triggers senescence in human astrocytes. K. SIMMNACHER*; P. KLEIN; B. WINNER. *Friedrich-Alexander Univ. Erlangen-Nuernberg.*
- 1:00 K3 **207.09** Neurotoxin MPTP-induced Parkinson's disease: Mast cells, inflammatory mediators and neuroinflammation. K. DURAISAMY*; G. P. SELVAKUMAR; R. THANGAVEL; M. E. AHMED; S. A. ZAHEER; S. P. RAIKWAR; I. DUBOVA; G. GILER; S. HERR; K. KUKULKA; H. ZAHOR; D. SAEED; S. S. IYER; A. ZAHEER. *Univ. of Missouri Sch. of Med., Harry S. Truman Mem. Veterans Hosp.*
- 2:00 K4 **207.10** • Oxidative stress-mediated dysregulation of PP2A. H. PARK; M. GRUDNIEWSKA; I. JUNG; R. YAN; J. ZHANG; S. ZHANG; K. HUBER; J. STOCK; M. M. MOURADIAN*. *Rutgers-Robert Wood Johnson Med. Sch., Princeton Univ., Signum Biosci.*
- 3:00 K5 **207.11** Identification of Parkinson's disease-associated STUB1 as a novel target for covalent ISG15 conjugation and modulation of its ubiquitin E3 ligase activity during type 1 interferon-mediated inflammatory signaling. L. YOO; Y. H. LEE; H. RHIM*; K. C. CHUNG. *Yonsei Univ., Korea Inst. Sci. Tech. (KIST).*
- 4:00 K6 **207.12** Microglial activation-dependent increase in protein kinase C- δ and pro-inflammatory cytokines reduces the length and number of fibers in the primary mesencephalic neurons. S. MISHRA*; C. RAJPUT; A. K. MISHRA; M. P. SINGH. *CSIR-IITR.*
- 1:00 K7 **207.13** The PARK10 gene USP24 negatively regulates autophagy through the ULK1 and type III PI3-kinase pathway. J. A. THAYER*; O. AWAD; N. U. HEGDEKAR; C. SARKAR; C. BURT; H. TEFAY; R. FELDMAN; M. M. LIPINSKI. *Univ. of MD Baltimore, Univ. of Maryland, Univ. of Maryland Baltimore, Univ. of Maryland Sch. of Med., Univ. of Maryland Baltimore, Univ. of Maryland Sch. of Med.*
- 2:00 K8 **207.14** Tau neuropathology and dopaminergic neurodegeneration in a D620N VPS35 knockin mouse model of Parkinson's disease. X. CHEN*; J. KORDICH; E. T. WILLIAMS; N. LEVINE; A. COLE-STRAUSS; J. LIPTON; D. J. MOORE. *Van Andel Res. Inst., Col. of Human Medicine, Michigan State Univ.*
- 3:00 K9 **207.15** Investigation of the role of RAB39B in the pathogenesis of Parkinson's disease. C. CHIU*; T. YEH; H. WANG. *Chang Gung Mem. Hosp., Dept. of Neurology, Taipei Med. Univ. Hosp., Dept. of Physiology, Chang Gung Univ. Sch. of Med.*
- 1:00 DP06/K10 **207.16** • (Dynamic Poster) Converging pathways in genetic and sporadic Parkinson's disease: Using unbiased network analysis to connect the dots. A. D. LEE*; J. C. HALL; J. W. RYAN; B. BEHROUZ. *Neuroinitiative.*
- 1:00 K11 **207.17** Molecular control of autophagy by glia maturation factor in rat dopaminergic N27 neurons: A role for endoplasmic reticulum stress and MAPK activation. S. GOVINDHASAMY PUSHPAVATHI*; M. AHMED; K. DURAISAMY; S. S. IYER; T. RAMASAMY; S. RAIKWAR; S. A. ZAHEER; A. ZAHEER. *Univ. of Missouri Columbia, Harry S. Truman Mem. Veterans Hosp.*
- 2:00 K12 **207.18** Gas1 induces neurodegeneration via apoptosis by the formation of nitric oxide and activation of JNK/c-Jun in a model of Parkinson's disease. E. BAUTISTA*; R. CASTANEDA-ARELLANO; P. VERGARA; R. O. GONZALEZ; J. V. SEGOVIA-VILA. *CINVESTAV, UPAEP, Univ. Autónoma Metropolitana-Iztapalapa.*
- 3:00 K13 **207.19** Parkin modulates brain lipid metabolism through lipoprotein lipase - Implications for Parkinson's disease. W. TANG*; J. THUNDYIL; S. Q. Z. YEOW; A. NAIR; G. G. Y. LIM; C. CHAI; T. YAO; K. LIM. *Natl. Neurosci. Inst., Natl. Univ. of Singapore, Duke Univ.*
- 4:00 K14 **207.20** Through the nose: Acne bacteria and Parkinson's disease. C. A. BIEGEL*; S. F. GOTTLIEB; V. CIMINO; K. KULASON; K. CHU; D. ORSHAN; P. PRABHU; G. H. OTAZU; J. R. LEHESTE. *NYIT Col. of Osteo. Med.*
- 1:00 K15 **207.21** Pathological features of midbrain organoids of GBA-mutated patients. E. FRATTINI*; F. CRIBIÙ; G. MONZIO COMPAGNONI; A. PITTARO; G. ERCOLI; R. TACCHI; M. AURELLI; M. SAMARANI; S. SALANI; A. BORDONI; A. BELLUCCI; G. FAUSTINI; S. DUGA; L. STRANIERO; M. TOSI; R. SILIPIGNI; L. LAZZARI; M. BARILANI; S. CORTI; N. BRESOLIN; A. DI FONZO. *Univ. Degli Studi Di Milano, IRCCS Fndn. Ca' Granda Ospedale Maggiore Policlinico, Dino Ferrari Center, Dept. of Pathophysiology and Transplantation, Univ. of Milan, Milan, Italy, IRCCS Fndn. Ca' Granda Ospedale Maggiore Policlinico, Div. of Pathology, Dept. of Pathophysiology and Transplantation, Univ. of Milan, Milan, Italy, Dept. of Med. Biotech. and Translational Medicine, Univ. degli Studi di Milano, LITA Segrate, Milano, Italy, Dept. of Mol. and Translational Medicine, Univ. of Brescia, Brescia, Italy, Dept. of Biomed. Sciences, Humanitas University, Milan, Italy, IRCCS Fndn. Ca' Granda Ospedale Maggiore Policlinico, Lab. di Genetica Medica, Milan, Italy, Unit of Regenerative Med. - Cell Factory, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy, EPIGET LAB, Dept. of Clin. Sci. and Community Health, Univ. degli Studi di Milano, Milan, Italy; Unit of Regenerative Med. - Cell Factory, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy.*
- 2:00 K16 **207.22** ATF4 regulates neuronal death in cellular models of Parkinson's disease. M. D. DEMMINGS*; S. P. CREGAN. *Univ. of Western Ontario/ Robarts Res. In.*
- 3:00 K17 **207.23** Nlrp3 is required for microglial activation in MPTP treated mice. E. M. MARTINEZ*; A. L. YOUNG; K. VON HERRMANN; M. C. HAVRDA. *Dartmouth Med. Sch.*
- 4:00 K18 **207.24** Niacin attenuates inflammatory cytokine upregulation mediated through gpr109a. B. GIRI; E. BRADLEY; B. BABAN; J. MORGAN; R. CHONG; C. WAKADE*. *Augusta Univ., Edward Via Col. of Osteo. Med., Augusta Univ., Augusta Univ., Col. of Allied Hlth. Sciences, Augusta Univ., Augusta Univ.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

1:00 L1 **207.25** Defining the role of dj-1 in pathogenesis using cell-specific gene expression quantification and electrophysiology. S. BOAS*; A. BOHANNON; J. J. HABLITZ; M. S. GOLDBERG; R. M. COWELL. *Univ. of Alabama Birmingham, Southern Res., Salk Institute, Univ. of Alabama At Birmingham, Univ. Alabama At Birmingham, Univ. of Alabama at Birmingham.*

POSTER

208. Therapeutic Developments in ALS

Theme C: Neurodegenerative Disorders and Injury

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

1:00 L2 **208.01** miR126-5p down-regulation facilitates axon degeneration and NMJ disruption via a non-cell-autonomous mechanism in ALS. R. MAIMON*; E. PERLSON. *Tel Aviv Univ.*

2:00 L3 **208.02** Liposome-mediated uptake of H-ferritin improves outcomes in the SOD1^{G93A} mouse model of amyotrophic lateral sclerosis. A. M. SNYDER*; A. B. MADHANKUMAR; E. B. NEELY; O. D. MROWCZYNSKI; E. RIZK; O. M. HESS; Z. SIMMONS; J. R. CONNOR. *Penn State Univ. Coll Med., Univ. of Pennsylvania, Penn State Univ. Coll Med.*

3:00 L4 **208.03** Preclinical study on the therapeutic potential of a novel EhpA4 blocking peptide for the treatment of ALS. S. SMOLDERS; L. RUÉ; M. M. GOMEZ-SOLER; E. B. PASQUALE; P. VAN DAMME*; R. LEMMENS; W. ROBBERECHT. *KULeuven, VIB, Ctr. for Brain and Dis. Res., Sanford Burnham Prebys Med. Discovery Inst., Neurol. Department, UZ Leuven.*

4:00 L5 **208.04** Target therapy for ALS with RNA aptamers -rescue of ALS phenotype resulting from loss of motor neurons with TDP-43 pathology in ALS model mice. M. AKAMATSU*; T. YAMASHITA; S. TERAMOTO; Z. HUANG; L. NIU; S. KWAK. *The Univ. of Tokyo, Univ. at Albany, State Univ. of New York.*

1:00 L6 **208.05** ● A combination of acamprosate and baclofen (PXT864) as a potential new therapy for amyotrophic lateral sclerosis. L. BOUSSICAULT*; J. LAFFAIRE; P. RINAUDO; S. NABIROTCHKIN; N. CHOLET; R. HAJJ; D. COHEN. *Pharnext.*

2:00 L7 **208.06** Potential of bi-directional brain machine interface using neural recording and optogenetic neuromodulation. F. YOSHIDA*; M. HIRATA. *Kyushu Univ., JST PRESTO, Osaka Univ. Clin. Neuroeng.*

3:00 L8 **208.07** MRI/PET traceable microglia-targeted nanovectors: A theranostic platform for tracking and modulating neuroinflammation in amyotrophic lateral sclerosis. M. PEVIANI*; R. AURIEMMA; U. CAPASSO PALMIERO; M. SPONCHIONI; J. MOLINA ESTEVEZ; T. MATHEWS; S. GATTI; L. POLITI; D. MOSCATELLI; A. BIFFI. *Dana-Farber/Boston Children's Hosp., Harvard Med. Sch., San Raffaele Scientific Inst., Politecnico di Milano, Inst. for Chem. and Bioengineering, ETH Zürich, Boston Children's Hospital/Dana Farber Cancer Inst.*

4:00 L9 **208.08** ● High-throughput screens in yeast for modifiers of TDP-43, FUS and C9orf72 toxicity identify diverse chemical lead series. D. G. BROWN*; C. BARDELLE; D. MURRAY; L. LEACH; C. STACEY; I. FEIERBERG; K. MACK; A. FORD; E. BARBIERI; K. YEE; R. R. CUPO; A. JAVAHERIAN; M. AIKIO; N. CASTELLO; S. MOSS; A. D. GITLER; S. FINKBEINER; J. SHORTER; H. J. WOBST; N. J. BRANDON. *Astrazeneca, AstraZeneca, Perelman Sch. of Medicine, Univ. of Pennsylvania, Gladstone Inst., Tufts Univ. Sch. of Med., Stanford Univ. Sch. of Med., AstraZeneca.*

1:00 L10 **208.09** ● Pharmacodynamics of antisense oligonucleotides in the CNS of rodents and primates following central administration. P. JAFAR-NEJAD*; B. POWERS; A. SORIANO; J. MATSON; B. DEBROSSE-SERRA; P. NARAYANAN; C. MAZUR; E. E. SWAYZE; F. RIGO. *Ionis Pharmaceuticals.*

2:00 L11 **208.10** ● A potent treatment effect after spinal subpial adeno-associated virus (AAV9) shRNA-SOD1 delivery in adults ALS SOD1^{G37R} mice. M. BRAVO HERNANDEZ*; T. TAKADORO; O. PLATOSHYN; S. MARSALA; S. DA CRUZ; B. K. KASPAR; D. W. CLEVELAND; M. MARSALA. *Univ. of California San Diego, Univ. of California San Diego, Res. Inst. at Nationwide Childrens Hosp., Avexis, Univ. of California San Diego.*

3:00 L12 **208.11** Human mesenchymal stem cell therapy delays progression of the disease and increases motoneuron survival in SOD1^{G93A} transgenic mice. G. CHIAROTTO*; M. V. DE CASTRO; A. S. S. DUARTE; A. C. M. LUZO; A. L. R. OLIVEIRA. *Univ. of Campinas, Univ. Ctr. Hermínio Ometto -FHO.*

4:00 L13 **208.12** ● Drug-like small molecules targeting catalytic multi-protein complexes that correct mislocalization of TDP-43 in ALS-FTD. S. SELVARAJAH*; S. SAHU; A. MOREIRA; N. DEYARMAN; D. GOLDSMITH; C. MAIOS; S. V. TROSSBACH; V. BADER; K. PAULVANNAN; V. ASUNDI; D. DEY; D. SOLAS; A. PARKER; C. KORTH; V. LINGAPPA. *Prosetta Biosci., Univ. of Montreal, Heinrich Heine Univ. Dusseldorf.*

1:00 L14 **208.13** Activation of the MEK/ERK pathway by TDP-43 induces the innate immune responses and contributes to ALS pathogenesis. X. DENG*; Z. WANG; X. SUN; S. QIU; Y. DUAN; G. DUAN; A. DU; Y. FANG. *Shanghai Inst. of Organic Chemistry, CAS, Univ. of Chinese Acad. of Sci.*

2:00 L15 **208.14** ● Development of novel small molecule autophagy inducers for treatment of ALS. A. JAVAHERIAN*; N. CASTELLO; M. CHAN; A. BARAL; S. FINKBEINER. *Gladstone Inst.*

3:00 L16 **208.15** ● A novel therapeutic approach to treat the neuromuscular weakness caused by Spinal Muscular Atrophy. K. S. OJALA*; Y. LI; M. LIANG; P. WIPF; S. MERINEY. *Univ. of Pittsburgh.*

4:00 L17 **208.16** ● Intrathecal AAV9-SOD1-shRNA administration for amyotrophic lateral sclerosis. G. M. THOMSEN*; S. B. LIKHTE; S. CORCORAN; A. KASPAR; K. FOUST; L. BRAUN; K. C. MEYER; B. K. KASPAR. *Avexis, Inc, Ctr. for Gene Therapy, Res. Inst. at Nationwide Children's Hosp.*

1:00 L18 **208.17** Novel small molecules promote axon outgrowth over CSPGs. M. R. BLAKE*; R. GARDNER; H. JIN; M. S. COHEN; B. A. HABECKER. *Oregon Hlth. and Sci. Univ., Oregon Hlth. and Sci. Univ., Oregon Hlth. and Sci. Univ., OHSU.*

- 2:00 M1 **208.18** ● Evaluating HDAC6 as therapeutic target for Amyotrophic Lateral Sclerosis by antisense-mediated inhibition in the adult mouse CNS. K. LING*; L. SUN; Y. LUO; M. ZHANG; A. MCCAMPBELL; F. RIGO. *Ionis Pharmaceuticals, Inc., Biogen*.
- 3:00 M2 **208.19** Retinoid activating nanoparticles increase lifespan and reduces neurodegeneration in the SOD1^{G93A} mouse model of ALS. D. X. MEDINA*; E. P. CHUNG; C. TEAGUE; R. SIRIANNI; R. P. BOWSER. *Barrow Neurolog. Inst.*
- 4:00 M3 **208.20** ● ALS drug discovery via high-throughput phenotypic screening using iPSC-derived human motor neurons. M. HENDRICKSON; J. KOUZNETSOVA; W. ZHENG; Z. DU*. *BrainXell, Inc., Natl. Ctr. for Advancing Translational Sciences, NIH*.
- 1:00 M4 **208.21** ● Apilimod rescues C9orf72 repeat expansion-induced phenotypes *in vivo*. K. A. STAATS*; C. SEAH; Y. WANG; M. CHATEAU; N. KOUTSODENDRIS; D. KIM; A. SAHIMI; P. CANNON; B. V. ZLOKOVIC; J. ICHIDA. *Stem Cell Biol. and Regenerative Medicine, Keck, USC, Keck Sch. of Med. at USC, USC, Keck Sch. of Med. of the Univ. of Southern California, USC*.
- 2:00 M5 **208.22** Graphene based biomarker platform for amyotrophic lateral sclerosis. A. SEKSENYAN*; B. KEISHAM; S. DENYER; P. KHEIRKHAH; G. D. ARNONE; P. AVALOS; A. D. BHIMANI; C. SVENDSEN; V. BERRY; A. I. MEHTA. *Rosalind Franklin Univ. of Med. and Scien, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Cedars-Sinai Med. Ctr.*
- 3:00 M6 **208.23** Mitochondria as axonal calpastatin-conveyors to prevent programmed neuromuscular synaptic elimination. X. WANG*. *Case Western Reserve Univ.*
- 4:00 M7 **208.24** Dendrimer conjugated GCPII inhibitor improves motor deficits in the SOD1^{G93A} mouse. C. TALLON*; A. SHARMA; Z. ZHANG; A. G. THOMAS; C. ROJAS; S. P. KAMBHAMPATI; R. SHARMA; K. LIAW; S. KANNAN; R. M. KANNAN; B. SLUSHER. *Johns Hopkins Univ. SOM, Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Sch. of Med., Johns Hopkins Univ., Johns Hopkins Univ.*
- 1:00 M8 **208.25** The molecular tweezer, CLR01, inhibits SOD1 aggregation *in vitro* and in the G93A-SOD1 mouse model of ALS. R. MALIK*; H. MENG; C. FONTANILLA; C. I. CORRALES; N. SEPANJ; S. R. ATLASI; F. KLÄRNER; T. SCHRADER; M. WIEDAU-PAZOS; G. BITAN. *UCLA, Univ. of Duisburg-Essen, UCLA, UCLA*.
- 2:00 M9 **208.26** ● Pharmacological inhibition of BACE1 enhances peripheral nerve regeneration in ALS disease model. K. L. MARSHALL*; C. TALLON; M. E. KENNEDY; M. H. FARAH. *Johns Hopkins Sch. of Med., Johns Hopkins Univ. SOM, Merck Res. Labs, Johns Hopkins Sch. of Med.*
- 3:00 M10 **208.27** *In vivo* pharmacological blockade of mGlu5 receptors by the negative allosteric modulator CTEP ameliorates the disease progression in the SOD1^{G93A} mouse model of amyotrophic lateral sclerosis. C. USAI*; M. MILANESE; T. BONIFACINO; C. TORAZZA; F. PROVENZANO; S. RAVERA; C. REBOSIO; M. BALBI; G. BONANNO. *Natl. Rese Council, Univ. of Genova, Univ. of Genova*.
- 4:00 M11 **208.28** More expansive gene transfer to the rat CNS: AAV PHP.EB vector dose-response and comparison to AAV PHP.B. R. D. DAYTON; M. S. GRAMES; R. L. KLEIN*. *LSUHSC*.
- 1:00 M12 **208.29** An *in vivo* screening platform for ALS targets using ALS rodent models. L. SUN*; G. TOMASSY; Y. LUO; M. ZHANG; J. AMACKER; Y. CHEN; S. SU; A. MCCAMPBELL. *Biogen, Biogen, Biogen*.
- 2:00 M13 **208.30** ● Neuromuscular synapse preservation with MuSK #13 agonist antibody does not lead to functional benefits in the SOD1^{G93A} mouse model of ALS. S. L. DOMINGUEZ*; A. SENGUPTA-GHOSH; Z. JIANG; T. EARR; J. IMPERIO; L. XIE; K. BARCK; J. EASTHAM-ANDERSON; H. CAI; G. AYALON; R. CARANO; A. EASTON. *Genentech, Genentech, Genentech*.

POSTER

209. Neurotoxicity, Inflammation, and Neuroprotection: Mechanisms of Neurodegeneration I

Theme C: Neurodegenerative Disorders and Injury

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 M14 **209.01** Early onset gait abnormalities and novel sites of CNS pathology in a mouse model of CLN1 disease. H. R. NELVAGAL; C. SHYNG; M. S. SANDS; J. D. COOPER*. *Washington Univ. Sch. of Med., Los Angeles Biomed. Res. Inst., King's Col. London, Washington Univ. Sch. of Med.*
- 2:00 M15 **209.02** Targeting autophagy in ALS by BiAgil - A specific TGFβRII LNA-ASO. S. KUESPERT*; R. HEYDN; S. PETERS; E. ZITZELSPERGER; T. BRUUN; L. J. AIGNER; U. BOGDHANN. *Univ. Hosp. Regensburg, Paracelsus Med. Univ.*
- 3:00 M16 **209.03** Connexin 32-deficient mice show increased susceptibility to induced autoimmune neuro-inflammation: An effect mediated by the intrinsic disinhibition of cortical neurons? M. CERINA*; P. HUNDEHEGE; J. VOGT; A. M. HERRMANN; S. EICHLER; S. AUFMKOLK; T. BUDDE; E. SPECKMANN; K. GÖBEL; N. MELZER; S. G. MEUTH. *Univ. of Muenster, Univ. of Wuerzburg, Univ. of Muenster*.
- 4:00 M17 **209.04** Regulation of muscleblind-like 2 reduction in neurodegeneration. L. WANG*; G. WANG. *Inst. of Biomed. Sciences, Academia Sinica, Taiwan Intl. Grad. Program in Interdisciplinary Neuroscience, Natl. Yang-Ming Univ. and Academia Sinica*.
- 1:00 M18 **209.05** ATM is activated by ATP depletion and modulates mitochondrial function through NRF1. H. CHOW*; A. CHENG; X. SONG; M. SWERDEL; R. P. HART; K. HERRUP. *Div. of Life Sci., The Hong Kong Univ. of Sci. and Technol., Inst. for Advanced Study, Rutgers Univ.*
- 2:00 N1 **209.06** Unraveling neuronal pathology driving Leigh syndrome. I. BOLEA*; A. GELLA; E. SANZ; P. PRADA; P. MACHUCA; F. K. KALUME; A. QUINTANA. *Inst. de Neurociències. UAB, Seattle Children's*.
- 3:00 N2 **209.07** Early neuronal pathogenesis and dysfunction by the activation of AMP-activated protein kinase - Mammalian target of rapamycin pathway. N. A. BELFORTE*; J. L. CUEVA VARGAS; A. DI POLO. *Univ. of Montreal Hosp. Res. Ctr.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 4:00 N3 **209.08** Chronic olanzapine administration attenuates memory alteration and neuronal abnormalities in prefrontal cortex and nucleus accumbens induced by animal model of schizophrenia in the rat. R. A. VAZQUEZ*, SR; D. J. APAM-CASTILLEJOS; G. FLORES; H. TENDILLA. *Inst. de Fisiología Benemérita Univ. Autónoma de Puebla, Benemérita Univ. Autónoma de Puebla, Univ. Autónoma de Puebla / Inst. de Fisiología, Inst. de Fisiología, Benemérita Univ. Autónoma de Puebla.*
- 1:00 N4 **209.09** Improving the translatability of stem cell research through the intersections of xenofree and reproducibility protocol development. A. LAM*; F. LI; E. L. OHAYON. *Physicians Committee for Responsible Med., NeuroInx Res. Inst., Inst. for Green and Open Sci.*
- 2:00 N5 **209.10** Aggregation of artificial β -sheet proteins causes lysosomal dysfunction in neurons. A. MISHRA*; T. SCHÄFER; N. RAIMUNDO; R. KLEIN; W. BAUMEISTER; I. DUDANOVA; R. FERNÁNDEZ-BUSNADIEGO. *Max Planck Inst. of Neurobio., Max Planck Inst. of Biochem., Universtitätsmedizin Göttingen.*
- 3:00 N6 **209.11** Mass spectrometry imaging (MSI) identifies region-specific changes in the cerebral pattern of lipid distribution in a mouse model of Niemann-Pick-disease type C1 (NPC1). H. BIDMON*; E. GONZALEZ DE SAN ROMAN; M. WITT; A. WREE; K. AMUNTS; P. F. HUESGEN. *University of Duesseldorf, University of Duesseldorf, Forschungszentrum, Univ. Med. Ctr., Univ. of Düsseldorf, Med. Fac., Forschungszentrum, Forschungszentrum.*
- 4:00 N7 **209.12** Wallerian degeneration: From mice, flies and fish to people. M. P. COLEMAN*; A. LORETO; P. HUPPKE; E. WEGENER; C. ANGELETTI; X. YANG; G. ORSOMANDO; J. GILLEY. *Univ. of Cambridge, Univ. of Cambridge, Univ. of Goettingen, Polytechnic Univ. of Marche, Ancona.*
- 1:00 N8 **209.13** miRNA let7i inhibits the progesterone-induced protection against oxidative stress in both glial and neuronal cells. S. KIM*; M. SINGH. *Univ. of North Texas Hlth. Sci. Ctr.*
- 2:00 N9 **209.14** *In vitro* characterization of the unfolded protein response as a mechanism of neurodegeneration. A. J. SANTIAGO-LOPEZ*; A. F. NAZZARI; K. BERGLUND; C. N. GUTEKUNST; R. E. GROSS. *Emory Univ., Georgia Inst. of Technol., Georgia Inst. of Technol., Emory Univ.*
- 3:00 N10 **209.15** Pseudomonas aeruginosa induced endothelial amyloids impair mouse learning. M. T. LIN*; Y. XU; X. ZHA; R. BALCZON; T. STEVENS. *Univ. of South Alabama.*
- 4:00 N11 **209.16** Loss of nuclear TDP-43 is linked to DNA double-strand break repair defects in neurons. J. MITRA*; E. N. GUERRERO; P. M. HEGDE; V. M. VASQUEZ; H. WANG; M. L. HEGDE. *Houston Methodist Res. Inst.*
- 1:00 N12 **209.17** The effect of the circadian cycle on the glymphatic system. X. CAI*; J. QIAO; I. HARDING; P. P. KULKARNI; C. F. FERRIS. *Northeastern Univ., Northeastern Univ., Northeastern Univ., Northeastern Univ. Dept. of Psychology, Northeastern University, Ctr. for Translational NeuroImaging.*
- 2:00 O1 **209.18** Effect of KLF9 phosphorylation on chromatin binding, transcriptome expression, and axon regeneration. A. MADAAN*; S. SHAH; M. NAHMOU; E. CAMERON; J. L. GOLDBERG. *Stanford Univ., Stanford Univ.*
- 3:00 O2 **209.19** The neuronal mitochondrial metabolite NAA regulates energy metabolism in oligodendrocytes through epigenetic mechanisms. N. K. SINGHAL*; K. ALKHAYER; S. STERNBACH; A. E. WEAVER; P. BANNERMAN; T. BURN; H. HUANG; L. SHRIVER; F. GUO; D. E. PLEASURE; R. CLEMENTS; E. J. FREEMAN; J. MCDONOUGH. *Kent State Univ., Univ. of California Davis Dept. of Neurol., Univ. of Akron.*
- 4:00 O3 **209.20** Administration of amiloride, inhibitor of acid-sensing ion channels (ASICs), reduces hypoglycemia-induced hippocampal neuronal death. A. KHO*; T. CHUNG; S. SUH. *Hallym Univ., CHA Univ. Sch. of Med.*
- 1:00 O4 **209.21** The effects of dichloroacetic acid (DCA) on neuronal cell death induced by pilocarpine-induced seizure. S. LEE*; B. CHOI; M. LEE; H. SONG; H. CHOI; J. PARK; M. SOHN; S. SUH. *Hallym Univ., Neurology, Hallym Univ., Dept. of Biochemistry, Col. of Med., Inha University, Dept. of Nursing.*
- 2:00 O5 **209.22** 2'-5' oligoadenylate synthetase-like 1(OASL1) deficiency aggravates neuronal death after traumatic brain injury. J. JEONG*; B. CHOI; M. LEE; S. SUH. *Hallym Univ., Univ. of Ulsan Col. of Med.*
- 3:00 O6 **209.23** Carvacrol attenuates hippocampal neuron death after global cerebral ischemia via inhibition of transient receptor potential melastatin 7. D. HONG*; K. PARK; S. SUH. *Hallym Univ., Hallym Univ. Med. Ctr.*
- 4:00 O7 **209.24** Amiloride reduces hippocampal neuron death after transient cerebral ischemia. B. KANG*; B. CHOI; S. SUH. *Hallym Univ.*
- 1:00 O8 **209.25** Effects of amiloride, acid-sensing ion channels (ASICs) inhibitor, in hippocampal neuronal death after pilocarpine-induced seizure. D. KANG*; B. CHOI; M. LEE; H. CHOI; H. SONG; S. SUH. *Hallym Univ., Neurology, Hallym University, Col. of Med.*
- 2:00 O9 **209.26** Sildenafil aggravates traumatic brain injury-induced neuronal death through nitric oxide and zinc pathways. B. CHOI*; J. JEONG; S. SUH. *Hallym University, Col. of Med.*
- 3:00 O10 **209.27** Declines in protein quality control and external insults promote cognitive dysfunction. T. AOE*; H. JIN; H. KOKUBUN; M. KOMITA. *Teikyo University,, Chiba Univ. Grad. Sch. of Med., Chiba Rosai Hospital.*

POSTER

210. Neurotoxicity, Inflammation, and Neuroprotective Mechanisms: Preclinical

Theme C: Neurodegenerative Disorders and Injury

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 O11 **210.01** Axonal transport targets for reversing the adverse effects of neurotoxin exposure. S. X. NAUGHTON*; Z. WEI; G. WU; A. V. TERRY, Jr. *Augusta Univ.*
- 2:00 O12 **210.02** Axonal transport targets for age-related neurodegenerative diseases. A. V. TERRY*, JR; W. BECK; P. CALLAHAN; P. LIN; S. NAUGHTON. *Augusta Univ., Augusta Univ.*

- 3:00 O13 **210.03** ▲ Exacerbation of nicotine induced neurotoxicity in depression. S. SHARMA*; A. SHARMA; D. F. MURESANU; J. V. LAFUENTE; A. NOZARI; A. OZKIZILCIK; R. PATNAIK; Z. TIAN; H. S. SHARMA. *Uppsala Univ., Uppsala Univ., The Foundation of the Society for the Study of Neu, Univ. of Basque Country, Massachusetts Gen. Hosp., Univ. of Arkansas, Indian Inst. of Technology, Banaras Hindu Univ., Univ. of Arkansas Faytveville.*
- 4:00 O14 **210.04** Solid lipid curcumin particles improve active avoidance performance and reduce mutant huntingtin aggregates in the YAC128 mouse model of Huntington's disease. A. AL-GHARAIBEH*; R. CULVER; S. HEILEMAN; D. STORY; K. SPELDE; N. MUHN; N. MUNRO; J. ROSSIGNOL; P. MAITI; G. DUNBAR. *Central Michigan Univ., Field Neurosciences Inst. Lab. for Restorative Neurol., Dept. of Psychology, Col. of Med., Saginaw Valley State Univ., Field Neurosciences Inst.*
- 1:00 O15 **210.05** Epigallocatechin-3-gallate, a green tea polyphenol, decreases beta-amyloid uptake and neuronal cell death via binding to 67kDa laminin receptor. R. GOPALAKRISHNA*; C. LE; C. Y. LIN; J. JIANG; N. R. BHAT. *USC Keck Sch. of Med., Med. Univ. South Carolina.*
- 2:00 O16 **210.06** ● ▲ Pharmacological modulation of P21-activated kinases (PAKs) in an *in vitro* neuronal model of Down's syndrome: A possible therapeutical target. M. B. GAETE; R. PÉREZ-NUÑEZ; J. BARNIER; A. M. CÁRDENAS; P. A. CAVIEDES*. *Pontificia Univ. Católica de Valparaíso, ICBM, Fac. of Medicine, Univ. of Chile, Neuro-PSI, CNRS, Univ. Paris-Sud, CINV, Univ. of Valparaíso, ICBM Fac Medicine, Univ. of Chile.*
- 3:00 P1 **210.07** Hypercholesterolemia and 27-hydroxycholesterol enhance S100A8 and RAGE expression in the brain: A link towards amyloid-beta accumulation. R. LOERA-VALENCIA*; M. ISMAIL; M. LODEIRO; P. MERINO-SERRAIS; S. MAIOLI; L. MATEOS; I. BJÖRKHEM; E. PUERTA; A. CEDAZO-MINGUEZ. *Karolinska Institutet.*
- 4:00 P2 **210.08** Transdermal CBD protects against alcohol-induced cellular degeneration: Cell-type specific gene expression analysis. A. LAQUE*; O. KOZANIAN; G. WAGNER; T. KERR; G. DE NESS; N. SUTO; F. WEISS. *The Scripps Res. Inst.*
- 1:00 P3 **210.09** The role of BHMT in methionine metabolism in multiple sclerosis. S. STERNBACH*; N. SINGHAL; K. ALKHAYER; J. MCDONOUGH. *Kent State Univ.*
- 2:00 P4 **210.10** ● Targeting Keap1 as a therapeutic approach for neurodegenerative disease. D. E. STROCHLIC*; G. SRUBEK TOMASSY; S. SU; A. MCCURLEY; K. LING; B. LI; D. UJLA; K. RICHTER; L. SUN; Y. LUO; M. ZHANG; J. AMACKER; G. MARSH; L. JANDRESKI; F. RIGO; C. E. HENDERSON; A. MCCAMPBELL. *Biogen, Ionis Pharmaceuticals, Inc.*
- 3:00 P5 **210.11** Comparison of the neuroprotective effects of two nicotinic ligands. V. A. ETEROVIC; H. R. ARIAS; D. PEREZ; O. LYKHMUS; K. USPENSKA; M. SKOK; P. A. FERCHMIN*. *Univ. Central Del Caribe, California Northstate Univ. Col. of Med., Palladin Inst. of Biochem.*
- 4:00 P6 **210.12** New role of serotonin receptor HTR1E in mediating neurotrophic effects of NF- α 1/CPE through ERK signaling. V. K. SHARMA*; L. TOULABI; Y. XUYU; Y. P. LOH. *NICHD, Natl. Inst. of Hlth.*
- 1:00 P7 **210.13** *In vitro* effects on cerebral cell survival of ischemic preconditioning before the application of a lethal stimulus and its relationship with O-GlcNAc glycosylation. C. F. CARDOZO HERNANDEZ*; E. VIVEROS; A. VERA; J. GONZALEZ; L. BECERRA; J. RENGIFO. *Univ. Icesi, Univ. del Valle, Univ. de Caldas, Pontificia Univ. Javeriana.*
- 2:00 P8 **210.14** ▲ Neuroprotective roles of biliverdin reductase in the brain. R. KOTHARI*; C. VASAVDA; A. P. MALLA; R. TOKHUNTS; A. LIN; M. JI; R. XU; H. SAAVEDRA; A. M. SNOWMAN; C. RICCO; J. I. SBODIO; T. W. SEDLACK; B. D. PAUL; S. H. SNYDER. *Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Med., Geisel Sch. of Med., Duke Univ. Sch. of Med.*
- 3:00 P9 **210.15** ● Neurotrophic, anti-apoptotic and neuroprotective multifunctional activities of NX210, a thrombospondin repeat derived peptide. N. DELÉTAGE*; M. BLANC; F. LALLOUÉ; S. GOBRON. *NEURONAX, Faculté de Médecine.*
- 4:00 P10 **210.16** Ferulic acid provides neuroprotection against kainic acid-induced neurotoxicity *in vitro*. M. S. RAO*; S. SMITHA. *Fac. of Medicine, Kuwait Univ.*
- 1:00 P11 **210.17** ● ω 3 PUFAs as protectants against paracetamol-induced neurodevelopmental toxicity. N. A. LABBA*; M. G. HADERA; R. E. PAULSEN. *Univ. of Oslo, Univ. of Oslo.*
- 2:00 P12 **210.18** Quercetin enhances the protective effects of docosahexaenoic acid (DHA): Studies with activated BV-2 microglial cells. G. Y. SUN*; R. LI; B. YANG; J. C. LEE; K. FRITSCHKE; D. BEVERSDORF; Z. GU; M. GREENLIEF. *Univ. Missouri, Univ. of Missouri, Univ. of Missouri-Columbia, Univ. of Illinois at Chicago, Univ. of Missouri Columbia Sch. of Med.*
- 3:00 P13 **210.19** Antidepressants acting via LPA₁ counteract TNF- α -induced neuronal apoptosis by potentiating ERK1/2 and JNK signalling. M. C. OLIANAS*; S. DEDONI; P. ONALI. *Univ. of Cagliari.*
- 4:00 P14 **210.20** Minimal neurotoxicity from long-term c3 transferase expression in the nigrostriatal pathway. R. V. GUPTA; A. J. SANTIAGO-LOPEZ; K. BERGLUND; C. N. GUTEKUNST*; R. E. GROSS. *Emory Univ. Sch. of Med., Georgia Inst. of Technol., Emory Univ. Sch. of Med.*
- 1:00 P15 **210.21** ● Design, synthesis and biological evaluation of tacrine derivatives as neuroprotective agents by targeting nmda receptor. R. CHANDRAN*; M. KUMAR; E. KOTI REDDY; R. S. JACOB; L. K; D. KV; E. J. VARIYAR; S. ANWAR; S. CHITTALAKKOTTU; R. V. OMKUMAR. *Kannur Univ., Rajiv Gandhi Ctr. for Biotech., Vignan's Fndn. for Science, Technology, and Res.*
- 2:00 Q1 **210.22** Exploring the interaction between dietary polyphenols and recovery from anesthesia in *Drosophila melanogaster*. J. M. NAPAN*; L. S. VILLALPANDO; B. TOLAN; D. S. PATEL; C. BARCENAS; W. HARDEMAN; A. D. TROFIMOVA; R. E. HARTMAN. *Loma Linda Univ.*

POSTER

211. Brain Injury and Trauma: Animal Models of Brain Injury

Theme C: Neurodegenerative Disorders and Injury

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 Q2 **211.01** Effects of closed head injury on conditioned fear in rats. M. RIVERA-LOPEZ; D. SIERRA-MERCADO*. *Univ. Puerto Rico Sch. of Med.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 2:00 Q3 **211.02** Gender influences outcomes in mice after repeat concussive traumatic brain injury. A. J. STUMP*; M. A. OSTLIE; R. A. CHEENIYIL; J. T. TRAN; M. SHAABAN; J. P. LUNT; S. MINOSHIMA; D. J. CROSS. *Univ. of Utah*.
- 3:00 Q4 **211.03** Post-injury therapeutic effects of 3,6'-dithiopomalidomide on traumatic brain injury. C. LIN*; L. YANG; P. TSAI; W. LUO; B. J. HOFFER; N. H. GREIG; J. WANG. *Taipei Med. Univ., NIH*.
- 4:00 Q5 **211.04** High-mobility group box protein-1 (HMGB1) mediates secondary injury after traumatic brain injury in pediatric mice. B. D. SEMPLE*; K. M. WEBSTER; M. SUN; S. R. SHULTZ; P. J. CRACK; T. J. O'BRIEN. *Monash Univ., Univ. of Melbourne, Univ. of Melbourne*.
- 1:00 Q6 **211.05** GM1 ganglioside prevents axonal regeneration inhibition and cognitive deficits in a mouse model of traumatic brain injury. C. G. PICK*; V. RUBOVITCH. *Tel Aviv Univ., Tel Aviv Univ*.
- 2:00 Q7 **211.06** Unilateral parietal traumatic brain injury increases risk-taking on a rat gambling task. J. OZGA; C. WHIRTLEY; C. O'HEARN; H. S. BHATIA; C. VONDER HAAR*. *West Virginia Univ., West Virginia Univ*.
- 3:00 Q8 **211.07** Exacerbation of traumatic brain injury neuropathology and behavioral deficits by hyperhomocysteinemia in a rat model of controlled cortical impact. F. TCHANTCHOU*; M. GOODFELLOW; C. MILLER; G. FISKUM. *Univ. of Maryland Sch. of Med., Aeromedical Research, U.S. Air Force Sch. of Aerospace Med*.
- 4:00 Q9 **211.08** A comparison of blast traumatic brain injury in mouse upright versus prone orientations using an advanced blast simulator (ABS). E. MCNAMARA*; L. B. TUCKER; J. LIU; A. H. FU; Y. KIM; J. T. MCCABE. *Uniformed Services Univ., Ctr. for Neurosci. and Regenerative Med*.
- 1:00 Q10 **211.09** Alterations in the volatile metabolome following traumatic brain injury. H. METHENY*; G. K. BEAUCHAMP; M. OPIEKUN; B. A. KIMBALL; A. S. COHEN. *Children's Hosp. of Philadelphia, Monell Chem. Senses Ctr., USDA Natl. Wildlife Res. Ctr. and Monell Chem. Senses Ctr., Children's Hosp Philadelphia & Univ. of Pennsylvania*.
- 2:00 Q11 **211.10** Model of TBI and fear conditioning and their impacts during a subacute period of injury. G. B. KAPLAN*; K. RUMBIKA; L. WANG; K. A. LEITE-MORRIS; L. ALFILER; Y. D. TENG. *VA Boston Healthcare System/Boston Univ. Sch. Med., VA Boston Healthcare Syst., VA Boston Healthcare System/Harvard Med. Sch., VA Boston Healthcare System/Boston Univ. Sch. Med., VA Boston Healthcare System/Harvard Med. Sch.*
- 3:00 Q12 **211.11** Lysophosphatidic acid signals through ependymal LPA₁ and LPA₃ to initiate premature infantile hydrocephalus. N. C. LUMMIS*; G. KENNEDY; P. SANCHEZ PAVON; A. FRANTZ; J. CHUN. *Sanford Burnham Prebys Med. Discovery Inst.*
- 4:00 Q13 **211.12** (-)-Phenserine ameliorates contusion volume loss, neuroinflammation, and behavioral impairments induced by traumatic brain injury in mouse. S. HSUEH*; Y. LUO; N. GREIG; B. HOFFER; J. WANG; J. MILLER; Y. CHIANG. *The Ph.D. Program For Neural Regenerative Med., Ctr. for Neurotrauma and Neuroregeneration, Taipei Med. Univ., Dept. of Neurosurgery, Case Western Reserve Univ. Sch. of Med., Translational Gerontology Branch, Intramural Res. Program, Natl. Inst. on Aging, Natl. Inst. of Hlth., Dept. of Neurosurgery, Taipei Med. Univ. Hosp., Dept. of Surgery, Sch. of Medicine, Col. of Medicine, Taipei Med. Univ.*
- 1:00 Q14 **211.13** Amelioration of oxidative damage, neuronal cell death and behavioral impairments by pramipexole in CCI rodent model of traumatic brain injury. M. SALMAN*; S. PARVEZ; H. TABASSUM. *JAMIA HAMDARD, JAMIA HAMDARD*.
- 2:00 R1 **211.14** ▲ Voxel-wise analysis of FDG-PET imaging to assess repeat concussive brain injury and response to therapy in mice. J. P. LUNT*; M. A. OSTLIE; A. J. STUMP; S. MINOSHIMA; D. J. CROSS. *Univ. of Utah, Univ. of Utah*.
- 3:00 R2 **211.15** High-throughput behavioral phenotyping of repetitive mild traumatic brain injury. A. M. CHOO; A. HACKETT; R. ZENOWICH; A. MORENO; A. BARBOZA; M. OSBORNE; I. MORGANSTERN; Q. CHANG; T. HANANIA*. *PsychoGenics Inc.*
- 4:00 R3 **211.16** Assessment of lithium as a short-term therapeutic agent for repetitive mild TBI featuring recovery from anesthesia. J. FIDLER*; O. MOODY; S. AGEZO; P. S. GARCIA; S. S. SHIM. *Atlanta VA Med. Ctr., Emory Univ., Atlanta VA Med. Ctr. / Emory Univ.*
- 1:00 R4 **211.17** Role of adult-born granule cells generated in response to trauma in dentate circuit pathology. L. CORRUBIA*; E. J. NEUBERGER; V. SANTHAKUMAR. *Rutgers Univ., Univ. of California, Riverside*.
- 2:00 R5 **211.18** Effects of liposome-encapsulated clodronate in a rat model of cerebral contusion injury. H. NEGISHI*; Y. TAKAMINE; Y. FURUKAWA; M. KOBAYASHI; T. KUMAGAWA; K. SHIJO; N. MORO; A. YOSHINO. *Nihon Univ. Sch. of Med.*
- 3:00 R6 **211.19** Effects of Pyrazol-3 and MRS2179 against gliosis in a rat model of cerebral contusion injury. Y. TAKAMINE*; H. NEGISHI; Y. FURUKAWA; M. KOBAYASHI; T. KUMAGAWA; K. SHIJO; N. MORO; A. YOSHINO. *Nihon Univ. Sch. of Med.*
- 4:00 R7 **211.20** Pifithrin- α oxygen analog and pifithrin- μ prevents TBI-induced neuronal damage through regulation of oxidative stress, neuroinflammation, autophagy and mitophagy. L. YANG*; N. H. GREIG; B. J. HOFFER; C. PENG; J. WANG. *Taipei Med. Univ., Intramural Res. Program, Natl. Inst. on Aging, NIH, NIDA/NIH, Taipei Med. Univ., Grad. Inst. of Med. Sci. TMU*.
- 1:00 R8 **211.21** The role of FPR1 receptor and their relationship to neuroinflammation and neurodegeneration in traumatic brain injury. S. CUZZOCREA*; R. SIRACUSA; E. GUGLIANDOLO; R. FUSCO; R. D'AMICO; R. DI PAOLA. *Univ. of Messina, St. Louis Univ.*
- 2:00 R9 **211.22** Neuroendocrine dysfunction and neurobehavioral outcome following experimental traumatic brain injury. A. M. FORTRESS*; P. AVCU; A. K. WAGNER; C. DIXON; K. PANG. *VA Pittsburgh Healthcare Syst. Univ. Drive D, Stress & Motivated Behavior Institute, New Jersey Med. Sch., Univ. of Pittsburgh, Univ. of Pittsburgh, VA Med. Ctr.*
- 3:00 R10 **211.23** Establishing a scalable blunt-force traumatic brain injury model in adult zebrafish. J. HENTIG*, JR; Y. JUNG; D. R. HYDE. *Univ. of Notre Dame, Univ. of Notre Dame*.
- 4:00 R11 **211.24** Injury-induced plasticity in parietal-frontal motor networks of non-human primates. I. STEPNIIEWSKA*; H. QI; A. F. MANABAT; J. H. KAAS. *Vanderbilt Univ., Belmont Univ.*

- 1:00 R12 **211.25** ▲ Amantadine plus environmental enrichment after experimental traumatic brain injury confers an additive effect on motor and cognitive improvement. I. H. BLEIMEISTER*; J. L. WELLCOME; G. C. BAO; M. S. HELKOWSKI; T. R. LAM; M. WOLFF; C. O. BONDI; A. E. KLINE. *Univ. of Pittsburgh.*
- 2:00 R13 **211.26** Trauma-induced mitochondrial hyperproliferation, FGF-21 depletion, and thymic involution in mice susceptible to post traumatic stress disorder (PTSD). G. PRESTON*; T. L. EMMERZAAL; F. J. KIRDAR; E. MORAVA; T. L. KOZICZ. *Tulane Univ. Sch. of Med., Radboudumc, Mayo Clin., Radboud Univ. Med. Ctr.*
- 3:00 R14 **211.27** Lasting cholinergic-attentional impairments and brain cytokine expression following mild repeated concussion in mice with a vulnerable cholinergic system. M. SARTER*; A. KOSHY CHERIAN; N. C. TRONSON; V. V. PARIKH; R. D. BLAKELY. *Univ. of Michigan Dept. of Psychology, Temple Univ., Florida Atlantic Univ. - Charles E Schmidt Co.*
- 4:00 R15 **211.28** Developing a mouse model of hemorrhagic stroke using high-intensity focused ultrasound and microbubbles. C. M. COLLIER*; H. ZHANG; E. KONOFAGOU; C. TROY. *Columbia Univ.*
- 1:00 R16 **211.29** ▲ Free Fallin': Investigation of the force of acceleration on rats using a new method for inducing mTBI. M. P. RICHARD; A. RUDINSKI; P. WIRTH; P. D. BERKNER; M. J. GLENN*. *Colby Col., Maine Concussion Mgmt. Initiative, Georgetown Univ., Colby Col.*
- 2:00 R17 **211.30** Chorioamnionitis results in cerebellar microstructure abnormalities: A preclinical investigation. J. E. CAMACHO*; T. R. YELLOWHAIR; J. C. NEWVILLE; S. ROBINSON; J. R. MAXWELL; L. L. JANTZIE. *Univ. of New Mexico, Univ. of New Mexico, Johns Hopkins Univ.*
- 4:00 S3 **212.04** ● Cognitive rehabilitation for brain injury: Insight from diffusion tensor mr imaging. C. LEDBETTER*; D. M. CARPENTER, III; T. MILLER; A. L. MOORE. *LSU Hlth. Sci. Ctr. - Shreveport, Univ. of Colorado, Gibson Inst. of Cognitive Res.*
- 1:00 S4 **212.05** Morning bright light therapy improves sleep quality and pain interference in veterans with TBI. A. A. MCBRIDE*; J. E. ELLIOTT; N. M. BALBA; R. OPEL; P. TEUTSCH; M. LIM. *VA Portland Hlth. Care Syst., Oregon Hlth. and Sci. Univ., Oregon Hlth. and Sci. Univ., Oregon Hlth. and Sci. Univ.*
- 2:00 S5 **212.06** The clinical and functional significance of global and local resting-state fMRI connectivity in chronic moderate to severe traumatic brain injury. V. CONDE*; E. L. DENNIS; J. N. EK; K. I. EVENSEN; T. FINNANGER; P. M. THOMPSON; A. VIK; T. SKANDSEN; A. K. HABERG; A. OLSEN. *Norwegian Univ. of Sci. and Technol., Keck Sch. of Med. of USC, Norwegian Univ. of Sci. and Technol., St. Olavs Hospital, Trondheim Univ. Hosp., Keck Sch. of Med. of USC, Norwegian Univ. of Sci. and Technol.*
- 3:00 S6 **212.07** Trauma exposure potentiates the severity of chronic pain, sleep disturbances, and sensory sensitivity in individuals with TBI and PTSD. N. M. BALBA*; J. E. ELLIOTT; R. A. OPEL; K. B. WEYMANN; M. M. HEINRICHER; M. M. LIM. *Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ., Veterans Affairs Portland Hlth. Care Syst., Oregon Hlth. & Sci. Univ., Oregon Hlth. & Sci. Univ.*
- 4:00 S7 **212.08** The prevalence and stability of sleep-wake disturbances and fatigue following mild traumatic brain injury. S. B. SAKSVIK*; M. KARALIUTE; H. KALLESTAD; R. H. KARLSEN; T. FOLLESTAD; A. VIK; A. K. HABERG; R. F. ASARNOW; T. SKANDSEN; A. OLSEN. *Norwegian Univ. of Sci. and Technol., Norwegian Univ. of Sci. and Technol., Norwegian Univ. of Sci. and Technol., St. Olavs Hospital, Trondheim Univ. Hosp., UCLA Dept. of Psychiatry, Norwegian Univ. of Sci. and Technol.*
- 1:00 S8 **212.09** Spontaneous EEG signal complexity as a continuous, graded index for state of consciousness in sleep and anesthesia. A. S. NILSEN*; B. E. JUEL; J. F. STORM. *Brain signalling group, Univ. of Oslo, Brain signalling group, Inst. of Basic Med. Sciences, Univ. of Oslo.*
- 2:00 S9 **212.10** Changes in cortical complexity during anesthesia to one hemisphere (Wada test). S. HALDER*; L. VENKAT RAGHAVAN; B. E. JUEL; A. S. NILSEN; J. F. STORM. *Univ. of Oslo, Toronto Western Hosp.*
- 3:00 S10 **212.11** Perturbational complexity index in severe brain injury. E. S. LUTKENHOFF*; S. CASAROTTO; M. MASSIMINI; M. M. MONTI. *UCLA, Univ. of Milan.*
- 4:00 S11 **212.12** Classifying disorders of consciousness across sites using diffusion tensor imaging and machine learning. N. REGGENTE*; Z. ZHENG; J. ANNEN; A. M. OWEN; S. LAUREYS; M. M. MONTI. *Tiny Blue Dot Fndn., UCLA, Univ. of Liège, Brain and Mind Inst., Liège Univ. Hosp. .*
- 1:00 S12 **212.13** Characterization of direct pallidofugal connections with cortex and thalamus in humans. Z. ZHENG*; M. M. MONTI. *UCLA, UCLA.*
- 2:00 S13 **212.14** Are changes in time-varying network dynamics truly the result of the level of consciousness or rather due to a general recovery of behavioral responsiveness? A systematic evaluation using fMRI. J. S. CRONE*; P. VESPA; M. M. MONTI. *UCLA.*

POSTER

212. Brain Injury and Trauma: Human Studies

Theme C: Neurodegenerative Disorders and Injury

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 R18 **212.01** Changes in cerebellar connectivity following cognitive rehabilitation in traumatic brain injury. E. CORDERO*; S. I. GIMBEL; M. L. ETENHOFER. *Henry M. Jackson Fndn., Uniformed Services Univ. of the Hlth. Sci., Naval Med. Ctr. San Diego, Def. and Veterans Brain Injury Ctr.*
- 2:00 S1 **212.02** Brain bases of cognitive recovery following rehabilitation for traumatic brain injury. S. I. GIMBEL*; M. L. ETENHOFER; E. CORDERO; A. SAFFORD; B. BRANDLER; B. GUISE; M. ROY; L. CHAN. *Naval Med. Ctr. San Diego, Henry M. Jackson Fndn., Def. and Veterans Brain Injury Ctr., Uniformed Services Univ. of the Hlth. Sci., Ctr. for Neurosci. and Regenerative Med., Walter Reed Natl. Military Med. Ctr., NIH.*
- 3:00 S2 **212.03** ● Neuropsychological assessment outcomes following cognitive rehabilitation training for children and adults with traumatic brain injury. A. L. MOORE*; C. LEDBETTER. *Gibson Inst. of Cognitive Res., LSU Hlth. Sci. Ctr. - Shreveport.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 3:00 S14 **212.15** A superior neuromodulating technique for the deep-brain? Non-invasive focused ultrasound pulsation modulates thalamic activity. J. A. CAIN*; R. BLADES; N. SPIVAK; M. M. MONTI. *UCLA*.
- 4:00 S15 **212.16** ● TMEM106b risk variant is associated with pathological and clinical outcomes in CTE. J. D. CHERRY*; J. MEZ; Y. TRIPODIS; V. E. ALVAREZ; I. MAHAR; B. R. HUBER; M. L. ALOSCO; R. NICKS; B. ABDOLMOHAMMADI; P. T. KIERNAN; L. EVERS; S. SVIRSKY; H. M. GARDNER; G. MENG; C. J. NOWINSKI; B. M. MARTIN; N. W. KOWALL; R. C. CANTU; L. E. GOLDSTEIN; D. I. KATZ; R. A. STERN; L. A. FARRER; J. F. CRARY; A. C. MCKEE; T. D. STEIN. *Boston Univ., Boston University, Boston University Sch. of Med., Boston Univ. Sch. of Med., Boston Univ. Sch. of Med., Boston Univ. Sch. of Med., Boston Univ. Sch. of Med., VA Boston Healthcare, DVA, VA Boston Healthcare Syst., Concussion Legacy Fndn., Sports Legacy Inst., Boston Univ. Sch. of Med., Boston Univ. Sch. of Med., Boston Univ. Sch. of Med., Boston Univ. Sch. of Med., Icahn Sch. of Med. at Mount Sinai, Boston VA Med. Ctr.*
- 1:00 S16 **212.17** ENIGMA Pediatric msTBI: Preliminary results from meta analysis of diffusion MRI. E. L. DENNIS*; K. CAEYENBERGHS; T. BABIKIAN; A. OLSEN; G. HANTEN; H. S. LEVIN; C. C. GIZA; R. F. ASARNOW; P. KOCHUNOV; N. JAHANSHAD; P. M. THOMPSON; D. TATE; E. WILDE. *Imaging Genet. Center, SNII, Keck Som USC, Australian Catholic Univ., UCLA, Norwegian Univ. of Sci. and Technol., Baylor Col. of Med., Baylor Col. Med., UCLA, UCLA Dept. of Psychiatry, Univ. of Maryland, IGC-INI @ USC, Univ. of Southern California (USC), Univ. of Missouri, St. Louis, Univ. of Utah.*
- 2:00 S17 **212.18** Disentangling the contributions of brain tissue fraction and composition to quantitative MRI of the aged human brain. S. FILO*; O. SHTANGEL; A. MEZER. *The Hebrew Univ.*
- POSTER**
- 213. Spinal Cord Injury and Plasticity: Cellular and Molecular Mechanisms I**
- Theme C: Neurodegenerative Disorders and Injury**
- Sun. 1:00 PM – *San Diego Convention Center, SDCC Halls B-H*
- 1:00 S18 **213.01** Endogenous serotonin inhibits axon regeneration after spinal cord injury in lampreys by activating serotonin 1A receptors. A. BARREIRO-IGLESIAS*; D. SOBRIDO-CAMEÁN; M. RODICIO. *Univ. of Santiago De Compostela, Univ. of Santiago De Compostela, Univ. of Santiago De Compostela.*
- 2:00 T1 **213.02** Targeting proteinase activated receptors are molecular drivers of the spinal cord injury microenvironment. H. YOON*; M. RADULOVIC; H. KIM; S. BOUCHAL; C. CHOI; I. A. SCARISBRICK. *Mayo Clin., Mayo Clin., Mayo Clin.*
- 3:00 T2 **213.03** Injury-induced Erk phosphorylation and retrograde transport in lamprey spinal cord. L. JIN*; K. HALL; S. L. LAM; J. HU; M. E. SELZER. *Temple Univ. Sch. of Med., Temple Univ. Sch. of Med.*
- 4:00 T3 **213.04** A novel biomaterial-based Epac targeting approach to promote spinal cord repair. A. GUIJARRO-BELMAR*; M. VISKONTAS; X. BO; D. SHEWAN; W. HUANG. *Univ. of Aberdeen, Queen Mary Univ. of London.*
- 1:00 T4 **213.05** ▲ Contributions of lumbar spinal cord maldevelopment to spasticity in cerebral palsy from preterm birth. J. KIM*; T. R. YELLOWHAIR; A. Y. OPPONG; C. L. SHROCK; F. S. CONTEH; L. L. JANTZIE; S. ROBINSON. *Johns Hopkins Univ., Univ. of New Mexico.*
- 2:00 T5 **213.06** Identifying the most effective types of integration-free human iPS cell-derived neural stem/progenitor cells in the treatment of spinal cord injury. T. IIDA*; N. NAGOSHI; J. KOHYAMA; O. TSUJI; M. MATSUMOTO; M. NAKAMURA; H. OKANO. *Dept of Orthop, Sch. of Med, Keio Univ., Dept of Physiology, Sch. of Med, Keio Univ.*
- 3:00 T6 **213.07** Intracellular calcium release through IP₃R contributes to secondary axonal degeneration. N. PELISCH*; A. SILADI; J. NALLY; D. P. STIRLING. *Univ. of Louisville, KY Spinal Cord Injury Res. Ctr., KY Spinal Cord Injury Res. Center/ Univ. of Louisville.*
- 4:00 T7 **213.08** Regulation of astrocytic aquaporin-4 and alpha-syntrophin following contusion spinal cord injury. J. M. YONAN*; D. K. BINDER. *Univ. of California Riverside, Univ. of California, Riverside.*
- 1:00 T8 **213.09** Chondroitin sulfate disrupts autophagy and inhibits axon regeneration after neuronal injury. T. OZAKI*; K. SAKAMOTO; Y. GONG; K. KADOMATSU. *Nagoya Univ. Grad. Sch. of Med.*
- 2:00 T9 **213.10** Interleukin 1 alpha delivery in the central nervous system of mice induces a rapid decrease in numbers of mature oligodendrocytes. F. BRETHERAU*; M. LESSARD; S. LACROIX. *Univ. Laval, Ctr. de recherche du Ctr. hospitalier universitaire (CHU) de Québec.*
- 3:00 T10 **213.11** Macrophage-mesenchymal stem cell interactions for spinal cord repair: *In vitro* observations and *in vivo* relevance. I. MALDONADO-LASUNCION*; M. OUDEGA; J. VERHAAGEN. *Univ. of Miami, Vrije Univ. Amsterdam, Univ. of Miami, Netherlands Inst. for Neurosci.*
- 4:00 T11 **213.12** A novel modulator of the glial scar and astrocyte proliferation following spinal cord injury. L. LI*; L. NI; E. A. EUGENIN; R. F. HEARY; S. ELKABES. *NJMS, Rutgers, The State Univ. of New Jersey, NJMS, Rutgers, The State Univ. of New Jersey.*
- 1:00 T12 **213.13** Examining the role of store-operated calcium entry on secondary axonal degeneration following SCI: An *in vivo* and *ex vivo* approach. B. OREM*; N. PELISCH; J. M. NALLY; D. P. STIRLING. *Univ. of Louisville, KY Spinal Cord Injury Res. Center/ Univ. of Louisville, KY Spinal Cord Injury Res. Center/ Univ. of Louisville.*
- 2:00 T13 **213.14** Role of IL-12, IL-23 and their receptors after spinal cord injury (SCI) and their impact on secondary damage. A. KRONER-MILSCH*. *Med. Col. of Wisconsin.*
- 3:00 T14 **213.15** Epigenetic regulation of axonal regeneration. S. DI GIOVANNI*; E. MACLACHLAN; I. PALMISANO; T. HUTSON; A. HERVERA; F. DE VIRGILIIS; M. DANZI; J. BIXBY; V. LEMMON. *Imperial Col. London, Universtiy of Miami.*
- 4:00 T15 **213.16** Morphological changes of layer-V pyramidal cells in motor-related areas in a primate model of spinal cord injury. Y. TAKATA*; H. NAKAGAWA; H. YAMANAKA; M. TAKADA. *Primate Res. Institute, Kyoto Univ., Sobell Dept. of Motor Neurosci. and Movement Disorders, Institute of Neurology, Univ. Col. London.*
- 1:00 T16 **213.17** Regenerative metabolic signaling after nerve and spinal injury. E. SERGER*; G. KONG; I. PALMISANO; E. MCLACHLAN; S. DI GIOVANNI. *Imperial Col. London, Univ. of Tuebingen.*

- 2:00 T17 **213.18** Differentiation of NSCs under exogenous electrical stimulation on carbon nanotube multilayers. R. ZHU*; S. RAMAKRISHNA; L. HE. *Jinan Univ.*
- 3:00 T18 **213.19** Synergism between enriched environment and conditioning lesion induces long distance regeneration via NOX2-dependent ROS production. F. DE VIRGILIIS*; T. HUTSON; I. PALMISANO; C. C. X. SANTOS; A. SHAH; S. AMACHREE; S. DI GIOVANNI. *Imperial Col. London, King's Col. London.*
- 4:00 U1 **213.20** PRG3 attenuates CSPG and LPA induced neurite outgrowth inhibition through modulation of RhoA activation. C. AGBAEGBU*; P. YU; C. MENCIO; S. M. TILVE; H. KATAGIRI; H. M. GELLER. *Georgetown University/NIH, Jinan Univ., Natl. Inst. of Hlth., NIH, NIH, Natl. Heart, Lung, and Blood Institute, NIH.*
- 1:00 U2 **213.21** The effects of a pro-angiogenic, RGD-functionalized, nanofiber composite biomaterial on mesenchymal stem cell-mediated repair of the injured spinal cord. A. E. HAGGERTY*; X. LI; Y. NITOBÉ; I. MALDONADO-LASUNCION; K. YAMANE; M. MARLOW; H. MAO; M. OUDEGA. *Univ. of Miami, Johns Hopkins Univ., Hirosaki Univ. Grad. Sch. of Med., Netherlands Inst. for Neurosciences, Okayama Univ., Univ. of Miami, Guangzhou Med. Univ., Bruce W. Carter Dept. of Veterans Affairs Med. Ctr.*
- 2:00 U3 **213.22** Fibronectin EDA forms the chronic fibrotic scar after contusive spinal cord injury. J. G. COOPER*; S. JEONG; T. L. MCGUIRE; S. SHARMA; W. WANG; S. BHATTACHARYYA; J. VARGA, MD; J. A. KESSLER. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*
- 1:00 DP07/U4 **213.23** (Dynamic Poster) The potential of electric field for promoting neurite guidance in spinal cord injury regeneration strategies. A. VARONE*; Z. N. MUHAMAT; A. M. RAJNICEK; W. HUANG. *Univ. of Aberdeen.*
- 4:00 U5 **213.24** Transcriptome profiles in somatosensory system of monkeys after unilateral dorsal column spinal cord injury. J. L. REED*; H. QI; C. LIAO; T. A. HACKETT; J. H. KAAS. *Vanderbilt Univ., Vanderbilt Univ.*
- 1:00 U6 **213.25** Regulation of astrocyte polarity after spinal cord injury. B. FENG*; E. R. HOLLIS; Y. ZOU. *UCSD, Burke Med. Res. Inst., Univ. of California San Diego.*
- 2:00 U7 **213.26** Astroglial signatures in neurotrauma - From injury-defined biomarkers to astrogliosis. I. B. WANNER*; S. SHEN; J. HALFORD; J. E. BURDA; M. V. SOFRONIEW; J. LOO. *UCLA, UCLA, UCLA.*
- 3:00 U8 **213.27** Early limb unloading elicits long-term motor deficits involving motoneuron hyperexcitability associated with persistent alterations in glutamatergic synaptic plasticity in spinal cord injury. K. MORIOKA*; T. TAZOE; J. HUIE; J. HAEFELI; C. A. ALMEIDA; J. A. SACRAMENTO; J. C. BRESNAHAN; M. S. BEATTIE; S. TANAKA; T. OGATA; A. R. FERGUSON. *Brain and Spinal Injury Ctr. (BASIC), UCSF, Res. Institute, Natl. Rehabil. Ctr. for the Persons with Disabilities, Tokyo Metropolitan Inst. of Med. Sci., San Francisco Veterans Affairs Med. Ctr., The Univ. of Tokyo.*
- 4:00 U9 **213.28** Shifting macrophage polarisation to the anti-inflammatory state in the injured CNS. D. K. SHUM*; K. TAM; Y. CHAN. *Sch. of Biomed. Sci., Fac. Med., Univ. Hong Kong, The Univ. of Hong Kong.*
- 1:00 U10 **213.29** Role of macrophage lipid metabolism in inflammation after spinal cord injury. J. S. CHOI; C. B. RYAN; L. M. MILICH; J. K. LEE*. *Univ. of Miami Sch. of Med., Univ. of Miami.*

POSTER

214. The Role of TRP Channels in Pain and Itch**Theme D: Sensory Systems**

Sun. 1:00 PM – *San Diego Convention Center, SDCC Halls B-H*

- 1:00 U11 **214.01** Modulation of initiation of swallows evoked by continuous laryngeal TRPV1 activation in anesthetized rats. M. YOSHIHARA*; T. SUZUKI; K. NAGOYA; T. TSUJIMURA; M. INOUE. *Niigata Univ. Grad. Sch. of Med. and.*
- 2:00 U12 **214.02** • Phosphorylation of TRPV1 S801 contributes to inflammatory thermal hyperalgesia and spontaneous pain in mice. J. JOSEPH; L. QU; S. WANG; M. KIM; D. BENNETT; M. J. CATERINA; M. CHUNG*. *Univ. of Maryland Dent. Sch., Johns Hopkins Sch. Med.*
- 3:00 V1 **214.03** TRPA1 receptors are involved in the hypoxia-induced surfacing response of goldfish. M. KASAI*; S. HOSOSHIMA; A. KAWABATA; R. NAKASHIMA; T. IWAO; Y. HORINOCHI; M. KIMURA; Y. YOKOGAWA. *Kagoshima Univ.*
- 4:00 V2 **214.04** The role of sphingosine-1-phosphate in the peripheral nervous system. H. KITAKA*; J. DEBRECHT; S. K. MISHRA. *Col. of Vet. Medicine, North Carolina State Univ.*
- 1:00 V3 **214.05** The role of the temperature sensor TRPM8 in the thermoregulatory and metabolic adjustments to mild cold ambient temperatures. A. REIMUNDEZ DUBRA*; C. FERNANDEZ-PEÑA; G. GARCÍA; C. IGLESIAS; R. FERNANDEZ; P. ORDÁS; R. GALLEGO; J. L. PARDO-VAZQUEZ; V. ARCE; F. VIANA; R. SEÑARIS. *CIMUS, Univ. of Santiago de Compostela, Inst. of Neurosciences, Univ. Miguel Hernández/CSIC, Univ. of Santiago de Compostela.*
- 2:00 V4 **214.06** Molecular determinants of cold-evoked responses in mouse visceral and somatosensory neurons. K. GERS-BARLAG; F. VIANA*. *Inst. de Neurociencias UMH-CSIC.*
- 3:00 V5 **214.07** Over-activation of TRPV3 channels suppresses acute chemical itch. L. R. HORWITZ*; M. FATIMA; X. CHENG; H. XU; B. DUAN. *Univ. of Michigan, Univ. of Michigan.*
- 4:00 V6 **214.08** Extracellular miRNA-711 induces acute itch via TRPA1 and contributes to chronic itch in a mouse model of cutaneous T cell lymphoma. Q. HAN*; R. JI. *Duke Univ. Med. Ctr., Duke Univ. Med. Ctr.*
- 1:00 V7 **214.09** The role of transient receptor potential ankyrin 1 (TRPA1) in the development of muscle nociceptor sensitization caused by surgical injury. D. SUGIYAMA*; S. KANG; A. L. KEYES; T. J. BRENNAN. *Univ. of Iowa, Univ. of Iowa.*
- 2:00 V8 **214.10** TMEM16A-TRPV1 signalling complexes in sensory neurons. S. SHAH*; C. CARVER; M. SHAPIRO; N. GAMPER. *Univ. of Leeds, UT Hlth. San Antonio.*
- 3:00 V9 **214.11** Inhibition of transient receptor potential vanilloid type 1 (TRPV1) receptor by serotonin in dorsal root ganglia neurons. M. PUOPOLO*; J. LAUZADIS; Y. LU. *Stony Brook Med.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:00 DP08/V10 **214.12** (Dynamic Poster) Macrophage angiotensin signaling triggers redox activation of sensory neuron TRPA1 and peripheral pain transduction. D. P. MOHAPATRA*; B. A. COPITS; A. D. MICKLE; P. KARLSSON; S. KADUNGANATTIL; S. HAROUTOUNIAN; S. TADINADA; A. D. DE KLOET; M. V. VALTCHEVA; L. A. MCILVRIED; S. JAIN; T. D. SHEAHAN; P. R. RAY; Y. M. USACHEV; G. DUSSOR; E. G. KRAUSE; T. J. PRICE; R. W. GEREAU, IV; A. J. SHEPHERD. *Washington Univ. Sch. of Med., Aarhus Univ. Hosp., The Univ. of Iowa Carver Col. of Med., Univ. of Florida, Col. of Med., Washington Univ. Sch. of Med., The Univ. of Texas at Dallas, Univ. of Florida.*
- 1:00 V11 **214.13** Chronic ocular dryness sensitizes TRPV1 on corneal cold-sensitive nerves. T. MASUOKA*; Y. YAMASHITA; M. TAWA; M. NISHIO; I. MURAMATSU; T. ISHIBASHI. *Kanazawa Med. Univ.*
- 2:00 V12 **214.14** Histaminergic and non-histaminergic itch is accompanied by thermal and mechanical hyperalgesia via TRPV1 and TRPA1 channels. M. G. TSAGARELI*; I. NOZADZE; N. TSIKLARI; G. GURTSKAIA. *Ivane Beritashvili Exptl. Biomedicine Ctr.*
- 3:00 V13 **214.15** • Resolvin D3 is a potent inhibitor for transient receptor potential vanilloid 1 channel controls psoriasisform skin inflammation and pruritus in mice. S. LEE*; R. TONELLO; Y. KIM; C. PARK; T. BERTA. *Univ. of Cincinnati, Duke Univ. Med. Ctr., Gachon University, Col. of Med.*
- 4:00 V14 **214.16** TRPV1 receptors are located in Wistar rat tongue. A. MOLINA*; B. PAIZ; A. JACINTO; J. DE LA ROSA; V. ALATRISTE. *Ctr. de Investigación Y Estudios Superiores En E, Ctr. de Investigación Y Estudios Superiores En E, Benemerita Univ. Autonoma de Puebla.*
- 1:00 V15 **214.17** Peripheral matrix metalloproteinase-9 mediates bone cancer pain. W. LIN*; X. ZHANG; Y. ZHANG. *Inst. of Brain Science, Fudan Univ.*
- 1:00 W4 **215.05** • Disrupted functional connectivity of mediodorsal thalamus in patients with irritable bowel syndrome. K. YASUDA*; T. IKUTA. *euglena Co.,Ltd., Univ. of Mississippi.*
- 2:00 W5 **215.06** • The effects of optogenetic modulation of rat anterior cingulate cortical glutamatergic neurons on the affective component of pain. S. JARRIN*; A. PANDIT; M. ROCHE; D. P. FINN. *Natl. Univ. of Ireland - Galway, Natl. Univ. of Ireland - Galway, Natl. Univ. of Ireland - Galway.*
- 3:00 W6 **215.07** Simultaneous multi-region local field potential recording in response to noxious stimulus. Z. WANG*; Y. B. PENG. *The Univ. of Texas At Arlington.*
- 4:00 W7 **215.08** Thalamocortical circuit mechanism of nociception gating involving cortical parvalbumin expressing interneurons in mice. Y. HUH*; D. JUNG; T. SEO; H. RHIM; Y. KWON; M. BIKSON; J. J. KIM; J. CHO. *Catholic Kwandong Univ., Korea Institute of Sci. and Technology(KIST), Seoul Natl. Univ., Korea Inst. Sci. Tech. (KIST), City Col. of New York, Univ. of Washington.*
- 1:00 W8 **215.09** Investigating mechanisms of network excitability in the casein kinase 1 delta (CK1δ) migraine mutant mouse. P. S. SURYAVANSHI*; P. SAWANT POKAM; K. BRENNAN. *Univ. of Utah.*
- 2:00 W9 **215.10** Functional and structural changes in the amygdala of the blind mouse showing hyperalgesia. T. SARA*; S. ALAIN; D. R. GALLINO; M. CHAKRAVARTY; G. BRONCHTI; M. PICHE. *UQTR, Univ. of Quebec in Trois-Rivieres, Douglas Mental Hlth. Univ. Inst., Univ. Quebec Trois-Rivieres, Univ. du Quebec a Trois-Rivieres.*
- 3:00 W10 **215.11** Inflammatory and neuropathic pain enhances neural excitability and synaptic transmission in a population of GRM2+ neurons in anterior cingulate cortex. S. CHEN*; A. N. REKER; S. DAVIDSON. *Univ. of Cincinnati, Univ. of Cincinnati.*
- 4:00 W11 **215.12** Congenital pain insensitivity mutation in nerve growth factor gene uncouples nociception from central features of pain in heterozygous humans and mice. G. TESTA; I. PERINI; M. MAINARDI; C. MORELLI; F. OLIMPICO; L. PANCAZZI; C. PETRELLA; C. SEVERINI; R. FLORIO; F. MALERBA; P. HEPPENSTALL; M. COSTA; I. MORRISON; S. CAPSONI*; A. CATTANEO. *Scuola Normale Superiore, Dept. of Clin. and Exptl. Medicine, IKE, European Mol. Biol. Lab. (EMBL), Inst. of Neuroscience, CNR, Inst. of Cell. Biol. and Neurobiology, CNR, Rome, Rita Levi-Montalcini EBRI, Linköping Univ., Univ. of Ferrara.*
- 1:00 W12 **215.13** Nociceptive neurons in the ventral posterolateral thalamic nucleus are predominantly modulated by synaptic input from the reticular thalamic nucleus revealed by viral genetic tracing. M. UMORIN*; X. LIN; X. XU. *Texas A&M Univ. Col. of Dent., Univ. of California Irvine, Univ. California, Irvine.*
- 2:00 W13 **215.14** Modulation of central nociceptive transmission by P2X7 in thalamocingulate circuit. Y. KUAN*; S. CHENG; B. SHYU. *IBMS, Neurosci. Program In Academia Sinica, NPAS.*
- 3:00 W14 **215.15** Building a prototype rodent brain-machine interface for acute pain modulation. Q. ZHANG*; Z. XIAO; S. HU; Z. CHEN; J. WANG. *New York Univ., New York Univ. Med. Sch., New York Univ. Med. Sch.*

POSTER

215. Pain: Thalamic and Cortical Processing

Theme D: Sensory Systems

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 V16 **215.01** Estrogen receptor alpha agonist PPT reversed the effects of letrozole in the thalamus of rats with zoster pain. L. L. BELLINGER*; M. RAO; C. P. STINSON; P. KINCHINGTON; M. B. YEE; P. R. KRAMER. *Texas A&M Univ. Col. of Dent., Univ. of Pittsburgh.*
- 2:00 W1 **215.02** ▲ A central neural circuit for nociceptive hypersensitivity. H. WANG*; P. DONG. *Zhejiang Univ.*
- 3:00 W2 **215.03** ASIC1a mediates pain hypersensitivity through regulation of synaptic plasticity in anterior cingulate cortex. H. LI*; M. LIU; X. SU; X. QI; X. SONG; T. XU. *Shanghai Jiao Tong Univ. Sch. of Med., Shanghai Jiao Tong Univ. Sch. of Med.*
- 4:00 W3 **215.04** Excitatory input from the anterior cingulate cortex to the dorsal periaqueductal gray promotes the affective component of pain. J. DICKINSON*; M. L. SMITH; G. F. CORDER; A. FRANCOIS; R. C. MALENKA; G. SCHERRER. *Stanford Univ., Stanford, Stanford Univ. Sch. of Med., Stanford Univ.*

POSTER

216. Treatments for Persistent Pain

Theme D: Sensory Systems

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 W15 **216.01** ● Bias towards β -arrestin-2 mediates the analgesic effects of apelin receptor-selective ligands. É. BESSERER-OFFROY*; M. LAFRANCE; M. DANSEREAU; M. OUIRZANE; N. BODE; A. MURZA; J. LONGPRÉ; R. LEDUC; M. BEHLKE; É. MARSAULT; P. SARRET. *Univ. de Sherbrooke, Inst. de pharmacologie de Sherbrooke, Integrated DNA Technologies.*
- 2:00 W16 **216.02** Repurposing the Nrf2 activator dimethyl fumarate for treatment of neuropathic pain. J. LI*; J. MA; M. J. LACAGNINA; A. KAVELAARS; P. M. GRACE. *The Univ. of Texas MD Anderson Cancer Ctr., The Univ. of Texas MD Anderson Cancer Ctr.*
- 3:00 W17 **216.03** Artemin is overexpressed in oral cancer and induces oral cancer pain. N. H. TU*; E. CHEN; R. VEERAMACHANENI; A. BHATTACHARYA; R. KLARES, III; A. LOEB; P. C. BURKE; B. L. SCHMIDT; D. G. ALBERTSON. *Bluestone Ctr. For Clin. Res.*
- 4:00 W18 **216.04** Bee venom treatment alleviates scalding burn pain in mice. D. KANG; S. KANG; J. CHOI; T. KIM; C. KIM; S. LEE; B. JEON; J. PARK; Y. RYU; H. KIM*. *Col. of Medicine, Chungnam Natl. Univ., Korea Inst. of Oriental Med.*
- 1:00 X1 **216.05** D1 and D3 receptor modulators as adjunct therapy for pain management after spinal cord injury. H. M. RODGERS*; J. YOW; E. EVANS; R. PATTON; S. CLEMENS; K. L. BREWER. *East Carolina Univ. Brody Sch. of Med., East Carolina Univ.*
- 2:00 X2 **216.06** ● Treatment with novel endomorphin analog protects against latent sensitization and expedites recovery from chronic pain. A. K. FEEHAN*; J. E. ZADINA. *Tulane Univ., Tulane Univ. Sch. of Med., SE Louisiana Veterans HCS.*
- 3:00 X3 **216.07** CCL5/CCR5 signalling in descending circuitry plays a role in bone marrow stromal cell-produced antihyperalgesia. W. GUO; J. YANG; S. IMAI; S. ZOU; H. LI; H. H. XU; K. D. MOUDGIL; R. DUBNER; F. WEI; K. REN*. *Univ. of Maryland Sch. of Dent., Kyoto Univ. Hosp., Sun Yat-Sen Univ., Univ. of Maryland Sch. of Dent., Univ. of Maryland Sch. of Med., Univ. of Maryland Sch. of Dent.*
- 4:00 X4 **216.08** Characterization and modulation of human t-type calcium channels by synthetic cannabinoids *in vitro*. C. BLADEN*; S. MIRLOHI; M. SANTIAGO; M. LONGWORTH; M. KASSIOU; S. BANISTER; M. CONNOR. *Macquarie Univ., Univ. of Sydney, Univ. of Sydney.*
- 1:00 X5 **216.09** click-chemistry based volatile albumin platform targeting M2 activated microglial cells. B. LEE*; J. PARK; S. OH; Y. LEE; G. CHUNG. *Seoul Natl. Univ., Seoul Natl. Univ., Sch. of Dent, Seoul Nat'l Univ.*
- 2:00 X6 **216.10** Targeting peripherally restricted CB1 receptors and endogenous cannabinoid systems for the treatment of cancer-induced bone pain while preventing chronic opioid-induced reward. H. ZHANG*; D. LUND; D. COLEMAN; R. DAVIDSON-KNAPP; H. CICCONE; W. STAATZ; M. IBRAHIM; T. LARGENT-MILNES; H. SELTZMAN; I. SPIGELMAN; T. VANDERAH. *Univ. of Arizona, Univ. of Arizona, Res. Triangle Inst., UCLA.*
- 3:00 X7 **216.11** ● Distributed network model of effects of spinal cord stimulation (SCS) on wide-dynamic range (WDR) neurons. J. GILBERT*; T. ZHANG; R. ESTELLER; W. M. GRILL. *Duke Univ., Boston Scientific Neuromodulation, Duke Univ.*
- 4:00 X8 **216.12** The HDAC2-YY1 complex epigenetically regulates spinal glutamate transporter activities: Implication for therapeutic target for chemotherapy-induced painful peripheral neuropathy. X. WANG*; P. GU; J. YU; C. CHEUNG. *The Univ. of Hong Kong.*
- 1:00 X9 **216.13** Daily intake of Japanese rice wine (sake) reduces masseter muscle nociceptive responses in the trigeminal subnucleus caudalis after psychophysical stress in the rats. Y. NAKATANI*; S. SHIMIZU; M. KUROSE; Y. KAKIHARA; M. SAEKI; K. YAMAMURA; R. TAKAGI; K. OKAMOTO. *Niigata Univ. Grad. Sch. of Med. and, Niigata Univ. Grad. Sch. of Med. and, Niigata Univ. Grad. Sch. of Med. and.*
- 2:00 X10 **216.14** A potent anti-nociceptive effect after spinal subpial AAV9-mediated GAD65 and VGAT gene delivery: A systematic study in neuropathic mice and adult pig. T. TADOKORO*; A. MIYANOHARA; O. PLATOSHYN; M. BRAVO-HERNÁNDEZ; S. MARSALA; M. MARSALA. *UCSD.*
- 3:00 X11 **216.15** Therapeutic gene modulation of the CCR2 chemokine receptor confers analgesia and anti-proliferative activity in a rat model of cancer-induced bone pain. E. MIDAVAINÉ*; A. TRÉPANIÉ*; M. DANSEREAU; A. JACOBI; S. ROSE; M. BEHLKE; J. LONGPRÉ; P. SARRET. *Univ. de Sherbrooke, Integrated DNA Technologies.*
- 4:00 X12 **216.16** ● Retrospective analysis of scrambler therapy in patients with chronic neuropathy. N. PRAKASH*; G. VARATKAR; R. VANDERBRINK; S. EGGLESTON; I. CHILIAN; A. LEITNER; J. HAYTER; K. VENKATARAMAN. *City of Hope, City of Hope.*
- 1:00 X13 **216.17** ● A network model of nociceptive processing in the superficial dorsal horn: Validation and effects of spinal cord stimulation. J. GILBERT; T. ZHANG; R. ESTELLER; W. M. GRILL*. *Duke Univ., Boston Scientific Neuromodulation.*
- 2:00 X14 **216.18** ● Assessment of axonal recruitment with model-guided preclinical spinal cord stimulation in the *ex vivo* adult mouse spinal cord. S. IDLETT*; M. HALDER; J. N. QUEVEDO; T. ZHANG; N. BRILL; W. GU; M. MOFFITT; S. HOCHMAN. *Emory Univ., Georgia Inst. of Technol., CINVESTAV del IPN, Boston Scientific Neuromodulation.*
- 3:00 Y1 **216.19** ▲ Orientation selective stimulation of dorsal root ganglia axons using computational models. L. R. MADDEN; J. P. SLOPSEMA; L. J. LEHTO; C. A. CUELLAR; I. A. LAVROV; S. MICHAELI; M. D. JOHNSON*. *Univ. of Minnesota, Univ. of Minnesota, Univ. of Minnesota, Mayo Clin., Mayo Clin.*
- 4:00 Y2 **216.20** ● The response of superficial dorsal neurons during kilohertz-frequency spinal cord stimulation. S. KUO*; T. ZHANG; R. ESTELLER; M. MOFFITT; W. M. GRILL. *Duke Univ., Boston Scientific Neuromodulation, Duke Univ.*
- 1:00 Y3 **216.21** Biodistribution of AAV5 viral particles and target gene expression in aged mice. K. R. PFLEPSEN*; C. PETERSON; H. O. NGUYEN; K. F. KITTO; M. S. RIEDL; L. VULCHANOVA; G. L. WILCOX; C. A. FAIRBANKS. *Univ. of Minnesota, Univ. of Minnesota, Univ. Minnesota, Univ. of Minnesota Dept. of Neurosci., Univ. Minnesota Med. Sch., Univ. Minnesota.*

Sun. PM

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 2:00 Y4 **216.22** Anti-PD-1 monoclonal antibody Nivolumab protects against bone destruction and alleviates cancer pain in a mouse model of bone cancer. K. WANG*; S. BANG; R. JI. *Duke Univ. Hlth. Syst., Duke Univ. Med. Ctr., Duke Univ. Med. Ctr.*
- 3:00 Y5 **216.23** ▲ Impacts of *hymenolepis diminuta* (helminth worm) colonization on chronic pain in male Sprague Dawley rats. H. E. LIPPMAN*; S. FULGHAM; S. BILBO; W. PARKER; S. MAIER; L. WATKINS. *Univ. of Colorado Boulder, Univ. of Colorado Boulder, Harvard Univ., Duke Univ.*
- 4:00 Y6 **216.24** The effect of voluntary wheel running on activation of oxygen regulation transcription factors after chronic constriction injury. S. M. FULGHAM*; J. B. BALL; S. F. MAIER; L. R. WATKINS; P. M. GRACE. *CU Boulder, Univ. of Texas MD Anderson.*
- 1:00 Y7 **216.25** Voluntary wheel running protects against hippocampal dependent memory deficits caused by chronic constriction injury of the sciatic nerve. J. BALL*; S. GREEN-FULGHAM; M. R. FLESHNER; R. M. BARRIENTOS; N. PLATTNER; T. HEDESHIAN; S. F. MAIER; L. R. WATKINS; P. M. GRACE. *CU Boulder, CU Boulder, Univ. of Texas MD Anderson.*
- 2:00 Y8 **216.26** Computational model of evoked potentials recorded during spinal cord stimulation for pain. C. J. ANAYA*; H. ZANDER; S. F. LEMPKA. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*
- 3:00 Y9 **216.27** Role of tissue heterogeneity in computational models of epidural spinal cord stimulation. H. ZANDER*; S. F. LEMPKA. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*
- 4:00 Y10 **216.28** Dorsal root ganglion stimulation for chronic pain: A computational analysis of neural activation. R. D. GRAHAM*; T. M. BRUNS; B. DUAN; S. F. LEMPKA. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan.*

POSTER

217. Olfaction: Second Order Regions: Olfactory Bulb and Antennal Lobe

Theme D: Sensory Systems

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 Y11 **217.01** Neuronal characteristics of rat olfactory bulb dopamine neurons and their functional significance in signal gating. K. S. KORSHUNOV*; L. J. BLAKEMORE; P. Q. TROMBLEY. *Florida State Univ.*
- 2:00 Y12 **217.02** Perception and representation of temporally structured odor stimuli in the mouse olfactory bulb. T. ACKELS*; A. ERSKINE; D. DASGUPTA; I. FUKUNAGA; A. C. MARIN; A. T. SCHAEFER. *The Francis Crick Inst., Univ. Col. London, Okinawa Inst. of Sci. and Technol.*
- 3:00 Y13 **217.03** The 128nm architecture of the dorsal MOR174-9 mouse glomerular column. C. BOSCH PIÑOL*; T. ACKELS; I. WHITELEY; M. BERNING; K. M. BOERGENS; M. HELMSTAEDTER; K. L. BRIGGMAN; T. W. MARGRIE; A. T. SCHAEFER. *The Francis Crick Inst., Max Planck Inst. of Brain Res., Ctr. of Advanced European Studies and Res., Sainsbury Wellcome Ctr.*
- 4:00 Y14 **217.04** Adrenergic modulation of I_h in adult-born granule cells of the olfactory bulb. R. HU*; P. S. VILLAR; G. Z. DONG; R. C. ARANEDA. *Univ. of Maryland.*
- 1:00 Y15 **217.05** An anatomically-derived model of olfactory bulb connectivity for simulation of the effects of cortical feedback. D. E. KERSEN*; G. TAVONI; V. BALASUBRAMANIAN. *Univ. of Pennsylvania.*
- 2:00 Y16 **217.06** Sensory encoding of natural odor dynamics by mitral and tufted cells in the olfactory bulb. S. M. LEWIS*; J. PARK; M. F. TARIQ; A. SEMINARA; D. H. GIRE. *Univ. of Washington, Univ. of Washington, Univ. of Washington, CNRS, Univ. Nice Sophia Antipolis.*
- 3:00 Y17 **217.07** Electrophysiological evidence of lateralization in the olfactory system. E. IANNILLI; T. HUMMEL; P. BRUNNER; G. SCHALK*. *Wadsworth Ctr, NYSDOH, TU Dresden, Albany Med. Col., State Univ. of New York.*
- 4:00 Y18 **217.08** Functional features of identical glomeruli in the medial/lateral maps in the mouse olfactory bulb. T. SATO*; R. HOMMA; S. NAGAYAMA. *McGovern Med. Sch. At UTHealth.*
- 1:00 Z1 **217.09** Spatial transcriptomics of olfactory receptors for high throughput mapping of olfactory bulb glomeruli. K. ZHU*; S. D. BURTON; M. WACHOWIAK; H. MATSUNAMI. *Duke Univ., Univ. of Utah.*
- 2:00 Z2 **217.10** Learning induced changes in network structure lead to reliable spatiotemporal representations of odors. C. G. ASSISI*; S. GARG. *Indian Inst. of Sci. Educ. and Res. Pune.*
- 3:00 Z3 **217.11** Defining the functions of olfactory bulb processing via comparison of input and output. D. A. STORACE*; L. B. COHEN. *Yale Univ., Korea Inst. of Sci. and Technol.*
- 4:00 Z4 **217.12** Differential modulation of olfactory bulb activity by the basal forebrain. E. BÖHM; V. SCHWEDA; J. KOESLING; D. BRUNERT; M. ROTHERMEL*. *RWTH Aachen Univ.*
- 1:00 Z5 **217.13** Dense reconstruction of network-level whitening operations in the olfactory bulb. A. A. WANNER*; R. W. FRIEDRICH. *Princeton Univ., Friedrich-Miescher-Institute for Biomed Res.*
- 2:00 Z6 **217.14** The role of adult born neurons in mitral cell odor coding. H. SHANI NARKISS*; A. VINOGRAD; G. TASAKA; S. TERLETSKY; M. GROYSMAN; A. MIZRAHI. *The Hebrew Univ. of Jerusalem.*
- 3:00 Z7 **217.15** Development and refinement of functional properties of adult-born neurons in the olfactory bulb. J. WALLACE*; V. MURTHY. *Harvard Univ.*
- 4:00 Z8 **217.16** Calcium imaging of concentration change coding in the mouse olfactory bulb. M. A. BROWN*; P. R. PARKER; R. SHUSTERMAN; M. SMEAR. *Univ. of Oregon Inst. of Neurosci., Univ. of Oregon, Univ. of Oregon.*
- 1:00 Z9 **217.17** Does the power of the local field potential in the olfactory bulb carry information on odorant concentration? J. LOSACCO*; D. RESTREPO. *Univ. of Colorado, Anschutz Med. Campus.*
- 2:00 Z10 **217.18** Serotonergic neurons in the *Drosophila* olfactory system have a combination of both top-down and bottom-up connectivity. K. COATES*; S. A. CALLE-SCHULER; J. S. LAURITZEN; B. N. MARTIK; L. WARNER; S. V. VALLA; F. LI; D. D. BOCK; A. M. DACKS. *West Virginia Univ., Janelia Res. Campus.*

- 3:00 Z11 **217.19** Differential processing through distinct neural ensembles in the *Drosophila* olfactory system. D. LING*; H. RONG; S. PARK; Y. BEN-SHAHAR; M. ANASTASIO; B. RAMAN. *Washington Univ. in St Louis, Washington Univ., Washington Univ. in St Louis, Washington Univ. in St. Louis.*
- 4:00 Z12 **217.20** Modeling network connectivity for dopamine-mediated olfactory learning in mosquitos. K. JUNG; J. RIFFELL; E. SHLIZERMAN*. *Univ. of Washington.*
- 1:00 Z13 **217.21** Multiple neuromodulators influence odor coding via distinct mechanisms. K. M. LIZBINSKI*; A. M. DACKS. *West Virginia Univ., West Virginia Univ.*
- 2:00 Z14 **217.22** Distinct ensembles encode opposing odor valences in the antennal lobe. R. CHANDAK*; B. RAMAN. *Washington Univ. in St. Louis, Washington Univ. in St. Louis.*
- 3:00 Z15 **217.23** Encoding the expectation of a sensory stimulus. L. ZHANG*; A. B. CHEN; D. SAHA; B. RAMAN. *Washington Univ. In St. Louis, Washington Univ. In St. Louis.*
- 4:00 Z16 **217.24** Novelty detection in early olfactory processing of the honeybee, *apis mellifera*. H. LEI*; S. HANEY; C. M. JERNIGAN; X. GUO; C. COOK; M. BENZHANOV; B. SMITH. *Arizona State Univ., UCSD, Inst. of Zoology, Univ. of California San Diego.*
- 1:00 Z17 **217.25** Glutamate-gated chloride channel receptors in the olfactory neuropils in the honey bee brain. I. SINAKEVITCH*; C. ARMENGAUD; B. H. SMITH. *Arizona State Univ., Ctr. de Recherches sur la Cognition Animale.*
- 2:00 Z18 **217.26** Metamorphic development of the olfactory system in the red flour beetle (*tribolium castaneum*). B. TREBELS*; S. DIPPEL; B. GÖTZ; C. KNOLL; M. UHL; E. A. WIMMER; J. SCHACHTNER. *Philipps-University Marburg, Georg-August-University Göttingen.*

POSTER

218. Taste

Theme D: Sensory Systems

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 AA1 **218.01** Ingesting/rejecting food may be determined in peripheral neurons in *Aplysia buccal* mass. K. UMETA*; T. YANAGI; Y. YOSHIMI. *Shibaura Inst. of Technol.*
- 2:00 AA2 **218.02** Incidental taste experience enhances learning and changes firing-rate dynamics in gustatory cortex. V. FLORES*; J. WACHUTKA; D. LEVITAN; D. B. KATZ. *Brandeis Univ., Brandeis Univ., Brandeis Univ., Brandeis Univ.*
- 3:00 AA3 **218.03** BDNF overexpression in transgenic mouse-lines preserves T1R3 and prevents taste disorder following chemotherapy. G. LUONG; L. G. PALACIOS; S. KEZIAN; A. TRAN; B. S. HENSON; C. A. NOSRAT; I. VUKMANOVIC NOSRAT*. *Western Univ. of Hlth. Sci., Western Univ. of Hlth. Sci.*
- 4:00 AA4 **218.04** Wiring bitter taste with semaphorin signals. L. J. MACPHERSON*; H. LEE. *UT San Antonio, Columbia Univ.*
- 1:00 AA5 **218.05** Lithium chloride injection alters taste processing in the gustatory cortex. B. T. STONE*; J. LIN; N. MUKHERJEE; D. KATZ. *Brandeis Univ.*
- 2:00 AA6 **218.06** Optogenetic stimulation of gabaergic neurons in the nucleus of the solitary tract of the rat enhances taste information and retards taste-related learning. J. D. SAMMONS*; C. E. BASS; J. D. VICTOR; P. M. DI LORENZO. *Binghamton Univ., Univ. At Buffalo SUNY, Weill Cornell Med. Col.*
- 3:00 AA7 **218.07** Effects of d/l-valine on the taste circuit in the perinatal period. A. ARATA*; K. NAKAYAMA; C. YOSHIDA; S. MOROKUMA; Y. TAKESHIMA. *Hyogo Col. of Med., Hyogo Col. of Med., Steel Mem. Hirohata Hosp., Kyushu Univ.*
- 4:00 AA8 **218.08** Inhibitory modulation of thalamocortical input to rat primary gustatory cortex. M. HALEY*; A. FONTANINI; A. MAFFEI. *SUNY at Stony Brook.*
- 1:00 AA9 **218.09** Foliate taste bud volume is retained following adult chorda tympani nerve injury in rats. K. L. APA*; S. I. SOLLARS. *Univ. of Nebraska at Omaha.*
- 2:00 AA10 **218.10** ▲ Responses to sweetened fat in male and female rats classified as sucralose avoiders or sucralose preferers. A. GOULD*; Y. TREESUKOSOL. *California State Univ. Long Beach.*
- 3:00 AA11 **218.11** Brief perturbation of amygdala-cortical projections alters palatability coding in gustatory cortex. J. LIN*; N. MUKHERJEE; D. KATZ. *Brandeis Univ.*
- 4:00 BB1 **218.12** Neural correlates of goal-directed decision making in the gustatory cortex of mice. K. CHEN*; R. VINCIS; L. A. CZARNECKI; A. FONTANINI. *SUNY Stony Brook.*
- 1:00 DP09/BB2 **218.13** (Dynamic Poster) Spatial organization of awake taste responses in mouse gustatory cortex using miniature head-mounted microscopes. S. M. STASZKO*; L. LU; J. D. BOUGHTER; M. L. FLETCHER. *Univ. of Tennessee Hlth. Sci. Ctr.*
- 2:00 BB3 **218.14** Effect of weight-loss following in obese rats; diet composition and food preferences. T. NGUYEN*; M. S. WEISS; P. M. DI LORENZO. *Binghamton Univ.*
- 3:00 BB4 **218.15** Sucrose's palatability in the Lateral Hypothalamus is encoded by GABAergic and non-GABAergic neurons. M. HERNANDEZ LUNA*; M. VILLAVICENCIO; J. LUIS-ISLAS; A. HERNÁNDEZ-COSS; R. GUTIERREZ. *Cinvestav, Cinvestav, Cinvestav, Cinvestav.*
- 4:00 BB5 **218.16** Elemental and configural representations of multimodal associative cues in the gustatory cortex of alert mice. L. A. CZARNECKI*; A. FONTANINI. *SUNY Stony Brook.*
- 1:00 BB6 **218.17** Spiking of taste neurons in the nucleus of the solitary tract is modulated by theta oscillations. A. DENMAN-BRICE*; P. DI LORENZO. *Binghamton Univ.*
- 2:00 BB7 **218.18** Electrophysiological responses to sugars and amino acids in the nucleus of the solitary tract of type 1 taste receptor double knockout mice. K. BALASUBRAMANIAN*; G. D. BLONDE; A. C. SPECTOR; S. P. TRAVERS. *The Ohio State University, Florida State Univ.*
- 3:00 BB8 **218.19** Electrophysiological responses to food and feeding in the nucleus of the solitary tract in the rat. S. PILATO*; P. DI LORENZO. *Binghamton Univ., Binghamton Univ.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

POSTER

219. Visual Cortex: Functional Architecture and Circuits I

Theme D: Sensory Systems

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 BB9 **219.01** Sample preparation for high throughput functional connectomics using calcium imaging and transmission electron microscopy. J. BUCHANAN*; M. M. TAKENO; A. L. BODOR; D. J. BUMBARGER; A. A. BLECKERT; M. FROUDARAKIS; J. REIMER; A. S. TOLIAS; R. REID; N. M. DA COSTA. *Allen Inst. for Brain Sci., Allen Inst. for Brain Sci., Allen Inst., Baylor Col. of Med.*
- 2:00 BB10 **219.02** Accuracy of sensory information does not saturate for large neuronal populations. R. J. COTTON*; A. S. ECKER; E. FROUDARAKIS; P. BERENS; M. BETHGE; P. SAGGAU; A. S. TOLIAS. *Shirley Ryan Abilitylab, Ctr. for Integrative Neurosci., Baylor Col. of Med., Univ. of Tübingen, Univ. of Tübingen, Allen Institute for Brain Sci., Baylor Col. of Med.*
- 3:00 BB11 **219.03** Differential surround influence on V1 neuronal responses dependent on presence of center stimuli. J. FU*; F. H. SINZ; S. SHEN; X. S. PITKOW; A. S. TOLIAS. *Baylor Col. of Med.*
- 4:00 BB12 **219.04** Analyzing inhibitory connectivity onto pyramidal cells in a densely reconstructed volume of visual cortex. S. DORKENWALD*; A. BODOR; T. NICK; A. WILSON; T. MACRINA; A. BAE; A. BLECKERT; D. BUMBARGER; D. BUNIATYAN; E. FROUDARAKIS; D. IH; C. JORDAN; N. KEMNITZ; K. LEE; R. LU; S. POPOVYCH; W. SILVERSMITH; I. TARTAVULL; W. WONG; J. WU; J. ZUNG; J. REIMER; C. R. REID; A. S. TOLIAS; N. DA COSTA; H. S. SEUNG. *Princeton Univ., Allen Inst. for Brain Sci., Baylor Col. of Med., MIT, Baylor Col. of Med., Rice Univ.*
- 1:00 BB13 **219.05** Connectivity and function of two cortical feedback circuits. S. SHEN*; X. JIANG; F. SCALA; J. REIMER; J. FU; P. FAHEY; F. SINZ; A. TOLIAS. *Baylor Col. of Med.*
- 2:00 BB14 **219.06** Stimuli for fast mapping of feature tuning in mouse visual cortex. D. YATSENKO*; P. G. FAHEY; E. FROUDARAKIS; J. REIMER; E. Y. WALKER; F. H. SINZ; E. COBOS; A. S. TOLIAS. *Baylor Col. of Med., Baylor Col. of Med., Baylor Col. of Med.*
- 3:00 BB15 **219.07** Dense volume functional calcium imaging in mouse visual cortex. P. FAHEY*; J. REIMER; E. FROUDARAKIS; E. COBOS; F. H. SINZ; D. YATSENKO; T. MUHAMMAD; A. S. TOLIAS. *Baylor Col. of Med., Rice Univ.*
- 4:00 BB16 **219.08** Automated high-throughput transmission electron microscope imaging pipeline for connectomics. W. YIN*; ESQ; D. BRITTAİN; J. BORSETH; M. SCOTT; D. WILLIAMS; J. PERKINS; D. CASTELLI; N. DA COSTA; C. REID. *Allen Inst. for Brain Sci.*
- 1:00 BB17 **219.09** Deciphering the wiring diagram of layer 4 neuronal circuit of visual cortex of adult mice at the level of morphologically defined cell types. F. SCALA*; S. SHEN; S. PAPADOPOULOS; S. LATURNUS; J. CASTRO; P. BERENS; X. JIANG; A. S. TOLIAS. *Baylor Col. of Med., Univ. Tübingen, Univ. of Tübingen.*
- 2:00 CC1 **219.10** DataJoint: A framework for scientific data pipelines. J. REIMER*; D. YATSENKO; E. Y. WALKER; F. H. SINZ; C. TURNER; A. S. TOLIAS. *Baylor Col. of Med., Baylor Col. of Med.*
- 3:00 CC2 **219.11** Pyramidal-to-interneuron connectivity rules in mouse primary visual cortex deciphered by combining calcium imaging and 3D electron microscopy. A. M. WILSON*; S. DORKENWALD; T. MACRINA; N. TURNER; J. A. BAE; D. IH; C. JORDAN; N. KEMNITZ; K. LEE; R. LU; S. POPOVYCH; W. SILVERSMITH; I. TARTAVULL; W. WONG; J. WU; J. ZUNG; E. FROUDARAKIS; A. BLECKERT; A. BODOR; D. BUMBARGER; J. REIMER; A. S. TOLIAS; N. M. DA COSTA; R. REID; H. SEUNG. *Princeton Univ., MIT, Baylor Col. of Med., Baylor Col. of Med., Allen Inst. for Brain Sci., Rice Univ., Allen Inst. for Brain Sci.*
- 4:00 CC3 **219.12** An automated anatomical reconstruction system for petascale connectomics. N. L. TURNER*; J. BAE; D. BUNIATYAN; S. DORKENWALD; N. KEMNITZ; D. IH; K. LEE; R. LU; T. MACRINA; S. POPOVYCH; W. SILVERSMITH; I. TARTAVULL; J. WU; W. WONG; J. ZUNG; E. FROUDARAKIS; P. FAHEY; J. REIMER; A. L. BODOR; A. A. BLECKERT; D. J. BUMBARGER; N. M. DA COSTA; A. S. TOLIAS; R. REID; H. SEUNG. *Princeton Univ., Baylor Col. of Med., Baylor Col. of Med., Allen Inst. for Brain Sci., Allen Inst. for Brain Sci.*
- 1:00 CC4 **219.13** Comparing the connectivity fraction for axo-dendritic contacts with pyramidal neuron spiny dendrites and interneuron nonspiny dendrites in mouse V1. T. MACRINA*; N. TURNER; R. LU; D. IH; K. LEE; J. WU; S. POPOVYCH; W. SILVERSMITH; N. KEMNITZ; W. WONG; C. JORDAN; I. TARTAVULL; J. ZUNG; D. BUNIATYAN; S. DORKENWALD; J. A. BAE; D. BUMBARGER; A. BLECKERT; N. DA COSTA; R. C. REID; H. S. SEUNG. *Princeton Univ., Uber AI Labs, Allen Inst. for Brain Sci.*
- 2:00 CC5 **219.14** In silico characterization of non-linear response properties of cortical neurons using maximally exciting images. F. H. SINZ*; E. Y. WALKER; E. FROUDARAKIS; P. G. FAHEY; A. S. ECKER; E. M. COBOS; J. REIMER; A. S. TOLIAS. *Baylor Col. of Med., Ctr. for Integrative Neurosci.*
- 3:00 CC6 **219.15** Optogenetic silencing of V1 neural activity during figure-ground segregation. L. KIRCHBERGER*; H. E. VAN BEEST; S. MUKHERJEE; U. H. SCHNABEL; M. W. SELF; P. R. ROELFSEMA. *Netherlands Inst. for Neurosci., Academic Med. Ctr., VU Univ.*
- 4:00 CC7 **219.16** The role of interneurons during figure-ground perception in mouse visual cortex. S. MUKHERJEE*; U. H. SCHNABEL; H. E. VAN BEEST; L. KIRCHBERGER; M. W. SELF; P. R. ROELFSEMA. *Netherlands Inst. For Neurosci., Academic Med. Ctr., Ctr. for Neurogenomics and Cognitive Res. (CNCR), VU Univ.*
- 1:00 CC8 **219.17** Active figure-ground segregation and its neuronal correlates throughout the mouse cortex. H. E. VAN BEEST*; U. H. SCHNABEL; S. MUKHERJEE; L. KIRCHBERGER; M. W. SELF; P. R. ROELFSEMA. *Netherlands Inst. for Neurosci., Academic Med. Ctr., VU Univ.*
- 2:00 CC9 **219.18** A fovea-like representation of space in mouse visual cortex. M. W. SELF*; H. E. VAN BEEST; L. KIRCHBERGER; S. MUKHERJEE; U. H. SCHNABEL; P. R. ROELFSEMA. *Netherlands Inst. for Neurosci., Academic Med. Ctr., Vrije Univ.*
- 3:00 CC10 **219.19** Temporal dynamics of the effect of optogenetic inactivation of V2 feedback on V1 responses. A. M. CLARK*; L. NURMINEN; A. ANGELUCCI. *Univ. of Utah, Univ. of Utah, Univ. of Utah.*
- 4:00 CC11 **219.20** Parallel feedback pathways between macaque visual areas V2 and V1. S. F. TA'AFUA*; F. FEDERER; S. MERLIN; A. ANGELUCCI. *Univ. of Utah, Univ. of Utah, Western Sydney Univ.*

* Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 1:00 CC12 **219.21** • Orientation organization of feedforward connections from V1 to V2 in macaque visual cortex. M. S. HASSANPOUR*; S. MERLIN; L. NURMINEN; F. FEDERER; A. ANGELUCCI. *Moran Eye Institute, Univ. of Utah, Present address: Sch. of Sci. and Health, Western Sydney Univ.*
- 2:00 CC13 **219.22** A direct feedback-to-feedforward circuit for fast feedback modulation of incoming feedforward signals. C. SIU*; S. MERLIN; F. FEDERER; A. ANGELUCCI. *Univ. of Utah, Western Sydney Univ.*

POSTER

220. Visual Motion II

Theme D: Sensory Systems

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 CC14 **220.01** Preattentive processing of visually simulated self-motion in humans and monkeys. A. SCHÜTZ; J. SCHWENK; C. SCHMITT; A. KAMINIARZ; B. O. WERNER; J. CHURAN*; F. BREMMER. *Philipps-University, Ctr. for Mind, Brain and Behavior - CMBB.*
- 2:00 CC15 **220.02** Dynamic perspective disambiguates depth from motion parallax: Human behavior and macaque v1 activity. M. GADOT*; G. C. DEANGELIS; H. SLOVIN. *Bar-Ilan Univ., Univ. of Rochester.*
- 3:00 CC16 **220.03** Optic flow selectivity in the macaque motion area V6: A direct parallel with human V6. F. STRAPPINI*; C. GALLETI; F. HADJ-BOUZIANE; G. DAL BO; C. GUEDJ; M. L. MEUNIER; A. FARNE; P. FATTORI; S. PITZALIS. *Weizmann Inst. of Sci., Univ. Bologna, INSERM, U1028, CNRS UMR5292, Lyon Neurosci. Res., Dept. of Biomed. and Neuromotor Sciences, Univ. of Bologna, INSERM - CNRS, INSERM U1028, Lyon Neurosci. Res. Center, INSERM 1028, CNRS 5292, Ucb11, Univ. of Bologna, Univ. of Rome 'Foro Italico'.*
- 4:00 DD1 **220.04** Glutamatergic facilitation of neural responses in area MT enhances visual motion perception in humans. M. SCHALLMO*; R. MILLIN; A. M. KALE; T. KOLODNY; R. A. E. EDDEN; R. A. BERNIER; S. O. MURRAY. *Univ. of Minnesota, Univ. of Washington, Johns Hopkins Univ., Univ. of Washington.*
- 1:00 DD2 **220.05** Short-latency ocular-following responses: Weighted average mechanism predicts the outcome of a competition between two sine wave gratings moving in opposite directions. B. M. SHELIGA*; C. QUAIA; E. J. FITZGIBBON; B. G. CUMMING. *Natl. Eye Inst.*
- 2:00 DD3 **220.06** Decoding the direction of implied motion in human early visual cortex. G. ALTAN*; A. BARTELS. *Univ. of Tübingen, Dept. of Psychology, Univ. of Tübingen, Max Planck Inst. for Biol. Cybernetics, IMPRS for Cognitive and Systems Neurosci.*
- 3:00 DD4 **220.07** Flexible readout of stable cortical representations support human motion visibility perception. D. BIRMAN*; J. L. GARDNER. *Stanford Univ.*
- 4:00 DD5 **220.08** Human V6 integrates visual and extra-retinal cues during head induced gaze shifts. A. SCHINDLER*; A. BARTELS. *Vision and Cognition Lab., Dept. of Psychology, Univ. of Tübingen, Max Planck Inst. for Biol. Cybernetics.*
- 1:00 DD6 **220.09** Visual motion statistics during real-world locomotion. K. MULLER*; J. S. MATTHIS; K. BONNEN; L. K. CORMACK; M. M. HAYHOE. *Ctr. for Perceptual Systems.*

- 2:00 DD7 **220.10** Increase in density of optic-flow deteriorates self-motion velocity perception and decreases implicit adjustments of walking speed. S. TAKAMUKU*; H. GOMI. *NTT Communication Sci. Labs.*
- 4:00 DD8 **220.11** An improved method for dissociating stimulus and choice contributions to neural responses: Application to area MT's role in coarse and fine depth discrimination. M. POPOVIC*; G. C. DEANGELIS. *Univ. of Rochester, Univ. of Rochester.*
- 3:00 DD9 **220.12** Active steering in macaques: Integration of visual and predictive estimates of self-motion. A. D. DANZ*; A. ANZAI; D. E. ANGELAKI; G. C. DEANGELIS. *Univ. of Rochester, New York Univ.*
- 1:00 DD10 **220.13** Stereomotion processing in the non-human primate brain. Y. HÉJJA-BRICHARD*; S. RIMA; E. RAPHA; J. DURAND; B. COTTEREAU. *Univ. de Toulouse, Ctr. de Recherche Cerveau, Ctr. Natl. de la Recherche Scientifique.*
- 2:00 DD11 **220.14** Contributions of perspective and stereoscopic cues to motion-in-depth perception in macaque monkeys. L. THOMPSON*; B. KIM; B. ROKERS; A. ROSENBERG. *Univ. of Wisconsin-Madison, Univ. of Wisconsin-Madison.*
- 3:00 DD12 **220.15** Motion integration during volitional smooth pursuit. J. FLEURIET*; M. MUSTARI. *Univ. of Washington - Primate Ctr. - Ophtha.*
- 4:00 DD13 **220.16** Modulation of neural discharges and local field potentials in the macaque prefrontal cortex during binocular rivalry. F. PANAGIOTAROPOULOS*; V. KAPOOR; A. DWARAKANATH; S. SAFAVI; J. WERNER; N. G. HATSOPOULOS; N. LOGOTHETIS. *Cognitive Neuroimaging Unit, Neurospin Ctr., Max Planck Inst. for Biol. Cybernetics, Univ. of Chicago, Max Planck Inst.*

POSTER

221. Vision: Representation of Objects and Scenes

Theme D: Sensory Systems

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 DD14 **221.01** Measuring the similarity of BOLD resting-state activity patterns to stimulus-evoked patterns of common visual categories. D. KIM*; T. LIVNE; N. V. METCALF; M. CORBETTA; G. L. SHULMAN. *Washington Univ. In St. Louis, Weizmann Inst. of Sci., Washington Univ. in St. Louis, Washington Univ., Univ. of Padua, Washington Univ. Sch. Med.*
- 2:00 DD15 **221.02** Biasing koniocellular and parvocellular input reveals independent dorsal and ventral pathway contributions to temporal dynamics of shape processing. E. COLLINS*; E. FREUD; Y. SIEH; J. CAO; J. M. KAINERSTORFER; M. BEHRMANN. *Carnegie Mellon Univ., Carnegie Mellon Univ., Carnegie Mellon Univ.*
- 3:00 DD16 **221.03** Cortical representation of objects and their components. T. S. ALTAVINI*; G. ASTORGA; D. HARARI; S. ULLMAN; G. N. REEKE; W. FREIWALD; C. D. GILBERT. *Rockefeller Univ., Weizmann Inst. of Sci.*
- 4:00 DD17 **221.04** Fluctuating activity (time-division multiplexing) varies across sensory brain regions. N. JUN*; J. T. MOHL; M. R. COHEN; S. T. TOKDAR; J. M. GROH. *Duke Univ., Univ. of Pittsburgh, Duke Univ., Duke Univ.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:00 DD18 **221.05** Encoding of partially occluded objects in macaque inferior temporal cortex. T. NAMIMA*; A. PASUPATHY. *Univ. of Washington*.
- 2:00 EE1 **221.06** Surface materials are recognized by the visual and haptic clues in non-human primate subjects. M. ITO*; C. HATTA; S. YOSHIDA; K. KATSUBE; Y. MORISUE; T. IWATA. *Tokyo Med. and Dent. Univ.*
- 3:00 EE2 **221.07** Clustering of functional subtypes in the zebrafish optic tectum. T. SHALLCROSS*; G. DIANA; M. MEYER. *King's Col. London, King's Col. London*.
- 4:00 EE3 **221.08** The time course of object location information in the human brain depends on clutter. M. GRAUMANN*; C. CIUFFI; R. M. CICHY. *Freie Univ. Berlin*.
- 1:00 EE4 **221.09** Visual-haptic interactions influence shape recognition. R. L. MILLER*; D. L. SHEINBERG. *Brown Univ.*
- 2:00 EE5 **221.10** Common spatial patterns of activation revealed during movie viewing. A. ZHANG*; S. PROULX; Y. CHEN; R. FARIVAR-MOHSANI. *McGill Univ.*
- 3:00 EE6 **221.11** The causal roles of alpha activity in feature binding. Y. ZHANG*; Y. ZHANG; P. CAI; F. FANG. *Peking Univ., Peking Univ., Peking Univ., Peking Univ., Peking Univ., Peking Univ.*
- 4:00 EE7 **221.12** Visual objects are rapidly compared to contextually associated object targets on the basis of a V1-like feature representation. C. M. SMITH*; K. D. FEDERMEIER. *Univ. of Illinois at Urbana-Champaign*.
- 1:00 EE8 **221.13** Decoding identity and action properties of tools from pictures and pantomimes. S. ROSSIT*; D. TONIN; F. W. SMITH. *Univ. of East Anglia*.
- 2:00 EE9 **221.14** ▲ Stimulus-dependent cortical representations of object semantics. D. SHUTOV; D. D. LEEDS*. *Fordham Univ., Fordham Univ.*
- 3:00 EE10 **221.15** Responses of macaque V3A neurons to 3D object pose. T. CHANG*; B. KIM; A. SUNKARA; A. ROSENBERG. *Univ. of Wisconsin-Madison, Stanford Univ. Sch. of Med.*
- 4:00 EE11 **221.16** Axis coding scheme of shape representation in object networks in IT cortex. P. BAO*; L. SHE; M. MCGILL; D. Y. TSAO. *Caltech, Caltech, Caltech*.
- 1:00 EE12 **221.17** The dynamics of depth cue invariance in 3-D object recognition. Y. CHEN*; R. FARIVAR. *McGill Univ.*
- 2:00 EE13 **221.18** What can be inferred about independence and invariance of brain representations from fMRI decoding studies? F. A. SOTO*; S. NARASIWODEYAR. *Florida Intl. Univ.*
- 3:00 EE14 **221.19** Chemogenetic down-regulation of macaque V4 responses produce reversible deficits in core object recognition behavior. K. KAR*; J. J. DICARLO. *MIT, MIT*.
- 4:00 FF1 **221.20** ● A search for the representational content in the putative number form area. D. YEO*; C. POLLACK; G. PRICE. *Vanderbilt Univ., Nanyang Technological Univ.*
- 1:00 FF2 **221.21** Movement improves shape discrimination under visual uncertainty. D. BURK*; D. L. SHEINBERG. *Brown Univ.*
- 2:00 FF3 **221.22** An anatomically-constrained model of the peripheral bias in scene recognition. G. W. COTTRELL*; P. WANG. *UCSD*.
- 3:00 FF4 **221.23** The timing of reading: Electrophysiological exploration of stimulus and task effects on routing visual information to the visual word form area and language cortex. A. M. RAUSCHECKER*; R. NA; O. RACCAH; J. PARVIZI. *Univ. of Pennsylvania, Sch. of Psychological and Cognitive Sci., Stanford Univ., Stanford Univ.*
- 4:00 FF5 **221.24** ▲ Retinal size rather than perceived size (post size constancy) determines reaction time for identifying puzzle pictures such as Mooney faces. S. KANDALRAFT*; L. L. HAGOPIAN; M. VAJANAPHANICH; G. M. DANDREAPENNA; C. CHUNHARAS; V. S. RAMACHANDRAN. *UC San Diego, UCSD*.
- 1:00 FF6 **221.25** ▲ Towards large-scale characterization of object representations in behavior and the human brain. A. DICKTER*; M. N. HEBART; A. KIDDER; W. Y. KWOK; C. Y. ZHENG; C. I. BAKER. *NIH, Natl. Inst. of Mental Hlth., NIMH, NIMH, NIH*.
- 2:00 FF7 **221.26** Uncovering the large-scale representation of behaviorally-relevant object dimensions. M. N. HEBART*; C. Y. ZHENG; F. PEREIRA; C. I. BAKER. *Natl. Inst. of Mental Hlth., NIMH*.
- 3:00 FF8 **221.27** ● Awake fMRI of dogs reveals mechanisms for processing 2D representations of 3D objects. A. PRICHARD*; R. CHHIBBER; K. ATHANASSIADES; V. CHIU; M. SPIVAK; G. S. BERNS. *Emory Univ., Emory Univ., Emory Univ., Comprehensive Pet Therapy*.

POSTER

222. Visual Sensory-Motor Processing: Visually-Guided Reaching and Related Behaviors

Theme D: Sensory Systems

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 FF9 **222.01** Neural basis for directed courtship in *Drosophila*. I. M. RIBEIRO*; M. DREWS; A. BAHL; A. BORST; B. J. DICKSON. *Max Planck Inst. Neurobio., Harvard Univ., Janelia Res. Campus, HHMI*.
- 2:00 FF10 **222.02** Muscle kinematics play a large role in primary somatosensory cortical neural activity. R. H. CHOWDHURY*; C. VERSTEEG; T. TOMLINSON; J. SOMBECK; L. E. MILLER. *Northwestern Univ., Northwestern Univ., Feinberg Sch. of Medicine, Northwestern Univ., Northwestern Univ.*
- 3:00 FF11 **222.03** Faster moving targets evoke larger and more prevalent stimulus locked responses on human upper limb muscles. R. A. KOZAK*; B. D. CORNEIL. *Western Univ.*
- 4:00 FF12 **222.04** Direct visual control of interception. J. B. SMEETS*; E. BRENNER. *Vrije Univ. Amsterdam*.
- 1:00 FF13 **222.05** Pantomime resolution for 'very small' targets matches visually guided grasping. N. AYALA*; D. SHUKLA; M. HEATH. *Western Univ.*
- 2:00 FF14 **222.06** Multisensory integration for the planning vs. the control of upper-limb reaches. R. GOODMAN*; G. MANSON; L. TREMBLAY. *Univ. of Toronto*.
- 3:00 FF15 **222.07** Eye-hand coordination deficits in individuals with diabetes during a cognitive-motor integration task. M. DALECKI*; J. C. ADKINS; C. STOKES. *Louisiana State Univ.*

- 4:00 FF16 **222.08** ▲ Rule-based visuomotor transformations differ between the dominant and non-dominant hand. B. JONES; A. W. VAN GEMMERT*; M. DALECKI. *Louisiana State Univ.*
- 1:00 FF17 **222.09** Bihemispheric effects on dorsal pulvinar inactivation on saccade and reach representations in parietal cortex. M. PACHOUD; D. ARABALLI; L. SCHNEIDER; M. WILKE; I. KAGAN*. *German Primate Ctr., Univ. Med. Goettingen, Leibniz ScienceCampus Primate Cognition.*
- 2:00 GG1 **222.10** Beta frequency range local field potentials in the parietal reach region reveal mechanisms of bimanual coordination. E. F. MOOSHAGIAN*; C. D. HOLMES; L. H. SNYDER. *Washington Univ. Sch. of Med., Washington Univ. Sch. of Med., Washington Univ. Sch. Med.*
- 3:00 GG2 **222.11** Effects of symbolic and direct cuing on interference in a bimanual reaching task. A. T. BRUNFELDT*; P. C. DESROCHERS; A. HAUGHN; F. A. KAGERER. *Michigan State Univ.*
- 4:00 GG3 **222.12** Simultaneous visuomotor and kinetic perturbations of one hand and their effects in a bimanual interference task. P. C. DESROCHERS*; A. T. BRUNFELDT; F. A. KAGERER. *Michigan State Univ.*
- 1:00 GG4 **222.13** Population decoding reveals a rapid transition from visuospatial to hand motor processing in macaque medial parietal area V6A. M. FILIPPINI*; A. MORRIS; K. HADJIDIMITRAKIS; R. BREVEGLIERI; P. FATTORI. *Univ. of Bologna DIBINEM, Monash Univ.*
- 2:00 GG5 **222.14** Hand movement representation in the monkey medial posterior parietal cortex: A reduction dimensionality approach. P. FATTORI*; A. BOSCO; R. BREVEGLIERI; M. FILIPPINI; C. GALLETTI. *Univ. of Bologna.*
- 3:00 GG6 **222.15** Adaptive regulation of motor variability. A. K. DHAWALE*; Y. R. MIYAMOTO; M. A. SMITH; B. P. ÖLVECZKY. *Harvard Univ.*
- 4:00 GG7 **222.16** ▲ Age-dependent performance on pro-point and anti-point tasks. E. LI*; A. B. SERENO. *Rice Univ., Purdue Univ.*
- 1:00 GG8 **222.17** ● Age-related developments in motor function and coordination. S. C. DOBRI*; S. H. SCOTT; T. DAVIES. *Queen's Univ., Queen's Univ.*
- 2:00 GG9 **222.18** Lower limb representation in the human dorsomedial precuneate cortex. S. PITZALIS*; C. SERRA; S. DI MARCO; P. FATTORI; G. GALATI; V. SULPIZIO; C. GALLETTI. *Univ. of Rome 'Foro Italico', Cognitive and Motor Rehabil. Unit, Santa Lucia Fndn., Univ. of Bologna, Univ. of Rome 'Foro Italico'.*
- 3:00 GG12 **223.03** Face viewing behavior predicts multisensory gain during speech perception. J. RENNIG*; K. WEGNER-CLEMENS; M. S. BEAUCHAMP. *Baylor Col. of Med.*
- 4:00 GG13 **223.04** Neural substrates underlying self-awareness of arm location in macaque monkeys. J. LI*; W. FANG; G. QI; S. LI; P. GUI; L. WANG. *Inst. of Neuroscience, CAS, East China Normal Univ.*
- 1:00 GG14 **223.05** Distinct codes as a substrate for causal inference in primate superior colliculus neurons. J. T. MOHL*; S. TOKDAR; J. M. GROH. *Duke Univ.*
- 2:00 GG15 **223.06** Multisensory integration in a identified parieto-frontal connection in the mouse brain. S. SULIS SATO*; S. PAPAIOANNOU; A. TRIPATHI; K. ANTOS; P. MEDINI. *Umea Univ.*
- 3:00 GG16 **223.07** Antagonistic cross-links and reciprocal couplings emerge in optimal multisensory integration. H. H. WANG*; W. ZHANG; M. K. Y. WONG; S. WU. *Hong Kong Univ. of Sci. and Technol., Univ. of Pittsburgh, Beijing Normal Univ.*
- 4:00 GG17 **223.08** Modulation of unimodal vs. multisensory processes at target vs. non-target locations. T. LORIA*; K. TANAKA; K. WATANABE; L. TREMBLAY. *Univ. of Toronto, Waseda Univ., Waseda Univ., Univ. of Toronto.*
- 1:00 HH1 **223.09** Function of LEC in shaping task-selective spatial representations in dorsal CA1. R. ZEMLA*; S. SUNDAR; M. A. DUFOUR; J. BASU. *New York Univ. Sch. of Med.*
- 2:00 HH2 **223.10** Comparison of functional localizer- with resting state fMRI-based parcellations in the macaque. B. E. RUSS*; T. XU; A. Y. FALCHIER; G. S. LINN; D. A. ROSS; K. SHANNON; S. COLCOMBE; C. E. SCHROEDER; M. P. MILHAM. *Nathan S. Kline Inst. For Psychiatric Res., Child Mind Inst., Nathan Kline Inst., Columbia Univ. Col. of Physicians and Surgeons.*
- 3:00 HH3 **223.11** Competition of attentional cues varying in strength and modality in the line motion illusion. S. L. PRIME*; A. J. WICKENHAUSER; A. J. SINCLAIR. *Univ. of Saskatchewan.*
- 4:00 HH4 **223.12** ▲ Effect of tactile sensory substitution on upper limb proprioceptive error. G. C. ORTHLIEB; D. SHUMATE; J. C. TANNER; S. I. HELMS TILLERY*. *Arizona State Univ., Arizona State Univ., Arizona State Univ., Arizona State Univ.*
- 1:00 HH5 **223.13** Integration of cross-modal information over time improves auditory gap detection performance. A. BAUER*; M. G. BLEICHNER; S. BAILLET; S. DEBENER. *Univ. of Oxford, Univ. of Oldenburg, McConnell Brain Imaging Centre, Montreal Neurolog. Institute, McGill Univ.*
- 2:00 HH6 **223.14** Temporal coherence of audio-visual objects in human primary auditory cortex. K. H. CHANG*; R. K. MADDOX; A. K. LEE; G. M. BOYNTON. *Univ. of Washington, Univ. of Rochester, Univ. of Washington, Univ. of Washington.*
- 3:00 HH7 **223.15** Neural mechanisms underlying auditory time interval effects on perceived visual speed. H. KAFALIGONUL*; U. KAYA. *Bilkent Univ., Bilkent Univ., METU.*
- 4:00 HH8 **223.16** Cellular and molecular mechanisms encoding temperature information across temporal scales. M. H. ALPERT*; D. D. FRANK; M. FLOURAKIS; E. KASPI; A. PARA; M. GALLIO. *Northwestern Univ.*

POSTER

223. Multisensory Integration: Cross-Modal Processing: Spatial and Temporal Factors

Theme D: Sensory Systems

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 GG10 **223.01** Cortical basis of audiovisual spatial localization in mouse. P. COEN*; M. J. WELLS; D. MYERS-JOSEPH; M. CARANDINI; K. D. HARRIS. *Univ. Col. London.*
- 2:00 GG11 **223.02** The impact of visuo-proprioceptive realignment on motor control. Y. LIU*; J. WARAN; H. BLOCK. *Indiana Univ. Bloomington, Indiana Univ. Bloomington.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:00 HH9 **223.17** A comparison of binocular and binaural summation in unisensory and multisensory perception. C. OPOKU-BAAH*; M. T. WALLACE. *Vanderbilt Univ., Vanderbilt Univ.*
- 2:00 HH10 **223.18** A large-scale investigation of the temporal binding window in children and adolescents. J. CHAN*; A. TESSARI; G. OTTOBONI; A. SETTI. *Univ. Col. Cork, Univ. of Bologna.*
- 3:00 HH11 **223.19** What is the role of alpha frequency in visual temporal discrimination? S. BÜRGER*; U. NOPPENY. *The Univ. of Birmingham.*
- 4:00 HH12 **223.20** Resolving audiovisual recalibration in time and space. M. ALLER*; A. MIHALIK; U. NOPPENY. *The Univ. of Birmingham.*
- 2:00 II5 **224.10** Neuroplasticity and upper limb loss: Predicting and improving functional rehabilitation outcomes. B. ALTERMAN*; L. A. WHEATON. *Georgia Inst. of Technol., Georgia Tech.*
- 3:00 II6 **224.11** Graph based dimension reduction to discern kinematic synergies in cycling arm movements. J. LACZKO*; L. BOTZHEIM; S. MALIK; M. MRAVCSIK; S. SZABO. *Univ. of Pecs, Fac. of Sci., Wigner Res. Ctr. for Physics, Northwestern Univ.*
- 4:00 II7 **224.12** Sex differences in wrist diadochokinesis. G. A. SRINIVASAN*; R. L. SAINBURG. *Pennsylvania State Univ. Univ. Park, Penn State Univ.*
- 1:00 II8 **224.13** Isometric force generation in one hand facilitates long latency, but not short latency reflexes in the opposite wrist. J. SCHAFFER*; R. L. SAINBURG. *The Pennsylvania State Univ., Penn State Univ.*

POSTER

224. Voluntary Movements: Interlimb and Bimanual Control

Theme E: Motor Systems

Sun. 1:00 PM – *San Diego Convention Center, SDCC Halls B-H*

- 1:00 HH13 **224.01** Neural activity in primate motor cortex during bimanual versus unimanual rhythmic movements. K. C. AMES*; L. F. ABBOTT; M. M. CHURCHLAND. *Columbia Univ.*
- 2:00 HH14 **224.02** Movement type dependent beta oscillation bands in primate primary motor cortex. N. HUH; N. G. HATSOPOULOS; K. TAKAHASHI*. *Univ. of Illinois, Univ. of Chicago, Univ. of Chicago.*
- 3:00 HH15 **224.03** Interlimb differences during bimanual aiming after stroke: Effect of target distance. R. VARGHESE*; J. E. GORDON; C. J. WINSTEIN. *USC.*
- 4:00 HH16 **224.04** Interlimb facilitation of the speed and frequency of wrist diadochokinesis is scaled to opposite arm force generation. J. E. DE ARAUJO*; R. L. SAINBURG. *Univ. of São Paulo, Penn State Univ.*
- 1:00 DP10/HH17 **224.05** (Dynamic Poster) Does the corpus callosum have a role in mediating interlimb transfer of motor learning: Insights from corpus callosal patients. P. A. TILSLEY*; P. ROMAIGUÈRE; E. TRAMONI; O. FELICIAN; F. R. SARLEGNA. *CNRS, ISM, APHM, Hôpitaux de la Timone, Service de Neurologie et Neuropsychologie, INSERM, INS, Inst. de Neurosciences des Systèmes.*
- 2:00 II1 **224.06** Bilateral organisation in the primate cervical spinal cord. D. S. SOTEROPOULOS*; P. TREBILCOCK. *Newcastle Univ., Newcastle Univ.*
- 3:00 II2 **224.07** Direct current stimulation-induced desynchronization of the right motor cortex boosts bimanual control in aging. A. JAMIL*; K. CUYPER; M. K. RAND; M. A. NITSCHKE; R. MEESEN. *Leibniz Res. Ctr. for Working Envrn. An, Univ. Hasselt, IfAdo-Leibniz Res. Ctr., Leibniz Res. Ctr. for Working Envrn. An, Univ. Hasselt REVAL.*
- 4:00 II3 **224.08** Development of visual-proprioceptive integration for hand motor control. M. MARTEL*; T. HEED. *Bielefeld Univ.*
- 1:00 II4 **224.09** Detection of task-relevant and task-irrelevant motion sequence: Application to motor adaptation in goal-directed and whole-body movements. K. TAKIYAMA*; D. FURUKI. *Tokyo Univ. of Agr. and Technol.*

POSTER

225. Brain-Machine Interface: Neurophysiology and Methods Development

Theme E: Motor Systems

Sun. 1:00 PM – *San Diego Convention Center, SDCC Halls B-H*

- 1:00 II9 **225.01** A Hebbian framework for predicting modulation of synaptic plasticity with tDCS. G. KRONBERG*; A. RAHMAN; M. BIKSON; L. C. PARRA. *The City Col. of New York, City Col. of New York.*
- 2:00 II10 **225.02** Embodiment improves performance on an immersive brain computer interface in head-mounted virtual reality. J. M. ANGLIN*; R. SPICER; D. SALDANA; C. FINNEGAN; S. LEFEBVRE; K. JANN; T. D. ARD; E. SANTARNECCHI; D. M. KRUM; S. LIEW. *USC, USC Inst. for Creative Technologies, USC Stevens Neuroimaging and Informatics Inst., Harvard Med. Sch.*
- 3:00 II11 **225.03** Intermuscular coherence in adult stroke subjects. J. A. NORTON*; S. HAUGHIAN. *Univ. of Saskatchewan, Univ. of Saskatchewan.*
- 4:00 II12 **225.04** Accuracy of arm position sense and EEG contingent negative variation potential in blind and sighted people during arm position matching in joint and external space. K. OH*; N. NATRAJ; J. T. JOHNSON; L. A. WHEATON; B. I. PRILUTSKY. *Georgia Inst. of Technol., Univ. of California, San Francisco.*
- 1:00 II13 **225.05** Expanding and exploring the parameter space of physiological effects of anodal direct current stimulation in the primary motor cortex. D. AGBOADA*; M. M. SAMANI; M. KUO; M. A. NITSCHKE. *Leibniz Res. Ctr. For Working Envrn. An, Intl. Grad. Sch. of Neurosci., Ilmenau Univ. of Technol., Univ. Hosp. Bochum.*
- 2:00 II14 **225.06** ▲ Decoding the neural substrates of intent to speak. B. MARSH*; J. KIDWAI; J. S. BRUMBERG. *The Univ. of Kansas, Univ. of Kansas.*
- 3:00 II15 **225.07** Recurrent neural network approach in predicting joint angles from electroencephalography. S. NAKAGOME*; T. P. LUU; Y. HE; J. L. CONTRERAS-VIDAL, Ph.D. *Univ. of Houston, Univ. of Houston.*

- 4:00 II16 **225.08** Correlation between event-related desynchronization and motor imagery brain-computer interface performance. M. KWON*; H. CHO; S. LEE; K. WON; M. AHN; S. C. JUN. *Gwangju Inst. of Sci. and Technol., Wadsworth Ctr., New York State Dept. of Hlth., Handong Global Univ.*
- 1:00 II17 **225.09** Relationship between RSVP task EEG features and P300 speller performance. K. WON*; M. KWON; S. JANG; M. AHN; S. C. JUN. *Gwangju Inst. of Sci. and Technol., Handong Global Univ.*
- 2:00 II18 **225.10** Unable to Attend Brain-computer-interface (bci) based communication in completely locked-in (clis) patients: Replication and extension. N. BIRBAUMER*; A. RANA; A. TONIN; M. KHALILI; A. JARAMILLO GONZALEZ; S. PATHAK; U. CHAUDHARY. *Wyss Ctr. for Bio and Neuroengineering, Univ. of Tuebingen, Learning Res. and Develop. Ctr. (LRDC).*
- 3:00 JJ1 **225.11** Mind body awareness training improves learning of sensorimotor rhythm based brain computer interfaces. J. R. STIEGER*; C. C. CLINE; C. COOGAN; B. S. R. MURAKONDA; S. J. SHERMAN; A. HUYNH; D. HAMMOND; K. BRESHEARS; T. BOYLE; M. KREITZER; S. A. ENGEL; B. HE. *Univ. of Minnesota Twin Cities, Univ. of Minnesota, Univ. of Minnesota Dept. of Psychology, Carnegie Mellon Univ.*
- 4:00 JJ2 **225.12** Transcranial direct current stimulation in pediatric physical rehabilitation: A systematic review and meta-analysis. G. T. SALEEM*; J. E. CRASTA; B. SLOMINE; G. L. CANTARERO; S. J. SUSKAUER. *Kennedy Krieger Inst. and Johns Hopkins Sch., Johns Hopkins Sch. of Med.*
- 1:00 JJ3 **225.13** A body-machine interface based on autoencoder networks: Mapping movements and muscle activities into a control signal. F. RIZZOGLIO*; C. PIERELLA; A. SCIACCHITANO; A. FARSHCHIANSADDEGH; M. CASADIO; F. A. MUSSA-IVALDI. *Ctr. for Neuroprosthetics and Inst. of Bioengineering, Sch. of Engineering, École Polytechnique Fédérale de Lausanne (EPFL), Univ. Degli Studi di Genova, Northwestern Univ., Shirley Ryan Ability Lab.*
- 2:00 JJ4 **225.14** Identification of noninvasive neuromodulation targets for pediatric stroke rehabilitation. K. E. MANTELL*; S. T. NEMANICH; B. T. GILLICK; A. OPITZ. *Univ. of Minnesota, Univ. of Minnesota.*
- 3:00 JJ5 **225.15** ● A wearable electrode array for recording volitional and stimulation-evoked myoelectric signals from extrinsic hand muscles. D. J. WEBER*; M. URBIN; D. A. FRIEDENBERG; S. COLACHIS; M. ZHANG; P. GANZER; D. SARMA; A. SETHI; G. SHARMA. *Univ. of Pittsburgh, Univ. of Pittsburgh, Battelle Mem. Inst., Univ. of Pittsburgh.*
- 4:00 JJ6 **225.16** Mutually informed dynamical models for fNIRS denoising based on EMG and EEG. P. ORTEGA*; A. FAISAL. *Imperial Col.*
- 1:00 JJ7 **225.17** ▲ Creating an eyes-closed binary SSVEP-based brain-computer interface (BCI) for the bedside: A comparison of foveal centered and off-centered stimulus presentation. M. ASLAM; B. ZOLTAN; P. BRUNNER; J. J. NORTON; C. S. CARMACK; D. J. ZEITLIN; J. R. WOLPAW; T. M. VAUGHAN*. *Union Col., Helen Hayes Rehabil. Hosp., Albany Med. Col. / Wadsworth Ctr., Wadsworth Ctr, NYS Dept Hlth.*
- 2:00 JJ8 **225.18** Functional magnetic resonance imaging reveals reduced imagined movement-related activation in quadriplegic patients as compared to healthy controls: Implications for early onset training for brain-machine interface array implant participants. A. CACACE*; M. PRASAD; J. D. CONNOLLY. *Durham Univ., James Cook Univ. Hosp.*
- 3:00 KK1 **225.19** Accuracy of single-trial motor imagery detection based on the alpha power suppression features for on-line real-time bci application. Y. HUANG; K. XU; J. DUANN*. *Natl. Central Univ., Natl. Central Univ., Univ. of California San Diego.*
- 4:00 KK2 **225.20** Influence of electrical stimulation patterns on velocity of the third-finger joints. A. HIRATA*; H. MURAMATSU; Y. ITAGUCHI; S. KATSURA. *Keio Univ.*
- 1:00 KK3 **225.21** Promoting excitability of corticospinal tracts from a targeted hemisphere through interplay with EEG-based brain-computer interface. M. HAYASHI*; S. KASUGA; J. USHIBA. *Keio Univ., Ctr. for Neurosci. Studies, Queen's Univ., Fac. of Sci. and Technology, Keio Univ., Keio Inst. of Pure and Applied Sci. (KiPAS).*
- 2:00 KK4 **225.22** Quantifying performance of pliable, dry polymer EEG electrodes. W. HAIRSTON*; J. C. BRADFORD; R. A. MROZEK; G. A. SLIPHER. *US Army Res. Lab., Army Res. Lab.*
- 3:00 KK5 **225.23** Assessing and modulating intracortical and transcallosal inhibition in cervical dystonia. R. L. SUMMERS*; M. CHEN; C. D. MACKINNON; T. J. KIMBERLEY. *Univ. of Minnesota Twin Cities, Univ. of Minnesota, Univ. of Minnesota, MGH Inst. of Hlth. Professions.*
- 4:00 KK6 **225.24** Asynchronous ballistic finger imagery based brain-computer interface utilizing EEG. D. SUMA*; J. MENG; B. HE. *Carnegie Mellon Univ.*
- 1:00 KK7 **225.25** Noninvasively recorded human cortical dynamics during level-ground, incline, and stair locomotion. J. A. BRANTLEY*; T. P. LUU; S. NAKAGOME; F. ZHU; J. L. CONTRERAS-VIDAL. *Univ. of Houston.*
- 2:00 KK8 **225.26** ● Synergistic combination of EEG and EMG activity for detecting movement intentions of stroke patients with complete hand paralysis. E. LÓPEZ-LARRAZ*; N. BIRBAUMER; A. RAMOS MURGUIALDAY. *Univ. of Tuebingen, Eberhard-Karls-Univ, Univ. of Tubingen.*
- 3:00 KK9 **225.27** BOLD signal is more reliable than sensorimotor EEG signals in decoding hand movements. C. REICHERT*; S. DÜRSCHMID; H. HINRICHS; H. HEINZE; C. M. SWEENEY-REED. *Leibniz Inst. for Neurobio., Forschungscampus STIMULATE, Otto-von-Guericke Univ., Ctr. for Behavioral Brain Sci. (CBBS).*
- 4:00 KK10 **225.28** Influence of head and eye movements on the decoding of arm movements from low-frequency EEG. C. BIBIÁN*; E. LÓPEZ-LARRAZ; N. BIRBAUMER; A. RAMOS MURGUIALDAY. *Kuniversity of Tuebingen, Univ. of Tuebingen, Eberhard-Karls-Univ, Univ. of Tubingen.*
- 1:00 KK11 **225.29** ▲ How much is too much: Cognitive load on BCI success. M. L. SCHIMMEL*; E. K. MILLER; S. E. BLITZ; Y. YU; L. A. GABEL. *Lafayette Col., Lafayette Col.*
- 2:00 KK12 **225.30** An open-source graphical environment for the rapid development of animal and human brain-computer interfaces. A. OJEDA; N. BUSCHER; S. SILVEIRA; V. MARIC; D. RAMANATHAN*; J. MISHRA. *UC San Diego, UC San Diego, VA San Diego Healthcare Syst.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

POSTER

226. Brain-Machine Interface: Vision-Related

Theme E: Motor Systems

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 LL1 **226.01** Decoding natural scenes in semantic space from electrocorticography signals. R. FUKUMA*; T. YANAGISAWA; S. NISHIMOTO; M. TANAKA; S. YAMAMOTO; S. OSHINO; Y. KAMITANI; H. KISHIMA. *Osaka Univ. Grad. Sch. of Med., ATR Computat. Neurosci. Labs., Osaka Univ. Hosp. Epilepsy Ctr., Ctr. for Information and Neural Networks (CiNet), Natl. Inst. of Information and Communications Technol. (NICT), Osaka Univ. Grad. Sch. of Frontier Biosci., Kyoto Univ. Grad. Sch. of Informatics.*
- 2:00 LL2 **226.02** Decoding visual attentional state using eeg-based bci. S. BORHANI*; R. ABIRI; S. PARVANEZADEH ESFAHANI; J. KILMARX; Y. JIANG; X. ZHAO. *Univ. of Tennessee, Univ. of California, San Francisco, Univ. of Tennessee, Univ. of Tennessee, Univ. of Kentucky Chandler Med. Ctr.*
- 3:00 LL3 **226.03** ● Online detection of real-world faces in ECoG signals. C. KAPELLER*; F. CAO; K. KAMADA; C. GUGER. *Guger Technologies OG, g.tec neurotechnology GmbH, Asahikawa Med. Univ.*
- 1:00 DP11/LL4 **226.04** ▲ (Dynamic Poster) Object localization and reaching with a visual prosthesis: Comparing auditory cues and simulated phosphenes. M. B. TALBOT*; M. A. PARADISO. *Brown Univ.*
- 1:00 LL5 **226.05** A longitudinal study showing the effects of training in a simulated artificial vision reading task. K. E. K. RASSIA; J. S. PEZARIS*. *Univ. of Athens, Massachusetts Gen. Hosp., Harvard Med. Sch.*
- 2:00 LL6 **226.06** The effects of gaze contingency in a simulation of artificial vision. N. PARASKEVOUDI*; J. S. PEZARIS. *Univ. of Barcelona, Massachusetts Gen. Hosp., Harvard Med. Sch.*
- 3:00 LL7 **226.07** ● The threshold of new device for artificial vision by direct optic nerve electrical stimulation (AV-DONE). K. NISHIDA*; H. SAKAGUCHI; M. KAMEI; Y. TERASAWA; T. FUJIKADO; K. NISHIDA. *Osaka Univ. Grad. Sch. of Med., Aichi Med. Univ., Nidek Co., Ltd.*
- 4:00 LL8 **226.08** ● The pattern of phosphenes perceived with multi-electrode stimulation of human visual cortex. W. H. BOSKING*; P. SUN; B. FOSTER; M. BEAUCHAMP; D. YOSHOR. *Baylor Col. of Med.*
- 1:00 LL9 **226.09** ● Electrical stimulation of visual cortex with dynamic current steering produces useful visual percepts in blind and sighted humans. M. BEAUCHAMP*; W. H. BOSKING; P. SUN; B. L. FOSTER; S. NIKETEGHAD; N. POURATIAN; D. YOSHOR. *Baylor Col. of Med., UCLA.*
- 2:00 LL10 **226.10** Longitudinal stability of epicortical microstimulation for evoking visual sensations. D. OSWALT*; P. DATTA; N. TALBOT; Z. MIRZADEH; B. GREGER. *Arizona State Univ., Second Sight Med. Products, Barrow Neurolog. Inst., Arizona State Univ.*

POSTER

227. Stress and Cognition

Theme F: Integrative Physiology and Behavior

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 LL11 **227.01** Optogenetically-induced plasticity in the rat medial prefrontal cortex can impair or enhance attentional set-shifting. S. E. BULIN*; K. M. HOHL; D. A. MORILAK. *Univ. of Texas Hlth. At San Antonio.*
- 2:00 LL12 **227.02** Sex differences in paraventricular thalamic neuron function in the adolescent rat. K. R. URBAN*; B. CORBETT; S. BHATNAGAR. *Children's Hosp. of Philadelphia, Children's Hosp. of Philadelphia, Univ. Pennsylvania, Children's Hosp Philadelphia.*
- 3:00 LL13 **227.03** Differential effects of acute stress on effort and reward sensitivity during decision making. N. WATANABE*; J. B. DENNISON; M. R. DELGADO. *Rutgers Univ., Postdoctoral Fellowship for Res. Abroad, Nagoya Univ., Natl. Inst. of Information and Communications.*
- 4:00 LL14 **227.04** Estrus protects females from impaired learning following multiple acute stresses. A. K. SHORT*; E. T. ADAMS; Y. CHEN; Y. YU; A. PHAM; J. MOLET; T. Z. BARAM. *Univ. of California Irvine, CEA MINATEC CAMPUS.*
- 1:00 MM1 **227.05** Chronic social defeat stress reduces nectin-1 mrna levels and disrupts dendritic spine plasticity in the adult mouse perirhinal cortex. C. WANG*; Q. GONG; Y. SU; C. WU; T. SI; J. M. DEUSSING; M. V. SCHMIDT; X. WANG. *Zhejiang Univ. Sch. of Med., Natl. Clin. Res. Ctr. for Mental Disorders (Peking Univ. Sixth Hospital/Institute of Mental Health) and the Key Lab. of Mental Health, Ministry of Hlth. (Peking University), Dept. of Stress Neurobio. and Neurogenetics, Max Planck Inst. of Psychiatry.*
- 2:00 MM2 **227.06** Sleep, cognition and neurophysiological responses during isolation. T. KLEIN*; J. WEBER; A. ROSSITER; T. FOITSCHIK; B. CRUCIAN; S. SCHNEIDER; V. ABELN. *German Sport Univ. Cologne, Univ. of the Sunshine Coast, King's Col. London, NASA Johnson Space Ctr.*
- 3:00 MM3 **227.07** Dorsal CA1 interneurons mediate acute stress-induced spatial memory deficits. J. YU*; P. FANG; C. WANG; X. WANG; K. LI; Q. GONG; B. LUO; X. WANG. *Zhejiang Univ., First Affiliated Hospital, Zhejiang Univ.*
- 4:00 MM4 **227.08** Rapid intracellular Zn²⁺ dysregulation via corticosteroid receptor activation affects *in vivo* CA1 LTP. M. SUZUKI*; T. KOTARO; Y. SATO; H. TAMANO; A. TAKEDA. *Univ. of Shizuoka.*
- 1:00 MM5 **227.09** The relationship between cumulative stress exposure and hippocampal activation during contextual memory. R. A. JOHN*; B. J. KUBAT; A. HICKS; S. A. JOSHI; J. L. ABELSON; I. LIBERZON; E. R. DUVAL. *Univ. of Michigan.*
- 2:00 MM6 **227.10** Fear learning in stress vulnerable and resilient rats. J. PEARSON-LEARY*; E. FEINDT-SCOTT; S. BHATNAGAR. *Children's Hosp. of Philadelphia, Children's Hosp. of Philadelphia, Univ. Pennsylvania, Children's Hosp Philadelphia.*
- 3:00 MM7 **227.11** ▲ Post- myocardial infarction cognitive and affective deficits: Role of the mineralocorticoid receptor. J. FRAYRE; E. S. NA; M. J. MORRIS*. *Texas Woman's Univ., Texas Woman's Univ.*

- 4:00 MM8 **227.12** ● The kappa opioid receptor antagonist, BTRX-335140, protects working memory performance from mild stress exposure in rhesus monkeys. T. L. WALLACE*; W. J. MARTIN; A. F. T. ARNSTEN. *Blackthorn Therapeut., Yale Med. Sch.*
- 1:00 MM9 **227.13** The relationship between allostasis and psychological patterns in a healthy French military population. D. CLAVERIE*; D. FROMAGE; C. BECKER; J. HOUEL; J. BENOLIEL; F. CANINI; M. TROUSSELARD. *IRBA, Dept. Neurosciences & Contraintes Opérationnelles, Inst. de Recherche Biomédicale des Armées (IRBA), Ecole du Val de Grâce, 1 Place A. Laveran, INSERM, U 1130, CNRS, UMR 8246, Sorbonne Universités, UPMC Univ. Paris 06, UMCR18, Neurosciences Paris-Seine, site Pitié-Salpêtrière, Univ. Paris Descartes, Sorbonne Paris Cité, Faculté de Médecine, Service de Santé des Armées, Service de Biochimie Endocrinienne et Oncologique, Hôpital de la Pitié-Salpêtrière.*
- 2:00 MM10 **227.14** ▲ The interplay between antidepressants and mitochondria in a mouse model with decreased mitochondrial complex I function. T. L. EMMERZAAL*; L. KOJCS; B. GRAHAM; E. MORAVA; R. RODENBURG; T. L. KOZICZ. *Radboudumc, Radboudumc, Baylor Col. of Med., Mayo Clin., Radboudumc.*
- 1:00 DP12/MM11 **227.15** (Dynamic Poster) An fMRI study of emotion during pulsatile glucocorticoid replacement in adrenal insufficiency. J. THAKRAR*; K. KALAFATAKIS; G. M. RUSSELL; C. HARMER; M. MUNAFO; N. MARCHANT; J. BOWLES; J. THAI; A. WILSON; J. BROOKS; R. MORAN; S. L. LIGHTMAN. *Henry Wellcome LINE, Univ. of Bristol, Univ. of Bristol, Univ. of Oxford, Univ. of Bristol, Univ. of Bristol, 5Institute of Psychiatry, Psychology and Neurosci. (IOPPN), King's Col. London.*
- 4:00 MM12 **227.16** Taurine supplementation improves spatial & recognition memory in rats sub-chronically exposed to noise stress via normalizing neurotransmitter levels & antioxidant enzyme activity. S. HAIDER*; I. SAJID; Z. BATOOL. *Univ. of Karachi, Federal Urdu Univ. of Arts Sci. & Technol.*
- 1:00 MM13 **227.17** Earlier onset and higher pace of developing Alzheimer's disease with prenatal stress. Z. JAFARI; B. KOLB; M. H. MOHAJERANI*. *Univ. of Lethbridge, Univ. of Lethbridge.*
- 2:00 MM14 **227.18** The role of amygdala PI3K-Akt signaling in facilitating persistent fear memory in an animal model of PTSD. R. B. DELLA VALLE*; N. MOHAMMADMIRZAEI; E. MOULTON; M. CHAMNESS; D. KNOX. *Univ. of Delaware.*
- 3:00 NN1 **227.19** ▲ Intermittent fasting alters the effects of stress on water maze and rotarod performance. D. P. WOOD; F. A. WALTER; T. M. MILEWSKI; P. T. ORR*. *Univ. of Scranton, Univ. of Scranton, Univ. of Scranton.*
- 4:00 NN2 **227.20** ▲ Long term effect of gestational stress on working memory and mPFC cellular proliferation of male and female adult rats. Y. RUVALCABA DELGADILLO*; A. AGUILAR DELGADILLO; T. MORALES SALCEDO; A. GARCÍA ZAMUDIO; J. FREGOSO GONZÁLEZ; D. FERNÁNDEZ QUEZADA; J. GARCÍA ESTRADA; F. JÁUREGUI-HUERTA; S. LUQUÍN. *Univ. De Guadalajara, Univ. de Guadalajara, Univ. de Guadalajara, Inst. Mexicano del Seguro Social IMSS.*
- 1:00 NN3 **227.21** Volume of the amygdalae correlates with self-reported stress in adult males. D. VÁZQUEZ CARRILLO*; S. ALCAUTER; F. A. BARRIOS; J. MARTÍNEZ-SOTO; L. GONZALES-SANTOS; E. PASAYE. *Univ. Nacional Autónoma de México (UNAM), Inst. de Neurobiología. Univ. Nacional A, Univ. Nacional Autónoma de México, Univ. de Guanajuato, Univ. Nacional Autónoma de México.*
- 2:00 NN4 **227.22** The effects of social stress on the neural circuitry of reversal learning. E. C. WRIGHT*; M. PHAM; S. KUMAR; J. O. ALEXANDER; A. V. WILLIAMS; B. C. TRAINOR. *UC Davis, Dept. of Psychology.*
- 3:00 NN5 **227.23** Cognitive diversity in stress-sensitive and stress-resilient animal models is accompanied with marked spatial and temporal alterations in the brain electrical activity. I. MICHAELVSKI*; M. BAIRACHNAYA; A. SHEININ; A. PINHASOV. *Ariel Univ., Tel Aviv Univ.*
- 4:00 NN6 **227.24** Chronic stress regulation of sustained attention circuitry. E. J. ORDOÑES SANCHEZ*; S. R. ECK; M. DUGGAN; M. SALVATORE; B. WICKS; R. D. COLE; V. V. PARIKH; D. A. BANGASSER. *Temple Univ., Temple Univ.*
- 1:00 NN7 **227.25** Early life stress has lasting effects on development and sex-specific effects on cognition in rats. S. ECK*; M. SALVATORE; J. KIRKLAND; A. HALL; S. FAMULARO; D. BANGASSER. *Temple Univ.*
- 2:00 NN8 **227.26** ▲ Chronic intermittent restraint (IR) stress has long-lasting effects on fear extinction and anxiety. V. B. SHAH; J. M. JUDD; E. A. SMITH; C. D. CONRAD*. *Arizona State Univ.*
- 3:00 NN9 **227.27** Does chronic intermittent restraint (IR) disrupt hippocampal function? D. N. PEAY*; H. M. SARIBEKYAN; J. M. JUDD; G. F. THORNTON; C. D. CONRAD. *Arizona State Univ.*
- 4:00 NN10 **227.28** ▲ Sex differences in cognition and behavior after chronic exposure to environmental noise. D. L. MORAN TORRES*; D. FERNANDEZ-QUEZADA; Y. RUVALCABA-DELGADILLO; S. LUQUIN; J. GARCIA-ESTRADA; F. JAUREGUI-HUERTA. *Univ. de Guadalajara, Univ. de Guadalajara, Univ. de Guadalajara, Ctr. de Investigacion Biomedica de Occidente.*
- 1:00 NN11 **227.29** How studies exclude participants when studying stress? A review of measuring physiological stress in adults. V. CHARRON*; N. F. NARVAEZ LINARES; M. BERR; V. RANGER; P. LABELLE; H. PLAMONDON. *Univ. of Ottawa, Fac. of Social Sci. Library.*
- 2:00 NN12 **227.30** Psychophysiological aspects of media-based Holocaust reception. S. TUKAIEV*; J. GRIMM; A. ENZMINGER; Y. HAVRYLETS; V. RIZUN; I. ZYMA; M. MAKARCHUK. *Natl. Taras Shevchenko Univ. of Kyiv, Inst. of Biol., Natl. Taras Shevchenko Univ. of Kyiv, Inst. of Journalism, Univ. of Vienna, Fac. of Social Sci., Natl. Taras Shevchenko Univ. of Kyiv, Inst. of Journalism, Natl. Taras Shevchenko Univ. of Kyiv, Inst. of Biol.*
- 3:00 NN13 **227.31** Psychological issues in patients with diabetes in Mongolia. D. BOLDBAATAR*; E. NAYANTAI; N. NAMJIL; B. LKHAGVASUREN. *Mongolian Natl. Univ. of Med. Sci., Mongolian Natl. Univ. of Med. Sci., Mongolian Fndn. for Sci. and Technol.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

POSTER

228. Autonomic Regulation: Gastrointestinal, Renal/Urinary, and Reproductive Regulation

Theme F: Integrative Physiology and Behavior

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 NN14 **228.01** Optogenetic inhibition of crh specific neurons in Barrington's Nucleus facilitates micturition. J. P. VAN BATAVIA*; S. BUTLER; J. FESI; S. VICINI; S. A. ZDERIC. *Children's Hosp. of Philadelphia, Children's Hosp. of Philadelphia, Georgetown Univ. Med. Ctr., Children's Hosp. of Philadelphia.*
- 2:00 NN15 **228.02** Electrophysiological, morphological, and pharmacological properties of Barrington's nucleus CRF neurons using adult mice brainstem slices. M. KAWATANI, Jr.; K. ITOI; K. UCHIDA; K. SAKIMURA; M. H. KAWATANI*. *Akita Univ. Sch. of Med., Lab. Information Biol., Tohoku Univ., Tohoku Univ., Brain Res. Ins Niigata Univ., Akita Univ, Dept Neurophysiol.*
- 3:00 NN16 **228.03** Optoelectronic system for closed loop optogenetic control of bladder function. A. D. MICKLE*; S. M. WON; K. N. NOH; J. YOON; K. W. MEACHAM; L. MCILVRIED; B. A. COPITS; V. K. SAMINENI; P. SRIVASTAVA; Y. SHUJAN; H. H. LAI; J. ROGERS; R. W. GEREAU, IV. *Washington Univ., Univ. of Illinois - Champaign, Univ. of Illinois - Champaign, Washington Univ. In St. Louis, Washington Univ. At St. Louis, Washington Univ. Sch. of Med., Washington Univ., Washington Univ., Northwestern Univ., Washington Univ. Sch. Med.*
- 4:00 OO1 **228.04** Novel high resolution system for continuous urodynamic monitoring of bladder function in chronic rodent studies. D. ANGOLI; A. GERAMIPOUR; Z. C. DANZIGER*. *Florida Intl. Univ., Florida Intl. Univ.*
- 1:00 OO2 **228.05** Development of targeted vagus nerve stimulation for modifying urinary function in unanesthetized, freely-moving rats. J. S. CARP*; T. F. FULTON; M. P. KILGARD. *Natl. Ctr. for Adaptive Neurotechnologies, Univ. of Texas At Dallas.*
- 2:00 OO3 **228.06** MET receptor tyrosine kinase mediates the development of vagal motor neurons in the nucleus ambiguus. A. K. KAMITAKAHARA*; A. L. LANJEWAR; H. WU; P. R. LEVITT. *Children's Hosp. Los Angeles, USC, Keck Sch. of Med. of USC/SC CTSI.*
- 3:00 OO4 **228.07** *Bifidobacterium infantis* 35624 supplementation in eubiotic adolescent rats increases social interaction independent of vagal nerve signaling. L. L. DRISCOLL*; P. E. ANTON; K. TEIGEN; Z. SCHULMAN; U. SCHARF; N. VENKATESWARAN; M. TOMHAVE. *Colorado Col., Colorado Col.*
- 4:00 OO5 **228.08** Spinal cord stimulation over the upper lumbar cord ameliorates detrusor overactivity and bladder hyperalgesia in rats with cystitis. H. H. CHANG*; J. YEH; J. MAO; D. GINSBERG; G. GHONIEM; L. RODRIGUEZ. *Univ. of California Irvine, USC.*
- 1:00 OO6 **228.09** Urinary K⁺ promotes pelvic pain in a rat model of interstitial cystitis/bladder pain syndrome. M. D. CARATTINO*; S. D. STOCKER; N. MONTALBETTI. *Univ. of Pittsburgh.*
- 2:00 OO7 **228.10** ● Blockade of VEGR2 in the urinary bladder increased bladder capacity in control rats and in rats treated with cyclophosphamide (CYP)-induced cystitis. K. TOOKE*; M. A. VIZZARD. *Univ. of Vermont, Larner Col. of Med. at UVM.*

- 3:00 OO8 **228.11** Molecular determinants of afferent sensitization in a rat model of interstitial cystitis/bladder pain syndrome. N. MONTALBETTI*; J. ROONEY; A. RUED; M. CARATTINO. *Univ. of Pittsburgh.*
- 4:00 OO9 **228.12** Hypoglossal and recurrent laryngeal nerves are involved in swallowing pressure generation in anesthetized rats. T. TSUJIMURA*; M. INOUE. *Niigata Univ. Grad. Sch. of Med. and Dent. Sci.*
- 1:00 OO10 **228.13** Towards closed-loop neuromodulation therapy for gastrointestinal disease: Characterizing gastric myoelectric activity induced by stimulation of the vagus nerve and emetic stimuli. A. C. NANIVADEKAR*; D. M. MILLER; S. FULTON; A. MCCALL; L. WONG; J. I. OGREN; G. CHITNIS; B. L. MCLAUGHLIN; L. E. FISHER; B. J. YATES; C. C. HORN. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh, MicroLeads Inc, Micro-Leads, Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh Sch. of Med.*
- 2:00 OO11 **228.14** Kilohertz frequency stimulation of renal nerves for modulating blood glucose concentration and urinary glucose excretion in a diabetic rat model. A. A. JIMAN*; K. H. CHHABRA; A. G. LEWIS; P. S. CEDERNA; R. J. SEELEY; M. J. LOW; T. M. BRUNS. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Michigan Med.*
- 3:00 OO12 **228.15** A link between the urothelium and caveolae mediated signaling in cyclophosphamide induced cystitis in the rat. J. STENQVIST; T. CARLSSON; M. WINDER; P. ARONSSON*. *Univ. of Gothenburg.*
- 4:00 OO13 **228.16** ● Epidural spinal cord stimulation selectively recruits bladder afferent pathways. M. K. JANTZ*; C. GOPINATH; A. C. NANIVADEKAR; J. I. OGREN; G. CHITNIS; L. WONG; L. E. FISHER; B. L. MCLAUGHLIN; R. A. GAUNT. *Univ. of Pittsburgh, Ctr. for Neural Basis of Cognition, Univ. of Pittsburgh, Micro-Leads, Inc.*
- 1:00 OO14 **228.17** Stimulating spinal 5-HT_{2A} receptors improves involuntary micturition function in rats following complete spinal cord transection. J. H. DEFINIS*; J. WEINBERGER; D. WANG; S. HOU. *Drexel Univ. Col. of Med., Drexel Univ. Col. of Med.*
- 2:00 OO15 **228.18** Selective recruitment of sensory afferents in the lower urinary tract through microstimulation in the sacral dorsal root ganglia. C. GOPINATH*; M. K. JANTZ; A. C. NANIVADEKAR; L. E. FISHER; R. A. GAUNT. *Univ. of Pittsburgh, Univ. of Pittsburgh, Univ. of Pittsburgh.*
- 3:00 OO16 **228.19** Gastric safety of 3 α -hydroxymasticadienoic acid and diligustilide against Indometacin-induced gastric damage in a murine model. E. A. PINEDA*; A. NAVARRETE; A. E. CHÁVEZ-PIÑA. *Univ. Nacional Autónoma De México (UNAM), Inst. Politécnico Nacional.*
- 4:00 OO17 **228.20** Sympathetic innervation of the kidney and liver. A. DERBENEV*; H. TORRES; D. BURK; H. BERTHOUD; H. MUNZBERG; A. ZSOMBOK. *Tulane Univ., Pennington Biomed Res. Ctr.*
- 1:00 OO18 **228.21** Neuromodulation evokes distinct sympathetic mechanisms following cyclophosphamide-induced cystitis. E. J. GONZALEZ*; W. M. GRILL. *Duke Univ.*
- 2:00 PP1 **228.22** ▲ Effects of peripheral nerve stimulation on organ microbiome across rodent estrous cycle. M. LEVY; C. BASSIS; E. KENNEDY; K. YOEST; J. B. BECKER; J. BELL; M. B. BERGER; T. M. BRUNS*. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Univ. of Michigan, Main Line Hlth.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 3:00 PP2 **228.23** • State-dependent pudendal nerve stimulation increases bladder capacity and voiding efficiency in rats and cats. J. A. HOKANSON*; C. L. LANGDALE; P. MILLIKEN; A. SRIDHAR; W. M. GRILL. *Duke Univ., GSK, Duke Univ.*
- 4:00 PP3 **228.24** Age-related degradation of urinary tract reflexes in rat. A. GERAMIPOUR*; Z. C. DANZIGER. *Florida Intl. Univ., Florida Intl. Univ.*
- 1:00 PP4 **228.25** 'Neural networks, the pontine micturition center, and bladder control'. A. M. VERSTEGEN*; N. KLYMKO; V. VANDERHORST; J. GEERLING; M. ZEIDEL. *Beth Israel Deaconess Med. Center; Harvard Med. Sc, BIDMC, BIDMC, Univ. of Iowa.*
- 2:00 PP5 **228.26** A computational model for functional uncoupling in the stomach. M. AHMED*; R. JUNG. *Florida Intl. Univ., Florida Intl. Univ.*
- 2:00 PP15 **229.10** Oxytocin modulates neural responses during observation of facial gestures in infant macaques. H. RAYSON*; F. FESTANTE; G. TOSCHI; S. S. K. KABURU; A. PAUKNER; C. S. BARR; N. A. FOX; P. F. FERRARI. *Ctr. Natl. de la Recherche Scientifique, Univ. of Parma, Univ. of California, Davis, NIH, NIH, Univ. of Maryland.*
- 3:00 PP16 **229.11** Transcriptomic regulations underlying pair bond maintenance in the socially monogamous prairie voles. F. DUCLOT*; L. SAILER; Y. LIU; Z. WANG; M. KABBAJ. *Florida State Univ., Florida State Univ., Florida State Univ.*
- 4:00 PP17 **229.12** Correlated neural activity across the brains of socially interacting bats. W. ZHANG*; M. YARTSEV. *Univ. of California Berkeley.*
- 1:00 PP18 **229.13** The social brain and μ : Genetic knockout of the mu opioid receptor differentially alters social behavior in male and female mice. C. TODDES*; L. ZUGSCHWERT; E. LEFEVRE; P. ROTHWELL. *Univ. of Minnesota, Univ. of St. Thomas, Univ. of Minnesota.*

POSTER

229. Motivation: Social Communication and Behavior

Theme G: Motivation and Emotion

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 PP6 **229.01** Analysis of empathic neural circuits regulated by oxytocin. S. YADA*; K. HORIE; S. HIDEWA; K. NISHIMORI. *Tohoku Univ., Tohoku Univ., Grad. Sch. of Agr. Sciences/Tohoku Un, Grad Sch. of Agric Sci, Tohoku Univ.*
- 2:00 PP7 **229.02** ▲ The exploration of neuronal circuits underlying rat cooperation behavior. M. JIANG*; Z. WANG. *Inst. of Neuroscience, Chinese Acad. of Sci.*
- 3:00 PP8 **229.03** Phasic signaling by noradrenergic locus coeruleus neurons during maternal social interactions. R. DVORKIN*; C. KELAHAH; S. D. SHEA. *Cold Spring Harbor Lab.*
- 4:00 PP9 **229.04** Consequences of prenatal exposure to valproic acid in the socially monogamous prairie vole. L. L. SAILER*; F. DUCLOT; Z. WANG; M. KABBAJ. *Florida State Univ., Florida State Univ.*
- 1:00 PP10 **229.05** Disrupting endocannabinoid tone during adolescence: Effects on anxiety & sociability. H. H. LOPEZ*; D. COSSIO; Z. MICHAS; H. STADLER; C. JOHNSTON. *Skidmore Col., Skidmore Col.*
- 2:00 PP11 **229.06** Role of μ -opioid receptors in the motivation to sing and acoustic features of female-directed songs in male zebra finches. S. KUMAR*; A. N. MOHAPATRA; U. A. SINGH; S. SHARMA; V. ARORA; N. KAMBI; A. DATTA; H. SHARMA; T. VELPANDIAN; R. RAJAN; S. IYENGAR. *NBRC, AIIMS, IISER.*
- 3:00 PP12 **229.07** Does oral acetaminophen affect the sensitivity of neurons in macaque anterior cingulate cortex to the valence of outcomes in a social decision-making task? K. M. SHARIKA*; M. PLATT. *Univ. of Pennsylvania.*
- 4:00 PP13 **229.08** Neural correlates of reward-directed actions and individual variation in behavioral approach tendency. T. M. LE*; S. ZHANG; S. L. ZHORNITSK; W. WANG; C. R. LI. *Yale Univ., Yale Univ. Sch. of Med., Yale, Yale Univ.*
- 1:00 PP14 **229.09** Does learning to control an aversive stimulus mitigate the effects of stress on social motivation in rats? S. DANIELS*; D. LEMAIRE; T. LAPOINTE; F. LERI. *Univ. of Guelph, Univ. of Guelph, Univ. Guelph.*
- 2:00 PP19 **229.14** Breakdown of context-appropriate vocalizations in rats after prefrontal lesions. C. J. BURKE*; S. M. PELLIS; T. M. KISKO; D. R. EUSTON. *Univ. of Lethbridge, Univ. Lethbridge, Philipps Univ. Marburg, Univ. Lethbridge.*
- 3:00 PP20 **229.15** Activation of the ventral tegmental area supports the expression of social play behavior in juvenile rats. C. J. REPPUCCI*; R. BREDEWOLD; S. S. POSANI; C. L. WASHINGTON; A. H. VEENEMA. *Michigan State Univ.*
- 4:00 PP21 **229.16** Sex differences in social reward regulation in juvenile rats: Focus on glutamate signaling in the lateral septum. R. BREDEWOLD*; C. L. WASHINGTON; A. H. VEENEMA. *Michigan State Univ.*
- 1:00 PP22 **229.17** ▲ Sexual experience-induced shifts in paced mating are resistant to change during a 28-day period of abstinence. M. A. TOPF*; S. H. MEERTS. *Carleton Col.*
- 2:00 QQ1 **229.18** ▲ Sexually experienced, but not naive, female rats show a conditioned object preference (COP) after a single training trial. T. PIERGIES*; J. SCHWARTZ; M. HICKS; S. MEERTS. *Carleton Col.*
- 3:00 QQ2 **229.19** Deconstructing the motivational components of natural reinforcers in mice: Critical role for CRF in anticipatory arousal. H. E. COVINGTON*, III; K. HA; K. CHIEN-YOUNG; M. Z. LEONARD; K. A. MICZEK. *Tufts Univ.*
- 4:00 QQ3 **229.20** A new murine model for aggressive motivation: Extrahypothalamic CRF and persistent escalation by alcohol. K. A. MICZEK*; K. CHIEN-YOUNG; Z. KRAMER; T. ARCHIBALD; E. P. FLEISHER; Y. BARAKATLROUDAINI; E. L. NEWMAN; H. E. COVINGTON, III. *Tufts Univ.*
- 1:00 QQ4 **229.21** Insular cortex projections to the nucleus accumbens core modulate social affective behaviors. M. M. ROGERS*; A. DJERDJAJ; K. B. GRIBBONS; J. P. CHRISTIANSON. *Boston Col.*
- 2:00 QQ5 **229.22** Familiarity determines prosocial affective behaviors in female but not male rats. A. D. DJERDJAJ; M. M. ROGERS-CARTER; A. CULP; J. ELBAZ; J. P. CHRISTIANSON*. *Boston Col.*
- 3:00 QQ6 **229.23** Dopamine signaling mediates bias among competing motivations. P. CORREA*; B. DICKSON. *Janelia Res. Campus.*

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 4:00 QQ7 **229.24** The human connectome project: Investigating gender and age-related differences in reward processing via delayed discounting. T. K. LY*; T. P. KUHN; A. C. BURGGREN; S. Y. BOOKHEIMER. *Univ. of California Los Angeles, Univ. of California Los Angeles.*
- 1:00 QQ8 **229.25** Social hierarchy and stress susceptibility. K. B. LECLAIR*; S. RUSSO. *Icahn Sch. of Med. at Mount Sinai.*
- 2:00 QQ9 **229.26** Circuit-specific hippocampus Δ fosb expression mediates resilience in chronic stress. C. MANNING*; E. S. WILLIAMS; A. L. EAGLE; P. A. KURDZIEL; H. M. LYNCH; R. NEVE; M. S. MAZE-ROBISON; A. ROBISON. *Michigan State Univ., Michigan State Univ., Michigan State Univ., Michigan State Univ., Massachusetts Gen. Hospital, Michigan State Univ., Michigan State Univ.*
- 3:00 QQ10 **229.27** Cocaine reshapes the physiology of ventral CA1 afferents to nucleus accumbens that underlie drug seeking and reward. A. L. EAGLE*; E. S. WILLIAMS; M. A. DOYLE; C. E. MANNING; R. M. BASTLE; I. S. MAZE; A. J. ROBISON. *Michigan State Univ., Michigan State Univ., Michigan State Univ., Icahn Sch. of Med. at Mount Sinai.*

POSTER

230. Depression and Bipolar Disorders: Ketamine and Other Rapid Antidepressants I

Theme G: Motivation and Emotion

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 QQ11 **230.01** ● (R,S)-ketamine and (2R,6R)-hydroxynorketamine are prophylactic against stress-induced depressive-like behavior in females. B. CHEN*; C. T. LAGAMMA; R. A. BRACHMAN; X. XU; S. DENG; D. W. LANDRY; C. A. DENNY. *Columbia Univ. Med. Ctr., Res. Fndn. For Mental Hyg., Columbia Univ., Columbia Univ.*
- 2:00 QQ12 **230.02** Prophylactic ketamine protects against fear overgeneralization. A. MASTRODONATO*; R. MARTINEZ; I. PAVLOVA; C. LAGAMMA; R. A. BRACHMAN; A. ROBISON; C. A. DENNY. *Columbia Univ., Res. Fndn. for Mental Hygiene, Inc., Paul Smith's Col., Michigan State Univ.*
- 3:00 QQ13 **230.03** Ketamine downregulates the expression of heat shock protein in patient with treatment-resistant depression. B. KADRIU*; C. FARMER; P. YUAN; C. A. ZARATE, JR. *Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth., NIMH.*
- 4:00 QQ14 **230.04** ● Chronic social defeat mouse model of depression: Acute ketamine rescues social avoidance and modulates inflammatory signalling as well as synaptic marker expression in the hippocampus. J. A. PRENDERVILLE*; E. SOKOLOWSKA; T. BURKE; M. BIANCHI. *Transpharmation Ireland Ltd.*
- 1:00 QQ15 **230.05** Genetically encoded biosensors for ketamine inside neurons. K. BERA*; A. KAMAJAYA; A. L. NICHOLS; A. V. SHIVANGE; P. M. BORDEN; B. N. COHEN; J. JEON; J. S. MARVIN; L. L. LOOGER; H. A. LESTER. *Caltech, Howard Hughes Med. Inst.*
- 2:00 QQ16 **230.06** Fatty acids alter cellular antidepressant signature evoked by ketamine in glial cell differential from patient derived neural progenitor cells. J. YU*; J. WANG; R. PERLIS; M. M. RASENICK. *Univ. of Illinois at Chicago, Massachusetts Gen. Hosp., Univ. of Illinois at Chicago Col. of Med.*
- 3:00 QQ17 **230.07** Differential antidepressant actions of ketamine and HNK and its underlying mechanism. R. THAPA; S. YAN; X. CAI*. *Southern Illinois Univ. Sch. of Med., Capital Med. Univ.*
- 4:00 QQ18 **230.08** Does ketamine really modulate glutamate? H. B. JANSSENS*; L. YU; H. KOOIJKER; B. CWICK; N. MORISOT; J. ROESER; M. VAN DER HART; A. RASSOULPOUR. *Charles River Labs.*
- 1:00 QQ19 **230.09** The role of glutamatergic antagonist activity in the behavioral effects of analogs of the rapid-acting antidepressant RO-25-6981. L. NGUYEN; T. NGUYEN; K. LAYMON; A. CARAPUCCI; W. LEUNG; A. TOROSIAN; C. CAIN; T. ERIVES; R. D. KIRSH; D. B. RAWLINS; J. N. TALBOT*. *Roseman Univ. of Hlth. Sci., Roseman Univ. of Hlth. Sci., Roseman Univ. of Hlth. Sci.*
- 2:00 QQ20 **230.10** ● TRPC4/5 as a target for antidepressant with a rapid onset action. K. MITSUI*; A. KISHI; T. NIWA; S. UENO; T. KITAJIMA; S. KATSUMATA. *ONO Pharmaceut. Co., Ltd.*
- 3:00 QQ21 **230.11** The fast-acting antidepressant effects of reelin require AMPA receptor activation. K. BRYMER*; K. A. BANNOUVONG; H. J. CARUNCHO; L. E. KALYNCHUK. *Univ. of Saskatchewan, Univ. of Saskatchewan, Univ. of Victoria.*
- 4:00 QQ22 **230.12** ● Assessing ketamine's antidepressant-like effects in lipopolysaccharide (LPS)-induced sickness behavior in male and female mice. B. KLOCKE*; C. THELEN; N. HALLOY; P. M. PITYCHOUTIS. *Univ. of Dayton.*
- 1:00 QQ23 **230.13** ● ▲ Sex differences in the synaptogenic effects of the rapid-acting antidepressant drug ketamine in the mouse hippocampus. E. FLAHERTY*; C. THELEN; P. M. PITYCHOUTIS. *Univ. of Dayton.*
- 2:00 QQ24 **230.14** ● Sex differences in the neuromolecular effects of the rapid-acting antidepressant drug ketamine in the mouse prefrontal cortex. C. THELEN*; E. FLAHERTY; J. SAURINE; J. SENS; S. MOHAMED; P. M. PITYCHOUTIS. *Univ. of Dayton Dept. of Biol.*
- 3:00 QQ25 **230.15** Acute effects of antidepressants in the dynamic functional connectome of drug naive patients with major depression. J. REIS*; J. CABRAL; R. MAGALHÃES; P. MARQUES; P. MOREIRA; C. PORTUGAL-NUNES; H. SOUSA; N. DIAS; N. SOUSA; J. BESSA. *Life and Hlth. Sci. Res. Inst. (ICVS), ICVS/3B's-PT Government Associate Lab., Dept. of Psychiatry, Univ. of Oxford, Ctr. for Music in the Brain, 2Ai – Polytechnic Inst. of Cávado and Ave.*
- 4:00 QQ26 **230.16** ● Differences in neural activity between attempters and non-attempters during emotional attention processing after ketamine and placebo. N. GERLUS*; E. D. BALLARD; J. L. REED; J. E. SZCZEPANIK; C. A. FARMER; A. C. NUGENT; C. A. ZARATE, JR.. *Natl. Inst. of Mental Hlth.*
- 1:00 RR1 **230.17** ▲ Quinolinic acid act as prooxidant in depression evidenced through Nrf2 activity in restrain-stress rat model. Y. BANSAL*; R. SINGH; A. KUHAD; I. PRAHAR; T. SOGA. *Panjab Univ., Monash Univ.*

POSTER

231. Depression and Bipolar Disorders: Treatment and Drug Discovery

Theme G: Motivation and Emotion

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 RR2 **231.01** • Dose-dependent effects of the competitive, reversible MGL inhibitor JNJ-42226314 on *in vivo* measures of neural activity in rats. R. M. WYATT*; I. FRASER; N. WELTY; B. LORD; S. YUN; B. ZHU; C. FLORES; M. MACIELAG; P. J. CONNOLLY; K. CHEVALIER; S. ZHANG; M. K. AMERIKS; C. DUGOVIC; T. LOVENBERG; P. BONAVENTURE. *Janssen Res. and Develop., Janssen Res. and Develop., Johnson and Johnson Consumer Products, Janssen Res. and Develop., Janssen Res. and Develop., Janssen Res. and Develop.*
- 2:00 RR3 **231.02** Development of an *ex vivo* assay to measure CB1 receptor occupancy after administration of a monoacylglycerol lipase inhibitor. B. LORD*; M. WENNERHOLM; S. SUTTON; M. AMERIKS; P. BONAVENTURE. *Janssen Res. & Development, L.L.C.*
- 3:00 RR4 **231.03** • Protective efficacy of P7C3 compounds in a mouse model of prenatal depression. R. SCHROEDER*; H. E. STEVENS; A. A. PIEPER. *Univ. of Iowa, Univ. of Iowa, Univ. of Iowa Carver Col. of Med.*
- 4:00 RR5 **231.04** • MRI-based predictors of response to prefrontal transcranial direct current stimulation in major depression: Data from the ELECT study. L. BULUBAS*; D. KEESER; P. V. BUENO; F. DURAN; G. BUSATTO; E. AMARO, Jr.; F. PADBERG; A. R. BRUNONI. *Univ. Hospital, Ludwig Maximilians Univ., Intl. Max Planck Res. Sch. for Translational Psychiatry (IMPRS-TP), Univ. Hospital, Ludwig Maximilians Univ., Inst. of Psychiatry, Univ. of Sao Paulo, Dept. and Inst. of Psychiatry, Univ. of Sao Paulo, Univ. of Sao Paulo Med. Sch.*
- 1:00 RR6 **231.05** • Antidepressant-like effect of polyunsaturated fatty acids in lymphoblasts from depressed human subjects. P. CHUKAEW*; J. SCHAPPI; A. KOUTSOURIS; M. RASENICK. *Univ. of Illinois at Chicago.*
- 2:00 RR7 **231.06** • Dorsolateral prefrontal-subgenual cingulate connectivity as biomarker for repetitive transcranial magnetic stimulation antidepressant response trajectories. H. J. HOPMAN*; S. S. M. CHAN; C. W. W. CHU; H. LU; L. C. W. LAM; A. D. P. MAK; R. S. KAHN; C. TSE; S. F. W. NEGGERS. *The Chinese Univ. of Hong Kong, The Chinese Univ. of Hong Kong, The Chinese Univ. of Hong Kong, Univ. Med. Ctr. Utrecht, The Chinese Univ. of Hong Kong.*
- 3:00 RR8 **231.07** Effects of alpha-7 nicotinic allosteric modulator PNU 120596 on lipopolysaccharide-induced anhedonia, anxiety, and cognition-like behaviors in mice. S. ALZAREA*; S. RAHMAN. *South Dakota State Univ.*
- 4:00 RR9 **231.08** Involvement of the mTOR pathway in the antidepressant-like effect of cannabidiol in infralimbic administration in rat. E. FLORENSA-ZANUY; D. VASTURZO; A. ARCHITRIVO; E. CASTRO; Á. DÍAZ; F. PILAR-CUELLAR*; A. PAZOS. *IBBTEC, Univ. de Cantabria, Ctr. de Investigación Biomédica en Red de Salud Mental (CIBERSAM).*
- 1:00 RR10 **231.09** Rare genetic variants and antidepressant remission. M. WONG*; M. ARCOS-BURGOS; J. LICINIO. *State Univ. of New York Upstate Med. Univ., South Australian Hlth. and Med. Res. Institue, Flinders Univ., Univ. of Rosario, Australian Natl. Univ.*
- 2:00 RR11 **231.10** Fibroblast growth factor 2 (fgf2) is necessary for the antidepressant effects of fluoxetine in chronically stressed mice. P. SHAIL*; S. SIMARD; J. MACGREGOR; M. ELSAYED; R. S. DUMAN; F. M. VACCARINO; N. SALMASO. *Carleton Univ., Carleton Univ., UNIL, Yale Univ. Sch. Med., Yale Univ.*
- 3:00 RR12 **231.11** Towards proteomic differentiation of mental health disorders. C. R. LAPSLEY; S. WATTERSON; J. BRADY; A. J. BJOURSON; E. K. MURRAY*. *Ulster Univ., Ulster Univ., Western Hlth. and Social Care Trust, Northern Ireland Ctr. for Straified Med.*
- 4:00 RR13 **231.12** Investigating organic cation transporter 3 (OCT3) and plasma membrane monoamine transporter (PMAT) as targets for development of new antidepressant treatments for juveniles and adolescents. M. A. BOWMAN*; N. C. MITCHELL; R. FRASER-SPEARS; G. G. GOULD; L. C. DAWS. *Univ. of Texas Hlth. Sci. Ctr. San Anto, Univ. of the Incarnate Word.*
- 1:00 RR14 **231.13** Innate immunity in the postmortem brain of depressed and suicide subjects: Role of toll-like receptors. H. ZHANG*; H. S. RIZAVI; X. REN; G. N. PANDEY. *Univ. of Illinois at Chicago, Univ. Illinois Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*
- 2:00 SS1 **231.14** Proinflammatory cytokines expression in the teenage suicide brain. X. REN*; H. S. RIZAVI; H. ZHANG; G. N. PANDEY. *Univ. of Illinois at Chicago, Univ. Illinois Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago.*
- 3:00 SS2 **231.15** Molecular mechanisms of antidepressant withdrawal. N. SENESE*; J. SCHAPPI; M. M. RASENICK. *Univ. of Illinois Chicago, Jesse Brown VA Med. Ctr., Univ. of Illinois Chicago.*
- 4:00 SS3 **231.16** Identifying glucocorticoid receptor mediated mechanisms of polygene-environment interactions involved in stress sensitivity. S. PENNER-GOEKE*; J. MARTINS; J. ARLOTH; S. RÖH; E. BINDER. *Max Planck Inst. of Psychiatry, Emory Univ. Sch. of Med.*
- 1:00 SS4 **231.17** Neurophysiological biomarkers of the acute effect of subcallosal cingulate stimulation in treatment resistant depression. M. S. E. SENDI; V. TIRUVADI; A. C. WATERS; H. S. MAYBERG; B. MAHMOUDI*. *Emory Univ. and Georgia Inst. of Technol., Emory Univ., Icahn Sch. of Med. at Mount Sinai.*
- 2:00 SS5 **231.18** Intra-individual alteration of plasma metabolites for bipolar disorder, a pilot study. Y. KAGEYAMA*; Y. DEGUCHI; T. KASAHARA; M. TANI; K. KURODA; K. INOUE; T. KATO. *Weill Cornell Med., Osaka City Univ., RIKEN Brain Sci. Inst., Tani Mental Clin., Hannan Hosp., Osaka City Univ. Med. Sch, Neuropsychiatry, RIKEN Brain Sci. Inst. - Wako.*
- 3:00 SS6 **231.19** CB1 receptor antagonism prevents hyperlocomotion induced by the dopamine transporter inhibitor GBR12909. J. D. BASTOS*; N. FONT; A. L. TEIXEIRA; F. S. MACHADO; A. S. MIRANDA; F. D. MOREIRA. *Federal Univ. of Minas Gerais, The Univ. of Texas Hlth. Sci. Ctr. at Houston.*
- 4:00 SS7 **231.20** • Combining transcranial magnetic stimulation and machine learning to predict treatment outcome in late-life depression. J. I. LISSEMORE*; R. ZOMORRODI; A. BHANDARI; Y. ZHANG; S. WANG; H. LO; W. CAO; A. J. BONNER; T. K. RAJJI; B. H. MULSANT; Z. J. DASKALAKIS; D. M. BLUMBERGER. *Univ. of Toronto, Ctr. for Addiction and Mental Hlth., Univ. of Toronto, Univ. of Toronto.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

Sun. PM

1:00 SS8 **231.21** ● Membrane localized tubulin shows decreased alpha-tubulin acetylation in postmortem brain tissue from depressed suicides: Cytoskeletal dynamics and depression. H. SINGH*; J. CHMURA; R. BHAUMIK; G. N. PANDEY; M. M. RASENICK. *Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago, Univ. of Illinois at Chicago Col. of Med.*

POSTER

232. Depression and Bipolar Disorders: Animal Models: Behavioral Mechanism I

Theme G: Motivation and Emotion

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 SS9 **232.01** Epigenetic regulation of stress-induced depressive behaviors. L. Y. QING*; L. M. HUA; H. ZHUO. *Peking Univ. Hlth. Sci. Ctr.*
- 2:00 SS10 **232.02** Antibiotics block depression-like behavior induced by high fat diet in mice. A. M. HASSAN*; A. FARZI; G. ZENZ; P. HOLZER. *Med. Univ. of Graz.*
- 3:00 SS11 **232.03** Participation of the monoaminergic systems in the antidepressant-like effect of a histamine H₃ receptor inverse agonist in adolescent male mice. H. MANCHA GUTIÉRREZ*; C. LOPEZ-RUBALCAVA. *Ctr. de Investigación y de Estudios Avanzados de.*
- 4:00 SS12 **232.04** Loss of forebrain 5-HT_{1A} heteroreceptors results in increased stress-reactivity and decreased motivation. A. GARCIA; I. ALY; A. DRANOVSKY; E. D. LEONARDO*. *Columbia University, New York Psychiatry Inst., New York State Psychiatric Inst., Columbia Univ. / NYSPI, Columbia/New York State Psyc Inst.*
- 1:00 SS13 **232.05** Social defeat stress: Impacts on ethanol reward, corticosterone secretion and brain monoamines. I. M. QUADROS*; C. A. FAVORETTO; Y. C. NUNES; G. C. MACEDO. *Univ. Federal De Sao Paulo, Univ. Federal De Sao Paulo.*
- 2:00 SS14 **232.06** Effects of depression-like behavior in alpha CGRP transgenic mice over-expressing mice. N. HASHIKAWA-HOBARA*; A. OTSUKA; R. YAMAMOTO; T. FUKUNAGA; N. HASHIKAWA. *Okayama Univ. of Sci., Okayama Univ. of Sci.*
- 3:00 TT1 **232.07** Adaptive immune signaling at the meningeal barrier: Neuroimmune interactions underlying stress-induced mood disruption. S. L. KIGAR*; S. J. LISTWAK; D. KIM; V. H. SUN; A. ELKAHLOUN; M. L. LEHMANN; M. HERKENHAM. *Natl. Inst. of Mental Hlth., MIT, Natl. Human Genome Res. Inst.*
- 4:00 TT2 **232.08** Mice show depression-like behaviors after inescapable electric foot shock regardless to active avoidance results. J. KIM*; S. YANG; H. LEE; H. KIM. *Korea Univ.*
- 1:00 TT3 **232.09** Glucocorticoids regulation of norepinephrine turnover in limbic brain regions. D. F. BARNARD*; K. M. GABELLA; A. KULP; P. DUGAN; J. D. JOHNSON. *Kent State Univ.*
- 2:00 TT4 **232.10** Gender specific effects of environmental stress on depression - like behaviors and endocrinology in adolescent rats. S. LI*; M. YUAN; L. LIU; C. WANG. *Natl. Inst. on Drug Dependence, Peking Univ., Natl. Inst. on Drug Dependence, Peking Univ., onal Inst. on Drug Dependence, Peking Univ.*

- 3:00 TT5 **232.11** Effects of chronic stress paradigms on instrumental behaviors in mice. A. DIETERICH*; M. L. PHAN; B. A. SAMUELS. *Rutgers Univ., Rutgers Univ. Dept. of Psychology, Rutgers Univ.*
- 4:00 TT6 **232.12** Role of the anterior cingulate cortex in the comorbidity of chronic pain and mood disorders: Electrophysiological and molecular bases. I. YALCIN-CHRISTMANN*; M. HUMO; J. SELLMEIJER; F. BARTHAS; C. FILLINGER; S. HUGEL; E. WALTISPERGER; V. MATHIS; R. GILSBACH; L. HEIN; C. BELZUNG; A. AERTSEN; P. VEINANTE; M. BARROT. *CNRS INCI, Ctr. national de la recherche scientifique, UPR3212 Inst. des Neurosciences Cellulaires et Intégratives, Univ. of Strasbourg, Inst. of Pharmacol. and Toxicology, Univ. of Freiburg, Freiburg, Germany, Univ. of François Rabelais, Inserm U930, Tours, France, Bernstein Ctr. Freiburg, Ctr. national de la recherche scientifique, UPR3212 Inst. des Neurosciences Cellulaires et Intégratives, Univ. of Strasbourg.*
- 1:00 TT7 **232.13** ● Training in an enriched and complex environment, the Hamlet test, alleviates chronic corticosterone-induced depressive status in mice. L. CROUZIER*; D. GILBERT; I. MENDEZ-DAVID; A. M. GARDIER; D. J. DAVID; T. MAURICE. *INSERM UMR-S1198, CESP/UMR-S1178, Univ. Paris-Sud, Fac Pharmacie, Inserm, Univ. Paris-Saclay.*
- 2:00 TT8 **232.14** Development of a novel rodent model of epilepsy and depression comorbidity. B. S. REIVE*; K. ROSIN; T. FRANCIS; A. KALININA; N. M. FOURNIER. *Trent Univ.*
- 3:00 TT9 **232.15** The combination of escitalopram and aripiprazole: Focus on the 5-HT_{1A} receptor. T. D. LAPOINTE; R. M. HUDSON; S. DANIELS; B. MELANSON; Y. ZHOU; F. LERI*. *Univ. of Guelph, Univ. of Western Ontario, Univ. of Guelph, Rockefeller Univ., Univ. Guelph.*
- 4:00 TT10 **232.16** ● Assessment of intracranial self-stimulation as a preclinical model to predict rimonabant- and eticlopride-induced anhedonia at clinically-relevant receptor occupancies. C. TYSZKIEWICZ*; J. B. KUZMISKI; D. HORTON; V. M. JACKSON; M. G. GOODY. *Pfizer Global Res. and Develop., Pfizer Global Res. and Develop., Medpace.*
- 1:00 TT11 **232.17** The impact of acute uncontrollable tail shock stress on the development of depression- and anxiety-like behavior using a mouse model. C. REED*; E. BAUER; P. J. CLARK. *Iowa State Univ.*
- 2:00 TT12 **232.18** The impact of running on the expression of brain adenosine receptors. E. BAUER*; C. H. REED; B. A. BAUSTIAN; A. SHOEMAN; A. BELL; M. R. CARLSON; P. J. CLARK. *Iowa State Univ.*
- 1:00 DP13/TT13 **232.19** (Dynamic Poster) Cell -specific ablation of microglial pattern recognition receptors RAGE and TLR4 alters susceptibility to depressive-like behaviors after chronic unpredictable stress. T. C. FRANKLIN*; R. S. DUMAN. *Yale Univ. Sch. of Med., Yale Univ. Sch. Med.*
- 4:00 TT14 **232.20** The effects of a bipolar disorder associated SNP on ADCY2 protein function and mouse behavior. P. SEN*; O. ÖRTIZ; W. WURST; J. M. DEUSSING. *Helmholtz Zentrum München, Max Planck Inst. of Psychiatry.*
- 1:00 TT15 **232.21** Sex differences in the alteration of mouse nesting behavior observed following administration of the kappa opioid receptor ligands, U50,488 and CERC-501. M. L. JACOBSON*; H. A. WULF; C. A. BROWNE; I. LUCKI. *Uniformed Services Univ.*

POSTER

233. Depression and Bipolar Disorders: Animal Models: Neural Mechanisms

Theme G: Motivation and Emotion

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 TT16 **233.01** The hippocampal glycome contributes to behavioural phenotype in a novel rodent model of mood disorders. A. M. O'CONNOR^{*}; T. PARDO; I. BIRT; M. HAGENAUER; P. M. MARAS; K. E. PRATER; P. BLANDINO, Jr.; E. K. HEBDA-BAUER; S. J. WATSON, Jr.; H. AKIL. *Univ. of Michigan, Univ. of Washington.*
- 2:00 TT17 **233.02** GluA2-lacking AMPA receptor expression in dopamine D1 or D2 receptor neurons affects behavior differently. J. SHOU^{*}; A. TRAN; N. SNYDER; E. BLEEM; S. KIM. *Colorado State Univ., Colorado State Univ., Colorado State Univ.*
- 3:00 TT18 **233.03** Reduction of CHAT in medial habenula induces depression-like behavior. S. YANG^{*}; J. KIM; S. MO; E. YANG; K. SONG; B. HAM; N. MECHAWAR; G. TURECKI; H. LEE; H. KIM. *Col. of Medicine, Korea Univ., Col. of Medicine, Korea Univ., McGill University, Douglas Mental Hlth. Univ. Inst.*
- 4:00 TT19 **233.04** Mechanisms of hippocampal development: Molecular and cellular phenotypes in the selectively bred high-responder/low-responder model of affective disorders. K. L. HILDE^{*}; M. H. HAGENAUER; A. V. STEFANOV; I. BIRT; E. K. HEBDA-BAUER; S. J. WATSON, Jr.; H. AKIL. *Univ. of Michigan, Univ. of Michigan.*
- 1:00 TT20 **233.05** Depression and social defeat stress commonly impair inhibition in the nucleus accumbens. M. HESHMATI^{*}; K. LECLAIR; C. MENARD; D. J. CHRISTOFFEL; S. A. GOLDEN; M. FLANIGAN; H. ALEYASIN; A. K. FRIEDMAN; M. HAN; S. J. RUSSO. *Icahn Sch. of Med. at Mount Sinai, Stanford Univ., Natl. Inst. on Drug Abuse, Icahn Sch. of Med. Mount Sinai, Hunter College, City Univ. of New York.*
- 2:00 TT21 **233.06** Otx2 as a possible mediator for depressive-like behavior. A. MUNDORF^{*}; N. FREUND. *LWL Univ. Hospital, Ruhr-University Bochum.*
- 3:00 TT22 **233.07** Chronic stress causes cell-type specific dendritic remodeling of nucleus accumbens medium spiny neurons. M. E. FOX^{*}; R. CHANDRA; M. S. MENKEN; E. J. LARKIN; H. NAM; M. ENGELN; T. C. FRANCIS; M. LOBO. *Univ. of Maryland Baltimore, Univ. of Maryland Col. Park.*
- 4:00 TT23 **233.08** The role of estrogen in the stress response in the ventral tegmental area. M. SHANLEY^{*}; C. GUEVARA; A. SEIDENBERG; E. HERNANDEZ; A. ONOICHENCO; P. GOLUBOWSKI; R. KARIM; A. K. FRIEDMAN. *Hunter College, CUNY.*
- 1:00 TT24 **233.09** Targeted neuroepigenetic editing of Cdk5 regulates chronic stress. A. SASE^{*}; B. SANTHUMAYOR; S. LOMBROSO; R. WOOD; E. A. HELLER. *The Univ. of Pennsylvania, Perelman Sch. of Med., The Univ. of Pennsylvania, Perelman Sch. of Medicine, Univ. of Pennsylv.*
- 2:00 UU1 **233.10** Cortical gaba reduction mediates effort-based dopamine release deficits in anterior cingulate cortex. K. NAKAO^{*}; S. M. KOLATA; E. L. FARMER-ALROTH; R. E. SORGE; K. NAKAZAWA. *Univ. of Alabama at Birmingham, NIMH, Univ. of Alabama at Birmingham, Southern Res.*
- 3:00 UU2 **233.11** Hippocampal β -catenin in GLAST⁺ cells: A key-mediator between proliferation and the serotonergic system. F. PILAR-CUÉLLAR; E. GARRO-MARTÍNEZ; R. VIDAL; A. ADELL^{*}; Á. PAZOS. *Inst. of Biomed & Biotech. of Cantabria, Dept. de Fisiología y Farmacología, Univ. de Cantabria, Ctr. de Investigación Biomédica en Red de Salud Mental (CIBERSAM), Dept. de Farmacología, Facultad de Medicina, Univ. Complutense, Inst. de Investigación Sanitaria Hosp. 12 de Octubre, Red de Trastornos Adictivos del Inst. de Salud Carlos III.*
- 4:00 UU3 **233.12** Medial prefrontal cortex inhibition attenuates symptoms of depression in long evans rats. J. J. CORTRIGHT^{*}; A. MILLER; B. PODGORSEK; A. WILLARD; S. ACKERMAN; M. BAUMGARDNER. *Univ. of Wisconsin River Falls.*
- 1:00 UU4 **233.13** Epigenetic regulation of bdnf gene transcription in two animal models of depression. C. LI^{*}; F. MENG; J. LIU; X. LIU; M. GUO; X. LU. *Inst. for Metabolic and Neuropsychiatric Disor, Med. Col. of Georgia at Augusta Univ.*
- 2:00 UU5 **233.14** Reduced enkephalins in the nucleus accumbens regulate depression-like phenotype to social defeat stress. H. NAM^{*}; R. CHANDRA; T. FRANCIS; M. LOBO. *Univ. of Maryland Sch. of Med.*
- 3:00 UU6 **233.15** Chronic pain evokes limbic dysregulation of MAPK phosphatases. D. NERLAND; L. SEMKE^{*}; V. DURIC. *Des Moines Univ.*
- 4:00 UU7 **233.16** Analysis of gaba-ergic interneuron markers in the anterior and posterior cingulate cortex of subjects diagnosed with bipolar disorder and schizophrenia. D. M. KROLEWSKI^{*}; V. KUMAR; M. WASELUS; R. M. MYERS; F. S. LEE; J. D. BARCHAS; A. SCHATZBERG; W. E. BUNNEY JR; H. AKIL; S. J. WATSON, Jr. *Univ. of Michigan, Hudson Alpha Inst. for Biotech., Weill Cornell Med. Col., Stanford Univ., Univ. of California Irvine.*
- 1:00 UU8 **233.17** A bioinformatics analysis of enrichment loss in rats: Molecular mechanisms underlying depression-like behaviors. M. A. SMAIL^{*}; B. L. SMITH; A. FUNK; E. DEPASQUALE; C. R. SULLIVAN; E. BENTE^{*}; S. M. O'DONOVAN; R. MORANO; O. HOSKINS; E. M. COTELLA; P. MAHBOD; J. P. HERMAN; R. E. MCCULLUMSMITH. *Univ. of Cincinnati, Univ. of Toledo.*
- 2:00 UU9 **233.18** The role of NSUN2-mediated tRNA methylation in the adult mouse cortex on depressive- and anxiety-like behavior. J. BLAZE^{*}; S. ESPESO-GIL; B. JAVIDFAR; F. G. HAGHIGHI; S. AKBARIAN. *Icahn Sch. of Med. at Mt. Sinai, Icahn Sch. of Med. at Mt. Sinai, Icahn Sch. of Med. At Mount Sinai, Icahn Sch. of Med. At Mount Sinai.*
- 3:00 UU10 **233.19** Synaptic modifications of the hippocampus for depression by learned helplessness in mice. S. KIM^{*}; G. CHANG; H. LEE; D. LEE; G. KIM; G. HA; E. CHEONG. *Yonsei Univ.*
- 4:00 UU11 **233.20** Brain extracellular matrix genes are dysregulated in major depressive disorder. E. M. PARISE^{*}; L. F. PARISE; Z. S. LORSCH; P. J. HAMILTON; B. LABONTÉ; C. A. BOLANOS-GUZMAN; E. J. NESTLER. *Ichan Sch. of Med. At Mount Sinai, Texas A&M Univ., Laval Univ.*

Sun. PM

^{*} Indicated a real or perceived conflict of interest, see page 139 for details.
[▲] Indicates a high school or undergraduate student presenter.
^{*} Indicates abstract's submitting author

- 1:00 UU12 **233.21** Endogenous and CRISPR-mediated CREB-Zfp189 interactions regulate a resilient-specific transcriptional network in mouse models of depression. Z. S. LORSCH; P. J. HAMILTON*; A. RAMAKRISHNAN; A. LEPAK; P. MEWS; E. PARISE; O. ISSLER; L. ALCANTARA; S. PIRPINIAS; I. ORTIZ TORRES; A. CONKEY; A. MCKENZIE; S. MONTGOMERY; E. LOH; A. E. SYMONDS; R. L. NEVE; B. ZHANG; I. S. MAZE; L. SHEN; R. C. BAGOT; E. J. NESTLER. *Icahn Sch. of Med. at Mount Sinai, Mount Sinai Sch. of Med., Icahn Sch. of Med. at Mount Sinai, Hunter Col. High Sch., Massachusetts Gen. Hosp., Icahn Sch. of Med. At Mount Sinai, McGill Univ.*
- 2:00 UU13 **233.22** ▲ Hippocampal mossy cell involvement in behavioral and neurogenic responses to chronic antidepressant treatment. S. OH*; J. CHENG; Y. OH; P. GREENGARD; M. JUNG; C. SHIN; J. PARK. *Daegu Gyeongbuk Inst. of Sci. and Technol., Rockefeller Univ., Daegu Gyeongbuk Inst. of Sci. and Technol., Rockefeller Univ., Daegu Gyeongbuk Inst. of Sci. and Technol.*
- 3:00 UU14 **233.23** DeltaFosB transcription factor is differentially regulated in brain areas related to fear processing in resilient and susceptible rats to social defeat stress. G. MORAIS-SILVA*; I. B. ROSSANESI; J. C. PAVAN; M. T. MARIN. *Sao Paulo State Univ.*
- 3:00 UU21 **234.07** The role of acute and chronic neuroinflammation in depression: Uncovering the relationship between histamine and serotonin transmission. M. HERSEY*; J. L. WOODRUFF; A. ABDALLA; L. P. REAGAN; P. HASHEMI. *Univ. of South Carolina Sch. of Med., Univ. of South Carolina, Univ. of South Carolina Sch. of Med., Univ. of South Carolina.*
- 4:00 UU22 **234.08** Chronic stress compromises the NG₂-glial cellular homeostasis in a murine depression model. A. KOKKOSIS*; M. MULLAHY; B. SUAREZ; G. LUCIANO; P. ALVAREZ; A. AGUIRRE. *Stony Brook Univ.*
- 1:00 VV1 **234.09** Inflammation is associated with decreased functional connectivity between the amygdala and ventromedial prefrontal cortex in depressed patients with comorbid PTSD. N. MEHTA*; Z. LI; B. WOOLWINE; E. HAROON; J. C. FELGER. *Emory Univ., Shenzhen Univ., Shenzhen Univ., Winship Cancer Institute, Emory Univ.*
- 2:00 VV2 **234.10** The *in vivo* effects of redox state on ΔFosB complex formation and interaction partners. H. LYNCH*; E. J. NESTLER; A. J. ROBISON; G. RUDENKO. *Michigan State Univ., Icahn Sch. Med. At Mount Sinai, Michigan State Univ., Univ. of Texas Med. Br.*
- 3:00 VV3 **234.11** Sub-chronic and chronic variable stress induces sex specific effects on glutamatergic synapses in the nucleus accumbens core and shell sub-regions. M. TSYGLAKOVA*; K. A. UNROE; B. H. SMITH; J. R. RAINVILLE; G. E. HODES. *Virginia Tech.*
- 4:00 VV4 **234.12** Elucidating the contribution of sex differences in the peripheral immune system to stress susceptibility and depression. J. R. RAINVILLE*; J. W. MURROUGH; G. E. HODES. *Virginia Tech., Icahn Sch. of Med. at Mt. Sinai.*
- 1:00 VV5 **234.13** ▲ Examining individual differences in susceptibility and resilience to the variable stress model. A. P. JOHNSON; J. R. RAINVILLE; G. E. HODES*. *Virginia Tech., Virginia Tech.*
- 2:00 VV6 **234.14** The effects of altered gut biome in a ketamine-sensitive model of treatment-resistant depression. S. W. WHITE*; K. J. SUFKA. *Univ. of Mississippi, Univ. of Mississippi.*

POSTER

234. Depression and Bipolar Disorders: Neural Mechanisms: Inflammation and Depression

Theme G: Motivation and Emotion

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 UU15 **234.01** Characterizing inflammatory status of the ventral tegmental area in mouse models of depression. V. BALI*; B. ABOLIBDEH; A. R. STARK; M. S. MAZEI-ROBISON. *Michigan State Univ., Michigan State Univ., Michigan State Univ.*
- 2:00 UU16 **234.02** Does galanin mediate the effects of chronic inflammation on the mesolimbic dopamine system? J. SMITH*; S. M. MOHANKUMAR; P. S. MOHANKUMAR; L. L. MILLER; P. V. HOLMES. *Univ. of Georgia, Univ. of Georgia, Univ. of Georgia, Augusta Univ., Univ. of Georgia.*
- 3:00 UU17 **234.03** Minocycline treatment reduces anxiety- and depressive-like behaviors in a genetic model of internalizing mood disorders. P. M. MARAS*; J. DAUGHERTY; E. HEBDA-BAUER; S. J. WATSON, Jr.; H. AKIL. *Univ. of Michigan, Univ. of Michigan.*
- 4:00 UU18 **234.04** Neuroplastic and neuroimmune correlates of chronic stress exposure in female mice: Modulatory roles of estrogen receptor subtypes. R. MAHMOUD*; P. DUARTE-GUTERMAN; S. E. LIEBLICH; S. J. WONG; J. A. CHAITON; C. CHOW; L. A. GALEA. *Univ. of British Columbia, Univ. of British Columbia.*
- 1:00 UU19 **234.05** Chronic variable stress disrupts reward encoding and motivated behavior. M. G. SPRING*; E. PANTHER; E. VAN NEWENHIZEN; B. WINDSOR; B. KURTOGLU; C. CHAN; J. MANTSCH; P. J. GASSER; R. WHEELER. *Marquette Univ., UCSD.*
- 2:00 UU20 **234.06** High fat diet differentially impacts endocrine, metabolic and inflammatory markers: Relationship to depressive-like behaviors. J. L. WOODRUFF*; M. N. HERSEY; F. L. ROSADO; C. A. GRILLO; L. P. REAGAN. *Univ. of South Carolina Sch. of Med., WJB Dorn VA Med. Ctr.*
- 5:00 VV7 **235.01** Maternal cannabis vapor exposure dose-dependently impairs behavioral flexibility in adult offspring. H. R. WRIGHT; C. R. WARRICK; J. R. KUYAT; J. W. RODRIGUEZ; J. M. LUGO; R. J. MCLAUGHLIN*. *Washington State Univ.*
- 2:00 VV8 **235.02** Paternal THC exposure in rats impacts neurobehavioral effects in the offspring. E. D. LEVIN*; A. B. HAWKEY; E. YAZDANI; B. KENOU; H. WHITE; C. WELLS; M. CAULEY; A. H. REZVANI; S. K. MURPHY. *Duke Univ. Med. Ctr., Duke Univ., Duke Univ.*
- 3:00 VV9 **235.03** Prenatal nicotine exposure is associated with functional changes of NMDA receptors within the laterodorsal tegmental nucleus (LDT) of juvenile mice. F. S. POLLI*; K. A. KOHLMIEIER. *Univ. of Copenhagen.*

POSTER

235. Drugs of Abuse and Addiction: Developmental Effects of Addictive Drugs

Theme G: Motivation and Emotion

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 4:00 VV10 **235.04** Prenatal opioid exposure results in decreased myelination and facilitates a pro-inflammatory microenvironment in offspring. J. MAXWELL*; T. R. YELLOWHAIR; J. NEWVILLE; C. L. SHROCK; A. M. ALLAN; L. N. BAKHIREVA; F. J. NORTHINGTON; S. ROBINSON; L. L. JANTZIE. *Univ. of New Mexico Hosp., Univ. of New Mexico Sch. of Med., Univ. of New Mexico, Johns Hopkins Univ., Univ. New Mexico Sch. Med., Johns Hopkins Sch. of Med., Johns Hopkins Univ., Univ. of New Mexico Dept. of Pediatrics.*
- 1:00 VV11 **235.05** β 1-integrin during adolescence supports complex decision making and confers resilience to cocaine-seeking behavior in adulthood. A. J. WHYTE; S. L. GOURLEY*. *Emory Univ., Emory Univ.*
- 2:00 VV12 **235.06** Sex- and age-dependent expression of Cdk5, p35, and p25 proteins, their lateralization in adolescent and adult mice, and the effects of repeated nicotine injections. A. D. HUDSON; K. J. FRYXELL*. *George Mason Univ., George Mason Univ.*
- 3:00 VV13 **235.07** CRISPR/Cas9 knockdown of alpha 6 nicotinic acetylcholine receptor subunit in the adolescent rat brain. M. REN*; J. CHANG; S. LOTFIPOUR. *Univ. of California Irvine, Univ. of California Irvine.*
- 4:00 VV14 **235.08** Effect of pharmacological interaction between methylphenidate and citalopram on locomotor activity and voluntary consumption of methylphenidate. C. C. ÁLVAREZ-PADILLA*; J. JUAREZ. *Inst. de Neurociencias, Univ. Guadalajara.*
- 1:00 VV15 **235.09** Early-life risperidone administration enhances amphetamine-conditioned place preference in adult rats. T. DOWNNEN; E. C. BALTES THOMPSON; C. CRANE; M. E. BARDGETT*. *Northern Kentucky Univ., Northern Kentucky Univ.*
- 2:00 VV16 **235.10** Cannabinoid exposure in adolescence alters cocaine reward in adulthood to expedite binge use. J. M. WENZEL*; V. M. AYVAZIAN; J. CHEER. *Univ. of Maryland Sch. of Med.*
- 3:00 VV17 **235.11** Nicotinic acetylcholine receptor density in the rat brain changes in response to nicotine dose and exposure age. M. E. PRILLAMAN*; R. J. KEELEY; J. L. GOMEZ; T. E. MAYER; P. TSAI; H. LU; M. MICHAELIDES; Y. YANG; E. A. STEIN. *Natl. Inst. on Drug Abuse, Univ. of North Carolina.*
- 4:00 VV18 **235.12** Long-term effects of weight fluctuation during adolescent cannabinoid exposure. G. D. MEDLEY; R. D. LUNDY; D. L. CASHEL; H. M. PARRISH; N. A. STELLY; P. A. JACKSON*. *Radford Univ., Radford Univ.*
- 1:00 VV19 **235.13** Genetic contributions to the neuroinflammatory response following alcohol exposure in a mouse model of Fetal Alcohol Syndrome Disorders. J. A. BAKER*; C. J. M. KANE; J. W. JOHNSON; K. M. HAMRE. *Univ. of Tennessee Hlth. Sci. Ctr., Univ. of Arkansas for Med. Sci.*
- 2:00 VV20 **235.14** Insulin sensitivity and intergenerational transmission of opioid-induced risk for metabolic syndrome. E. M. BYRNES*; A. M. TOORIE; D. N. TECENO; T. D. PATTON; C. M. SCHONHOFF; F. M. VASSOLER. *Tufts Univ. Cummings Sch. Vet Med.*
- 3:00 VV21 **235.15** Decrease in hyperpolarization-activated cation current (I_h) after cocaine administration: Evidence of epigenetic regulation. R. VAZQUEZ-TORRES; M. S. BRODIE; C. YOU; F. ARENCIBIA-ALBITE; K. Y. BOSQUE-CORDERO; A. VAQUER-ALICEA; J. C. VICENTY-PADILLA; C. A. JIMENEZ-RIVERA*. *Univ. of Puerto Rico, Physiol. Dept., Univ. of Illinois, Univ. Sagrado Corazón, Univ. of Puerto Rico Rio Piedras Campus, Univ. of Puerto Rico, Med. Sci. Campus.*
- 4:00 VV22 **235.16** Transgenerational effects of maternal overnutrition on offspring's hedonic and metabolic phenotypes. G. SARKER; R. BERRENS; J. VON ARX; P. PELCZAR; W. REIK; C. WOLFRUM; D. PELEG-RAIBSTEIN*. *Swiss Federal Inst. of Technology, ETH Zurich, The Abraham Inst., Ctr. for Transgenic Models, Univ. of Basel.*
- 1:00 WW1 **235.17** Effects of amphetamine exposure during adolescence or adulthood on cognitive flexibility and synaptic plasticity in the prefrontal cortex and nucleus accumbens. S. KANG*; M. L. HAYNES; T. M. BARROS; J. M. GULLEY. *Univ. of Illinois at Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*
- 2:00 WW2 **235.18** Age-of-onset and sex influence escalation of methamphetamine self-administration and drug-induced deficits in recognition memory in Sprague-Dawley rats. S. R. WESTBROOK*; M. R. DWYER; L. R. CORTES; J. M. GULLEY. *Univ. of Illinois Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*

POSTER

236. Addictive Drugs: Reward Mechanisms, Tolerance, Dependence, and Toxicity

Theme G: Motivation and Emotion

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 WW3 **236.01** AM7438, a novel controlled deactivation cannabinoid with reduced tolerance and dependence profiles. J. G. RAGHAV*; K. VEMURI; S. P. NIKAS; S. R. KULKARNI; A. MAKRIYANNIS. *Northeastern Univ., Northeastern Univ., Northeastern Univ.*
- 2:00 WW4 **236.02** Mapping subcortical surface morphometry in substance use: An ENIGMA addiction working group study. Y. CHYE*; S. MACKEY; B. GUTMAN; P. M. THOMPSON; A. UHLMANN; P. CONROD; H. GARAVAN. *Monash Univ., Univ. of Vermont, Univ. of Southern California (USC), Univ. of Cape Town, Univ. de Montreal.*
- 3:00 WW5 **236.03** Response dynamics of midbrain dopamine neurons and serotonin neurons to heroin, nicotine, cocaine, and MDMA. C. WEI*; X. HAN; D. WENG; Q. FENG; X. QI; J. LI; M. LUO. *Natl. Inst. of Biol. Sciences, Beijing, Peking Univ., Beijing Inst. of Pharmacol. and Toxicology, Tsinghua Univ.*
- 4:00 WW6 **236.04** Xylene and diazepam co-administration potentiates anticonvulsant effect in rats. J. SERNA-VAZQUEZ; D. GODINEZ-HERNANDEZ; L. ORTEGA-VARELA; M. Y. GAUTHEREAU-TORRES*. *Univ. Michoacana de San Nicolas de Hidalgo, Univ. Michoacana de San Nicolas de Hidalgo, Univ. Michoacana de San Nicolas de Hidalgo.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 1:00 WW7 **236.05** Self-administration of toluene vapor produces functional adaptations in the nucleus accumbens core of rats. W. N. WAYMAN*; M. P. OKAS; K. M. BRAUNSCHEIDEL; J. J. WOODWARD. *Med. Univ. of South Carolina*.
- 2:00 WW8 **236.06** Effects of methamphetamine-induced dopamine toxicity on striatal plasticity. A. GIBSON*; K. A. KEEFE. *Univ. of Utah, Univ. of Utah*.
- 3:00 WW9 **236.07** ▲ Chronic clobenzorex administration induce damage in motor activity and glial reactivity in striatum of rats. G. A. DEL ROSAL*; A. PATRICIO-MARTÍNEZ; I. MARTÍNEZ-GARCÍA; I. D. LIMÓN. *Benemérita Univ. Autónoma De Puebla, Benemérita Univ. Autónoma De Puebla, Benemérita Univ. Autónoma de Puebla, Benemérita Univ. Autónoma De Puebla*.
- 4:00 WW10 **236.08** Drug Seeking like Effect of Pregabalin using conditioned place preference paradigm. A. ALMALKI*; Y. S. ALTHOBAITI; O. ALZAHRANI. *Taif Univ., Taif Univ.*
- 1:00 WW11 **236.09** ● *In vivo* EEG signatures during chronic fentanyl exposure, spontaneous withdrawal, and protracted abstinence. A. M. PATINO*; C. B. PURYEAR; C. SANCHEZ. *Alkermes, Inc.*
- 2:00 WW12 **236.10** Greater anhedonia during withdrawal from acute opioid exposure is associated with greater sensation-seeking in rats. Y. SWAIN; P. MUELKEN; A. SKANSBERG; M. KRUEGER; D. MOTZ; Z. HAAVE; M. G. LESAGE; J. C. GEWIRTZ; A. C. HARRIS*. *Univ. of Minnesota Twin Cities, Minneapolis Med. Res. Fndn., Minneapolis Med. Res. Fndn.*
- 3:00 WW13 **236.11** Binge-like toluene exposure during periadolescence alters behavioral responsiveness to later ethanol and cocaine drug challenges in Swiss-Webster mice. C. J. DAVIDSON*; M. M. NADDAF; D. L. HOLCOMB; S. E. BOWEN. *Wayne State Univ.*
- 4:00 WW14 **236.12** Chronic treatment does not cause tolerance to diazepam's effect of reducing dopamine release induced by amphetamine. J. Y. ESAKI*; C. DA CUNHA. *Univ. Federal do Paraná, Univ. Federal do Parana*.
- 1:00 XX1 **236.13** Transcriptional control of alcohol-induced behavioral change. A. LANGE*; P. ADHIKARI; F. W. WOLF. *UC Merced, UC Merced, UC Merced*.
- 2:00 XX2 **236.14** Examination of the relationship between ovarian hormones and the magnitude of the nicotine withdrawal syndrome in female rats. R. J. FLORES GARCIA*; K. P. URIBE; B. CRUZ; V. L. CORREA; L. M. CARCOBA; L. E. O'DELL. *Univ. of Texas at El Paso*.
- 3:00 XX3 **236.15** Evidence and characterization of individual variations in the mechanisms of nicotine seeking in the rat. V. GARCIA-RIVAS*; N. CANNELLA; J. FIANCETTE; P. RENAULT; M. CARBO-GAS; B. CHAPPIS; J. TOSTAIN; V. DEROCHÉ-GAMONET. *INSERM U1215, Univ. de Bordeaux*.
- 4:00 XX4 **236.16** The effect of caffeine on aversive symptoms of nicotine withdrawal in rats. N. SWALVE*; E. BIERLEIN; S. SOWA; M. YODER. *Alma Col., Alma Col.*
- 1:00 XX5 **236.17** NicA2-J1 reverses nicotine dependence, prevents relapse and decreases compulsive-like intake in rats. M. KALLUPI*; S. XUE; B. ZHOU; K. JANDA; O. GEORGE. *The Scripps Res. Inst., The Scripps Res. Inst.*
- 2:00 XX6 **236.18** ● Pre-quit nicotine decreases nicotine self-administration and attenuates cue- and drug-induced reinstatement. K. J. CLEMENS*; S. FERGUSON. *Univ. of New South Wales, Univ. of Tasmania*.
- 3:00 XX7 **236.19** Effects of bupropion or varenicline on responding for nicotine in a preclinical model of nicotine self-administration vary according to individual demand for nicotine reinforcement. T. KAZAN*; D. HERTIA; K. TRAINOR; A. LABEL; K. ZEROKA; S. CHARNTIKOV. *Univ. of New Hampshire, Univ. of New Hampshire*.
- 4:00 XX8 **236.20** Use of a transgenic rat model identifies key mechanisms of relapse to nicotine seeking. U. MASKOS*; M. BESSON; S. PONS; P. SCHOLZE; C. MOREL; S. MONDOLONI; A. HAY; B. LAMBOLEZ; L. TRICOIRE; P. FAURE; A. MOUROT; B. FORGET. *Inst. Pasteur, Med. Univ. Vienna, CNRS UMR8246, INSERM U1130, Univ. Pierre Et Marie Curie*.
- 1:00 XX9 **236.21** Acute and chronic memantine effects on nicotine self-administration in rats. A. H. REZVANI*; C. WELLS; L. YAO; E. PIPPEN; E. LEVIN. *Duke Univ.*
- 2:00 XX10 **236.22** Chronic treatment of resveratrol ameliorates memory and hippocampus alcohol-induced changes in rats. C. R. MENDOZA PEREZ*; F. DE LA CRUZ; A. D. DIAZ; G. FLORES. *Inst. Politécnico Nacional, Inst. Politécnico Nacional, Facultad de Ciencias Químicas, BUAP, Univ. Autonoma de Puebla / Inst. de Fisiología*.
- 3:00 XX11 **236.23** Early behavioral and glial signature of the new psychoactive substance MDPV in mice. F. C. PEREIRA*; L. FERNANDES; M. CAMPEÃO; I. PITA; C. LEMOS; S. F. ALI; F. CARVALHO; C. A. FONTES RIBEIRO; S. D. VIANA. *iCBR/Faculty of Medicine, Univ. of Coimbra, Innsbruck Med. Univ., Natl. Ctr. for Toxicological Research/ FDA, Fac. of Pharmacy, Univ. of Porto, Polytechnic Inst. of Coimbra, ESTESC-Coimbra Hlth. Sch.*
- 4:00 XX12 **236.24** ● Transient physical withdrawal and persistent reduction in morphine analgesia are detected following chronic fentanyl exposure in rats. Y. LI*; M. R. HUFF; C. B. PURYEAR; C. SANCHEZ. *Alkermes, Inc.*
- 1:00 XX13 **236.25** Discovery of novel class of opioid receptor antagonist to overcome the opioid crisis. M. HOSSAIN*; A. SIFAT; T. ABBRUSCATO; N. A. GERMAN. *Texas Tech. Univ. Hlth. Sci. Ctr.*
- 2:00 XX14 **236.26** Effects of environmental enrichment on dependence & withdrawal induced by abstinence of nicotine, caffeine and diazepam in rats. Z. BATOOL*; A. NAWAZ; S. HAIDER. *Univ. of Karachi, Univ. of Karachi, Sir Syed Univ. of Engin. and Technol.*
- 3:00 YY1 **236.27** Nicotine and minor tobacco alkaloid effects on food intake, body composition, and neuronal activation. P. E. BUNNEY*; M. K. GRACE; C. M. KOTZ. *Minneapolis VA Hlth. Care Syst., Minneapolis VA Hlth. Care Syst., Univ. of Minnesota Twin Cities*.
- 4:00 YY2 **236.28** Enhanced nicotine reward in a mouse model of the P129T FAAH gene polymorphism. L. A. NATIVIDAD*; M. W. BUCZYNSKI; D. STOFFER; I. Y. POLIS; A. VIADER; B. F. CRAVATT; L. H. PARSONS. *Scripps Res. Inst., Virginia Tech., Scripps Res. Inst.*
- 1:00 YY3 **236.29** ▲ Evaluating mechanisms of reward enhancement by nicotine in humans. K. JENKINS*; A. PALMISANO; A. ARNISTA; M. PADUA; O. OKIFO; R. LIVOTI; C. LOVE; R. S. ASTUR. *Univ. of Connecticut*.
- 2:00 YY4 **236.30** Neurovascular and neuroinflammatory alterations following electronic cigarette exposure. N. A. HELDT*; S. GAJGHATE; A. SELIGA; M. WINFIELD; N. REICHENBACH; S. ROM; Y. PERSIDSKY. *Lewis Katz Sch. of Med. at Temple Univ., Lewis Katz Sch. of Med. at Temple Univ.*

POSTER

237. **Drugs of Abuse and Addiction: Learning and Circuitry**

Theme G: Motivation and Emotion

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 YY5 **237.01** ▲ Fluorescence activated synaptoneurosome sorting (FASS) to study rat dorsal striatum glutamatergic inputs from prelimbic and motor cortices following acute methamphetamine injections. E. M. HILAIRE*; F. RUBIO; R. CIMBRO; R. QUINTANA FELICIANO; B. L. WARREN; K. LI; A. B. SMIT; B. T. HOPE. *Natl. Inst. On Drug Abuse, Sch. of Medicine, Johns Hopkins Univ., Vrije Univ. Amsterdam.*
- 2:00 YY6 **237.02** Functional alterations in Fos-expressing neuronal ensembles of the prelimbic cortex after cocaine place conditioning. L. R. WHITAKER*; C. N. MILLER; A. KESNER; S. A. GOLDEN; M. VENNIRO; B. T. HOPE. *Natl. Inst. on Drug Abuse Intramural Res. Program, NIDA/NIH, Natl. Inst. on Drug Abuse, NIH/NIDA.*
- 3:00 YY7 **237.03** Projections from Fos-expressing neuronal ensembles in the ventromedial prefrontal cortex to nucleus accumbens shell are required for extinction of cocaine seeking. B. L. WARREN*; L. F. KANE; M. VENNIRO; V. SELVAM; R. QUINTANA FELICIANO; R. MADANGOPAL; L. R. WHITAKER; F. RUBIO; J. M. BOSSERT; D. CAPRIOLI; Y. SHAHAM. *Natl. Inst. on Drug Abuse Intramural Res. Program, Univ. of Rome 'Sapienza'.*
- 4:00 YY8 **237.04** ▲ Incubation of discriminative stimulus-induced cocaine craving. S. J. WEBER*; L. E. KOMER; J. K. HOOTS; B. J. TUNSTALL; J. M. BOSSERT; Y. SHAHAM; B. T. HOPE; R. MADANGOPAL. *Natl. Institute on Drug Abuse, NIDA, NIDA/NIH, Natl. Inst. on Drug Abuse, NIH, NIDA, IRP, IRP/NIDA/NIH, NIH/NIDA, Natl. Inst. on Drug Abuse IRP.*
- 1:00 YY9 **237.05** Functionally distinct neuronal ensembles within the ventromedial prefrontal cortex mediate food and cocaine seeking. L. F. KANE*; B. L. WARREN; R. QUINTANA-FELICIANO; M. VENNIRO; R. MADANGOPAL; J. F. RUBIO; Y. SHAHAM; B. T. HOPE. *Natl. Inst. On Drug Abuse, NIH.*
- 2:00 YY10 **237.06** Fos mapping in whole mouse brain during food seeking relapse. L. E. KOMER*; M. JIN; S. J. WEBER; R. MADANGOPAL; S. A. GOLDEN; C. MEJIAS-APONTE; Y. SHAHAM; B. T. HOPE. *NIDA, NIH, Natl. Inst. on Drug Abuse, Natl. Inst. on Drug Abuse IRP, Natl. Inst. on Drug Abuse Intramural Res. Program, IRP/NIDA/NIH, NIH/NIDA.*
- 3:00 YY11 **237.07** Characterization of Fos-expressing neuronal ensembles in the prefrontal cortex following cocaine place conditioning using the Fos-tTa system. C. N. MILLER*; A. KESNER; S. A. GOLDEN; M. VENNIRO; B. T. HOPE; L. R. WHITAKER. *NIDA/NIH, Natl. Inst. on Drug Abuse, NIH/NIDA, Natl. Inst. on Drug Abuse Intramural Res. Program.*
- 4:00 YY12 **237.08** *In vivo* calcium imaging of rat prelimbic cortex ensembles during different stages of palatable food seeking. R. MADANGOPAL*; C. HEINS; D. CAPRIOLI; B. LIANG; G. BARBERA; L. E. KOMER; S. J. WEBER; J. M. BOSSERT; V. PRIESSEMANN; Y. SHAHAM; B. T. HOPE; D. LIN. *Natl. Inst. on Drug Abuse IRP, Max Planck Inst. for Dynamics and Self-Organization, Univ. of Rome 'Sapienza', Natl. Inst. on Drug Abuse, NIDA, NIH, NIDA, IRP, IRP/NIDA/NIH, NIH/NIDA, NIH NIDA IRP.*
- 1:00 YY13 **237.09** Detection and quantification of Arc-positive synapses after acute cocaine injections using a flow cytometry approach. F. RUBIO*; P. V. SELVAM; S. ZHANG; E. HILAIRE; R. CIMBRO; B. T. HOPE. *NIDA IRP, Johns Hopkins Sch. of Med.*
- 2:00 YY14 **237.10** Volitional social interaction prevents drug addiction. M. VENNIRO*; M. ZHANG; D. CAPRIOLI; S. A. GOLDEN; C. HEINS; D. H. EPSTEIN; M. F. MORALES; Y. SHAHAM. *Natl. Inst. On Drug Abuse, NIH, Univ. of Rome 'Sapienza', Natl. Inst. on Drug Abuse, Nida, IRP, NIDA, NIH, IRP/NIDA/NIH.*
- 3:00 YY15 **237.11** Back to front: How would the cerebellum control the activity of the addiction circuitry in order to establish conditioned preferences for drug-related cues? M. MIQUEL*; I. GIL-MIRAVET; J. GUARQUE-CHABRERA; F. OLUCHA-BORDONAU; A. SANCHEZ-HERNANDEZ. *Jaume I Univ.*
- 4:00 YY16 **237.12** ● Chronic dopamine D₃ agonist administration induces compulsive reward seeking in rats. C. S. LASKOWSKI*; K. M. WARD; D. L. DORCHAK; D. R. CHRISTENSEN; D. R. EUSTON. *Univ. of Lethbridge, Univ. of Lethbridge.*
- 1:00 YY17 **237.13** Imaging neuronal ensemble activity in medial prefrontal cortex during operant self-administration using *in vivo* microendoscopy in rats. I. SONNTAG*; S. PFARR; J. BARROSO-FLORES; C. KÖRBER; W. SOMMER; T. KUNER. *Inst. für Anatomie und Zellbiologie, Central Inst. of Mental Hlth.*
- 2:00 YY18 **237.14** Characterization of ventral subiculum-nucleus accumbens projection circuitry. X. WANG*; B. DUNN; J. AOTO. *Univ. of Colorado.*
- 3:00 YY19 **237.15** Crossing an electric barrier to obtain rewards: A simple procedure to measure the persistence of reward taking in the presence of adversity. M. R. BREDDER; A. MUTTI; A. BATES; S. S. DESAIVRE; V. RAMACHANDRA; A. G. GORDON; M. MARINELLI*. *Univ. of Texas at Austin, Univ. of Texas At Austin.*
- 4:00 YY20 **237.16** Glutamatergic modulation recovers multiple behavioral deficits in a model of AUD/PTSD comorbidity. C. E. SMILEY*; J. T. MCGONIGAL; S. MELTON; T. VALVANO; J. T. GASS. *Med. Univ. of South Carolina.*
- 1:00 YY21 **237.17** An addiction vulnerability trait impacts complex movement control: Evidence from sign-trackers and chemo-genetically reversed goal-trackers. C. LUSTIG*; A. J. KUCINSKI; M. SARTER. *Univ. of Michigan, Univ. of Michigan, Univ. of Michigan Dept. of Psychology.*
- 2:00 YY22 **237.18** The emergence of addiction in a computational model of goal-directed foraging. E. D. GRIBKOVA*; R. GILLETTE. *Univ. of Illinois At Urbana-Champaign, Univ. of Illinois at Urbana-Champaign.*
- 3:00 YY23 **237.19** The effects of different abstinence periods and environmental protection on sucrose incubation and accumbal receptor expression. B. A. HUMBURG*; E. J. GARCIA; A. N. BEESLEY; M. E. CAIN. *Kansas State Univ.*
- 4:00 YY24 **237.20** mTORC1 in the orbitofrontal cortex controls alcohol seeking and habits. A. L. BERGER*; N. MORISOT; S. LAGUESSE; K. PHAMLUONG; D. RON. *Univ. of California, San Francisco.*
- 1:00 ZZ1 **237.21** ▲ Contribution of direct and indirect medium spiny neurons in the dorsal striatum to action and habit learning. M. D. MURPHY*; M. MALVAEZ; K. M. WASSUM. *UCLA.*

Sun. PM

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

POSTER

238. Mechanisms of Attention

Theme H: Cognition

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 ZZ2 **238.01** ● Stimulus competition among more than two stimuli in the barn owl midbrain. A. RAJAGOPALAN ECHAMBADI*; J. H. HUNTLEY; S. P. MYSORE. *Johns Hopkins Univ., Johns Hopkins Univ. Sch. of Med., Johns Hopkins Univ.*
- 2:00 ZZ3 **238.02** Background homogeneity modulates saliency detection and neural activity in the optic tectum of the barn owl (*Tyto alba*). T. LEV-ARI*; Y. ZAHAR; Y. GUTFREUND. *Technion - Israel Inst. of Technol.*
- 3:00 ZZ4 **238.03** Selective response of locus coeruleus neurons to extended live tutor singing in zebra finches during song learning. J. KATIC*; Y. YAZAKI-SUGIYAMA. *Okinawa Inst. of Sci. and Technol. (OIST).*
- 4:00 ZZ5 **238.04** Neural circuits for top-down visual attention. F. HU*; Y. DAN. *Univ. of California, Berkeley.*
- 1:00 ZZ6 **238.05** Subcortical afferents to the claustrum in the mouse brain. Q. WANG*; A. CETIN; M. NAEEMI; J. KNOX; H. ZENG; J. A. HARRIS. *Allen Inst. for Brain Sci.*
- 2:00 ZZ7 **238.06** Inter-areal synchronization in visual cortex during a divided attention task. M. L. SCHOLVINCK*; J. R. DOWDALL; G. SPYROPOULOS; P. FRIES. *Ernst Strungmann Inst. (ESI) for Neurosci.*
- 3:00 ZZ8 **238.07** A novel attention-related area in the macaque temporal cortex. L. N. KATZ*; A. R. BOGADHI; A. BOLLIMUNTA; R. J. KRAUZLIS. *Natl. Eye Inst.*
- 4:00 ZZ9 **238.08** Manipulation of the endocannabinoid system and its effect in the performance of a temporal bisection attentional task. M. CHAVEZ HERNANDEZ*; M. H. BUENROSTRO-JAUREGUI; M. MENDEZ-DIAZ; H. SANCHEZ-CASTILLO; O. R. GALICIA-CASTILLO. *Univ. Iberoamericana, Univ. Iberoamericana, Univ. Nacional Autonoma de Mexico, Univ. Iberoamericana.*
- 1:00 ZZ10 **238.09** Resource depletion versus increased opportunity costs: A test of competing theories in rats performing a sustained attention task. K. B. PHILLIPS*; L. RYSZTAK; M. SARTER. *Univ. of Michigan, Univ. of Michigan.*
- 2:00 ZZ11 **238.10** Automated training of freely behaving rodents on touchscreen-based visual tasks. B. HOLT*; J. GARMON; S. P. MYSORE. *Johns Hopkins Univ., Johns Hopkins Univ.*
- 3:00 ZZ12 **238.11** Concomitant behavioral and prefrontal cortex neuronal responses following acute and chronic methylphenidate exposure in adolescent and adult rats. S. S. VENKATARAMAN; C. REYES-VAZQUEZ; C. M. CLAUSSEN; C. E. HULSEBOSCH*; N. DAFNY. *Univ. of Texas Hlth. Sci. Ctr. at Houston, Dept. de Fisiología.*
- 4:00 ZZ13 **238.12** ▲ Influence of prenatal exposure to valproic acid in rats on the performance of an auditory stimuli detection task. D. T. HECTOR*; S. MENESES-ORTEGA. *Univ. de Guadalajara.*
- 1:00 ZZ14 **238.13** Functional evidence for a default mode network deactivation in the mice brain using functional ultrasound imaging (fUS). J. FERRIER*; E. TIRAN; T. DEFFIEUX; M. TANTER; Z. LENKEI. *INSERM U894, Inst. Langevin / INSERM U979, Inst. Langevin / Inserm U979, Inst. Langevin / INSERM U979, INSERM U894.*
- 2:00 ZZ15 **238.14** ● Dissociable effects of Noradrenergic and Cholinergic lesions of Anterior Cingulate Cortex on distractibility. J. A. MCGAUGHY*; D. J. HUTCHINS; A. J. PIMENTEL; C. S. PIMENTEL; J. A. SWAINE. *Univ. of New Hampshire, Univ. of New Hampshire.*
- 3:00 ZZ16 **238.15** Claustrum to medial prefrontal cortex glutamatergic projections control attentional shifts. S. MUTEL*; O. GSCHWEND; R. SALAZAR; C. HUBER; R. LEONE; J. RENFER; L. FODOULIAN; I. RODRIGUEZ; A. CARLETON. *Univ. of Geneva, Univ. of Geneva, Cold Spring Harbor Lab.*
- 4:00 ZZ17 **238.16** Activity of basal forebrain neurons in a classical sustained attention task. D. G. BALAZSFI*; E. BIRTALAN; B. KIRÁLY; I. HORVATH; D. MATHE; K. SZIGETI; J. SANDERS; B. HANGYA. *Inst. of Exptl. Medicine, Hungarian Acad. Semmelweis University, Dept. of Biophysics and Radiation Biol., Cold Spring Harbor Lab.*
- 1:00 ZZ18 **238.17** Task uncertainty encoded by the anterior cingulate cortex promotes feeder approach between operant trials. S. H. RANDOLPH*; T. C. CARRELS; A. J. GRUBER. *Univ. of Lethbridge, Univ. of Lethbridge, Univ. of Lethbridge.*
- 2:00 ZZ19 **238.18** ● Optogenetic investigation of the role of hypocretin in impulsivity. S. M. TYREE*; J. R. NICHOLSON; M. VON HEIMENDAHL; L. DE LECEA. *Stanford Univ., Boehringer Ingelheim Pharma GmbH & Co.KG.*
- 3:00 ZZ20 **238.19** The effects of guanfacine on two-choice reaction time task performance in rats. Z. V. REDDING*; K. E. SABOL. *Univ. of Mississippi, Univ. of Mississippi.*
- 4:00 ZZ21 **238.20** Sexual dimorphism in noradrenergic regulation of attention. E. DAUSTER*; E. VAZEY. *Univ. of Massachusetts.*
- 1:00 ZZ22 **238.21** Distinct cortical ensembles process redundant and deviant sensory stimuli. J. P. HAMM*; Y. SHYMKIV; W. YANG; S. HAN; R. YUSTE. *Columbia Univ., Columbia Univ.*
- 2:00 ZZ23 **238.22** Dopaminergic modulation of attention-related neuronal activity in the macaque frontal eye field: Dependence on task difficulty. A. L. MUELLER*; T. MOORE. *Stanford Univ., Howard Hughes Med. Inst. - Stanford Univ.*
- 3:00 ZZ24 **238.23** Effects of selective visual attention across the dorsal and ventral pulvinar. R. LY*; M. A. PINSK; S. KASTNER. *Princeton Univ., Princeton Univ.*
- 4:00 ZZ25 **238.24** Using deep learning to characterize cognitive population activity in the pulvinar. F. ZHU*; R. LY; S. KASTNER; C. PANDARINATH. *Emory Univ., Princeton Univ., Princeton Univ., Emory Univ., Emory Univ. / Georgia Tech.*
- 1:00 ZZ26 **238.25** Distinguishing subdivisions of the pulvinar using functional response properties. S. KASTNER*; R. LY; M. A. PINSK. *Princeton Univ.*
- 2:00 AAA1 **238.26** Neural basis of attentional biasing guided by spatial association memories. M. K. ERADATH*; M. A. PINSK; S. KASTNER. *Princeton Univ., Princeton Univ.*
- 3:00 AAA2 **238.27** Effects of intranasal orexin A on attentional performance. J. A. BURK*; J. FELDMANN; E. MANESS; S. BLUMENTHAL. *Col. of William and Mary.*
- 4:00 AAA3 **238.28** The effects of manipulating orexinergic neurotransmission on attentional performance in an NMDA receptor hypofunction model of schizophrenia. E. B. MANESS*; S. A. BLUMENTHAL; J. R. FADEL; J. A. BURK. *Col. of William and Mary, Col. of William and Mary, Univ. of South Carolina Sch. of Med.*

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* Indicates abstract's submitting author

- 1:00 AAA4 **238.29** Effects of medial prefrontal cortical orexin-2 receptor blockade on attention. S. A. BLUMENTHAL*; A. TAPP; E. MANESS; J. BURK. *Col. of William and Mary*.
- 2:00 AAA5 **238.30** Active control of arousal by a locus coeruleus GABAergic circuit. V. BRETON-PROVENCHER*; M. SUR. *MIT, MIT*.

POSTER

239. Cortical and Hippocampal Circuits: Timing and Temporal Processing

Theme H: Cognition

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 AAA6 **239.01** A circuit dissection of reward timing in primary visual cortex. K. J. MONK*; S. ALLARD; M. G. HUSSAIN SHULER. *Johns Hopkins Univ.*
- 2:00 AAA7 **239.02** D1 and D2 striatal neurons contribute to time-based decision-making. B. J. DECORTE*; Y. KIM; N. NARAYANAN. *Univ. of Iowa*.
- 3:00 AAA8 **239.03** Dissociation between monoaminergic medications within the prelimbic cortex during timing behavior. A. R. MATTHEWS*; M. BUHUSI; C. V. BUHUSI. *Utah State Univ., Utah State Univ., Utah State Univ.*
- 4:00 AAA9 **239.04** Embedding-based decoding model for spike activity data. K. WATANABE*; T. FUKAI. *Riken Ctr. For Brain Sci.*
- 1:00 AAA10 **239.05** Neuronal activity cascades in the premotor cortex of Rhesus monkeys underlie periodic state trajectories during rhythmic tapping. J. A. GAMEZ*; G. MENDOZA; L. PRADO; A. BETANCOURT; H. MERCHANT. *Inst. de Neurobiologia U.N.A.M. Campus Juriquilla*.
- 2:00 AAA11 **239.06** ▲ Temporal dynamics of anticipatory negative contrast. D. J. MCGOVERN; M. S. MATELL*. *Villanova Univ., Villanova Univ.*
- 3:00 AAA12 **239.07** Direct modulation of the perceived passage of time through optogenetic activation of somatosensory cortex. A. FASSIHI*; S. REINARTZ; F. PULECCHI; A. TOSO; M. GIGANTE; M. E. DIAMOND. *UCSD, Intl. Sch. for Advanced Studies (SISSA)*.
- 4:00 AAA13 **239.08** The peak pattern in the peak interval procedure shifts rightward by the administration of NMDA antagonist in rats. S. SAKATA*; M. HATTORI. *Hiroshima Univ., Hiroshima Univ.*
- 1:00 AAA14 **239.09** A neuronal representation of elapsed time in the medial entorhinal cortex during immobility. J. G. HEYS*; D. A. DOMBECK. *Northwestern Univ.*
- 2:00 AAA15 **239.10** Coordination of hippocampal-cortical activity during transient coherent theta oscillations. J. Y. YU*; L. M. FRANK. *UCSF, Howard Hughes Med. Inst., UC San Francisco, Kavli Inst. for Fundamental Neurosci.*
- 3:00 AAA16 **239.11** Continuous sub-second alternation between alternative neural representations. K. KAY*; J. E. CHUNG; M. SOSA; J. SCHOR; M. KARLSSON; M. C. LARKIN; D. F. LIU; L. M. FRANK. *UCSF, Howard Hughes Med. Inst.*

- 4:00 AAA17 **239.12** ● Apolipoprotein E4-induced hippocampal network activity deficits correlate with learning and memory impairments. E. A. JONES*; A. K. GILLESPIE; S. YOON; L. M. FRANK; Y. HUANG. *Gladstone Inst., Univ. of California, Univ. of California, Univ. of California*.
- 1:00 AAA18 **239.13** Behavioral sequences predict elapsed time in the peak-interval procedure. E. PETTER*; W. H. MECK. *Duke Univ.*
- 2:00 AAA19 **239.14** Mediodorsal thalamus projections to the prelimbic cortex are important for proper supra-second timing behavior. N. A. LUSK*; W. H. MECK. *Duke Univ.*
- 3:00 AAA20 **239.15** Investigating the role of circadian clock in animal development and learning behavior. C. CHANG*. *Natl. Cheng Kung Univ.*
- 4:00 AAA21 **239.16** Distinct contextual memory engrams can be bound together in mice within intermediate and long-term time intervals. K. M. SAIDOV*; A. A. TIUNOVA; O. I. IVASHKINA; K. A. TOROPOVA; N. S. VOROBYEVA; K. V. ANOKHIN. *Natl. Res. Ctr. Kurchatov Inst., P. K. Anokhin Inst. of Normal Physiol., Lomonosov Moscow State Univ.*

POSTER

240. Animal Cognition and Behavior: Decision Making: Corticolimbic Circuits

Theme H: Cognition

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 AAA22 **240.01** The abused inhalant toluene impairs risk/reward decision making in Sprague-Dawley rats independent of mPFC CB1R signalling. K. M. BRAUNSCHEIDEL*; M. P. OKAS; S. B. FLORESCO; J. J. WOODWARD. *Med. Univ. of South Carolina Dept. of Neurosciences, Univ. British Columbia*.
- 2:00 AAA23 **240.02** Methylphenidate enhances specific dimensions of cognitive performance in a rodent strategy shifting assay of cognitive flexibility. C. P. KNAPP; O. G. KUPONIYI; S. B. FLORESCO; B. D. WATERHOUSE; R. L. NAVARRA*. *Rowan Univ. Sch. of Med., Univ. British Columbia*.
- 3:00 AAA24 **240.03** Medial orbitofrontal cortex involvement in extinction and cue-induced reinstatement of instrumental reward-seeking behaviour. S. B. FLORESCO*; N. E. SYMONDS; N. L. JENNI. *Univ. British Columbia*.
- 4:00 AAA25 **240.04** Mediation of cue-guided risk/reward decision making by basolateral amygdala-nucleus accumbens circuitry. M. VAN HOLSTEIN*; P. MACLEOD; S. B. FLORESCO. *Univ. of British Columbia, Univ. British Columbia*.
- 1:00 AAA26 **240.05** Optogenetic suppression of medial prefrontal cortical activity during action selection and action outcomes differentially biases risky choice. D. A. BERCOVICI*; O. PRINCZ-LEBEL; S. B. FLORESCO. *Univ. of British Columbia*.
- 2:00 BBB1 **240.06** Prelimbic cortex selectively promotes active avoidance during an active/inhibitory avoidance task. G. CAPUZZO*; S. B. FLORESCO. *Univ. of British Columbia, Univ. of British Columbia*.
- 3:00 BBB2 **240.07** Alterations in different aspects of risk/reward decision-making induced by excessive corticotropin-releasing factor activity. C. A. BRYCE*; A. J. ADALBERT; M. M. CLAES; S. B. FLORESCO. *Univ. of British Columbia*.

• Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 4:00 BBB3 **240.08** Neural correlates of risk/reward decision making in the medial prefrontal cortex and basolateral amygdala. E. Ö. EINARSSON*; R. FAYYAZI; J. K. SEAMANS; S. B. FLORESCO. *Univ. of British Columbia, UBC, Univ. British Columbia.*
- 1:00 BBB4 **240.09** Medial orbitofrontal projections to the nucleus accumbens and basolateral amygdala differentially influence efficient risk/reward decision-making. N. L. JENNI*; Y. LI; S. B. FLORESCO. *Univ. of British Columbia.*
- 2:00 BBB5 **240.10** Chemogenetic modulation of the dopaminergic nigrostriatal pathway shifts risky decision-making patterns in rats. B. A. HATHAWAY*; M. M. SILVEIRA; M. TREMBLAY; C. A. WINSTANLEY. *Univ. of British Columbia, Univ. of Toronto.*
- 3:00 BBB6 **240.11** ● Cues enhance the pro-addictive power of motor impulsivity. T. HYNES*; J. N. FERLAND; C. WINSTANLEY. *Univ. of British Columbia, Mount Sinai Univ.*
- 4:00 BBB7 **240.12** ▲ acute down regulation of mesolimbic dopamine on a rat gambling model. C. D. HOUNJET*; J. N. FERLAND; M. SILVEIRA; C. A. WINSTANLEY. *Univ. of British Columbia, Univ. of British Columbia, Univ. OF British Columbia, Univ. British Columbia.*
- 1:00 BBB8 **240.13** ● ▲ Investigating the pathway between anterior cingulate cortex and basolateral amygdala on a rodent cognitive effort task. L. MORTAZAVI*; M. M. SILVEIRA; C. A. WINSTANLEY. *Univ. of British Columbia, Univ. British Columbia.*
- 2:00 BBB9 **240.14** ● A novel GPR52 agonist, BD442618, attenuates ropinirole-induced increases in preference for uncertain outcomes in rats. B. RUSSELL*; M. TREMBLAY; M. M. BARRUS; S. HOBSON; A. J. GROTTICK; C. A. WINSTANLEY. *Univ. of British Columbia, Univ. of Toronto, BI Pharma GmbH & Co. KG, Beacon Discovery Inc., Univ. British Columbia.*
- 3:00 BBB10 **240.15** ● Investigating orbitofrontal cortex contributions to decision making involving cognitive effort costs. M. SILVEIRA*; S. WITTEKINDT; C. A. WINSTANLEY. *Univ. of British Columbia, Univ. British Columbia.*
- 4:00 BBB11 **240.16** Differential coding of reward and movement information in the striatal direct and indirect pathways. J. SHIN*; D. KIM; M. JUNG. *KAIST, Janelia Farm.*
- 1:00 BBB12 **240.17** Different contributions of somatostatin- and parvalbumin-expressing neurons to flexible representation of task variables in rodent prefrontal cortex. H. JEONG*; D. KIM; M. JUNG. *Korea Advanced Inst. of Sci. and Technol., Inst. for Basic Sci., Korea Advanced Inst. of Sci. and Technol.*
- 2:00 BBB14 **241.02** The effects of embolism induced by varied particle number of microsphere on motor and cognitive functions and parkinsonism. N. HIMI*; N. OKABE; E. M. NAKAMURA; H. TAKAHASHI; N. HAYASHI; I. SAKAMOTO; T. KOGA; Y. YOSHIMI; O. MIYAMOTO. *Kawasaki Med. Sch., Kawasaki Univ. of Med. Welfare, Shibaura Inst. of Technol.*
- 3:00 CCC1 **241.03** ● Differential effects of d-amphetamine and atomoxetine on risk-based decision making of Lewis and Fischer 344 rats. J. OZGA*; C. VONDER HAAR; K. G. ANDERSON. *West Virginia Univ.*
- 4:00 CCC2 **241.04** Tbx1 is a 22q11.2 gene that affects cognition, dendritic spine density and D2 receptor in the medial prefrontal cortex in mice. T. HIRAMOTO*; S. ENOMOTO; T. TAKAHASHI; T. IZUMI; G. KANG; S. TANAKA; K. OKUMURA; D. IKAWA; K. YE; A. HISHIMOTO; K. TANIGAKI; H. OHBA; B. MORROW; R. SHARP; M. GEYER; M. MAKINODAN; T. YOSHIKAWA; S. OKABE; N. HIROI. *Albert Einstein Col. of Med., Univ. of Tokyo, Nara Med. Univ., Albert Einstein Col. of Med., Shiga Med. Ctr., RIKEN Ctr. for Brain Sci., Albert Einstein Col. of Med., Univ. of California San Diego, Albert Einstein Col. of Med.*
- 1:00 CCC3 **241.05** Neurobiological basis of prefrontal cognitive dysfunction in a rat model for schizophrenia. D. MAAS*; V. EIJSINK; J. VAN HULTEN; L. PAVLIDI; M. VLASSOPOULOU; P. DE WEERD; J. R. HOMBERG; A. VALLÈS; B. NAIT-OUUMESMAR; G. MARTENS. *Brain and Spine Inst. (ICM), Donders Inst. for Brain, Cognition and Behaviour, Radboud Univ. Med. Ctr., Donders Inst. for Brain, Cognition and Behaviour, Radboud Univ., Maastricht Univ., Donders Inst. for Brain, Cognition and Behaviour, ICM, Inserm-Upmc UMRS-1127, CNRS UMR 7225.*
- 2:00 CCC4 **241.06** Prior cocaine self-administration disrupts reward prediction error signaling by rat dopamine neurons. Y. K. TAKAHASHI*; T. A. STALNAKER; Y. MARRERO-GARCIA; R. M. RADA; G. SCHOENBAUM. *NIDA/NIH.*
- 3:00 CCC5 **241.07** Clinically relevant attention phenotypes in the R451C Neuroigin 3 mouse model of autism spectrum disorder. E. L. BURROWS*; C. MAY; T. HILL; J. LETSCHERT; A. J. HANNAN. *Florey Inst. of Neurosci. and Mental Hlth.*
- 4:00 CCC6 **241.08** ▲ Impaired learning performance and decreased hippocampal c-Fos expression in the spontaneously hypertensive (SHR) rat following exposure to an altered light-dark cycle. S. S. JACKVONY*; S. TRAN; K. ELISMAN; P. CACKOVIC; A. F. SCHROEDER; E. ANDERSON; I. LAMPTEY; V. DUSZAK; J. A. SCHROEDER. *Connecticut Col., Bates Col.*
- 1:00 CCC7 **241.09** Assessing cognitive dysfunction in the M83 alpha-synuclein mouse model of Parkinson's disease using automated touchscreen tasks. R. FRANCO; I. PINEDA; J. JOVIANO-SANTOS; M. COWAN; S. KOUICHEHBAGH; J. RYLLET; T. BUSSEY; L. SAKSIDA; V. PRADO; M. PRADO; F. H. BERALDO*. *Univ. of Western Ontario.*
- 2:00 CCC8 **241.10** Executive functions in agenesis of the corpus callosum: Spatial working memory and sustained attention in the BTBR inbred mouse strain. F. M. HSU; B. HERD; L. A. MARTIN*. *Azusa Pacific Univ.*
- 3:00 CCC9 **241.11** ▲ A new user-friendly open-source fly tracker to study attention deficient hyperactivity disorders in *Drosophila melanogaster*. T. MCKENZIE; S. GUTIERREZ; J. GONZALEZ; Y. KANG*. *Univ. of Houston Downtown.*

POSTER

241. Animal Cognition and Behavior: Executive Function: Models of Disorders

Theme H: Cognition

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 BBB13 **241.01** A rodent model of cognitive deficits induced by radiation to the growing brain. S. BARRIENTOS; J. SJÖBOM; P. PETERSSON*. *Lund Univ., Umeå Univ.*
- 2:00 CCC8 **241.10** Executive functions in agenesis of the corpus callosum: Spatial working memory and sustained attention in the BTBR inbred mouse strain. F. M. HSU; B. HERD; L. A. MARTIN*. *Azusa Pacific Univ.*
- 3:00 CCC9 **241.11** ▲ A new user-friendly open-source fly tracker to study attention deficient hyperactivity disorders in *Drosophila melanogaster*. T. MCKENZIE; S. GUTIERREZ; J. GONZALEZ; Y. KANG*. *Univ. of Houston Downtown.*

POSTER

242. Animal Cognition and Behavior: Executive Function: Inhibitory Control

Theme H: Cognition

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 CCC10 **242.01** Reactive inhibition correlates with only trial-based but not block-based proactive inhibition. J. YOSHIDA*; S. SOMA; Y. SAKAI; Y. ISOMURA. *Tamagawa Univ.*
- 2:00 CCC11 **242.02** Prefrontal-striatal functional encoding of impulsivity - A brief (3 seconds) history of brain time. M. ESTEVES*; A. M. CUNHA; J. REIS; A. ALMEIDA; N. SOUSA; H. LEITE-ALMEIDA. *Sch. of Medicine, Univ. of Minho, ICVS/3B's - PT Government Associate Lab.*
- 3:00 CCC12 **242.03** Prefrontal dopamine D2 signaling controls aggressive behaviors in mice. B. XING*; N. MACK; W. GAO. *Drexel Univ. Col. of Med.*
- 4:00 CCC13 **242.04** Causal role for the subthalamic nucleus in interrupting cognition. J. HESTON*; M. BAQAI; N. BAVAFI; A. R. ARON; T. S. HNASKO. *UCSD, UCSD, UC San Diego, Univ. of California San Diego Dept. of Neurosciences.*
- 1:00 CCC14 **242.05** ▲ Serotonin 5HT1A activation causes strong biphasic effects in a model of waiting impulsivity in rats. M. L. GROFT*; P. R. NICKLAS; N. J. PISTORY; P. J. MCLAUGHLIN. *Edinboro Univ., Edinboro Univ. of Pennsylvania.*
- 2:00 DDD1 **242.06** Genetic factors for inhibitory control and impulsivity. S. J. HINOJOS*; P. R. SABANDAL; A. MERINO; R. UMAROVA; K. HAN. *The Univ. of Texas at El Paso.*
- 3:00 DDD2 **242.07** Aberrant sleep affects inhibitory control. E. SALDES*; A. ARZOLA, Jr; P. R. SABANDAL; K. HAN. *Univ. of Texas at El Paso.*
- 4:00 DDD3 **242.08** Different subtypes of impulsivity are preferably expressed in rat during re-acquisition of reward or to acute cocaine depending on when exposed to a gambling task. J. HAN; B. CHO; M. KWAK; W. KIM; J. KIM*. *Yonsei Univ. Coll Med., Yonsei Univ. Coll Med.*
- 1:00 DDD4 **242.09** Dissociable roles of rat medial and lateral orbitofrontal cortex in visual reversal learning; GABAergic, glutamatergic and serotonergic modulation. M. E. HERVIG*; L. FIDDIAN; T. BOŽIĆ; L. PIILGAARD; J. ALSIÖ; T. W. ROBBINS. *Univ. of Cambridge, Copenhagen Univ. Hospital, Bispebjerg.*
- 2:00 DDD5 **242.10** Neural dynamics of selective inhibition in the dorsal premotor cortex of non-human primates. F. GIARROCCO*; P. PANI; M. GIAMUNDO; F. FABBRINI; E. BRUNAMONTI; S. FERRAINA. *Sapienza Univ. of Rome, Behavioral Neurosci. PhD Program, Sapienza Univ. of Rome.*
- 3:00 DDD6 **242.11** Acquisition and Maintenance of fixed-minimum interval performance is impaired in cortical GABAergic neuron deficient mice. T. A. GUPTA*; C. W. DANIELS; D. INGUIITO; A. COURRY; K. NISHIMURA; F. SANABRIA; J. NEWBERN. *Arizona State Univ., Arizona State Univ.*
- 4:00 DDD7 **242.12** Sex differences in early risk assessment but not impulsive choice revealed by within-subjects assessment of delay discounting and probability discounting in mice. N. M. GRISSOM*; J. LESCHISIN; J. JEONG; E. GASPARINI. *Univ. of Minnesota, Univ. of Minnesota.*
- 1:00 DDD8 **242.13** Influence of medial prefrontal subregion inactivation on action control using a variable ratio go/no-go task. J. P. CABALLERO*; D. E. MOORMAN. *Univ. of Massachusetts Amherst, Univ. of Massachusetts Amherst.*
- 2:00 DDD9 **242.14** Cannabinoidreceptor type 1 upregulation in the infralimbic cortex of female tat transgenic mice following ten months of tat expression and testing for inhibitory control deficits using the Go/No-Go task. I. R. JACOBS*; I. R. JACOBS*; D. J. HERMES; A. G. ANTONUCCI; A. B. FERGUSON; K. L. LEGGETTE; N. R. MISEO; A. M. PROCA; C. B. RUSSELL; C. MANJARRES; K. MACKIE; A. H. LICHTMAN; B. M. IGNATOWSKA-JANKOWSKA; S. FITTING. *Univ. of North Carolina - Chapel Hill, Indiana Univ. Bloomington Dept. of Psychological and Brain Sci., Virginia Commonwealth Univ., Okinawa Inst. of Sci. and Technol.*
- 3:00 DDD10 **242.15** ▲ Time dependent inhibitory control deficits in tat transgenic mice using the Go/No-Go task and cannabinoid receptor antagonists. A. M. PROCA*; I. R. JACOBS; D. J. HERMES; A. G. ANTONUCCI; A. B. FERGUSON; K. L. LEGGETTE; N. R. MISEO; C. B. RUSSELL; C. MANJARRES; A. H. LICHTMAN; B. M. IGNATOWSKA-JANKOWSKA; S. FITTING. *Univ. of North Carolina At Chapel Hill, Virginia Commonwealth Univ., Okinawa Inst. of Sci. and Technol.*
- 4:00 DDD11 **242.16** Parvalbumin-positive interneurons in the nucleus accumbens inhibit impulsive behavior of mice. M. T. PISANSKY*; E. M. LEFEVRE; B. H. TRIEU; P. E. ROTHWELL. *Univ. of Minnesota.*
- 1:00 DDD12 **242.17** Cell type-specific chemogenetic inhibition of mouse nucleus accumbens medium spiny neurons alters attention in the 5 choice serial reaction time task. D. W. LEIPOLD*; P. E. ROTHWELL. *Univ. of Minnesota, Univ. of Minnesota.*
- 2:00 DDD13 **242.18** Delay discounting of punishment during economic decision-making. A. VONGPHRACHANH*; D. B. GABRIEL; N. W. SIMON. *Univ. of Memphis, Univ. of Memphis.*
- 3:00 DDD14 **242.19** Dopaminergic influences on a novel task measuring preference for probabilistic vs. effortful rewards in rats. D. B. GABRIEL*; A. VONGPHRACHANH; N. W. SIMON. *Univ. of Memphis, Univ. of Memphis.*
- 4:00 DDD15 **242.20** ▲ Risky decision-making predicts dopamine release dynamics in nucleus accumbens. A. WOODS*; T. FREELS; D. B. GABRIEL; H. JOYNER; S. MORRISON; D. B. LESTER; N. W. SIMON. *Univ. of Memphis, The Univ. of Memphis, Univ. of Memphis, Univ. of Memphis.*
- 1:00 DDD16 **242.21** ▲ Genetic influences on distinct forms of impulsivity and cocaine sensitivity. H. T. FRANKS*; D. B. GABRIEL; A. VONGPHRACHANH; R. DEMATO; L. GRILL; B. LYONS; K. MCLARNON; T. WILLIAMS; H. CHEN; N. W. SIMON. *Univ. of Memphis, Univ. of Memphis, Univ. of Memphis, Univ. Tennessee Hlth. Sci. Ctr.*

Sun. PM

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 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

POSTER

243. Animal Cognition and Behavior: Working Memory

Theme H: Cognition

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 DDD17 **243.01** ▲ Optogenetic induction of neural synchronization in the mouse medial prefrontal cortex. D. HAZRA*; S. YOSHINAGA; K. YOSHIDA; K. F. TANAKA; K. DEGUCHI; K. KUBO; K. NAKAJIMA. *Keio Univ. Sch. of Med., Keio Univ. Sch. of Med., Keio Univ. Sch. of Med., Keio Univ. Sch. of Med. Dept. of Neuropsychiatry, Keio Univ. Schl Med., Keio Univ. Sch. Med.*
- 2:00 DDD18 **243.02** The effects of acute catecholamine precursor depletion on visual working memory and motivation. M. KUSI*; M. PARÉ; C. CRANDELL. *Queen's Univ., Queen's Univ.*
- 3:00 DDD19 **243.03** Compressed temporal representation during visual paired associate task in monkey prefrontal cortex and hippocampus. N. A. CRUZADO*; Z. TIGANJ; S. L. BRINCAT; E. K. MILLER; M. W. HOWARD. *Boston Univ., Boston Univ., MIT, Massachusetts Inst. Technol.*
- 4:00 DDD20 **243.04** Ensemble decoding of spatial and mnemonic information in lateral prefrontal cortex. F. CHIANG*; J. D. WALLIS; E. L. RICH. *Icahn Sch. of Med. at Mount Sinai, Univ. of California Berkeley.*
- 1:00 DDD21 **243.05** ▲ The effects of obesity on executive functions in both outbred and selectively bred obesity-prone and obesity-resistant Sprague Dawley rats. C. MISKELLEY*; P. VOLLBRECHT. *Hope Col.*
- 2:00 DDD22 **243.06** ● Marmoset SMART chair for automated in-cage training on cognitive tasks. V. ZLATKINA*; F. AYAD; M. PETRIDES; S. FREY. *MNI, McGill Univ., Rogue Res. Inc.*
- 3:00 DDD23 **243.07** Crows show attentional control over visual working memory. E. FONGARO*; J. ROSE. *Ruhr Univ. Bochum.*
- 1:00 DP14/DDD24 **243.08** (Dynamic Poster) Electrophysiological features that track working memory performance in macaque monkeys. B. CONKLIN*; N. M. DOTSON; R. F. SALAZAR; C. M. GRAY; S. L. BRESSLER. *Florida Atlantic Univ., Montana State Univ. Bozeman, Montana State Univ., Montana State Univ. Bozeman, Florida Atlantic Univ.*
- 1:00 EEE1 **243.09** Prefrontal-subthalamic nucleus projection modulates memory-guided behavior. B. LI*; Y. DAN. *Univ. of California, Berkeley.*
- 2:00 EEE2 **243.10** Widespread spatio-temporal dynamics of LFP power during short-term visual memory in the macaque monkey. S. J. HOFFMAN*; N. M. DOTSON; C. M. GRAY. *Montana State Univ. Bozeman, Univ. of California-Berkeley.*
- 3:00 EEE3 **243.11** The impact of prefrontal persistent activity on inferotemporal responses and object information maintenance. E. REZAYAT*; M. A. DEHAQANI; K. L. CLARK; Z. BAHMANI; B. NOUDOOST. *Inst. for Res. in Fundamental Sci., Cognitive Systems Laboratory, Control and Intelligent Processing Ctr. of Excellence (CIPCE), Sch. of Electrical and Computer Engineering, Col. of Engineering, Univ. of Tehran, Dept. of Ophthalmology and Visual Sciences, Univ. of Utah.*
- 4:00 EEE4 **243.12** Decoding in the presence of code morphing in the prefrontal cortex. S. YEN*; A. PARTHASARATHY; R. HERIKSTAD; C. TANG; L. CHEONG; A. Y. Y. TAN; C. LIBEDINSKY. *Natl. Univ. of Singapore, Inst. of Mol. and Cell Biol.*
- 1:00 EEE5 **243.13** The network topology of neural systems supporting avalanche dynamics predicts stimulus propagation and recovery. H. JU*; J. Z. KIM; D. S. BASSETT. *Univ. of Pennsylvania, Univ. of Pennsylvania, Univ. of Pennsylvania.*
- 2:00 EEE6 **243.14** Conditional GSK3 β knockout in GABAergic parvalbumin interneurons affects behaviors and electrophysiological properties in adult and adolescent mice. S. MONACO*; A. J. MATAMOROS; G. HAN; E. BLACK; R. A. ESPAÑA; W. GAO. *Drexel Univ. Col. of Med., Drexel Univ., Drexel Univ. Col. of Med., Drexel Univ. Col. Med.*
- 3:00 EEE7 **243.15** Assessing the effects of muscarinic M1 receptor stimulation on dorsolateral prefrontal cortical neuronal firing on working memory related activity and behavioral performance in primates. V. C. GALVIN*; S. YANG; A. S. LOWET; T. C. LIGHTBOURNE; A. F. ARNSTEN; M. WANG. *Yale Univ., Columbia Univ.*
- 4:00 EEE8 **243.16** Role of IL-6 in obesity-induced cognitive deficit using the Morris water maze. T. SIMON*; V. PEÑA-GARCIA; B. TENG; L. BANNER; A. OYETUNDE. *California State Univ. Northridge.*
- 1:00 EEE9 **243.17** A computational microcircuit model to account for nonlinear interactions of top down working memory signal with bottom up sensory input within area MT. B. NOUDOOST*; W. NESSE; Z. BAHMANI. *Univ. of Utah, Univ. of Utah, Inst. for Res. in Fundamental Sci.*
- 2:00 EEE10 **243.18** Sequential presentation of spatial target may bias multi-item memory toward independence. C. D. HOLMES*; L. H. SNYDER. *Washington Univ. in St. Louis, Washington Univ. Sch. Med.*
- 3:00 EEE11 **243.19** Intrinsic neuronal dynamics predict distinct functional roles during working memory. D. F. WASMUHT*; E. SPAAK; T. BUSCHMAN; E. K. MILLER; M. G. STOKES. *Oxford Univ., Oxford Univ., Princeton Univ., Massachusetts Inst. Technol., Univ. of Oxford.*
- 4:00 EEE12 **243.20** Impaired cognitive function after perineuronal net degradation in the medial prefrontal cortex. J. W. PAYLOR*; E. WENDLANDT; Q. GREBA; J. G. HOWLAND; I. WINSHIP. *Univ. of Alberta, Univ. of Alberta, Univ. of Saskatchewan.*
- 1:00 EEE13 **243.21** The effects of opening perineuronal nets in the medial prefrontal cortex with chondroitinase ABC on performance of the trial-unique, delayed nonmatching-to-location (TUNL) task in rats. M. D. ANDERSON*; Q. GREBA; G. A. SCOTT; J. W. PAYLOR; I. R. WINSHIP; J. G. HOWLAND. *Univ. of Saskatchewan, Univ. of Saskatchewan, Univ. of Alberta, Univ. Alberta, Univ. Saskatchewan.*
- 2:00 EEE14 **243.22** Altered developmental emergence of fear learning and memory in rats fed an obesogenic diet. J. D. VEGA-TORRES*; I. ALICEA-POLANCO; J. D. FIGUEROA. *Loma Linda Univ. Sch. of Med., Loma Linda Univ. Sch. of Med.*
- 3:00 EEE15 **243.23** Pharmacological manipulation of the rat cerebellar cortex at crus I disrupts performance in an interval timing task. J. P. HESKJE*; H. HALVERSON; A. JYOTIS; R. WILLIAMS; K. L. PARKER. *Univ. of Iowa Hosp. and Clinics, Univ. of Iowa.*
- 4:00 EEE16 **243.24** Cerebellar abnormalities in the prickle2 mouse model of autism-like behavior. P. ABBOTT*; J. P. HESKJE; M. BELOW; K. WALSH; A. J. NESSLER; Y. KIM; S. WU; L. P. SOWERS; J. HARDIE; J. D. AXELROD; A. LEE; A. G. BASSUK; K. L. PARKER. *Univ. of Iowa, Univ. of Iowa Hosp. and Clinics, Univ. of Iowa, Stanford Univ., Univ. of Iowa, Univ. of Iowa.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
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 * Indicates abstract's submitting author

- 1:00 EEE17 **243.25** Contribution of the lateral cerebellar nucleus and medial frontal cortex to working memory and interval timing task performance in rats. K. HESLIN*; K. WALSH; B. J. DECORTE; K. L. PARKER. *Univ. of Iowa, Univ. of Iowa.*
- 2:00 EEE18 **243.26** ▲ Neuronal properties determining temporal dynamics of primate prefrontal activity in working memory. T. R. KELLOGG; X. QI; M. RILEY; C. CONSTANTINIDIS*. *Wake Forest Univ., Wake Forest Univ. Sch. of Med., Wake Forest Sch. of Med.*
- 3:00 EEE19 **243.27** Unilateral inactivation of lateral prefrontal cortex (LPFC) affects the retention of contralateral spatial and motion information during memory-guided comparisons. S. J. MURPHY; A. L. FOSTER; T. PASTERNAK*. *Univ. of Rochester, Univ. of Rochester.*
- 4:00 EEE20 **243.28** Intermittent nucleus basalis stimulation enhances prefrontal activity. X. QI*; G. T. PATE; D. T. BLAKE; C. CONSTANTINIDIS. *Wake Forest Univ. Sch. of Med., Med. Coll Georgia/Augusta Univ.*
- 1:00 EEE21 **243.29** Prefrontal mechanisms of feature working memory. H. TANG*; A. B. PERSILY; M. C. ROBERTSON; G. T. PATE; X. QI; D. T. BLAKE; C. CONSTANTINIDIS. *Wake Forest Sch. of Med., Med. Col. of Georgia.*
- 4:00 FFF3 **244.08** Medial septal inactivation disrupts the maintenance of information over a temporal delay. M. DONAHUE*; Z. M. GEMZIK; A. L. GRIFFIN. *Univ. of Delaware.*
- 1:00 FFF4 **244.09** Orchestrated ensembles activity constitute hippocampal memory engram. K. GHANDOUR*; N. OHKAWA; C. A. FUNG; H. ASAI; Y. SAITOH; T. TAKEKAWA; R. OKUBO-SUZUKI; S. SOYA; H. NISHIZONO; M. MATSUO; M. OSANAI; M. SATO; M. OHKURA; J. NAKAI; Y. HAYASHI; T. SAKURAI; T. KITAMURA; T. FUKAI; K. INOKUCHI. *Univ. of Toyama, RIKEN, Kogakuin Univ., Univ. of Tsukuba, Tohoku Univ. Grad Sch. Med., RIKEN Brain Sci. Inst., Saitama Univ., Kyoto Univ. Grad. Sch. of Med., Univ. of Texas Southwestern Med. Ctr.*
- 2:00 FFF5 **244.10** Manipulation of fear memory association by posterior parietal cortex. A. SUZUKI*; S. KOSUGI; E. MURAYAMA; N. OHKAWA; M. MATSUO; H. NISHIZONO; K. INOKUCHI. *Univ. of Toyama, CREST, Japan Sci. and Technol. Agency, PRESTO, Japan Sci. and Technol. Agency, Animal Exptl. Laboratory, Life Sci. Res. Center, Univ. of Toyama.*
- 3:00 FFF6 **244.11** Synapse-specific plasticity governs the identity of overlapping memory engrams. K. M. ABDOU*; M. H. SHEHATA; K. CHOKO; H. NISHIZONO; M. MATSUO; S. MURAMATSU; K. INOKUCHI. *Univ. of Toyama, Caltech, Univ. of Toyama, Jichi Med. Univ.*

POSTER

244. Animal Cognition and Behavior: Learning and Memory: Physiology

Theme H: Cognition

Sun. 1:00 PM – *San Diego Convention Center, SDCC Halls B-H*

- 1:00 EEE22 **244.01** Using virtual reality to identify hippocampal activity related to features of experience in monkeys. Y. BROWNING*; J. W. RUECKEMANN; A. L. FAIRHALL; E. A. BUFFALO. *Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington.*
- 2:00 EEE23 **244.02** Impaired cognitive flexibility in aged rhesus monkeys. A. DEDE*; S. A. SCHLEUFER; C. I. O'LEARY; E. A. BUFFALO. *Univ. of Washington, Univ. of Washington.*
- 3:00 EEE24 **244.03** Oscillatory activity in the monkey hippocampus during attentive processing. J. W. RUECKEMANN*; A. D. GARCIA; A. E. NG; E. A. BUFFALO. *Univ. of Washington.*
- 4:00 EEE25 **244.04** Entorhinal activity indexes mnemonic pupillary responses in monkeys. M. L. MEISTER*; E. A. BUFFALO. *Univ. of Washington.*
- 1:00 EEE26 **244.05** Novel behavioral correlates of optogenetically identified noradrenergic neurons of Locus Coeruleus. S. WIENER; L. XIANG; A. HAREL; H. GAO; A. E. PICKERING; S. J. SARA*. *CNRS, Univ. of Bristol, CNRS, NYU Med. Sch.*
- 2:00 FFF1 **244.06** Setting the thermostat for cerulean fire in Ts65Dn mice. E. D. HAMLETT*; S. L. CARROLL; A. GRANHOLM. *MUSC, Med. Univ. of South Carolina, Univ. of Denver.*
- 3:00 FFF2 **244.07** Prelimbic cortex integrates behavioral context with task-coding during spatial working memory maintenance. J. J. STOUT*, JR.; A. C. GARCIA; A. L. GRIFFIN. *Univ. of Delaware.*
- 4:00 FFF7 **244.12** ▲ The role of cholinergic and GABAergic basal forebrain neurons in coding outcome expectation during pavlovian conditioning. P. HEGEDÜS*; B. HANGYA. *Inst. of Exptl. Med., Inst. of Exptl. Med.*
- 1:00 FFF8 **244.13** ● A multilevel analysis of deficient fear learning in a novel model of FXS. P. K. MISHRA*; G. FERNANDES; S. CHATTARJI. *Inst. For Stem Cell Biol. and Regenerative M, Natl. Ctr. for Biol. Sci., Inst. for Stem Cell Biol. and Regenerative Med., Ctr. for Integrative Physiol.*
- 2:00 FFF9 **244.14** Long-term potentiation in the amygdala of the tambaleante *tbl/tbl* mouse. J. N. DIAZ*; E. JUÁREZ-CORTES; J. ARMENGOL; A. RODRÍGUEZ-MORENO. *Univ. de Guanajuato, Inst. Politécnico Nacional, Univ. Pablo de Olavide.*
- 3:00 FFF10 **244.15** ● Neural ensemble dynamics in the medial prefrontal cortex underlying shifts in cognitive strategy. F. L. WANG*; T. H. KIM; O. HAZON; M. J. SCHNITZER. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*
- 4:00 FFF11 **244.16** A domestic pig model for large-scale electrophysiological recordings during conditional associative memory tasks. A. DRAPER*; H. V. VINERAN; A. T. MATTFELD; T. A. ALLEN. *Florida Intl. Univ.*
- 1:00 FFF12 **244.17** The neuronal mechanism of extinction learning and the renewal effect. J. PACKHEISER*; R. PUSCH; O. GUNTURKUN; J. DONOSO; S. CHENG. *RUB, RUB.*
- 2:00 FFF13 **244.18** Neural circuit dynamics underlying cognitive states in the mouse cortex during a virtual navigation task. Y. LU*; D. W. TANK. *Princeton Univ., Princeton Univ., Princeton Univ.*
- 3:00 FFF14 **244.19** Distributed extracellular recordings from 11 cortical regions in freely moving rats. L. CALCATERRA*; G. LOPES; J. NOGUEIRA; A. DEHBAN; G. DIMITRIADIS; D. KIM; J. FRAZAO; A. KAMPFF. *Sainsbury Wellcome Ctr., Inst. for Systems and Robotics, Inst. Superior Técnico, Champalimaud Neurosci. Programme, Champalimaud Ctr. for the Unknown.*

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 * Indicates abstract's submitting author

POSTER

245. Aging: Anatomical, Physiological, and Cognitive Alterations

Theme H: Cognition

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 FFF15 **245.01** Convolutional neural networks for fast and accurate 3D reconstruction of histological sections. C. KYLE*; J. STOKES; J. MELTZER; M. R. PERMENTER; J. A. VOGT; A. D. EKSTROM; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, UC Davis, UC Davis, UC Davis, Univ. of Arizona.*
- 2:00 FFF16 **245.02** ▲ Tract-specific white matter correlates of age-related reward devaluation deficits in macaque monkeys. N. M. DE LA PENA*; D. T. GRAY; L. UMAPATHY; S. N. BURKE; T. P. TROUARD; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Florida, Univ. of Arizona, Univ. of Arizona.*
- 3:00 FFF17 **245.03** Thalamocortical white-matter integrity and the relationship between auditory function and cognitive decline in aged macaque monkeys. D. T. GRAY*; S. N. BURKE; J. R. ENGLE; L. UMAPATHY; T. P. TROUARD; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Florida, UC Davis, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*
- 4:00 FFF18 **245.04** A direct comparison of dye- and imaging-based removal of lipofuscin-induced autofluorescence from primate brain tissue. W. PYON*; D. T. GRAY; S. ASHFORD; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*
- 1:00 FFF19 **245.05** Age-dependent correlation between spatial and working memory does not extend to object recognition. N. J. CAREY*; M. A. ZEMPARÉ; C. J. NGUYEN; K. M. BOHNE; M. K. CHAWLA; S. SINARI; M. J. HUENTELMAN; D. BILLHEIMER; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Translational Genomics Res. Inst., Univ. of Arizona.*
- 2:00 FFF20 **245.06** Aged-related impairments in spatial reference frame updating. A. W. LESTER*; C. J. BLUM; A. J. KAPELLUSCH; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*
- 3:00 FFF21 **245.07** ▲ Dynamic expression of RNA stress granule components in behaviorally characterized young, middle aged and old rats. R. J. ECK; M. K. CHAWLA*; B. SIDDEGOWDA; N. J. CAREY; M. A. ZEMPARÉ; C. J. NGUYEN; C. A. BARNES; D. C. ZARNESCU. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*
- 4:00 FFF22 **245.08** Lateral but not medial entorhinal cortex population representations become more sparse with age. A. COMRIE*; J. P. LISTER; M. K. CHAWLA; C. A. BARNES. *UCLA, Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*
- 1:00 FFF23 **245.09** Specificity of activity-regulated transcript localization in somatic and dendritic neuronal compartments. C. BLEUL; M. K. CHAWLA; M. D. DE BOTH; C. A. BARNES*; M. J. HUENTELMAN. *Translational Genomics Res. Inst., Univ. of Arizona, Univ. of Arizona, Univ. of Arizona.*
- 2:00 FFF24 **245.10** NPTX2 knockout rats: A novel model for protection of synaptic function in aging and disease. A. TERRAZAS*; M. ZEMPARÉ; N. J. CAREY; K. M. BOHNE; L. DO; T. P. TROUARD; P. F. WORLEY; C. A. BARNES. *Univ. of Arizona, Univ. of Arizona, Univ. of Arizona, Johns Hopkins Sch. Med., Univ. of Arizona.*

- 3:00 GGG1 **245.11** Frontal upregulation of serine racemase alters cognitive flexibility in middle age rats. B. YEGLA*; T. FOSTER; A. KUMAR. *Evelyn F. and William L. McKnight Brain Inst.*
- 4:00 GGG2 **245.12** Both GluN2A and GluN2B contribute to the induction of the redox-mediated potentiation of NMDA receptor synaptic function at CA3-CA1 hippocampal synapses of aged animals. A. KUMAR*; T. C. FOSTER. *Univ. of Florida, Evelyn F. and William L. McKnight Brain Inst. Univ. Florida.*
- 1:00 GGG3 **245.13** Adulthood infections alters synaptic gene transcription and contributes to age-related memory loss. J. D. BARTER*; A. RANI; A. KUMAR; T. C. FOSTER. *Univ. of Florida, Univ. of Florida Med. Col., Univ. of Florida, Evelyn F. and William L. McKnight Brain Inst. Univ. Florida.*
- 2:00 GGG4 **245.14** GABAergic interneuron activation is increased in the hippocampus of aged rats with memory impairment. C. BANUELOS*; C. MYRUM; J. KITTLESON; K. WEISS; P. R. RAPP. *NIH-NIA, NIH-NIA.*

POSTER

246. Human Cognition and Behavior: Sensorimotor Processing

Theme H: Cognition

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 GGG5 **246.01** Real time streaming and closed loop co-adaptive interface to steer multi-layered nervous systems performance. V. KALAMPRATSIDOU*; S. KEMPER; E. B. TORRES. *Rutgers Univ., Mason Gross, Rutgers Univ. Dept. of Psychology.*
- 2:00 GGG6 **246.02** Digital biomarkers of brain-body coupled dynamics. R. RAI*; E. B. TORRES. *Rutgers Univ., Rutgers University- New Brunswick.*
- 3:00 GGG7 **246.03** Rethinking the study of social behaviors: Non-obvious digital biomarkers of social dynamics. E. B. TORRES*. *Rutgers Univ. Dept. of Psychology.*
- 4:00 GGG8 **246.04** ● Building objective cognitive scales with digital biomarkers. J. RYU*; E. B. TORRES. *Rutgers Univ. Dept. of Psychology.*
- 1:00 GGG9 **246.05** Global suppression of the motor network precedes internally-generated action errors. E. GABITOV*; O. LUNGU; G. ALBOUY; J. DOYON. *Res. Ctr. of IUGM, Montreal Neurolog. Inst., KU Leuven, CRIUGM - Univ. of Montreal, Montreal Neurolog. Inst.*
- 2:00 GGG10 **246.06** Involuntary conditioned motor preparation in primary motor cortex. D. TRAN*; I. HARRIS; J. HARRIS; E. LIVESEY. *Univ. of Sydney.*
- 3:00 GGG11 **246.07** Iron deficiency and reductions in brain energy expenditure during procedural learning: Effects on instantaneous and cumulative global field power. M. J. WENGER*; L. A. DE STEFANO; S. E. RHOTEN; T. P. WORTH. *The Univ. of Oklahoma, The Univ. of Oklahoma.*

- 4:00 GGG12 **246.08** Sensorimotor oscillatory phase-power interactions determine human corticospinal excitability. S. J. HUSSAIN*; L. CLAUDINO; M. BÖNSTRUP; G. NORATO; C. ZRENNER; U. ZIEMANN; E. R. BUCH; L. G. COHEN. *NIH, Natl. Inst. of Neurolog. Disorders and S, Natl. Inst. of Neurolog. Disorders and S, Natl. Inst. of Neurolog. Disorders and Stroke, Univ. Hosp. Tübingen, Univ. of Tuebingen, NINDS, Natl. Inst. of Neurolog. Disorders and Stroke.*
- 1:00 GGG13 **246.09** Using diffusion tensor imaging to identify structural neural correlates of motor learning and visuospatial processes in cognitively-intact older adults. J. LINGO VANGILDER*; M. C. FITZHUGH; C. ROGALSKY; S. Y. SCHAEFER. *Arizona State Univ., Arizona State Univ., Arizona State Univ.*
- 2:00 GGG14 **246.10** Increasing motor variability does not impair visuomotor adaptation and leads to better generalization across walking tasks. A. BAKKUM*; J. M. DONELAN; D. S. MARIGOLD. *Simon Fraser Univ.*
- 3:00 GGG15 **246.11** Whole-brain modular structure of spontaneous neural activity at rest predicts future sensorimotor learning and relearning. D. STANDAGE*; J. P. NASHED; C. N. ARESHENKOFF; J. R. FLANAGAN; J. P. GALLIVAN. *Queen's Univ.*
- 4:00 GGG16 **246.12** Cardiac modulation of saccades and fixations. A. GALVEZ-POL*; R. MCCONNELL; J. KILNER. *UCL Inst. of Neurol., UCL Inst. of Neurol.*
- 1:00 GGG17 **246.13** Successful transfer of recently acquired motor skills may be dependent on enhanced visuomotor error monitoring during initial learning: An individualized movement-locked ERP analysis. R. LAWSON*; L. A. WHEATON. *Georgia Inst. of Technol., Georgia Tech.*
- 3:00 GGG24 **247.07** Role of the executive functions in statistical learning. J. PARK*; K. JANACSEK; D. NEMETH; H. JEON. *DGIST, Eotvos Lorand Univ., Partner Group of the Max Planck Inst. for Human Cognitive and Brain Sci. at the Dept. of Brain and Cognitive Sciences, DGIST.*
- 4:00 GGG25 **247.08** Pink noise stimulation following sleep spindle activity may enhance the procedural memory consolidation during a nap. J. CHOI*; K. WON; S. HAN; E. KIM; Y. KIM; S. C. JUN. *Gwangju Inst. of Sci. and Technol.*
- 1:00 GGG26 **247.09** Off-line reinforcement learning using forward models. A. JACKSON*; A. CLARKE; T. STOCK; O. JACKSON; W. XU. *Newcastle Univ.*
- 2:00 GGG27 **247.10** The effect of visual input on the neural signatures of novel music sequence learning. I. ZIOGA*; P. M. C. HARRISON; M. T. PEARCE; J. BHATTACHARYA; C. D. LUFT. *Queen Mary Univ. of London, Queen Mary Univ. of London, Goldsmiths, Univ. of London.*
- 3:00 HHH1 **247.11** HIIT the road Jack: The effects of exercise on piano learning. D. SWARBRICK*; L. TREMBLAY; C. SABISTON; S. TREHUB; D. BROOKS; D. ALTER; J. CHEN. *Univ. of Toronto, Univ. of Toronto, Univ. of Toronto, Univ. of Toronto.*
- 4:00 HHH2 **247.12** Instructor-observer synchronization of BOLD activity mediated by instructive origami videos. K. KOSTORZ; V. FLANAGIN; S. GLASAUER*. *Ludwig-Maximilian-University.*
- 1:00 HHH3 **247.13** How to change automatic behaviors?: The role of inhibitory control and learning processes in overwriting procedural knowledge. K. HORVÁTH*; P. SOLYMOSI; Á. GERGELY; L. PETRENCSEK; A. GUTTENGÉBER; D. NEMETH; K. JANACSEK. *Inst. of Psychology, Eötvös Loránd Universit, Hungarian Acad. of Sci., Inst. of Psychology, Eötvös Loránd Univ., Inst. of Psychology, Eötvös Loránd Univ.*
- 2:00 HHH4 **247.14** ▲ Behavioral biases in people at risk for problematic gambling and pornography use. S. M. SKLENARIK*; M. PADUA; C. LOVE; M. FERNANDEZ; R. LIVOTI; M. K. GOLA; M. POTENZA; R. S. ASTUR. *Univ. of Connecticut, Univ. of Connecticut, UC San Diego, INC, SCCN, Yale Univ., Univ. of Connecticut.*
- 3:00 HHH5 **247.15** Revealing the neural basis of sequence learning by a series of coordinate-based activation likelihood estimation meta-analyses. K. JANACSEK*; K. F. SHATTUCK; K. M. TAGARELLI; J. A. G. LUM; P. E. TURKELTAUB; M. T. ULLMAN. *Eotvos Lorand Univ., Hungarian Acad. of Sci., Georgetown Univ., Deakin Univ., Georgetown Univ.*
- 4:00 HHH6 **247.16** Corticospinal excitability changes after training suggest implicit coding of a bimanual motor skill. A. T. MCCULLOCH*; I. PARK; J. CHEN; D. L. WRIGHT; J. J. BUCHANAN. *Texas A&M Univ.*
- 1:00 HHH7 **247.17** Therapeutic paths diverging in the brain: Differential changes in behavior and resting state functional connectivity induced by differing transcranial magnetic stimulation targets. K. SCHILLER; B. N. BYDLINSKI; C. ROYAL-EVANS; M. S. LEDOUX; S. NARAYANA*. *Univ. of Tennessee Hlth. Sci. Ctr., Univ. of Tennessee Hlth. Sci. Ctr., Univ. of Tennessee Hlth. Sci. Ctr.*
- 2:00 HHH8 **247.18** Variability in inter-cue timing slows implicit motor sequence learning. K. D. SCHMIDT*; Y. HAN; P. J. REBER. *Northwestern Univ., Northwestern Univ., Northwestern Univ.*

POSTER

247. Human Cognition and Behavior: Motor Learning and Memory

Theme H: Cognition

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 GGG18 **247.01** Evidence of shared action plan representations between free-choice and forced choice tasks. B. P. RICHARDSON*; L. R. FOURNIER. *Washington State Univ.*
- 2:00 GGG19 **247.02** The impact of monetary incentives on multi-voxel decoding of motor skill representations. T. J. ADKINS; T. G. LEE*. *Univ. of Michigan.*
- 3:00 GGG20 **247.03** A rapid form of offline consolidation in skill learning. M. BÖNSTRUP*; I. ITURRATE; R. THOMPSON; G. CRUCIANI; N. CENSOR; L. G. COHEN. *Natl. Inst. of Neurolog. Disorders and S, Swiss Federal Inst. of Technol., Natl. Inst. of Neurolog. Disorders and Stroke, Tel-Aviv Univ.*
- 4:00 GGG21 **247.04** Memory recall and statistical learning during movement preparation. D. M. HUBERDEAU*; N. B. TURK-BROWNE. *Yale Univ.*
- 1:00 GGG22 **247.05** Use-dependent learning is subject to corticospinal excitability: Data from motor imagery and motor preparation. F. LEBON*; C. RUFFINO; J. GAVEAU; C. PAPAXANTHIS. *Univ. De Bourgogne Franche-Comté.*
- 2:00 GGG23 **247.06** A hierarchical model for sequence processing predicts effects of context on neural response within cortical hierarchy. H. CHIEN*; J. CHEN; C. J. HONEY. *Johns Hopkins Univ.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 3:00 HHH9 **247.19** Partial transfer of implicit perceptual-motor skill to novel timing structure. Y. C. HAN*; K. D. SCHMIDT; P. J. REBER. *Northwestern Univ.*
- 4:00 HHH10 **247.20** Effects of high intensity acute exercise on motor learning and EEG beta power in a precision grip fine motor task. L. HUEBNER; K. ZWINGMANN; B. GODDE; C. VOELCKER-REHAGE*. *Technische Univ. Chemnitz, Jacobs Univ., Technische Univ. Chemnitz.*
- 1:00 HHH11 **247.21** Resting state EEG classification using echo state networks for prediction of motor learning outcome in older adults. B. GODDE*; H. YUAN; L. HUEBNER; M. HUNTER; C. VOELCKER-REHAGE. *Jacobs Univ., Technische Univ. Chemnitz.*
- 3:00 HHH22 **248.11** Organization of content representations and episodic memory signals in human posterior parietal cortex. H. LEE*; S. C. SWEIGART; B. A. KUHL. *New York Univ., Univ. of Oregon.*
- 4:00 HHH23 **248.12** Tracking spatial source memory reactivation with alpha-band oscillations. D. W. SUTTERER*; E. AWH. *Univ. of Chicago, Univ. of Chicago.*
- 1:00 HHH24 **248.13** Construction and elaboration of autobiographical memories from multiple visual perspectives. H. IRIYE; P. L. ST. JACQUES*. *Univ. of Sussex, Univ. of Alberta.*
- 2:00 HHH25 **248.14** Stable representations of a cautious state of mind: An fMRI study of memory and perceptual decision-making. T. SANTANDER*; E. LAYHER; P. CHAKRAVARTHULA; N. MARINSEK; B. O. TURNER; M. P. ECKSTEIN; M. B. MILLER. *Univ. of California, Santa Barbara.*

POSTER

248. Human Cognition and Behavior: Human Long-Term Memory: Retrieval I

Theme H: Cognition

Sun. 1:00 PM – *San Diego Convention Center, SDCC Halls B-H*

- 1:00 HHH12 **248.01** Leveraging thousands of dynamic, daily real-world memories to investigate the neural patterns of memories over time. W. A. BAINBRIDGE*; C. I. BAKER. *NIH.*
- 2:00 HHH13 **248.02** Fast sleep spindles associated with improved memory for specific objects. S. WITKOWSKI*; J. D. CREERY; L. E. DIONISIO; K. A. PALLER. *Northwestern Univ.*
- 3:00 HHH14 **248.03** Brain networks supporting the composition and precision of episodic memory reconstruction. R. COOPER*; M. RITCHEY. *Boston Col.*
- 4:00 HHH15 **248.04** Selectivity for familiar faces in human retrosplenial cortex shown by direct intracranial recordings. O. WOOLNOUGH*; K. FORSETH; C. M. KADIPASAOGLU; N. TANDON. *Univ. of Texas Hlth. Sci. Ctr. At Houston, Texas Med. Ctr.*
- 1:00 HHH16 **248.05** Task-dependent cortical representations during episodic memory retrieval. G. KIM*; S. LEE. *KAIST.*
- 2:00 HHH17 **248.06** Neural encoding of spatial information during visual perception and memory retrieval. S. E. FAVILA*; B. A. KUHL; J. WINAWER. *New York Univ., Univ. of Oregon.*
- 3:00 HHH18 **248.07** Memory for people whom I told something to: Roles of the ventromedial prefrontal cortex in destination memory. Y. NAGASAWA*; H. SUGIMOTO; T. TSUKIURA. *Human & Envrn. Studies, Kyoto Univ., RIKEN, Japan Society for the Promotion of Sci.*
- 4:00 HHH19 **248.08** Scrutinizing the grey zones of declarative memory: Does the late positive component (LPC) reflect self-relevance, mental time travel, or proximity of self to other? A. N. TANGUAY*; D. J. PALOMBO; C. ATANCE; L. RENOULT; P. S. R. DAVIDSON. *Univ. of Ottawa, Univ. of British Columbia, Univ. of East Anglia.*
- 1:00 HHH20 **248.09** Effects of vividness during the elaboration of autobiographical memories. N. E. NAWA*; H. ANDO. *NICT Ctr. for Information and Neural Networks (CiNet), Natl. Inst. of Information and Communicatio.*
- 2:00 HHH21 **248.10** Memory reactivation in EEG patterns fluctuates rhythmically and is locked to a consistent theta phase. C. KERRÉN; J. LINDE-DOMINGO; S. HANSLMAYR; M. WIMBER*. *Univ. of Birmingham, Univ. of Birmingham.*
- 3:00 HHH26 **248.15** Whole-brain propagating activities estimated from resting-state MEG and EEG data. Y. TAKEDA*; N. HIROE; O. YAMASHITA. *ATR Neural Information Analysis Labs.*
- 4:00 HHH27 **248.16** Probing episodic memory reinstatement with continuous stimuli. L. SKALABAN*; C. T. ELLIS; J. S. TUREK; N. B. TURK-BROWNE. *Yale Univ., Intel Corp.*
- 1:00 HHH28 **248.17** Identifying the neural correlates of music familiarity using a strict training paradigm. A. STERNIN*; A. M. OWEN; J. A. GRAHN. *Univ. of Western Ontario, Brain and Mind Inst.*
- 2:00 HHH29 **248.18** FMRI functional connectivity and content analysis of overtly retrieved autobiographical memories. C. S. FERRIS*; C. S. INMAN; S. B. HAMANN. *Emory Univ., Emory Univ., Emory Univ. Dept. of Psychology.*
- 3:00 HHH30 **248.19** Using dynamic, contextually rich video stimuli as a more ecologically valid test of remembering and forgetting. L. A. FERGUSON; S. L. LEAL*; W. J. JAGUST. *Univ. of California, Berkeley.*
- 4:00 HHH31 **248.20** ▲ Unveiling temporal changes in brain activity in task fMRI using connectotyping. V. VAZQUEZ-TREJO*; B. NARDOS; B. L. SCHLAGGAR; D. A. FAIR; O. MIRANDA DOMINGUEZ. *Portland State Univ., Oregon Hlth. & Sci. Univ., Washington Univ. Sch. Med., Oregon Hlth. Sci. Univ., Oregon Hlth. and Sci. Univ.*
- 1:00 HHH32 **248.21** Neural pattern similarity predicts brand recall. F. SHENG*; M. L. PLATT. *Univ. of Pennsylvania.*
- 2:00 HHH33 **248.22** Decoding mental walkthroughs of spatial memories in an immersive virtual reality environment. R. MASIS-OBANDO; K. NORMAN; C. BALDASSANO*. *Princeton Univ., Columbia Univ.*
- 3:00 HHH34 **248.23** Memory of time: A novel paradigm to assess mnemonic discrimination for event duration. N. MUNCY*; B. KIRWAN. *Brigham Young Univ.*
- 4:00 HHH35 **248.24** Respiratory modulation of cognitive performance during the retrieval process. N. H. NAKAMURA*; M. FUKUNAGA; Y. OKU. *Hyogo Col. of Med., Natl. Inst. of Physiological Sci.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

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* Indicates abstract's submitting author

POSTER

249. Human Cognition and Behavior: Human Long-Term Memory: Retrieval II**Theme H: Cognition**

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 HHH36 **249.01** Episodic simulations reveal the structure of affective representations in ventromedial prefrontal cortex. P. C. PAULUS*; I. CHAREST; R. G. BENOIT. *Max Planck Inst. For Human Cognitive and Brain Sci., Int. Max Planck Res. Sch. NeuroCom, Univ. of Birmingham.*
- 2:00 HHH37 **249.02** Tracking the impact of retrieval suppression on neural memory representations. A. MEYER*; R. G. BENOIT. *Max Planck Inst. for Human Cognitive and Brain Sci., Intl. Max Planck Res. Sch. NeuroCom.*
- 3:00 HHH38 **249.03** Coupled ripple oscillations between the medial temporal lobe and neocortex retrieve human memory. A. VAZ*; S. INATI; N. BRUNEL; K. A. ZAGHLOUL. *Duke Univ. Sch. of Med., NIH, Duke Univ., Natl. Inst. of Neurolog. Disorders and Stroke, NIH.*
- 4:00 HHH39 **249.04** Human Spiking Neuron and Intracranial EEG signals during semantic processing of words and images. J. H. WITTIG*, JR; K. A. ZAGHLOUL. *NINDS, Natl. Inst. of Neurolog. Disorders and Stroke, NIH.*
- 1:00 HHH40 **249.05** Alpha/beta desynchronization tracks pattern reinstatement in episodic memory: A simultaneous EEG-fMRI study. B. GRIFFITHS*; S. D. MAYHEW; K. J. MULLINGER; I. CHAREST; M. WIMBER; S. HANSLMAYR. *Univ. of Birmingham, Univ. of Nottingham.*
- 2:00 HHH41 **249.06** Simultaneous EEG-fMRI measurements reveal the spatio-temporal trajectories of episodic memories during retrieval. J. LIFANOV*; B. J. GRIFFITHS; J. LINDE-DOMINGO; C. S. FERREIRA; M. WILSON; S. D. MAYHEW; M. WIMBER. *Univ. of Birmingham.*
- 3:00 HHH42 **249.07** The role of cross-frequency coupling during sleep for episodic-like memory consolidation. M. PETZKA*; I. CHAREST; A. CHATBURN; G. BALANOS; B. STARESINA. *Univ. of Birmingham, Univ. of Birmingham, Univ. of Birmingham.*
- 4:00 HHH43 **249.08** Exploring the 'what', 'when' and 'where' of memory reinstatement in human intracranial EEG recordings. M. TER WAL*; J. LINDE-DOMINGO; F. ROUX; B. STARESINA; D. ROLLINGS; V. SAWLANI; R. CHELVARAJAH; M. WIMBER. *Sch. of Psychology, Univ. of Birmingham, Queen Elizabeth Hosp. Birmingham.*
- 1:00 HHH44 **249.09** Empathy draws on autobiographical memories. EEG pattern classifier reveals memory reactivation in empathy for pain. F. MECONI*; I. APPERLY; S. HANSLMAYR. *Univ. of Birmingham.*
- 2:00 HHH45 **249.10** Dissociation of associative retrieval processes across the human medial temporal lobe. H. SCHULTZ*; R. TIBON; K. F. LAROCQUE; S. A. GAGNON; A. D. WAGNER; B. P. STARESINA. *Univ. of Birmingham, MRC Cognition and Brain Sci. Unit, Stanford Univ., Stanford Univ.*
- 3:00 HHH46 **249.11** Testing the fast consolidation hypothesis of retrieval-mediated learning using pattern fMRI. A. C. SANCHES FERREIRA*; I. CHAREST; M. WIMBER. *Univ. of Birmingham.*

- 4:00 HHH47 **249.12** Temporal context effects of digital memory augmentation on episodic free recall. R. N. NEWSOME*; C. B. MARTIN; M. D. BARENSE. *Univ. of Toronto.*
- 1:00 HHH48 **249.13** Using a novel digital memory augmentation device to improve episodic detail recall for autobiographical memory in older adults. B. HONG*; C. B. MARTIN; R. N. NEWSOME; A. XIA; C. J. HONEY; M. D. BARENSE. *Univ. of Toronto, Johns Hopkins Univ., Rotman Res. Inst.*
- 2:00 HHH49 **249.14** Digital memory augmentation in older adults promotes distinctive hippocampal coding of autobiographical memory. C. B. MARTIN*; B. HONG; R. N. NEWSOME; A. XIA; C. J. HONEY; M. D. BARENSE. *Univ. of Toronto, Johns Hopkins Univ., Rotman Res. Inst.*

POSTER

250. Human Cognition and Behavior: Executive Function: Interference and Flexibility**Theme H: Cognition**

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 HHH50 **250.01** Neural correlates of trigger failures in the stop-signal task: A model-based analysis. A. SEBASTIAN*; B. U. FORSTMANN; D. MATZKE. *Johannes Gutenberg Univ. Med. Ctr., Univ. of Amsterdam, Univ. of Amsterdam.*
- 2:00 HHH51 **250.02** A fairer race between going and stopping: Neural signatures of motor inhibition in a redesigned stop-signal task. D. A. WALLER*; T. DYKSTRA; E. HAZELTINE; J. R. WESSEL. *Univ. of Iowa, Univ. of Iowa.*
- 3:00 HHH52 **250.03** Neuronal correlates of post-action conflict monitoring. Z. FU*; U. RUTISHAUSER; R. ADOLPHS; A. MAMELAK. *Caltech, Cedars-Sinai Med. Ctr., Caltech, Caltech.*
- 4:00 HHH53 **250.04** Motivation and emotion elicited accidental rewards on action inhibition. H. LEE*; F. LIN; W. KUO. *Natl. Taiwan Univ., Natl. Yang-Ming Univ.*
- 1:00 HHH54 **250.05** Speed vs. accuracy priority and conflict during the flanker task. K. B. BEYER*; W. E. MCILROY. *Univ. of Waterloo.*
- 2:00 HHH55 **250.06** ▲ Neural basis of sustained and transient control processes during task switching. E. R. CONNELL*; S. LEMIRE-RODGER; W. D. STEVENS; G. R. TURNER. *York Univ.*
- 3:00 HHH56 **250.07** Withholding an action during heat pain invokes brain signatures of motor suppression and conflict: Dissecting the components of urge. K. K. SUNDBY*; J. WAGNER; A. A. ARON. *Univ. of California San Diego.*
- 4:00 HHH57 **250.08** Why we struggle to multitask: Converging evidence from computational modeling, human behavior, and neuroimaging. A. NOVICK*; S. MUSSLICK; M. IORDAN; J. D. COHEN. *Princeton Univ., Princeton Univ.*
- 1:00 HHH58 **250.09** Quantifying the cost of cognitive stability and flexibility. D. PAPADOPETRAKI*; M. I. FROBÖSE; B. B. ZANDBELT; A. WESTBROOK; R. COOLS. *Radboud Univ., Radboud University Med. Ctr., Brown Univ.*

* Indicated a real or perceived conflict of interest, see page 139 for details.

▲ Indicates a high school or undergraduate student presenter.

* Indicates abstract's submitting author

- 2:00 HHH59 **250.10** Intracranial Stroop recordings reveal parallel conflict processing in networks distributed across frontal and insular regions. C. HOY*; K. L. ANDERSON; V. PIAI; J. L. LIN; R. T. KNIGHT. *Univ. of California Berkeley, Univ. of California Berkeley, Radboud Univ., Univ. of California, Irvine.*
- 3:00 HHH60 **250.11** A fNIRS investigation of interference resolution and response inhibition in a modified Stroop task. S. CHOI; H. LEE; D. YI; S. EOM*. *Yonsei Univ. Col. of Med., Yonsei Univ.*
- 4:00 HHH61 **250.12** The impact of repetitive low-level blast exposures on cognitive-motor integration in Canadian Armed Forces breachers. C. C. TENN*; C. C. TENN*; O. VARTANIAN; L. E. SERGIO; D. GORBET; A. NAKASHIMA; S. G. RHIND; K. BLACKLER; D. SAUNDERS; N. CADDY; M. GARRETT; R. JETLY. *DRDC Suffield Res. Ctr., DRDC Toronto Res. Ctr., York Univ., Canadian Forces Hlth. Services.*
- 1:00 III1 **250.13** Reward modulates representation of behaviorally-relevant information across the frontoparietal cortex. S. SHASHIDHARA*; Y. EREZ. *MRC Cognition and Brain Sci. Unit.*
- 2:00 III2 **250.14** Understanding why rewards improve cognitive performance using representational similarity analysis. S. HALL-MCMMASTER*; N. MYERS; P. S. MUHLE-KARBE; M. G. STOKES. *Oxford Univ.*
- 3:00 III3 **250.15** Assessment of pediatric response inhibition via go/no-go tasks with electrocorticography. C. KUO*; K. CASIMO; J. WU; P. RICE; A. STOCO; E. J. NOVOTNY, Jr.; K. E. WEAVER; J. G. OJEMANN. *Univ. of Washington, Taipei Veterans Gen. Hosp., Univ. of Washington, Univ. of Washington, Univ. of Washington, Univ. of Washington.*
- 4:00 III7 **251.04** Uncovering mental and neural structure through data-driven ontology discovery. I. EISENBERG*; P. G. BISSETT; A. Z. ENKAVI; J. LI; R. A. POLDRACK. *Stanford Univ., Stanford Univ., 450 Serra Mall Bldg. 420.*
- 1:00 III8 **251.05** Development of novel tablet-based measures of early learning and developing cognitive skills in early childhood: Preliminary feasibility and validity. R. MCLEAN*; N. SCHNEIDER; S. SHOLDS; E. MERCER; J. BECK; V. A. D'SA; S. DEONI. *Women and Infants Hosp., Nestlé Res. Ctr., Brown Univ.*
- 2:00 III9 **251.06** A possible role of childhood sibling aggression in the development of decision making functional networks and decisions made in adulthood. S. BEDWELL*; N. HARRISON. *Birmingham City Univ., Birmingham City Univ.*
- 3:00 III10 **251.07** Cognitive benefits of one bout of open- and closed-skill exercise in children, adolescents and young adults. A. SETTI*; J. M. O'BRIEN; J. GILSENAN; E. HAYES; J. CHAN. *Univ. Col. Cork.*
- 4:00 III11 **251.08** Age-related effects on multitasking in an ecologically valid scenario. O. L. BOCK*; U. DRESCHER; M. HAEGER; C. JANOUGH; K. WECHSLER; C. VOELCKER-REHAGE. *German Sport Univ., Technische Univ. Chemnitz.*
- 1:00 III12 **251.09** Interference control across the lifespan: Comparison between young, middle-aged and low-, middle- and high-performing old adults. Behavioral and erp evidence. P. D. GAJEWSKI*; M. FALKENSTEIN; S. THOENES; E. WASCHER. *Leibniz Res. Ctr. for Working Environ Hum Factors, Inst. for Working Learning Ageing.*
- 2:00 III13 **251.10** Characterizing response inhibition deficits in adolescents showing early signs of borderline personality disorder using an oculomotor task. O. G. CALANCIE*; A. C. PARR; L. BOOIJ; D. BRIEN; B. C. COE; S. KHALID-KHAN; D. P. MUNOZ. *Queen's Univ., Queen's Univ.*
- 3:00 III14 **251.11** ● Early executive function: Tracking neuroanatomical development. V. A. D'SA*; R. LOCKRIDGE; M. BRUCHHAGE; S. SHOLDS; S. JOELSON; C. LOISELLE; C. CASNAR; R. MCLEAN; S. DEONI. *Brown Univ., Brown Univ., King's Col., Women & Infants Hosp., Brown Univ.*
- 4:00 III15 **251.12** Sub-aerobic fitness is related to the neuroelectric indices of attention in early childhood. A. M. WALK*; G. MCLOUGHLIN; C. CANNAVALE; S. IWINSKI; R. LIU; L. STEINBERG; N. KHAN. *Univ. of Illinois at Urbana-Champaign.*
- 1:00 III16 **251.13** Visuospatial attentive capabilities and saccadic inhibitory control in children with spastic cerebral palsy. L. FALCIATI*; J. GALLI; S. MICHELETTI; L. TURETTI; M. BALCONI; E. FAZZI; C. MAIOLI. *Univ. of Brescia, Unit of Child Neurol. and Psychiatry, Catholic Univ. of Milan.*
- 2:00 III17 **251.14** ▲ General anesthesia effects on preschoolers' cognitive flexibility and geometric language processing. J. P. TRILLO*; I. VARGAS DE LA CRUZ; Y. RUVALCABA-DELGADILLO; F. JAUREGUI-HUERTA. *Univ. de Guadalajara.*
- 3:00 III18 **251.15** How interindividual differences in IPS sulcal morphology shape number estimation fluency in children. M. ROELL*; A. VIAROUGE; K. MEVEL; L. DELALANDE; M. MOYON; O. HOUDÉ; G. BORST; A. CACHIA. *Univ. Paris Descartes, Ecole des Neurosciences de Paris, LaPsyDE, UMR CNRS 8240, Inst. Universitaire de France.*

POSTER

251. Human Cognition and Executive Function: Development

Theme H: Cognition

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 III4 **251.01** Age-specific functional, anatomical and connectivity changes following inhibitory control training in children and adolescents. A. CACHIA*; L. DELALANDE; S. CHARRON; M. MOYON; C. TISSIER; E. SALVIA; K. MEVEL; N. POIREL; J. VIDAL; C. OPPENHEIM; O. HOUDÉ; G. BORST. *Univ. Paris Descartes, CNRS UMR 8240, Lab. for the Psychology of Child Develop. and Educ., INSERM UMR 894, Imaging biomarkers for brain development and disorders.*
- 2:00 III5 **251.02** Multivariate pattern analysis shows distributed representation of cognitive task contents in striatum. P. STIERS*; A. GOULAS. *Fac. of Psychology and Neuroscience, Maastricht Univ., UKE/Institute For Computat. Neurosci.*
- 3:00 III6 **251.03** Associations between KIBRA gene methylation and executive performance in a childhood monozygotic twin difference design. C. LEWIS*; A. HENDERSON-SMITH; R. S. BREITENSTEIN; K. LEMERY-CHALFANT; L. D. DOANE; M. J. HUENTELMAN. *Arizona State Univ., Translational Genomics Res. Inst.*

POSTER

252. Schizophrenia: Animal Models: Pharmacological

Theme H: Cognition

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 III19 **252.01** The psychotomimetic ketamine abolishes thalamocortical spindle-like oscillations. D. PINAULT*; A. MAHDAVI; Y. QIN; M. BERTSCHY; D. CORNEC; C. N. LEVELT; S. ROTTER. *Inserm, Univ. De Strasbourg, Univ. of Freiburg, Netherlands Inst. For Neurosci.*
- 2:00 III20 **252.02** Exposure to phencyclidine alters the relationship between functional network connectivity, spatial behavior performance, and mRNA expression. C. M. MAGCALAS*; N. PERRONE-BIZZOZERO; V. CALHOUN; J. BUSTILLO; D. A. HAMILTON. *Univ. of New Mexico, Univ. of New Mexico HSC, The Mind Res. Network, Univ. of New Mexico, Univ. of New Mexico.*
- 3:00 III21 **252.03** Interplay between the loss of BDNF signalling and cognitive dysfunction in the subchronic phencyclidine model of schizophrenia. S. R. TANQUEIRO*; G. ALMEIDA-SILVA; F. M. MOURRO; N. DAWSON; M. J. DIÓGENES; A. M. SEBASTIÃO. *Inst. De Medicina Mol., Inst. de Farmacologia e Neurociências, Faculdade de Medicina, Univ. de Lisboa, Div. of Biomed. and Life Sciences, Fac. of Hlth. and Medicine, Lancaster Univ.*
- 4:00 III22 **252.04** Auditory steady state response as a translational EEG biomarker in the PCP rat model of schizophrenia. C. DRIEU LA ROCHELLE*; E. CAYRE; G. VIARDOT; B. RION; A. DENIBAUD; B. MÉOT; H. WING YOUNG; S. LOIODICE. *Biotrial Pharmacol., Biotrial Pharmacol., Biotrial Neurosci.*
- 1:00 III23 **252.05** • Abnormal neural activation patterns underlying working memory impairment in chronic phencyclidine-treated mice. Y. ARIME*; K. AKIYAMA. *Dokkyo Med. Univ. Sch. of Med.*
- 2:00 III24 **252.06** Adolescent exposure to a cannabinoid receptor agonist in mice reduces psychomotor responses and enhances working memory in adulthood. M. KOH*; A. SHERWOOD; P. AHRENS; R. W. MCMAHAN; M. GALLAGHER. *Johns Hopkins Univ.*
- 3:00 III25 **252.07** Efficacy of antipsychotic treatments in rodent models of social recognition and social interaction. Q. CHANG*; S. DAVIS; M. LANG; T. HANANIA. *PsychoGenics Inc.*
- 4:00 III26 **252.08** Effects of environmental enrichment in a mouse NMDA receptor hypofunction model. C. S. LAI*; Y. HUANG; X. LI. *The Univ. of Hong Kong, The Univ. of Hong Kong.*
- 1:00 III27 **252.09** • Predictive validity of antipsychotics using NMDA receptor antagonist induced behavioral and neurophysiological abnormalities. M. FOWLER; A. SUGIYAMA; K. TAMAKI; J. HILL; S. HONDA; M. ADACHI*. *Astellas Res. Inst. of America.*
- 2:00 III28 **252.10** • The NMDAR positive allosteric modulator CAD-8688 reverses mismatch negativity impairments in the rat sub-chronic PCP model of schizophrenia. S. KANTOR; S. C. LEISER; D. ANDERSON; R. VOLKMANN; N. UPTON*; T. PISER. *Transpharmation LTD, Psychogenics Inc., Cadent Ther. Inc.*

- 3:00 III29 **252.11** Leveraging prefrontal parvalbumin interneurons to restore cognitive function in schizophrenia. L. CHAMBERLIN*; B. R. FERGUSON; E. P. MCEACHERN; Y. MOHABBAT; W. GAO. *Drexel Univ. Col. of Med., Stanford Univ., Drexel Univ. Col. of Med.*
- 4:00 III30 **252.12** • TPA-023 and pregnenolone sulfate attenuate subchronic phencyclidine-induced declarative and executive functioning deficits via GABAAR mechanism: Possible therapeutic target for cognitive deficit in schizophrenia. L. RAJAGOPAL*; M. HUANG; H. Y. MELTZER. *Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ. Feinberg Sch. of Med., Northwestern Univ. Sch. of Med.*
- 1:00 III31 **252.13** • SUVN-M8036, a differentiated serotonergic and dopaminergic modulator for the treatment of psychiatric disorders. R. KALLEPALLI; A. VUYURU; S. YATHAVAKILLA; J. FERNANDES; J. TADIPARTHI; N. BOGARAJU; P. SINGH; A. MOHAMMED; A. K. SHINDE*; V. KAMUJU; S. GANDIPUDI; S. PETLU; N. PRAVEENA; V. MEKALA; R. SUBRAMANIAN; R. NIROGI. *Suven Life Sci.*
- 2:00 III32 **252.14** Role of 5-HT_{2A}R in the mGluR2 receptor-dependent antipsychotic-related activity of LY379268 in mice. J. M. SAUNDERS*; J. GONZALEZ-MAESO. *Virginia Commonwealth Univ. Hlth. Syst., Virginia Commonwealth Univ. Hlth. Syst.*
- 3:00 III33 **252.15** Antipsychotic-like effects of the T-type calcium channel antagonist, Z944, on behaviours characteristic of a schizophrenic-like phenotype in rats. W. N. MARKS*; A. J. ROEBUCK; M. C. LIU; N. B. TAHIR; N. K. ZABDER; S. M. CAIN; T. P. SNUTCH; J. G. HOWLAND. *Univ. of Saskatchewan, Univ. of British Columbia.*

POSTER

253. Molecular, Biochemical, and Genetic Techniques: Biochemical Techniques

Theme I: Techniques

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 III34 **253.01** Synthesis of serotonin-imprinted polymer nanoparticle as highly selective fluorescent probe for neurotransmitter-imaging. Y. KATSUMATA; N. OSAWA; R. MORI; Y. YOSHIMI*. *Shibaura Inst. Technol., Shibaura Inst. Technol.*
- 2:00 III35 **253.02** *In vivo* measurements of basal dopamine levels using multiple cyclic square wave voltammetry. Y. OH*; M. L. HEIEN; S. B. DE SOUZA; C. PARK; D. JANG; K. E. BENNET; K. H. LEE. *Mayo Clin., Univ. of Arizona, Mayo Clin., Hanyang Univ., Mayo Clin.*
- 3:00 III36 **253.03** Organic and inorganic-based microreactors as a therapeutic approach against excitotoxicity. A. ARMADA-MOREIRA*; E. TAIPALEENMÄKI; M. BAEKGAARD-LAURSEN; P. S. SCHATTLING; B. THINGHOLM; K. ANDREASSEN; A. M. SEBASTIÃO; B. STÄDLER; S. H. VAZ. *Inst. de Medicina Mol., Faculdade de Medicina da Univ. de Lisboa, Interdisciplinary Nanoscience Ctr. (iNANO), Aarhus Univ.*
- 4:00 III37 **253.04** Semi-intact preparations of larval amphibians for studying oxygen consumption and energy metabolism in the brain. S. OEZUGUR*; L. KUNZ; H. STRAKA. *Ludwig Maximilians Univ. (LMU), LMU Munich Biocenter, LMU Munich - Biocenter Martinsried.*

Sun. PM

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 1:00 III38 **253.05** Transcript mapping of neuronal systems in the rat brainstem using a combination of HCR-FISH and iDISCO tissue clearing method. V. KUMAR*; D. M. KROLEWSKI; C. AYDIN; H. AKIL; S. J. WATSON, Jr. *Univ. of Michigan, Univ. of Michigan, University of Michigan.*
- 2:00 III39 **253.06** 3D *in vitro* human neuronal networks inside a hydrogel scaffold - Cell adhesion and maturation. T. JOKI*; L. YLÄ-OUTINEN; V. HARJU; J. KARVINEN; J. KOIVISTO; M. KELLOMÄKI; S. NARKILAHTI. *Biomeditech / Univ. of Tampere, Tampere Univ. of Technol.*
- 3:00 III40 **253.07** ● A new polyplex-based approach to gene-edit post natal neuronal cells in rodent. O. ZELPHATI; A. REPRESA*; C. DI SCALA; M. TESSIER; C. SAPET; F. POULHES; F. SICARD; C. PELLEGRINO. *OZBiosciences, INSERM, INMED.*
- 4:00 III41 **253.08** Protein semisynthesis provides access to tau disease-associated post-translational modifications (PTMs) and paves the way to deciphering the tau PTM code in health and diseased states. M. HAJ-YAHYA*; H. LASHUEL. *EPFL.*
- 1:00 III42 **253.09** ● Withdrawn
- 2:00 III43 **253.10** Model guided optimization of biosensors for neurotransmitters. B. HUANG*; M. CLAY; H. MONBOUQUETTE. *UCLA.*
- 3:00 III44 **253.11** ● Standardizing tau amyloid seeding using sonication. M. APOSTOL*; G. NAUMANN; M. SCHULTZE; I. PANTELEEVA; J. KROONEN; R. SAXENA; J. BERTELSEN; G. BERGUET; J. TREANOR. *Adrx, Inc., Diagenode sa, Diagenode Inc.*
- 4:00 III45 **253.12** Combined HPLC-electrochemical detection method for quantitation of monoamines and amino acids. M. J. CHURCHILL; H. NEDELESCU*; M. W. BUCZYNSKI; N. SUTO; S. AZUMA. *Amuza Inc, The Scripps Res. Inst., Virginia Polytechnic Inst. and State University, Scripps Res. Inst. Dept. of Mol. and Exptl. Med., Amuza Inc.*
- 1:00 III46 **253.13** Fabrication and characterization of more robust and multiplexed biosensors using flexible polymer microelectrode arrays. A. M. YORITA*; A. IVANOVSKAYA; J. PEBBLES; D. HILKEN; J. ZHOU; A. M. BELLE. *Lawrence Livermore Natl. Lab.*
- 2:00 III47 **253.14** Aspartic protease plays major role in neuropeptide y metabolism in human eccrine sweat: Implications for npy functionality in skin. E. M. STERNBERG*; J. R. RUNYON; M. JIA; G. TSAPRILIS; P. SKEATH; J. A. STUART. *Univ. of Arizona, Univ. of Arizona.*

POSTER

254. Software Tools Connectivity Analysis Macro/Micro Structure

Theme I: Techniques

Sun. 1:00 PM – San Diego Convention Center, SDCC Halls B-H

- 1:00 III48 **254.01** ● Improving 3D stereologic cell quantification with automated machine learning techniques. W. D. PACK*; N. ROUSSEL; A. D. LEDUC; B. S. EASTWOOD; C. SCHMITZ; S. J. TAPPAN; P. J. ANGSTMAN; J. R. GLASER. *MBF Biosci., Ludwig Maximilian Univ. of Munich.*
- 2:00 III49 **254.02** Novel frequency-driven regional parcellations of abnormal white matter and application to hypertension during midlife. A. CHEN*; R. NOTESTINE; A. C. GAMST; L. WETHERELL; M. CARROLL; R. LIEU; L. K. MCEVOY; M. S. PANIZZON; L. T. EYLER; C. E. FRANZ; W. S. KREMEN; C. FENNEMA-NOTESTINE. *UCSD, Computat. and Applied Statistics Laboratory, San Diego Supercomputer Ctr., UCSD, UCSD, and Ctr. of Excellence for Stress and Mental Health, VA San Diego Hlth.*
- 3:00 III50 **254.03** High resolution diffusion magnetic resonance imaging based atlas of the C57BL/6J adult mouse brain: A tool for examining mouse brain structures. T. AREFIN*; W. SHAO; C. LEE; S. SHI; J. ZHANG. *New York Univ. Sch. of Med., Mem. Sloan Kettering Cancer Ctr., Weill Cornell Med. Col.*
- 4:00 III51 **254.04** Deep learning approach towards automated detection of dendritic spines. X. XIAO; M. DJURISIC*; A. HOOGI; R. W. SAPP; C. J. SHATZ; D. L. RUBIN. *Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ., Stanford Univ.*
- 1:00 III52 **254.05** CUBIC-Cloud: A point-cloud-based computational framework to analyze, visualize and share data for whole brain profiling by tissue clearing. T. MANO*; H. R. UEDA. *The Univ. of Tokyo.*
- 2:00 III53 **254.06** A novel method for quantifying regional distribution of neural manipulations relative to a reference atlas. A. G. GORDON*; L. FENNELL; M. FANG; K. ZITTEL; M. MARINELLI. *Univ. of Texas at Austin, Univ. of Texas at Austin.*
- 3:00 III54 **254.07** Marker-less co-registration of brain MRI data to a subject's head via a mixed reality device. C. LEUZE*; G. YANG; J. A. MCNAB. *Stanford Univ. Dept. of Radiology.*
- 1:00 DP15/III55 **254.08** (Dynamic Poster) Quality control of MRI segmentation using virtual reality and crowdsourcing. D. DUNCAN*; A. JABERZADEH; T. ARD; D. PELLETIER; A. W. TOGA. *USC, USC.*
- 1:00 III56 **254.09** A digital hierarchical atlas and anatomical template of the macaque brain. B. JUNG; C. SPONHEIM; J. SEIDLITZ; L. G. UNGERLEIDER; A. MESSINGER*. *Natl. Inst. of Mental Hlth., Univ. of Chicago, Univ. of Cambridge, Natl. Inst. of Mental Hlth., Natl. Inst. of Mental Hlth.*
- 2:00 III57 **254.10** The NIF ontology: Brain parcels, cell types, and methods. T. GILLESPIE*; T. GILLESPIE*; T. GILLESPIE*; A. E. BANDROWSKI; J. S. GRETHE; M. E. MARTONE. *UCSD, UCSD, UCSD.*
- 3:00 III58 **254.11** ● Bringing legacy neuroimaging data into the human connectome project's cifti analysis framework. A. ANTICEVIC*; J. JI; B. ADKINSON; S. N. SOTIROPOULOS; A. KRALJIC; E. DICKIE; A. VOINESKOS; T. S. COALSON; D. C. VAN ESSEN; M. F. GLASSER; G. REPOVS. *Yale Univ., Yale Univ., Yale Univ., Univ. of Nottingham, Univ. of Ljubljana, Univ. of Toronto, Washington Univ. in St. Louis, Washington Univ. Sch. Med., Washington Univ. Sch. of Med.*
- 4:00 III59 **254.12** SpineTracker: An open-source, broadly adaptable plugin for fully automated imaging and stimulation of dendritic spines. M. S. SMIRNOV*; R. YASUDA. *Max Planck Florida Inst.*
- 1:00 III60 **254.13** ● MNAP: Multimodal neuroimaging analysis platform for flexible, extensible and rapid analytic throughput. G. REPOVS*; A. ANTICEVIC; L. JIE JI; J. MURRAY; B. ADKINSON; C. SCHLEIFER; Z. TAMAYO; M. FLYNN; A. KOLOBARIC; Y. T. CHO; A. KRALJIC; N. PURG; A. SLANA OZIMIC. *Univ. of Ljubljana, Yale Univ., Univ. of Ljubljana.*

- 2:00 III61 **254.14** • Automated characterization of the anatomic distribution of CRF positive cells in male and female mouse brain. N. J. O'CONNOR*; B. S. EASTWOOD; S. GERFEN; S. J. TAPPAN; P. J. ANGSTMAN; T. KAWAMURA; J. R. GLASER; H. J. KARTEN; P. P. SANNA. *MBF Biosci., Scripps Res. Inst., UCSD.*
- 3:00 III62 **254.15** CoordsFinder - software tool for systematic search for brain coordinates of interest for area-based meta-analyses. P. NOVIKOV*; M. ARSALIDOU. *Inst. for Cognitive Neuroscience, Natl. Res. Univ. Higher Sch. of Econ., Inst. for Cognitive Neuroscience, Natl. Res. Univ. Higher Sch. of Econ., York Univ.*
- 4:00 III63 **254.16** Cloud-based relational database for managing large amounts of multimodal animal data. M. ASWENDT*; N. PALLAST; F. WIETERS; M. NILL; G. R. FINK. *Univ. Hosp. Cologne.*
- 1:00 III64 **254.17** Map Manager: Software to annotate and analyze image volume time-series. R. H. CUDMORE*. *The Johns Hopkins Univ.*
- 2:00 III65 **254.18** ARCADE: A modular multithreaded stimulus presentation software for the real-time control of stimuli, actions and reward during behavioral experiments. J. R. DOWDALL*; J. T. SCHMIEDT; M. STEPHAN; P. FRIES. *Ernst Strüngmann Inst.*
- 3:00 JJJ4 **255.07** Genetically encoded PhyB optogenetic tools in animal cells. P. KYRIAKAKIS*; M. CATANHO; V. J. HU; T. P. COLEMAN. *UCSD.*
- 4:00 JJJ5 **255.08** Optimization of optogenetic induced seizure activity in primary neurons of the hippocampus. B. J. BARKER*; H. SUN. *Louisiana State Univ. Hlth. Sci. Ctr., Louisiana State Univ. Hlth. Sci. Ctr. Shreveport.*
- 1:00 JJJ6 **255.09** Histological evaluation of optogenetic tools in rhesus monkey fronto-parietal-temporal network. M. G. FORTUNA*; J. HÜER; H. GUO; L. T. SCHILLER; J. GRUBER; H. SCHERBERGER; J. F. STAIGER; S. TREUE; A. M. GAIL. *German Primate Ctr., German Primate Ctr., German Primate Ctr., German Primate Ctr., Georg-August-Univ.*
- 2:00 JJJ7 **255.10** Structure-guided design and *in vivo* characterization of photoselectable channelrhodopsins. S. G. KING*; R. DOMINGUEZ; A. ISHCHEKOV; A. SADYBEKOV; E. CHANG-SING; A. M. ZBELA; I. V. KATRITCH; V. CHEREZOV; J. Y. LIN; S. A. HIRES. *USC, Univ. of Tasmania, USC, USC, Univ. of Tasmania.*
- 3:00 JJJ8 **255.11** • Photostable live cell imaging culture media that protects neurons and glial cells from light-induced cellular damage. N. ASBROCK; V. T. CHU*. *MilliporeSigma.*
- 4:00 JJJ9 **255.12** A photoswitchable GPCR-based opsin for synaptic inhibition. B. A. COPITS*; A. M. VASQUEZ; A. M. GOMEZ; K. E. PARKER; P. O'NEILL; X. MESHK; C. STANDER; N. GAUTAM; R. K. SUNAHARA; R. W. GEREAU; M. R. BRUCHAS. *Washington Univ. Sch. of Med., Univ. of California San Diego, Washington Univ. Sch. of Med., Washington Univ. Sch. of Med.*
- 1:00 JJJ10 **255.13** • Simultaneous multiwell optogenetic stimulation and microelectrode array recording for evaluating functional network electrophysiology *in vitro*. H. B. HAYES*; A. M. NICOLINI; C. A. ARROWOOD; I. P. CLEMENTS; D. C. MILLARD. *Axion Biosystems.*
- 2:00 JJJ11 **255.14** Dynamic closed-loop all-optical manipulation of neural circuits *in vivo*. Z. ZHANG*; L. E. RUSSELL; A. M. PACKER; O. M. GAULD; P. DZIALECKA; M. HAUSSER. *Univ. Col. London, Univ. Col. London.*
- 3:00 JJJ12 **255.15** ▲ Re-engineering a luminopsin tool to study the *Caenorhabditis elegans* nervous system. N. H. ELDER*; R. EL BEJJANI. *Davidson Col.*
- 4:00 JJJ13 **255.16** A light-gated K⁺ channel for sustained neuronal inhibition in freely moving animals. R. TONINI*; L. ALBERIO; A. LOCARNO; A. SAPONARO; E. ROMANO; V. BERCIER; S. ALBADRI; F. DEL BENE; F. SIMEONI; S. MOLERI; M. BELTRAME; S. PELUCCHI; E. MARCELLO; M. DI LUCA; G. ROMANI; K. KUKOVETZ; A. J. BOENDER; A. CONTESTABILE; S. LUO; A. MOUTAL; Y. JI; R. KHANNA; H. M. COLECRAFT; G. THIEL; A. MORONI. *Fondazione Inst. Italiano di Tecnologia, Univ. of Milan, Inst. Curie - Ctr. de Recherche, Univ. of Milan, Univ. di Firenze, Technische Universität-Darmstadt, Fondazione Inst. Italiano di Tecnologia, Univ. of Arizona, Columbia Univ., Consiglio Nazionale delle Ricerche.*
- 1:00 JJJ14 **255.17** Circuit mapping of nucleus accumbens connections to the lateral hypothalamus. J. YEOH; C. MITCHELL; C. D. ADAMS; J. S. BAINS; G. P. MCNALLY; B. A. GRAHAM; C. V. DAYAS*. *Univ. of Newcastle, Univ. of Calgary, Univ. New South Wales, Newcastle Univ.*
- 2:00 JJJ15 **255.18** Magnetochemical technique for remote manipulation of neurons. S. RAO*; R. CHEN; A. LAROCCA; M. CHRISTIANSEN; A. SENKO; C. SHI; P. CHIANG; P. ANIKEEVA. *MIT, MIT.*

POSTER

255. Physiological Methods: Optogenetics II

Theme I: Techniques

Sun. 1:00 PM – *San Diego Convention Center, SDCC Halls B-H*

- 1:00 III66 **255.01** Structural insights into anion conduction of natural and designed anion channelrhodopsins. Y. KIM*; H. E. KATO; J. M. PAGGI; C. RAMAKRISHNAN; L. E. FENNO; K. E. EVANS; K. INOUE; S. ITO; H. KANDORI; B. K. KOBILKA; K. DEISSEROTH. *Stanford Univ., Nagoya Univ.*
- 2:00 III67 **255.02** Igniting an artificial percept with cellular-resolution optical stimulation. J. H. MARSHEL*; S. QUIRIN; T. A. MACHADO; Y. KIM; C. RAJA; A. CHIBUKHCHYAN; C. RAMAKRISHNAN; M. INOUE; S. GANGULI; K. DEISSEROTH. *Stanford Univ.*
- 3:00 III68 **255.03** Cell-type specific reward dynamics of medial habenula neurons. E. L. SYLWESTRAK*; S. VESUNA; A. CROW; C. RAMAKRISHNAN; K. DEISSEROTH. *Stanford Univ., Stanford Univ. Dept. of Psychology.*
- 4:00 JJJ1 **255.04** Activity-based projection mapping to identify cortical representations of internal states. B. HSUEH*; L. YE; M. GOUBRAN; C. RAMAKRISHNAN; J. H. JENNINGS; M. RAFFIEE; D. TANG; A. WANG; M. M. ZEINEH; K. DEISSEROTH. *Stanford Univ., Stanford Univ., Scripps Res. Inst., Stanford Univ., Stanford Univ.*
- 1:00 JJJ2 **255.05** Divergent population states across the hypothalamus during homeostatic threats. M. LOVETT-BARRON*; R. CHEN; S. BRADBURY; A. S. ANDALMAN; K. DEISSEROTH. *Stanford Univ., Stanford Univ., HHMI, Stanford Univ.*
- 2:00 JJJ3 **255.06** Three-dimensional intact-tissue mapping of single-cell transcriptional states by *in situ* sequencing. X. WANG*; W. E. ALLEN; M. A. WRIGHT; E. L. SYLWESTRAK; G. P. NOLAN; F. BAVA; K. DEISSEROTH. *Stanford Univ., Stanford Univ., Stanford Univ., Howard Hughes Med. Inst.*

• Indicated a real or perceived conflict of interest, see page 139 for details.
 ▲ Indicates a high school or undergraduate student presenter.
 * Indicates abstract's submitting author

- 3:00 JJJ16 **255.19** Non-invasive optogenetic excitation using focused-ultrasound-mediated delivery of virus-encoded Chrimson and transcranial red-light exposure. A. POULIOPOULOS*; N. KWON; S. HUSSAINI; E. KONOFAGOU. *Columbia Univ.*
- 4:00 JJJ17 **255.20** Neural control of various aggressive behaviors in mice. Z. ZHU*; Q. MA; H. YANG; Y. YU; S. DUAN. *Zhejiang Univ., Zhejiang Univ. Med. Sch.*

Conflict of Interest Statements

The following presenters, signified by a dot (•) in the program, indicated a real or perceived conflict of interest. Presenters listed without a dot in the program had no financial relationships to disclose.

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
097	M. Rao: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Collaborator on research grant from GlaxoSmithKline.	115.04	M. Zhao: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent Holder.
099	D.M. Holtzman: ; Washington University in St. Louis, Research grants from C2N Diagnostics, AbbVie, Eli Lilly, Denali, Co-founder and part owner of C2N Diagnostics, LLC, Scientific advisory board for C2N Diagnostics, Denali, Genentech, Proclara.	115.19	Q. Li: A. Employment/Salary (full or part-time); Johns Hopkins University, School of Medicine. C. Qian: A. Employment/Salary (full or part-time); Johns Hopkins University, School of Medicine. X. Wang: A. Employment/Salary (full or part-time); Johns Hopkins University, School of Medicine. F. Zhou: A. Employment/Salary (full or part-time); Johns Hopkins University, School of Medicine.
103.03	K.K. Noguchi: A. Employment/Salary (full or part-time); Washington University St Louis. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NICHD U54-HD087011/R01-HD083001. S.L. Williams: A. Employment/Salary (full or part-time); Washington University St Louis. J.N. Huffman: A. Employment/Salary (full or part-time); University of Missouri-St. Louis. B.S. Swiney: A. Employment/Salary (full or part-time); Washington University St Louis. H.S. Wang: A. Employment/Salary (full or part-time); Washington University St Louis. K. Dikranian: A. Employment/Salary (full or part-time); Washington University St Louis.	116.09	P. Mandal: A. Employment/Salary (full or part-time); CSIR.
104.02	R. Verner: Other; Employee of LivaNova. R. McGuire: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Stock Holder of LivaNova. Other; Employee of LivaNova.	119.02	I. Gozes: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Coronis Neurosciences.
104.03	C.E.H. Moussa: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Georgetown University.	119.13	A. Luo Clayton: A. Employment/Salary (full or part-time); Simons Foundation.
110.10	H. Sato: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Hitachi, Ltd. T. Numata: A. Employment/Salary (full or part-time); Hitachi, Ltd. Y. Asa: A. Employment/Salary (full or part-time); Hitachi, Ltd.	122.11	C.W. Lindsley: Other; Johnson and Johnson, Bristol-Myers Squibb, AstraZeneca, Michael J. Fox Foundation, Seaside Therapeutics. P.J. Conn: F. Consulting Fees (e.g., advisory boards); Michael J. Fox Foundation, Stanley Center for Psychiatric Research Board Institute, Karuna Pharmaceuticals, Lieber Institute for Brain Development, Clinical Mechanism and Proof of Concept Consortium. Other; AstraZeneca, Bristol-Myers Squibb, Michael J. Fox Foundation, Dystonia Medical Research Foundation, CHDI Foundation, Thome Memorial Foundation.
111.05	K.L. Stachenfeld: A. Employment/Salary (full or part-time); DeepMind, Google. M.M. Botvinick: A. Employment/Salary (full or part-time); DeepMind, Google, University College London.	123.02	O. Foloruso: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The compounds used for this work are covered under a "patent application" filed by the University of Texas Medical Branch, Galveston TX. This patent application has not been licensed to any company. P. Wang: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The compounds used for this work are covered under a "patent application" filed by the University of Texas Medical Branch, Galveston TX. This patent application has not been licensed to any company. Z. Liu: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The compounds used for this work are covered under a "patent application" filed by the University of Texas Medical Branch, Galveston TX. This patent application has not been licensed to any company. S.R. Ali: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The compounds used for this work are covered under a "patent application" filed by the University of Texas Medical Branch, Galveston TX. This patent application has not been licensed to any company. J. Zhou: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The compounds used for this work are covered under a "patent application" filed by the University of Texas Medical Branch, Galveston TX. This patent application has not been licensed to any company. F. Laezza: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); The compounds used for this work are covered under a "patent application" filed by the University of Texas Medical Branch, Galveston TX. This patent application has not been licensed to any company.
112.08	E.G. Govorunova: A. Employment/Salary (full or part-time); McGovern Medical School UTHealth. Other; McGovern Medical School UTHealth. O.A. Sineshchekov: A. Employment/Salary (full or part-time); McGovern Medical School UTHealth. Other; McGovern Medical School UTHealth. R. Hemmati: A. Employment/Salary (full or part-time); McGovern Medical School UTHealth. R. Janz: A. Employment/Salary (full or part-time); McGovern Medical School UTHealth. O. Morelle: A. Employment/Salary (full or part-time); University of Cologne. M. Melkonian: A. Employment/Salary (full or part-time); University of Cologne. G.K.S. Wong: A. Employment/Salary (full or part-time); University of Alberta. J.L. Spudich: A. Employment/Salary (full or part-time); McGovern Medical School UTHealth. Other; McGovern Medical School UTHealth.	123.09	T. Strassmaier: A. Employment/Salary (full or part-time); Nanion Technologies. J.L. Costantin: A. Employment/Salary (full or part-time); Nanion Technologies. N. Brinkwirth: A. Employment/Salary (full or part-time); Nanion Technologies. A. Obergrussberger: A. Employment/Salary (full or part-time); Nanion Technologies.
113.05	S. Quezada: A. Employment/Salary (full or part-time); Monash University. M. Castillo-Melendez: A. Employment/Salary (full or part-time); Hudson Institute of Medical Research. N. Hale: A. Employment/Salary (full or part-time); The Ritchie Center, Hudson Institute of Medical Research. M. Tolcos: A. Employment/Salary (full or part-time); RMIT University. D.W. Walker: A. Employment/Salary (full or part-time); RMIT University.		

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	S. Stölzle-Feix: A. Employment/Salary (full or part-time); Nanion Technologies. N. Becker: A. Employment/Salary (full or part-time); Nanion Technologies. C. Haarmann: A. Employment/Salary (full or part-time); Nanion Technologies. M. Rapedius: A. Employment/Salary (full or part-time); Nanion Technologies. T.A. Goetze: A. Employment/Salary (full or part-time); Nanion Technologies. I. Rinke-Weiß: A. Employment/Salary (full or part-time); Nanion Technologies. C.T. Bot: A. Employment/Salary (full or part-time); Nanion Technologies. R. Haedo: A. Employment/Salary (full or part-time); Nanion Technologies. M. George: A. Employment/Salary (full or part-time); Nanion Technologies. A. Brüggemann: A. Employment/Salary (full or part-time); Nanion Technologies. N. Fertig: A. Employment/Salary (full or part-time); Nanion Technologies.		University of New Mexico. B.J. Clark: A. Employment/Salary (full or part-time); University of New Mexico. N.S. Pentkowski: A. Employment/Salary (full or part-time); University of New Mexico.
125.02	E.N. Brown: F. Consulting Fees (e.g., advisory boards); Masimo. P.L. Purdon: F. Consulting Fees (e.g., advisory boards); Masimo.	131.10	M. Malek-Ahmadi: F. Consulting Fees (e.g., advisory boards); Bracket Global, Shanghai Green Valley Pharmaceuticals. K. Chen: A. Employment/Salary (full or part-time); Shanghai Green Valley Pharmaceuticals.
125.07	E. Hong: F. Consulting Fees (e.g., advisory boards); received or plans to receive research funding or consulting fee on research projects from Mitsubishi, Your Energy Systems LLC, Neuralstem, EyeDirect, Taisho, Heptares, Pfizer, Sound Pharma, Regeneron.	131.13	M. Calhoun: A. Employment/Salary (full or part-time); Biogen. K. King: A. Employment/Salary (full or part-time); Biogen. M. Rooney: A. Employment/Salary (full or part-time); Biogen. R. Grater: A. Employment/Salary (full or part-time); Biogen. O. Golonzhka: A. Employment/Salary (full or part-time); Biogen. C. Rowbottom: A. Employment/Salary (full or part-time); Biogen. G.M. Dillon: A. Employment/Salary (full or part-time); Biogen.
125.17	M. Adamek: A. Employment/Salary (full or part-time); 1. Nat. Center for Adapt. Neurotechnologies, Wadsworth Ctr., New York State Dept. of Health, Albany, NY, USA. Other; 2. Inst. of Neural Eng., Graz University of Technology, Graz, Austria. P. Brunner: A. Employment/Salary (full or part-time); 1. Nat. Center for Adapt. Neurotechnologies, Wadsworth Ctr., New York State Dept. of Health, Albany, NY, USA. Other; 3. Dept. of Neurology, Albany Medical College, Albany, NY, USA. L. Moheimanian: A. Employment/Salary (full or part-time); 3. Dept. of Neurology, Albany Medical College, Albany, NY, USA. R. Scherer: A. Employment/Salary (full or part-time); 2. Inst. of Neural Eng., Graz University of Technology, Graz, Austria. G. Schalk: A. Employment/Salary (full or part-time); 1. Nat. Center for Adapt. Neurotechnologies, Wadsworth Ctr., New York State Dept. of Health, Albany, NY, USA. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; 3. Dept. of Neurology, Albany Medical College, Albany, NY, USA, 4. Dept. of Biomed. Sci., State Univ. of New York, Albany, NY, USA.	133.02	A. Lariviere: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Dong-A ST. G. Pagnier: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Dong-A ST. M. Calvo Rodriguez: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Dong-A ST. S. Choi: A. Employment/Salary (full or part-time); Dong-A ST. S. Choi: A. Employment/Salary (full or part-time); Dong-A ST. H. Soh: A. Employment/Salary (full or part-time); Dong-A ST. B.J. Bacskaï: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Dong-A ST. K. Kastanenka: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Dong-A ST.
126.11	A.C. Overland: A. Employment/Salary (full or part-time); Essen Bioscience. J.N. Rauch: A. Employment/Salary (full or part-time); Essen BioScience. L. Oupicka: A. Employment/Salary (full or part-time); Essen BioScience. D.M. Appledorn: A. Employment/Salary (full or part-time); Essen BioScience.	133.07	M. Karlsson: A. Employment/Salary (full or part-time); Cellectricon AB. S. Illes: A. Employment/Salary (full or part-time); Cellectricon AB. J. Pihl: A. Employment/Salary (full or part-time); Cellectricon AB. J. Svensson Dalén: A. Employment/Salary (full or part-time); Cellectricon AB. P. Karila: A. Employment/Salary (full or part-time); Cellectricon AB.
128.07	Y. Shames: F. Consulting Fees (e.g., advisory boards); Novartis. M. Callahan: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Bristol-Myers Squibb. Other; Bristol-Myers Squibb. B. Santomasso: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Juno Therapeutics, Kite Pharma. F. Consulting Fees (e.g., advisory boards); Juno Therapeutics, Kite Pharma.	133.09	E. Roberson: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dr. Roberson has intellectual property related to tau.
128.20	L. Ancheta: A. Employment/Salary (full or part-time); Advanced Targeting Systems. R. Bouajram: A. Employment/Salary (full or part-time); Advanced Targeting Systems. D.A. Lappi: F. Consulting Fees (e.g., advisory boards); Advanced Targeting Systems.	133.10	E.M. Sigurdsson: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); H. Lundbeck A/S, New York University.
130.09	J.T. Madden: A. Employment/Salary (full or part-time); Graduate Researcher, University of New Mexico. D.A. Hamilton: A. Employment/Salary (full or part-time); University of New Mexico. D.D. Savage: A. Employment/Salary (full or part-time); Department of Neurosciences,	133.14	S. Illes: A. Employment/Salary (full or part-time); Cellectricon AB, Mölndal, Sweden. P. Karila: A. Employment/Salary (full or part-time); Cellectricon AB, Mölndal, Sweden. J. Pihl: A. Employment/Salary (full or part-time); Cellectricon AB, Mölndal, Sweden. M. Karlsson: A. Employment/Salary (full or part-time); Cellectricon AB, Mölndal, Sweden.
		133.15	P. Karila: A. Employment/Salary (full or part-time); Cellectricon AB. S. Illes: A. Employment/Salary (full or part-time); Cellectricon AB. C. Nodin: A. Employment/Salary (full or part-time); Cellectricon AB. J. Pihl: A. Employment/Salary (full or part-time); Cellectricon AB. E. Esbjörner Winters: A. Employment/Salary (full or part-time); Chalmers University of Technology. M. Karlsson: A. Employment/Salary (full or part-time); Cellectricon AB.
		134.04	A. Mitra: A. Employment/Salary (full or part-time); Adamas Pharmaceuticals, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Adamas Pharmaceuticals, Inc. J. Holt: A. Employment/Salary (full or part-time); Adamas Pharmaceuticals, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Adamas Pharmaceuticals, Inc. K. Van: A. Employment/Salary (full or part-time); Adamas Pharmaceuticals, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/

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	patent holder, excluding diversified mutual funds); Adamas Pharmaceuticals, Inc. R. Teyssié: A. Employment/Salary (full or part-time); Neuroservice. B. Buisson: A. Employment/Salary (full or part-time); Neuroservice. J. Nguyen: A. Employment/Salary (full or part-time); Adamas Pharmaceuticals, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Adamas Pharmaceuticals, Inc.	140.02	H. Swanborough: A. Employment/Salary (full or part-time); University of Zurich. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Swiss National Science Foundation. M. Staib: A. Employment/Salary (full or part-time); University of Zuerich. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Swiss National Science Foundation. S. Fruehholz: A. Employment/Salary (full or part-time); University of Zurich. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Swiss National Science Foundation.
137.01	S.H. Scott: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; BKIN Technologies. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BKIN Technologies.		
137.02	S.H. Scott: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; BKIN Technologies Ltd. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); BKIN Technologies Ltd. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BKIN Technologies Ltd.	142.24	K.Y. Jung: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); FEMH Innovation Research Grant FEMH-2017-002.
137.04	S.H. Scott: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; BKIN Technologies. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BKIN Technologies.	142.28	S.A. Drew: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; College of Social and Behavioral Sciences Research Competition Internal Grant. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Dell Seed Program.
138.03	H. Kim: A. Employment/Salary (full or part-time); The Minnesota SCI and TBI Research Grant Program, Mayo Clinic. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH R01 NS052741, Mayo Clinic Center for Biomedical Discovery.	144.04	S. Wang: A. Employment/Salary (full or part-time); Hebrew University of Jerusalem.
138.04	M.V. Da Silva: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; São Paulo Research Foundation – FAPESP.	147.12	S.R. Datta: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Syllable Life Sciences Inc.
138.16	Y.P. Gerasimenko: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); shareholder interest in NeuroRecovery Technologies. V. Edgerton: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); shareholder interest in NeuroRecovery Technologies.	148.05	S. Offutt: A. Employment/Salary (full or part-time); Medtronic. Y. Kim: A. Employment/Salary (full or part-time); Medtronic. J. Alford: A. Employment/Salary (full or part-time); Medtronic.
138.18	K. Kobayakawa: A. Employment/Salary (full or part-time); UCLA full.	148.10	C. Guger: A. Employment/Salary (full or part-time); g.tec neurotechnology GmbH. G. Edlinger: A. Employment/Salary (full or part-time); g.tec Guger Technologies OG.
139.12	H. Takeuchi: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); JSPS.	149.24	D.A. Brown: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); HDT Robotics.
139.15	B. Evans: A. Employment/Salary (full or part-time); Firmenich. J. Brann: A. Employment/Salary (full or part-time); Firmenich. D. Raps: A. Employment/Salary (full or part-time); Firmenich. B.C. Smith: A. Employment/Salary (full or part-time); Firmenich. M.E. Rogers: A. Employment/Salary (full or part-time); Firmenich.	150.11	S.D. Perry: Other; CEO, Balancepro, Inc.
139.16	P. Pfister: A. Employment/Salary (full or part-time); Firmenich. B. Evans: A. Employment/Salary (full or part-time); Firmenich. R. Arroyave: A. Employment/Salary (full or part-time); Firmenich. S. Williams: A. Employment/Salary (full or part-time); Firmenich. M. Rogers: A. Employment/Salary (full or part-time); Firmenich.	151.14	J. Jonaitis: A. Employment/Salary (full or part-time); University of St Andrews. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Wellcome Trust Institutional Strategic Support Fund, Kaunas Industrial Water Supply.
		155.03	C. Lowry: F. Consulting Fees (e.g., advisory boards); Scientific Advisory Board of Immodulon Therapeutics.
		157.13	M. Mengoni: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); EMOJ.
		159.08	A.R. Ozburn: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Portland Veterans Affairs Medical Center.
		161.06	Q. Hu: A. Employment/Salary (full or part-time); University of Pennsylvania, Philadelphia, PA.
		161.15	F.G. Moeller: Other; Dr. Moeller is an uncompensated consultant for INDIVIOR and receives research support from Boehringer-Ingelheim.
		161.18	G.F. Moeller: Other; Dr Moeller is an uncompensated consultant for INDIVIOR and receives research support from Boehringer-Ingelheim.
		165.06	S. Ku: A. Employment/Salary (full or part-time); Leibniz Institute for Neurobiology. E. Atucha: A. Employment/

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	Salary (full or part-time); Leibniz Institute for Neurobiology. P. Vavra: A. Employment/Salary (full or part-time); Otto von Guericke University, Medical Faculty. K. Kaefer: A. Employment/Salary (full or part-time); Institute of Science and Technology Austria. M. Sauvage: A. Employment/Salary (full or part-time); Leibniz-Institute for Neurobiology.	174.05	M. Fiscella: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MaxWell Biosystems AG. J. Mueller: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MaxWell Biosystems AG. U. Frey: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MaxWell Biosystems AG.
165.20	S. Shatela: Other; NIH BUILD PODER Undergraduate Research Program.		
165.23	J.J. Winters: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Sunovion. I. Liberzon: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Sunovion.	174.06	D. Bono: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); applied for a patent on the TI stimulation technology, assigned to MIT. E.S. Boyden: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); applied for a patent on the TI stimulation technology, assigned to MIT. N. Grossman: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); applied for a patent on the TI stimulation technology, assigned to MIT.
168.02	J.S. Turek: A. Employment/Salary (full or part-time); Intel Corporation.		
168.15	L. Chukoskie: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BrainLeap Technologies.	175	Z. He: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Xintrum. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rugen.
169.10	K. Mitani: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Japan Society for the Promotion of Science. M. Kashino: A. Employment/Salary (full or part-time); Nippon Telegraph and Telephone Corporation.	176	C.C. McIntyre: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Surgical Information Sciences. F. Consulting Fees (e.g., advisory boards); Boston Scientific Neuromodulation, Kernel.
170.14	D.W. Beacham: A. Employment/Salary (full or part-time); Thermo Fisher Scientific. D.D. Cash: A. Employment/Salary (full or part-time); Thermo Fisher Scientific. A.W. York: A. Employment/Salary (full or part-time); Thermo Fisher Scientific. B. Boal: A. Employment/Salary (full or part-time); Thermo Fisher Scientific. O. Golub: A. Employment/Salary (full or part-time); Thermo Fisher Scientific. M. Wickman: A. Employment/Salary (full or part-time); Thermo Fisher Scientific. E.J. Welch: A. Employment/Salary (full or part-time); Thermo Fisher Scientific.	176.02	C.C. McIntyre: F. Consulting Fees (e.g., advisory boards); Boston Scientific, Kernel.
		184.03	H. Potter: F. Consulting Fees (e.g., advisory boards); NeuroEM Scientific Advisory Committee, Fortress Biotech Consultant.
		184.09	T.A. Bedrosian: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BehaviorCloud.
170.15	R. Fiorelli: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dignity Health. G. Sidhu: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dignity Health. N. Sanai: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dignity Health.	185.06	D. Gallagher: A. Employment/Salary (full or part-time); Create Fertility Centre.
		188.02	T. Afroz: A. Employment/Salary (full or part-time); AC Immune SA. T. Seredenina: A. Employment/Salary (full or part-time); AC Immune SA. V. Darmency: A. Employment/Salary (full or part-time); AC Immune SA. C. Boudou: A. Employment/Salary (full or part-time); AC Immune SA. J. Kocher: A. Employment/Salary (full or part-time); AC Immune SA. M. Chauhan: A. Employment/Salary (full or part-time); AC Immune SA. A. Marchand: A. Employment/Salary (full or part-time); AC Immune SA. H. Kroth: A. Employment/Salary (full or part-time); AC Immune SA. O. Adolfsson: A. Employment/Salary (full or part-time); AC Immune SA. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AC Immune SA. A. Purohit: A. Employment/Salary (full or part-time); Biogen, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen, Inc. D. Paterson: A. Employment/Salary (full or part-time); Biogen, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen, Inc. M. Neumann: F. Consulting Fees (e.g., advisory boards); AC Immune SA. J. Stoehr: A. Employment/Salary (full or part-time); AC Immune SA. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/
171.19	A.M. Zador: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); equity owner/founder of MapNeuro.		
171.22	A. Vaughan: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MapNeuro, Inc. H. Zhan: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MapNeuro Inc. A.M. Zador: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); MapNeuro, Inc.		
172.01	J.C. Morizio: A. Employment/Salary (full or part-time); Full Time. V. Go: A. Employment/Salary (full or part-time); Full time.		
173.07	C. Zhong: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; 31700921, JSGG20160429184327274, JSGG20160428140402911.		

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
	patent holder, excluding diversified mutual funds); AC Immune SA. A. Pfeifer: A. Employment/Salary (full or part-time); AC Immune SA. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AC Immune SA. A. Muhs: A. Employment/Salary (full or part-time); AC Immune SA. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AC Immune SA.		A. Employment/Salary (full or part-time); FujiFilm Cellular Dynamics. S. Hilcove: A. Employment/Salary (full or part-time); FujiFilm Cellular Dynamics. K. Kim: A. Employment/Salary (full or part-time); FujiFilm Cellular Dynamics. T. Burke: A. Employment/Salary (full or part-time); FujiFilm Cellular Dynamics.
188.05	J.C. Masdeu: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly, Biogen, Avanir, Novartis, Abbvie, Jannssen. F. Consulting Fees (e.g., advisory boards); General Electric Healthcare.	196.29	K. Xu: A. Employment/Salary (full or part-time); BrainXell Inc. Z. Du: A. Employment/Salary (full or part-time); BrainXell Inc. A. Dang: A. Employment/Salary (full or part-time); S-BIO, Sumitomo Bakelite Co., Ltd.
190.01	G. Chen: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); I am a co-founder of NeuExcell Therapeutics Inc.	197.01	M.J. Deepak: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Indian Institute of Science, Bangalore, India. V. Chauhan: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Indian Institute of Science, Bangalore, India. C. Channakeshava: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Indian Institute of Science, Bangalore, India. M. Tanwar: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Indian Institute of Science, Bangalore, India. D. Nair: A. Employment/Salary (full or part-time); Indian Institute of Science.
192.05	M.M. Schade: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Mobile Sleep Technologies (through the Pennsylvania State University). D.M. Roberts: A. Employment/Salary (full or part-time); Mobile Sleep Technologies. D. Gartenberg: A. Employment/Salary (full or part-time); Mobile Sleep Technologies. G.M. Mathew: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Mobile Sleep Technologies (through the Pennsylvania State University). O.M. Buxton: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Mobile Sleep Technologies (through the Pennsylvania State University).	199.05	M.A. Varney: A. Employment/Salary (full or part-time); NEUROLIXIS. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); PIERRE FABRE MÉDICAMENT. Other; Study was funded by PIERRE FABRE MÉDICAMENT. R. Depoortère: A. Employment/Salary (full or part-time); NEUROLIXIS. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); PIERRE FABRE MÉDICAMENT. Other; Author was employed at PIERRE FABRE MÉDICAMENT at time of experiments, study was funded by PIERRE FABRE MÉDICAMENT. L. Bardin: A. Employment/Salary (full or part-time); PIERRE FABRE MÉDICAMENT. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); PIERRE FABRE MÉDICAMENT. Other; Study was funded by PIERRE FABRE MÉDICAMENT. A. Newman-Tancredi: A. Employment/Salary (full or part-time); NEUROLIXIS. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); PIERRE FABRE MÉDICAMENT. Other; Author was employed at PIERRE FABRE MÉDICAMENT at time of experiments, study was funded by PIERRE FABRE MÉDICAMENT.
194.01	X. Yang: A. Employment/Salary (full or part-time); Genentech, Inc. S. Gao: A. Employment/Salary (full or part-time); Genentech, Inc. W. Theese: A. Employment/Salary (full or part-time); Genentech, Inc. J. Lin: A. Employment/Salary (full or part-time); Genentech, Inc. R. Weimer: A. Employment/Salary (full or part-time); Genentech, Inc. R. Bauer: A. Employment/Salary (full or part-time); Genentech, Inc.	199.18	J. Wamsteeker Cusulin: A. Employment/Salary (full or part-time); F. Hoffmann-La Roche Ltd. A. Caruso: A. Employment/Salary (full or part-time); F. Hoffmann-La Roche Ltd. M. Honer: A. Employment/Salary (full or part-time); F. Hoffmann-La Roche Ltd. D. Umbricht: A. Employment/Salary (full or part-time); F. Hoffmann-La Roche Ltd. B.J. Hall: A. Employment/Salary (full or part-time); F. Hoffmann-La Roche. E. Prinszen: A. Employment/Salary (full or part-time); F. Hoffmann-La Roche Ltd.
194.05	K. Lee: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); GenEdit.	199.26	A.O. Williams: A. Employment/Salary (full or part-time); Double Helix LLC. A. Agrawal: A. Employment/Salary (full or part-time); Double Helix Optics.
194.08	M. Rotunno: A. Employment/Salary (full or part-time); Sanofi, Inc. M. Lane: A. Employment/Salary (full or part-time); Sanofi, Inc. P. Wolf: A. Employment/Salary (full or part-time); Sanofi, Inc. W. Zhang: A. Employment/Salary (full or part-time); Sanofi, Inc. P. Oliva: A. Employment/Salary (full or part-time); Sanofi, Inc. K. Zhang: A. Employment/Salary (full or part-time); Sanofi, Inc. L. Shihabuddin: A. Employment/Salary (full or part-time); Sanofi, Inc. P. Sardi: A. Employment/Salary (full or part-time); Sanofi, Inc.	200.02	M.M. Czyzewska: A. Employment/Salary (full or part-time); Wroclaw Medical University. J.W. Mozrzymas: A. Employment/Salary (full or part-time); Wroclaw Medical University, University of Wroclaw.
195.05	J.L. Rubenstein: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Neurona.	200.08	K. Kambara: A. Employment/Salary (full or part-time); HiQScreen Sàrl. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI
196.16	H. Wei: Other; I have conflict of interest that I am member of advisory board of Eagle Pharmaceutical Company which produce and sell ryanodex, a new formula of dantrolene.		
196.25	N. Madfis: A. Employment/Salary (full or part-time); FujiFilm Cellular Dynamics. D. Rajesh: A. Employment/Salary (full or part-time); FujiFilm Cellular Dynamics. M. Hancock: A. Employment/Salary (full or part-time); FujiFilm Cellular Dynamics. S. Burton: A. Employment/Salary (full or part-time); FujiFilm Cellular Dynamics. C. Munn:		

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
	for a drug study, report that research relationship even if those funds come to an institution.; Boehringer Ingelheim Animal Health. D. Bertrand: A. Employment/Salary (full or part-time); HiQScreen Sàrl. S. Bertrand: A. Employment/Salary (full or part-time); HiQScreen Sàrl. Y. Moreno: A. Employment/Salary (full or part-time); Boehringer Ingelheim Animal Health. J. Harrington: A. Employment/Salary (full or part-time); Boehringer Ingelheim Animal Health.		time); Aptinix Inc. R.A. Kroes: A. Employment/Salary (full or part-time); Aptinix Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinix Inc. J.R. Moskal: A. Employment/Salary (full or part-time); Aptinix Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinix Inc.
200.17	S.J. Mennerick: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; SRA from Sage Therapeutics (not related to this study).	201.19	A. Pirone: A. Employment/Salary (full or part-time); Rodin therapeutics full time. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); rodin stock options. N.O. Fuller: A. Employment/Salary (full or part-time); Rodin therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rodin therapeutics. M. Hewitt: A. Employment/Salary (full or part-time); Rodin Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rodin Therapeutics. B.A. Lynch: A. Employment/Salary (full or part-time); Rodin therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rodin therapeutics. A. Rosenberg: A. Employment/Salary (full or part-time); Rodin therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rodin therapeutics. M. Ivarsson: A. Employment/Salary (full or part-time); Rodin therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Rodin therapeutics.
200.18	N. Absalom: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Lambert Initiative for Cannabinoid Therapeutics. M.T. Bowen: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Lambert Initiative for Cannabinoid Therapeutics. J. Arnold: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Lambert Initiative for Cannabinoid Therapeutics. I. Mcgregor: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Lambert Initiative for Cannabinoid Therapeutics. M. Chebib: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Lambert Initiative for Cannabinoid Therapeutics.	201.24	M. Kilgard: F. Consulting Fees (e.g., advisory boards); MicroTransponder.
200.24	S. Gee: A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. T. Kazboda: A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. S. McTighe: A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. B. Farley: A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. M. Quirk: A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. F. Salituro: A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. J. Doherty: A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. A. Robichaud: A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics. R. Hammond: A. Employment/Salary (full or part-time); Sage Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sage Therapeutics.	202.12	I. Ozsan: A. Employment/Salary (full or part-time); University of South Florida. X. Wang: A. Employment/Salary (full or part-time); University of South Florida. J.J. Sabbagh: A. Employment/Salary (full or part-time); University of South Florida. E.J. Weeber: A. Employment/Salary (full or part-time); University of South Florida. L.J. Blair: A. Employment/Salary (full or part-time); University of South Florida.
		206.07	K.R. Miller: A. Employment/Salary (full or part-time); Nanostring Technologies.
		206.20	P.C. Christensen: A. Employment/Salary (full or part-time); H.Lundbeck A/S. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; H. Lundbeck A/S. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); H. Lundbeck A/S. J.T. Pedersen: A. Employment/Salary (full or part-time); H.Lundbeck A/S. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; H. Lundbeck A/S. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); H. Lundbeck A/S. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); H.Lundbeck A/S.
201.18	R.M. Mitchell: A. Employment/Salary (full or part-time); Aptinix Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinix Inc. L.P. Cacheaux: A. Employment/Salary (full or part-time); Aptinix Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinix Inc. M. Bowers: A. Employment/Salary (full or part-time); Aptinix Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Aptinix Inc. A.I. Shanker: A. Employment/Salary (full or part-	206.21	I.F. Harrison: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Eli Lilly and Company. O. Ismail: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Eli Lilly and Company. M.F. Lythgoe: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Eli Lilly and Company. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Eli Lilly and Company.

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
206.25	A. Levine: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Plico Biotech Inc. L. Colnaghi: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Plico Biotech Inc.		options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Caspian Therapeutics Inc.
207.10	K. Huber: A. Employment/Salary (full or part-time); Signum Biosciences. J. Stock: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Signum Biosciences.	208.15	K.S. Ojala: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Shire Pharmaceuticals. Y. Li: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Shire Pharmaceuticals. M. Liang: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Shire Pharmaceuticals. P. Wipf: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Shire Pharmaceuticals. S. Meriney: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Shire Pharmaceuticals.
207.16	J.C. Hall: A. Employment/Salary (full or part-time); NeuroInitiative LLC. J.W. Ryan: A. Employment/Salary (full or part-time); NeuroInitiative LLC. B. Behrouz: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); NeuroInitiative LLC.	208.16	G.M. Thomsen: A. Employment/Salary (full or part-time); AveXis, Inc. K. Foust: A. Employment/Salary (full or part-time); AveXis, Inc. B.K. Kaspar: A. Employment/Salary (full or part-time); AveXis, Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); AveXis, Inc.
208.05	L. Boussicault: A. Employment/Salary (full or part-time); Pharnext. J. Laffaire: A. Employment/Salary (full or part-time); Pharnext. P. Rinaudo: A. Employment/Salary (full or part-time); Pharnext. S. Nabirotkin: A. Employment/Salary (full or part-time); Pharnext. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pharnext. N. Cholet: A. Employment/Salary (full or part-time); Pharnext. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pharnext. R. Hajj: A. Employment/Salary (full or part-time); Pharnext. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pharnext. D. Cohen: A. Employment/Salary (full or part-time); Pharnext. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pharnext.	208.18	K. Ling: A. Employment/Salary (full or part-time); Ionis Pharmaceuticals, Inc. L. Sun: A. Employment/Salary (full or part-time); Biogen. Y. Luo: A. Employment/Salary (full or part-time); Biogen. M. Zhang: A. Employment/Salary (full or part-time); Biogen. A. McCampbell: A. Employment/Salary (full or part-time); Biogen. F. Rigo: A. Employment/Salary (full or part-time); Ionis Pharmaceuticals, Inc.
208.08	D.G. Brown: A. Employment/Salary (full or part-time); AstraZeneca Pharmaceuticals. C. Bardelle: A. Employment/Salary (full or part-time); AstraZeneca. D. Murray: A. Employment/Salary (full or part-time); AstraZeneca. L. Leach: A. Employment/Salary (full or part-time); AstraZeneca. C. Stacey: A. Employment/Salary (full or part-time); AstraZeneca. I. Feierberg: A. Employment/Salary (full or part-time); AstraZeneca. H.J. Wobst: A. Employment/Salary (full or part-time); AstraZeneca. N.J. Brandon: A. Employment/Salary (full or part-time); AstraZeneca.	208.20	M. Hendrickson: A. Employment/Salary (full or part-time); BrainXell, Inc. Z. Du: A. Employment/Salary (full or part-time); BrainXell, Inc.
208.09	P. Jafar-Nejad: A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. B. Powers: A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. A. Soriano: A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. J. Matson: A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. B. DeBrosse-Serra: A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. P. Narayanan: A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. C. Mazur: A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. E.E. Swayze: A. Employment/Salary (full or part-time); Ionis Pharmaceuticals. F. Rigo: A. Employment/Salary (full or part-time); Ionis Pharmaceuticals.	208.21	J. Ichida: Other; Co-founder of AcuraStem.
208.10	B.K. Kaspar: A. Employment/Salary (full or part-time); AVEXIS, INC. M. Marsala: Other; Co-founder of NEURGAIN TECHNOLOGIES.	208.26	K.L. Marshall: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Merck. C. Tallon: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Merck. M.E. Kennedy: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Merck. M.H. Farah: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Merck.
208.12	C. Korth: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Prosetta Biosciences Inc. V. Lingappa: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Prosetta Biosciences Inc.	208.30	S.L. Dominguez: A. Employment/Salary (full or part-time); full time, Genentech. A. Sengupta-Ghosh: A. Employment/Salary (full or part-time); full time, Genentech. Z. Jiang: A. Employment/Salary (full or part-time); full time, Genentech. T. Earr: A. Employment/Salary (full or part-time); full time, Genentech. J. Imperio: A. Employment/Salary (full or part-time); full time, Genentech. L. Xie: A. Employment/Salary (full or part-time); full time, Genentech. K. Barck: A. Employment/Salary (full or part-time); full time, Genentech. J. Eastham-Anderson: A. Employment/Salary (full or part-time); full time, Genentech. H. Cai: A. Employment/Salary (full or part-time); full time, Genentech. G. Ayalon: A. Employment/Salary (full or part-time); full time, Genentech. R. Carano: A. Employment/Salary (full or part-time); full time, Genentech. A. Easton: A. Employment/Salary (full or part-time); full time, Genentech.
208.14	A. Javaherian: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Caspian Therapeutics Inc. S. Finkbeiner: E. Ownership Interest (stock, stock	210.06	P.A. Caviedes: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pablo Caviedes: Patent protection on CNh and CTb cells lines.

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
210.10	D.E. Strohlic: A. Employment/Salary (full or part-time); Biogen. G. Srubek Tomassy: A. Employment/Salary (full or part-time); biogen. S. Su: A. Employment/Salary (full or part-time); biogen. A. McCurley: A. Employment/Salary (full or part-time); biogen. K. Ling: A. Employment/Salary (full or part-time); ionis. B. Li: A. Employment/Salary (full or part-time); biogen. D. Ujla: A. Employment/Salary (full or part-time); biogen. K. Richter: A. Employment/Salary (full or part-time); biogen. L. Sun: A. Employment/Salary (full or part-time); biogen. Y. Luo: A. Employment/Salary (full or part-time); biogen. M. Zhang: A. Employment/Salary (full or part-time); biogen. J. Amacker: A. Employment/Salary (full or part-time); biogen. G. Marsh: A. Employment/Salary (full or part-time); biogen. L. Jandreski: A. Employment/Salary (full or part-time); biogen. F. Rigo: A. Employment/Salary (full or part-time); Ionis. C.E. Henderson: A. Employment/Salary (full or part-time); biogen. A. McCampbell: A. Employment/Salary (full or part-time); biogen.		Committee on Standards for Athletic Equipment as chair of its Scientific Advisor. R.A. Stern: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; received research funding from the NFL, the NFL Players' Association, and Avid Radiopharmaceuticals Inc. F. Consulting Fees (e.g., advisory boards); is a paid consultant to Amaranthus BioScience Holdings Inc, Avanir Pharmaceuticals Inc, and Biogen; and receives royalties for published neuropsychological tests from Psychological Assessment Resources. A.C. McKee: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.;
210.15	N. Delétage: A. Employment/Salary (full or part-time); Employee of Neuronax. M. Blanc: A. Employment/Salary (full or part-time); Employee of Neuronax.	214.02	M.J. Caterina: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Michael J. Caterina - inventor on a patent on the use of products related to TRPV1, which is licensed through UCSF and Merck and may be eligible royalties in association with that relationship. This.
210.17	N.A. Labba: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Smartfish AS contributed the omega 3 products and control juice that were used in the study.		
210.21	R. Chandran: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Remya Chandran is designated as an inventor in the provisional patent application No. 201841015699, that includes the data mentioned in the abstract, Kannur University. E. Koti Reddy: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Eeda Koti Reddy is designated as an inventor in the provisional patent application No. 201841015699, that includes the data mentioned in the abstract, Vignan's Foundation for Science, Technology, and Research. E.J. Variyar: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); E. Jayadevi Variyar is designated as an inventor in the provisional patent application No. 201841015699, that includes the data mentioned in the abstract, Kannur University. S. Anwar: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Shaik Anwar is designated as an inventor in the provisional patent application No. 201841015699, that includes the data mentioned in the abstract, Vignan's Foundation for Science, Technology, and Research. S. Chittalakkottu: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Sadasivan Chittalakkottu is designated as an inventor in the provisional patent application No. 201841015699, that includes the data mentioned in the abstract, Kannur University. R.V. Omkumar: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Ramakrishnapillai Vyomakesannair Omkumar is designated as an inventor in the provisional patent application No. 201841015699, that includes the data mentioned in the abstract, Rajiv Gandhi Centre For Biotechnology.	214.15	S. Lee: A. Employment/Salary (full or part-time); University of Cincinnati. R. Tonello: A. Employment/Salary (full or part-time); University of Cincinnati. T. Berta: A. Employment/Salary (full or part-time); University of Cincinnati.
		215.05	K. Yasuda: A. Employment/Salary (full or part-time); euglena Co., Ltd.
		215.06	M. Roche: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Alkermes. D.P. Finn: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Alkermes.
		216.01	N. Bode: A. Employment/Salary (full or part-time); Integrated DNA Technologies. M. Behlke: A. Employment/Salary (full or part-time); Integrated DNA Technologies. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Integrated DNA Technologies.
		216.06	J.E. Zadina: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Patent holder for compound ZH853.
		216.11	J. Gilbert: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Boston Scientific. T. Zhang: A. Employment/Salary (full or part-time); Boston Scientific Corporation. R. Esteller: A. Employment/Salary (full or part-time); Boston Scientific Corporation. W.M. Grill: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Boston Scientific Corporation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Boston Scientific Corporation. F. Consulting Fees (e.g., advisory boards); Boston Scientific Corporation.
212.03	A.L. Moore: A. Employment/Salary (full or part-time); LearningRx.	216.16	N. Prakash: A. Employment/Salary (full or part-time); City of Hope Medical Group. G. Varatkar: A. Employment/Salary (full or part-time); City of Hope National Cancer Center. R. Vanderbrink: A. Employment/Salary (full or part-time); City of Hope National Cancer Center. S.
212.04	T. Miller: A. Employment/Salary (full or part-time); LearningRx part-time employment. A.L. Moore: A. Employment/Salary (full or part-time); LearningRx.		
212.16	C.J. Nowinski: F. Consulting Fees (e.g., advisory boards); receives travel reimbursements for various unpaid advisory roles from the NFL Players' Association, Major League Lacrosse, WorldWrestling Entertainment (WWE), National Collegiate Athletic Association (. R.C. Cantu: F. Consulting Fees (e.g., advisory boards); receives compensation from the NFL as senior advisor to its Head, Neck and Spine Committee, from the National Operating		

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
	Eggleston: A. Employment/Salary (full or part-time); City of Hope National Cancer Center. I. Chilian: A. Employment/Salary (full or part-time); City of Hope Medical Group. A. Leitner: A. Employment/Salary (full or part-time); City of Hope Medical Group. J. Hayter: A. Employment/Salary (full or part-time); City of Hope National Cancer Center. K. Venkataraman: A. Employment/Salary (full or part-time); City of Hope Medical Group.		B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; National Science Foundation.
216.17	J. Gilbert: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Boston Scientific Corporation. T. Zhang: A. Employment/Salary (full or part-time); Boston Scientific Corporation. R. Esteller: A. Employment/Salary (full or part-time); Boston Scientific Corporation. W.M. Grill: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Boston Scientific Corporation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Boston Scientific Corporation. F. Consulting Fees (e.g., advisory boards); Boston Scientific Corporation.	221.27	M. Spivak: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dog Star Technologies. G.S. Berns: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Dog Star Technologies.
216.18	T. Zhang: A. Employment/Salary (full or part-time); Boston Scientific. N. Brill: A. Employment/Salary (full or part-time); Boston Scientific. W. Gu: A. Employment/Salary (full or part-time); Boston Scientific. M. Moffitt: A. Employment/Salary (full or part-time); Boston Scientific. S. Hochman: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Boston Scientific.	222.17	S.C. Dobri: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NSERC Engage Grant with BKIN Technologies, Ltd. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); BKIN Technologies, Ltd. (technical support). S.H. Scott: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Receives grant funding to work with BKIN Technologies. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Co-founder and Chief Scientific Officer of BKIN Technologies, Ltd. T. Davies: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NSERC Engage Grant with BKIN Technologies, Ltd.
216.20	S. Kuo: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Boston Scientific Corporation. T. Zhang: A. Employment/Salary (full or part-time); Neurobiology & Surgery. R. Esteller: A. Employment/Salary (full or part-time); Boston Scientific Corporation. M. Moffitt: A. Employment/Salary (full or part-time); Boston Scientific Corporation. W.M. Grill: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Boston Scientific Corporation. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Boston Scientific Corporation. F. Consulting Fees (e.g., advisory boards); Boston Scientific Corporation.	225.15	D.J. Weber: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Battelle Memorial Institute. F. Consulting Fees (e.g., advisory boards); Battelle Memorial Institute.
219.21	M.S. Hassanpour: A. Employment/Salary (full or part-time); Department of Ophthalmology and Visual Science, Moran Eye Institute, University of Utah. Other; NIH grants R01 EY019743, R01 EY026812 and U01 NS099702, NSF Grants IOS-1355075 and EAGER 1649923, Research to Prevent Blindness. S. Merlin: A. Employment/Salary (full or part-time); Department of Ophthalmology and Visual Science, Moran Eye Institute, University of Utah, School of Science and Health, Western Sydney University. L. Nurminen: A. Employment/Salary (full or part-time); Department of Ophthalmology and Visual Science, Moran Eye Institute, University of Utah. F. Federer: A. Employment/Salary (full or part-time); Department of Ophthalmology and Visual Science, Moran Eye Institute, University of Utah. A. Angelucci: A. Employment/Salary (full or part-time); Department of Ophthalmology and Visual Science, Moran Eye Institute, University of Utah.	225.26	E. López-Larraz: A. Employment/Salary (full or part-time); University of Tuebingen.
221.20	D. Yeo: A. Employment/Salary (full or part-time); Nanyang Technological University. C. Pollack: A. Employment/Salary (full or part-time); Vanderbilt University. G. Price: A. Employment/Salary (full or part-time); Vanderbilt University.	226.03	C. Kapeller: A. Employment/Salary (full or part-time); g.tec. F. Cao: A. Employment/Salary (full or part-time); g.tec. C. Guger: A. Employment/Salary (full or part-time); g.tec.
		226.07	Y. Terasawa: A. Employment/Salary (full or part-time); Nidek Co., Ltd.
		226.08	W.H. Bosking: A. Employment/Salary (full or part-time); Second Sight Medical Products Inc.
		226.09	W.H. Bosking: A. Employment/Salary (full or part-time); Second Sight Medical Products. N. Pouratian: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Second Sight Medical Products. F. Consulting Fees (e.g., advisory boards); Second Sight Medical Products.
		227.12	T.L. Wallace: A. Employment/Salary (full or part-time); BlackThorn Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. W.J. Martin: A. Employment/Salary (full or part-time); BlackThorn Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. A.F.T. Arnsten: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; BlackThorn Therapeutics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Royalties from USA sales of Intuniv (nongeneric) from Shire Pharma.

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
228.10	M.A. Vizzard: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIHRO1-DK060481, NIHRO1-DK051369.		Janssen Pharmaceutical Research and Development. S. Yun: A. Employment/Salary (full or part-time); Janssen Pharmaceutical Research and Development. B. Zhu: A. Employment/Salary (full or part-time); Janssen Pharmaceutical Research and Development. C. Flores: A. Employment/Salary (full or part-time); Johnson and Johnson. M. Macielag: A. Employment/Salary (full or part-time); Janssen Pharmaceutical Research and Development. P.J. Connolly: A. Employment/Salary (full or part-time); Janssen Pharmaceutical Research and Development. K. Chevalier: A. Employment/Salary (full or part-time); Janssen Pharmaceutical Research and Development. S. Zhang: A. Employment/Salary (full or part-time); Janssen Pharmaceutical Research and Development. M.K. Ameriks: A. Employment/Salary (full or part-time); Janssen Pharmaceutical Research and Development. C. Dugovic: A. Employment/Salary (full or part-time); Janssen Pharmaceutical Research and Development. T. Lovenberg: A. Employment/Salary (full or part-time); Janssen Pharmaceutical Research and Development. P. Bonaventure: A. Employment/Salary (full or part-time); Janssen Pharmaceutical Research and Development.
228.16	J.I. Ogren: A. Employment/Salary (full or part-time); Micro-Leads, Inc. G. Chitnis: A. Employment/Salary (full or part-time); Micro-Leads, Inc. L. Wong: A. Employment/Salary (full or part-time); Micro-Leads, Inc. B.L. McLaughlin: A. Employment/Salary (full or part-time); Micro-Leads, Inc.		231.03 A.A. Pieper: F. Consulting Fees (e.g., advisory boards); Proneurotech.
228.23	J.A. Hokanson: A. Employment/Salary (full or part-time); Phil Milliken, Arun Sridhar. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Galvani Bioelectronics. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Warren Grill, James Hokanson, Christopher Langdale. P. Milliken: A. Employment/Salary (full or part-time); Galvani Bioelectronics. A. Sridhar: A. Employment/Salary (full or part-time); Galvani Bioelectronics. W.M. Grill: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Galvani Bioelectronics.	231.04	F. Padberg: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); neuroConn GmbH, Mag&More GmbH, Brainsway Inc. F. Consulting Fees (e.g., advisory boards); Mag&More GmbH, neuroCare Group, European Advisory Board.
230.01	B. Chen: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Columbia University. R.A. Brachman: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Columbia University. C.A. Denny: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Columbia University.	231.05	M. Rasenick: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Lundbeck S.A. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Pax Neuroscience.
230.04	J.A. Prenderville: A. Employment/Salary (full or part-time); Transpharmation Ireland Ltd. E. Sokolowska: A. Employment/Salary (full or part-time); Transpharmation Ireland Ltd. T. Burke: A. Employment/Salary (full or part-time); Transpharmation Ireland Ltd. M. Bianchi: A. Employment/Salary (full or part-time); Transpharmation Ireland Ltd.	231.06	S.F.W. Neggers: Other; minority share in Brain Science Tools BV, a company manufacturing stereotactic navigation technology for TMS. This did not influence the design, analysis or reporting.
230.10	K. Mitsui: A. Employment/Salary (full or part-time); ONO Pharmaceutical Co., Ltd. A. Kishi: A. Employment/Salary (full or part-time); ONO Pharmaceutical Co., Ltd. T. Niwa: A. Employment/Salary (full or part-time); ONO Pharmaceutical Co., Ltd. S. Ueno: A. Employment/Salary (full or part-time); ONO Pharmaceutical Co., Ltd. T. Kitajima: A. Employment/Salary (full or part-time); ONO Pharmaceutical Co., Ltd. S. Katsumata: A. Employment/Salary (full or part-time); ONO Pharmaceutical Co., Ltd.	231.20	J.I. Lissemore: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Brainsway Ltd., Magventure Inc., Indivior. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen Inc. F. Consulting Fees (e.g., advisory boards); Sunovion Inc. B.H. Mulsant: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Bristol-Myers Squibb, Eli-Lilly, Pfizer. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); General Electric. Z.J. Daskalakis: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Brainsway Ltd., Magventure Inc. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Biogen Inc. F. Consulting Fees (e.g., advisory boards); Sunovion Inc. D.M. Blumberger: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Brainsway Ltd., Magventure Inc., Indivior.
230.12	P.M. Pitychoutis: A. Employment/Salary (full or part-time); Full-time employee.	231.21	M.M. Rasenick: C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Lundbeck. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); PAX Neuroscience.
230.13	P.M. Pitychoutis: A. Employment/Salary (full or part-time); Full-time employee.	232.13	T. Maurice: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); TM is inventor of the Hamlet test patent.
230.14	P.M. Pitychoutis: A. Employment/Salary (full or part-time); Full-time employee.	232.16	C. Tyszkiewicz: A. Employment/Salary (full or part-time); Pfizer.
230.16	C.A. Zarate: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Listed as co-inventor on patents for ketamine and metabolites in depression treatment. Patent rights assigned to United States government, but he will share a percentage of any royalties received.	236.09	A.M. Patino: A. Employment/Salary (full or part-time); All authors are full time employees at Alkermes Inc. C.B. Puryear: A. Employment/Salary (full or part-time); All
231.01	R.M. Wyatt: A. Employment/Salary (full or part-time); Janssen Pharmaceutical Research and Development. I. Fraser: A. Employment/Salary (full or part-time); Janssen Pharmaceutical Research and Development. N. Welty: A. Employment/Salary (full or part-time); Janssen Pharmaceutical Research and Development. B. Lord: A. Employment/Salary (full or part-time);		

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	authors are full time employees at Alkermes Inc. C. Sanchez: A. Employment/Salary (full or part-time); All authors are full time employees at Alkermes Inc.		Foundation. E.B. Torres: Other; The Nancy Lurie Marks Family Foundation, NJ Governor's Council for the Research and Treatments of Autism.
236.18	S. Ferguson: F. Consulting Fees (e.g., advisory boards); GlaxoSmithKline Consumer Healthcare, Chrono Therapeutics, Johnson and Johnson.	251.11	S. Deoni: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Nestec Ltd (PI).
236.24	Y. Li: A. Employment/Salary (full or part-time); Alkermes Inc. M.R. Huff: A. Employment/Salary (full or part-time); Alkermes, Inc. C.B. Puryear: A. Employment/Salary (full or part-time); Alkermes, Inc. C. Sanchez: A. Employment/Salary (full or part-time); Alkermes, Inc.	252.05	K. Akiyama: F. Consulting Fees (e.g., advisory boards); Taisho Toyama Pharmaceutical Co., Ltd.
237.12	D.L. Dorchak: A. Employment/Salary (full or part-time); Casino Lethbridge.	252.09	M. Fowler: A. Employment/Salary (full or part-time); Astellas Research Inst of America. A. Sugiyama: A. Employment/Salary (full or part-time); Astellas Research Inst of America. K. Tamaki: A. Employment/Salary (full or part-time); Astellas Research Inst of America. J. Hill: A. Employment/Salary (full or part-time); Astellas Research Inst of America. S. Honda: A. Employment/Salary (full or part-time); Astellas Research Inst of America. M. Adachi: A. Employment/Salary (full or part-time); Astellas Research Institute of America.
238.01	A. Rajagopalan Echambadi: A. Employment/Salary (full or part-time); Johns Hopkins University. J.H. Huntley: A. Employment/Salary (full or part-time); Johns Hopkins University School of Medicine. S.P. Mysore: A. Employment/Salary (full or part-time); Johns Hopkins University. B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; NIH R01EY027718.	252.10	S. Kantor: A. Employment/Salary (full or part-time); TRANSPHARMATION LTD. S.C. Leiser: A. Employment/Salary (full or part-time); Psychogenics Inc. D. Anderson: A. Employment/Salary (full or part-time); Cadent Ther. Inc. R. Volkmann: A. Employment/Salary (full or part-time); Cadent Ther. Inc. N. Upton: A. Employment/Salary (full or part-time); Transpharmation Ltd. T. Piser: A. Employment/Salary (full or part-time); Cadent Ther. Inc.
238.14	J.A. McGaughy: A. Employment/Salary (full or part-time); University of New Hampshire.	252.12	H.Y. Meltzer: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Sumitomo Dainippon Pharma Co., Ltd, Japan.
238.18	S.M. Tyree: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Boehringer Ingelheim Pharma GmbH & Co. KG. J.R. Nicholson: A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma GmbH & Co.KG. M. Von Heimendahl: A. Employment/Salary (full or part-time); Boehringer Ingelheim Pharma GmbH & Co.KG. L. de Lecea: B. Contracted Research/Research Grant (principal investigator for a drug study, collaborator or consultant and pending and current grants). If you are a PI for a drug study, report that research relationship even if those funds come to an institution.; Boehringer Ingelheim Pharma GmbH & Co. KG.	252.13	R. Kallepalli: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. A. Vuyyuru: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. S. Yathavakilla: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. J. Fernandes: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. J. Tadiparthi: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. N. Bogaraju: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. P. Singh: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. A. Mohammed: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. A.K. Shinde: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. V. Kamuju: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. S. Gandipudi: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. S. Petlu: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. N. Praveena: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. V. Mekala: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. R. Subramanian: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd. R. Nirogi: A. Employment/Salary (full or part-time); Suven Life Sciences Ltd.
239.12	Y. Huang: F. Consulting Fees (e.g., advisory boards); E-Scape Bio, Inc.	253.07	O. Zelphati: A. Employment/Salary (full or part-time); OZBiosciences.
240.11	C. Winstanley: A. Employment/Salary (full or part-time); Michael Smith Foundation. F. Consulting Fees (e.g., advisory boards); Shire Pharmaceutical.	253.11	M. Apostol: A. Employment/Salary (full or part-time); ADRx, Inc. G. Naumann: A. Employment/Salary (full or part-time); ADRx, Inc. M. Schultze: A. Employment/Salary (full or part-time); ADRx, Inc. I. Panteleeva: A. Employment/Salary (full or part-time); Diagenode. J. Kroonen: A. Employment/Salary (full or part-time); Diagenode. R. Saxena: A. Employment/Salary (full or part-time); Diagenode. J. Bertelsen: A. Employment/Salary (full or part-time); Diagenode. G. Berguet: A. Employment/Salary (full or part-time); Diagenode. J. Treanor: A. Employment/Salary (full or part-time); ADRx, Inc.
240.13	C.A. Winstanley: Other; Shire.	254.01	W.D. Pack: A. Employment/Salary (full or part-time); MBF Bioscience. N. Roussel: A. Employment/Salary (full or part-time); MBF Bioscience. A.D. LeDuc: A. Employment/Salary (full or part-time); MBF Bioscience. B.S. Eastwood: A. Employment/Salary (full or part-time); MBF Bioscience.
240.14	S. Hobson: Other; CNS Disease Research, Boehringer Ingelheim Pharma GmbH & Co KG. A.J. Grottick: Other; CNS Drug Discovery, Beacon Discovery Inc.		
240.15	C.A. Winstanley: F. Consulting Fees (e.g., advisory boards); Shire.		
241.03	J. Ozga: A. Employment/Salary (full or part-time); West Virginia University. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Society for the Advancement of Behavior Analysis Innovative Student Dissertation Grant. K.G. Anderson: A. Employment/Salary (full or part-time); West Virginia University.		
243.06	V. Zlatkina: A. Employment/Salary (full or part-time); Rogue Research Inc. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Rogue Research Inc. S. Frey: A. Employment/Salary (full or part-time); Rogue Research Inc. C. Other Research Support (receipt of drugs, supplies, equipment or other in-kind support); Rogue Research Inc.		
244.13	P.K. Mishra: A. Employment/Salary (full or part-time); INSTEM.		
244.15	M.J. Schnitzer: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Inscopix Inc. F. Consulting Fees (e.g., advisory boards); Inscopix Inc.		
246.04	J. Ryu: Other; NJ Governor's Council for the Research and Treatments of Autism, The Nancy Lurie Marks Family		

PRESENTATION NUMBER	STATEMENT	PRESENTATION NUMBER	STATEMENT
	S.J. Tappan: A. Employment/Salary (full or part-time); MBF Bioscience. P.J. Angstman: A. Employment/Salary (full or part-time); MBF Bioscience. J.R. Glaser: A. Employment/Salary (full or part-time); MBF Bioscience.		
254.11	A. Anticevic: E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); BlackThorn Therapeutics. F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics. G. Repovs: F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics.		
254.13	G. Repovs: F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics. A. Anticevic: F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics. J. Murray: F. Consulting Fees (e.g., advisory boards); BlackThorn Therapeutics.		
254.14	N.J. O'Connor: A. Employment/Salary (full or part-time); full-time. B.S. Eastwood: A. Employment/Salary (full or part-time); full-time. S. Gerfen: A. Employment/Salary (full or part-time); full-time. S.J. Tappan: A. Employment/Salary (full or part-time); full-time. P.J. Angstman: A. Employment/Salary (full or part-time); full-time. J.R. Glaser: A. Employment/Salary (full or part-time); full-time.		
255.11	N. Asbrock: A. Employment/Salary (full or part-time); MilliporeSigma. V.T. Chu: A. Employment/Salary (full or part-time); MilliporeSigma.		
255.13	H.B. Hayes: A. Employment/Salary (full or part-time); Axion BioSystems. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Axion BioSystems. A.M. Nicolini: A. Employment/Salary (full or part-time); Axion BioSystems. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Axion BioSystems. C.A. Arrowood: A. Employment/Salary (full or part-time); Axion BioSystems. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Axion BioSystems. I.P. Clements: A. Employment/Salary (full or part-time); Axion BioSystems. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Axion BioSystems. D.C. Millard: A. Employment/Salary (full or part-time); Axion BioSystems. E. Ownership Interest (stock, stock options, royalty, receipt of intellectual property rights/patent holder, excluding diversified mutual funds); Axion BioSystems.		

Hotel Floor Plans

MANCHESTER GRAND HYATT

1 Market Pl
San Diego, CA 92101

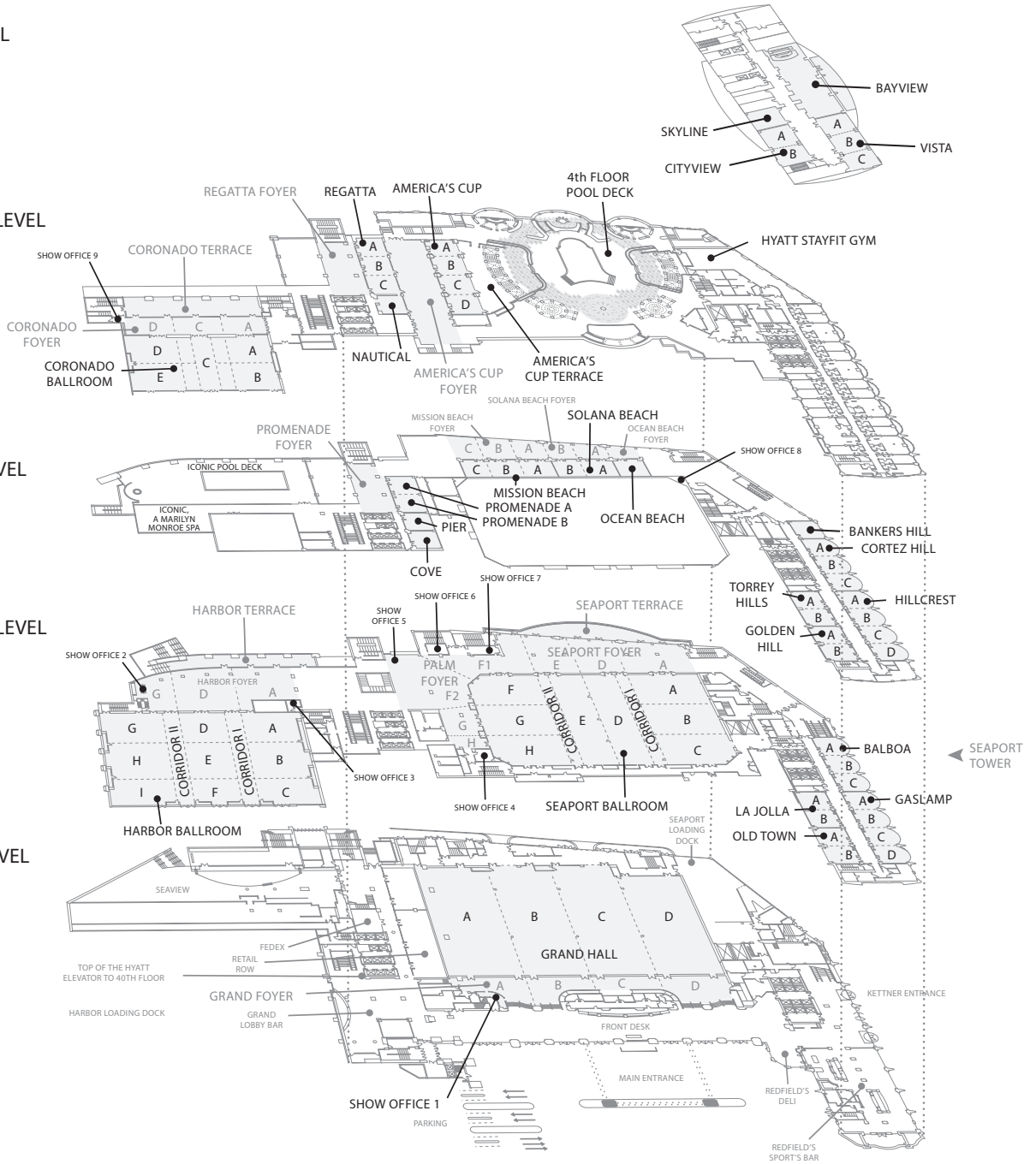
32ND LEVEL

FOURTH LEVEL

THIRD LEVEL

SECOND LEVEL

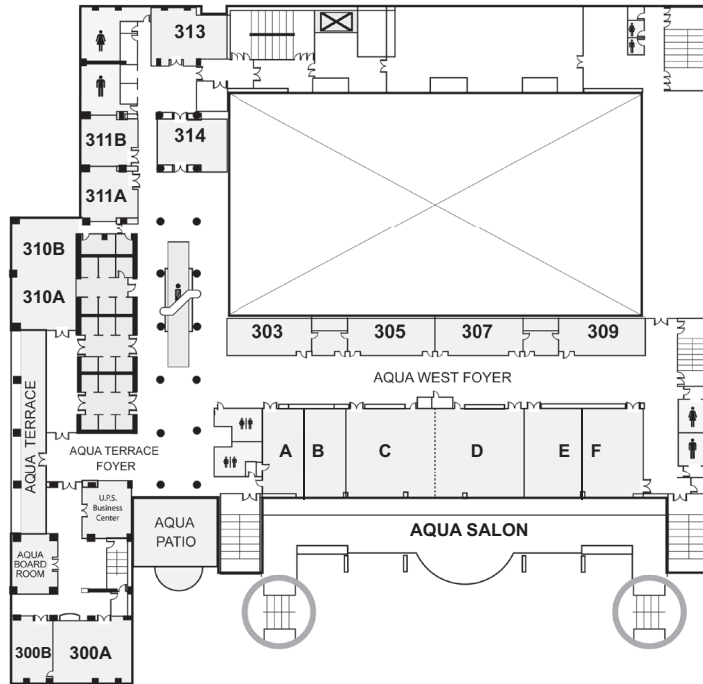
LOBBY LEVEL



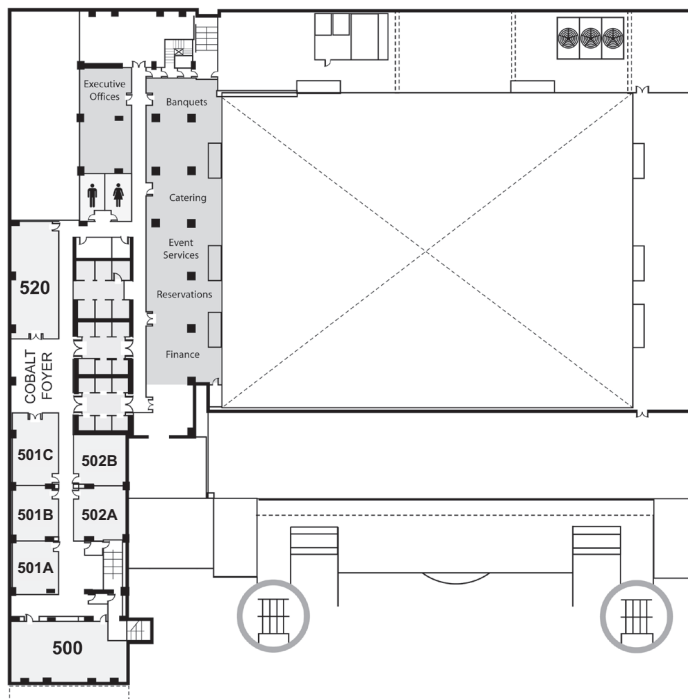
HILTON SAN DIEGO BAYFRONT

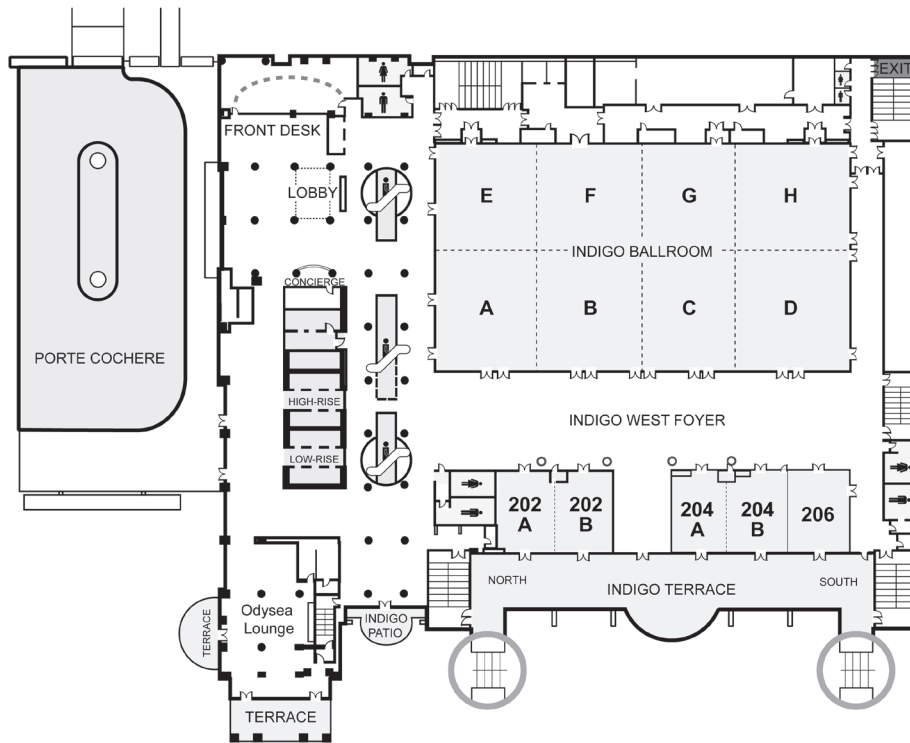
1 Park Blvd
San Diego, CA 92101

AQUA LEVEL

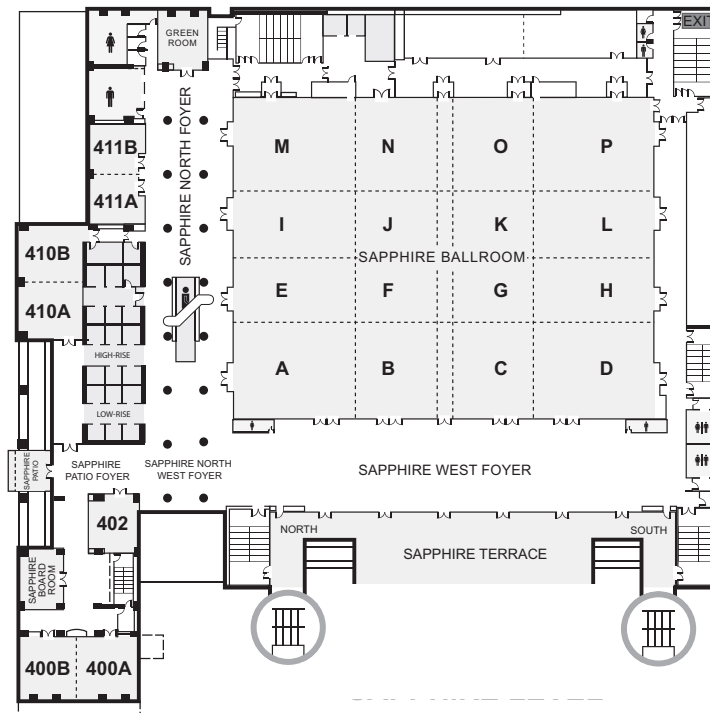


COBALT LEVEL





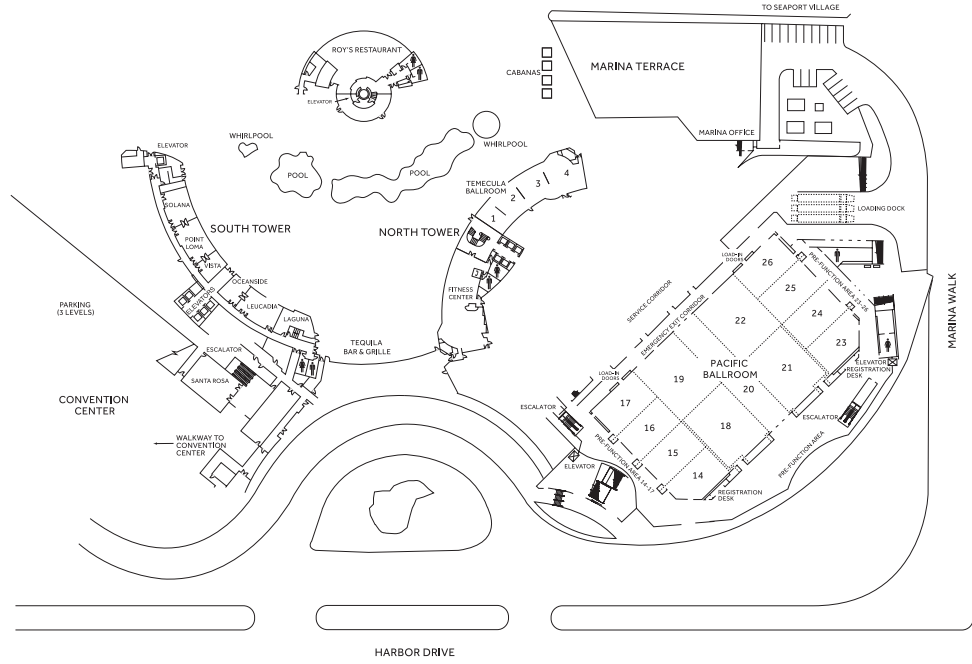
INDIGO LEVEL



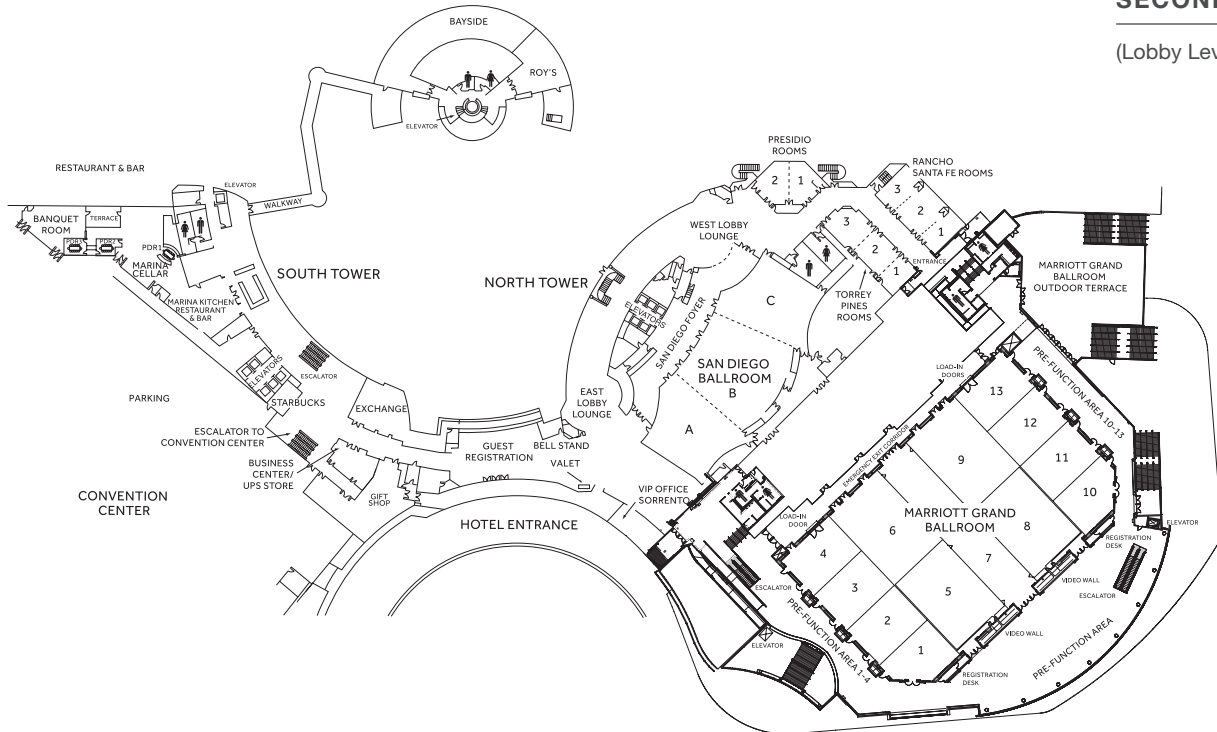
SAPPHIRE LEVEL

MARRIOTT MARQUIS SAN DIEGO MARINA

333 W Harbor Dr
San Diego, CA 92101



FIRST FLOOR
(Ground Level)



SECOND FLOOR
(Lobby Level)

SOUTH TOWER

Second Floor

Bayside

1st Floor

Laguna

Leucadia

Oceanside

Point Loma

Santa Rosa

Solana

Vista

3rd Floor

Balboa

Cardiff

Carlsbad

Del Mar

Encinitas

Marina Ballroom D-G

Miramar

Mission Hills

Palomar

4th Floor

Catalina

Coronado

Dana Point

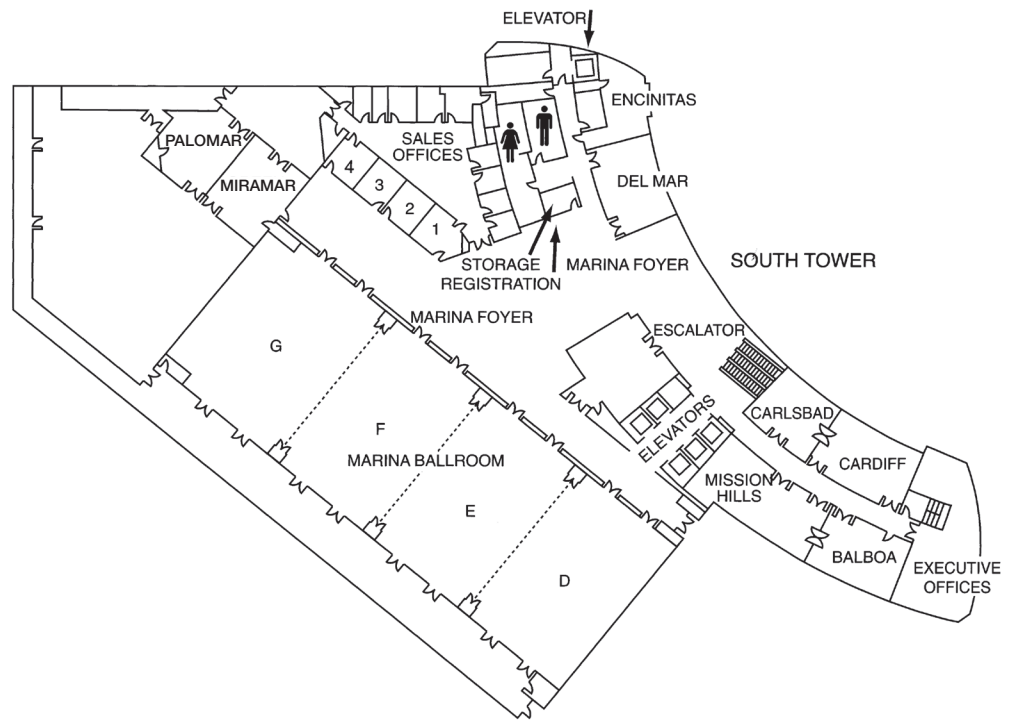
La Costa

La Jolla

La Mesa

Malibu

Newport Beach



NORTH TOWER

Lobby Level

Marriott Grand Ballroom 1-13

Presidio 1-2

Rancho Santa Fe 1-3

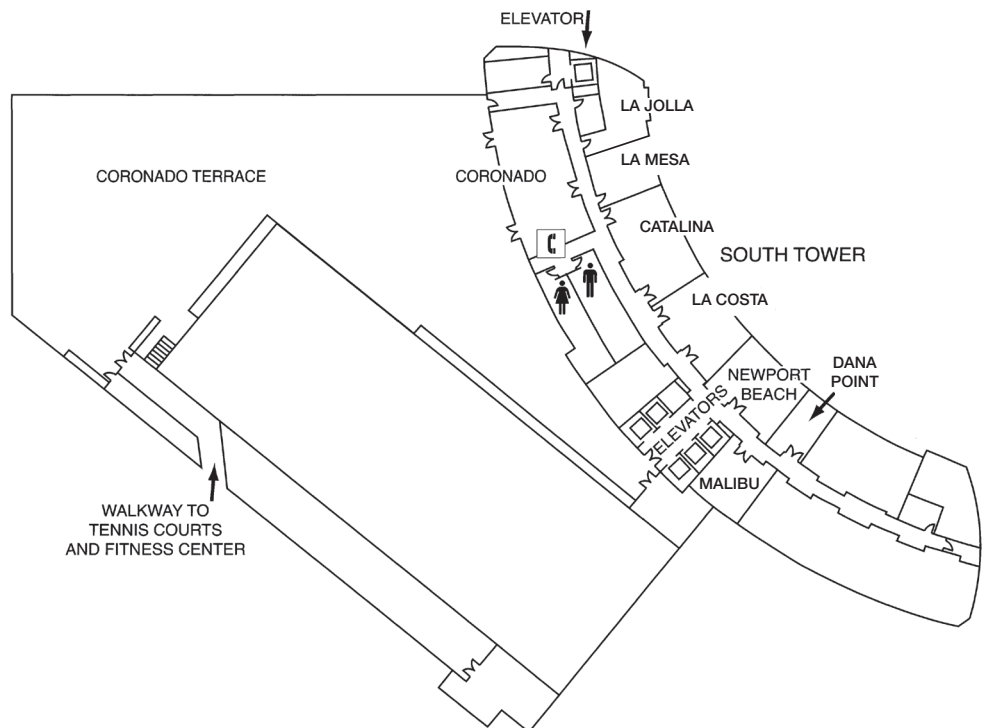
San Diego Ballrooms A-C

Torrey Pines 1-3

1st Floor

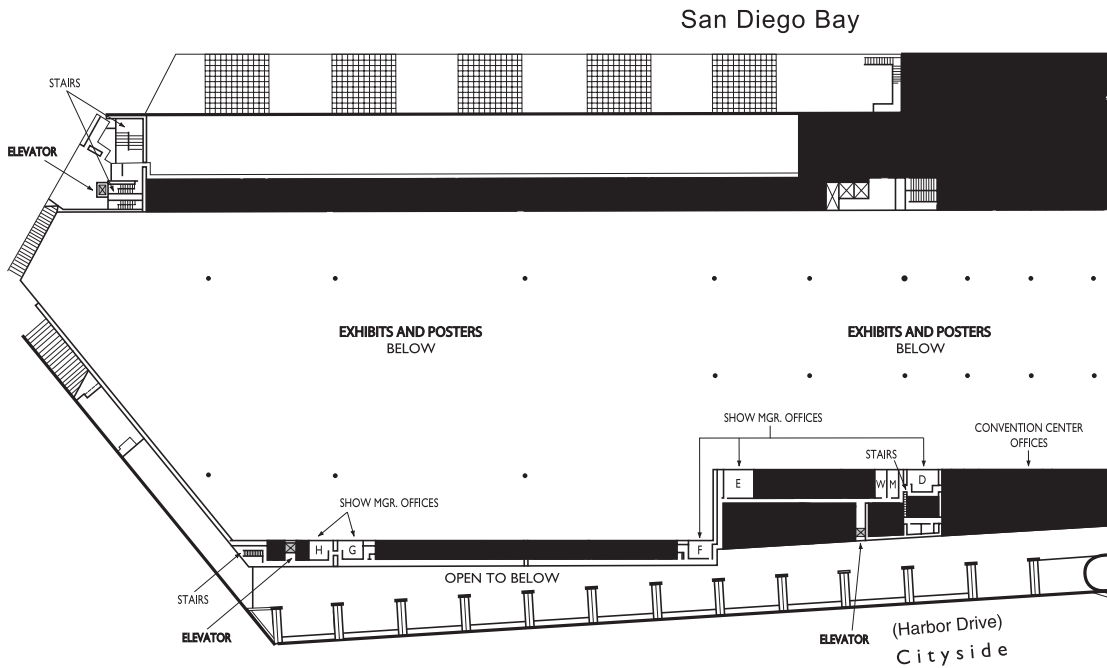
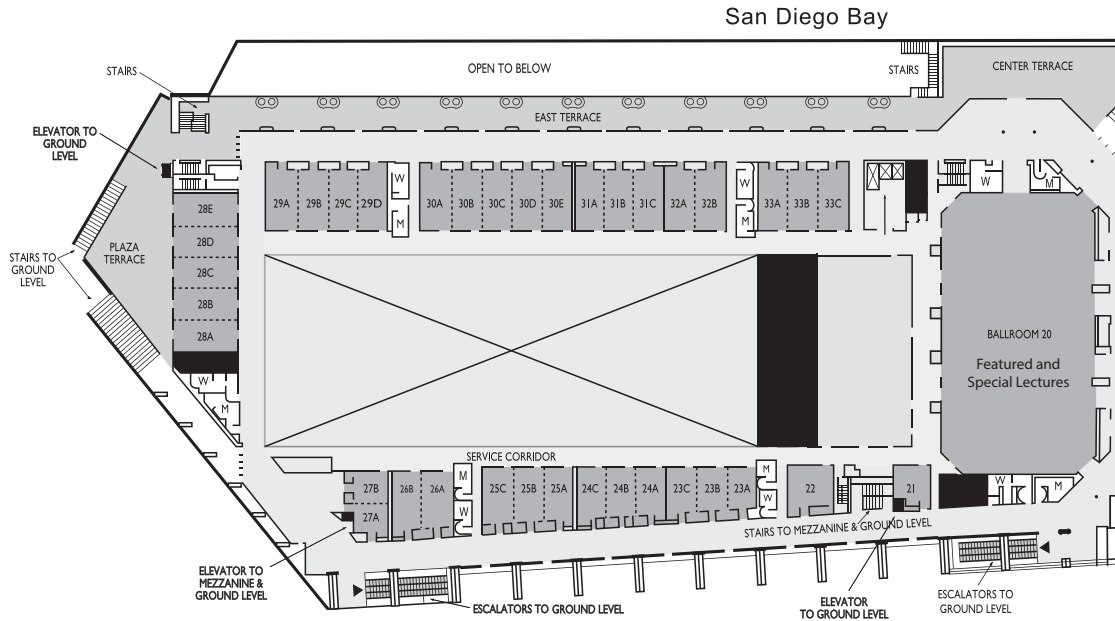
Pacific Ballroom 17-26

Temecula

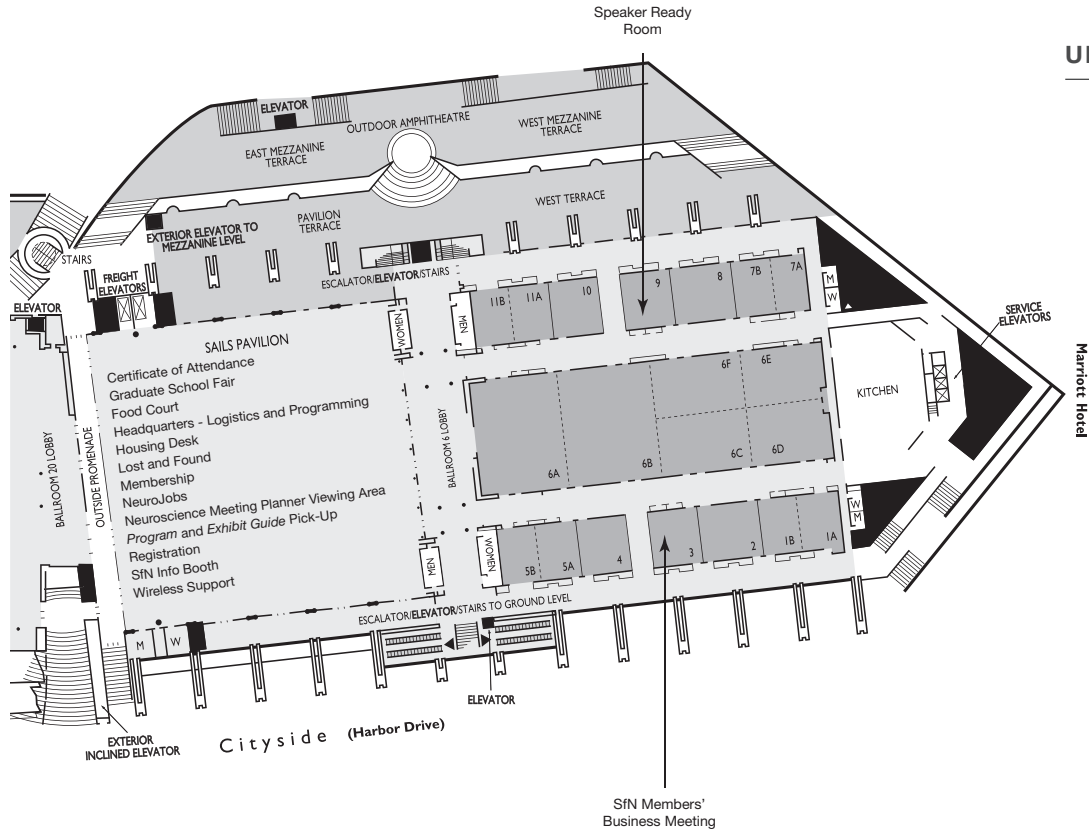


SAN DIEGO CONVENTION CENTER

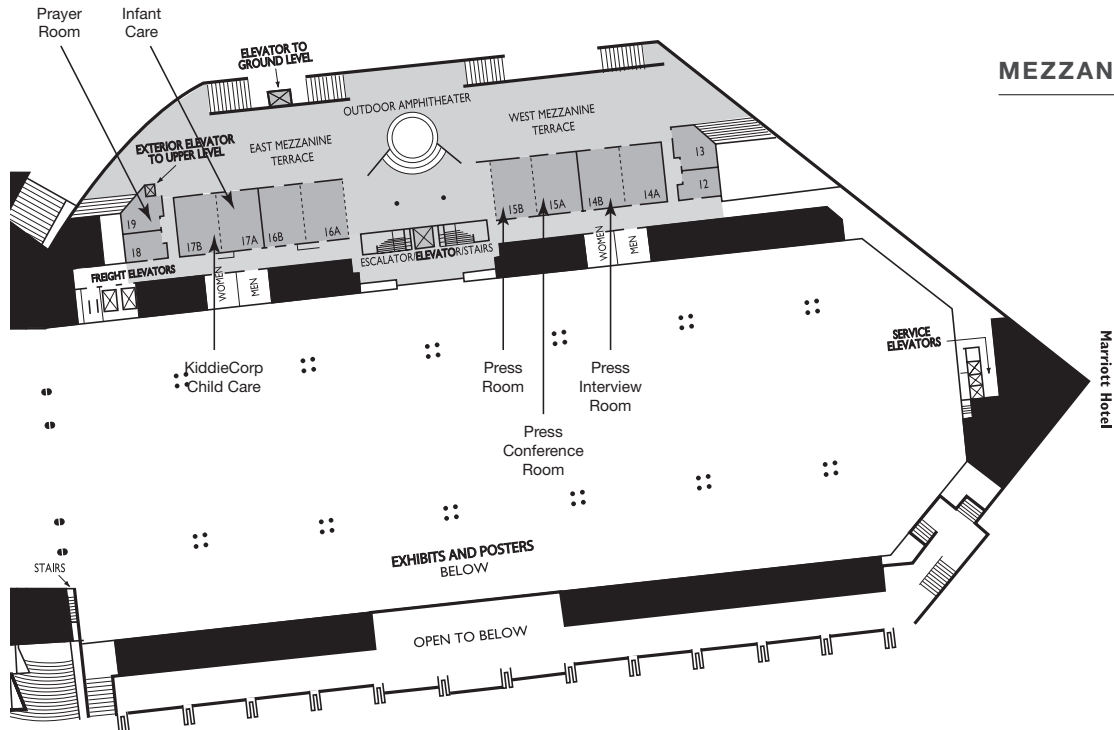
111 W Harbor Dr
San Diego, CA 92101



UPPER LEVEL



MEZZANINE LEVEL



Exhibits and Poster Sessions

Meeting Dates: November 3–7 | Exhibit Dates: November 4–7

Note: Entrances will open at noon on Saturday and at 7 a.m. Sunday through Wednesday for poster presenter setup only. Poster sessions are open for all attendees at 1 p.m. on Saturday and 8 a.m. Sunday through Wednesday.

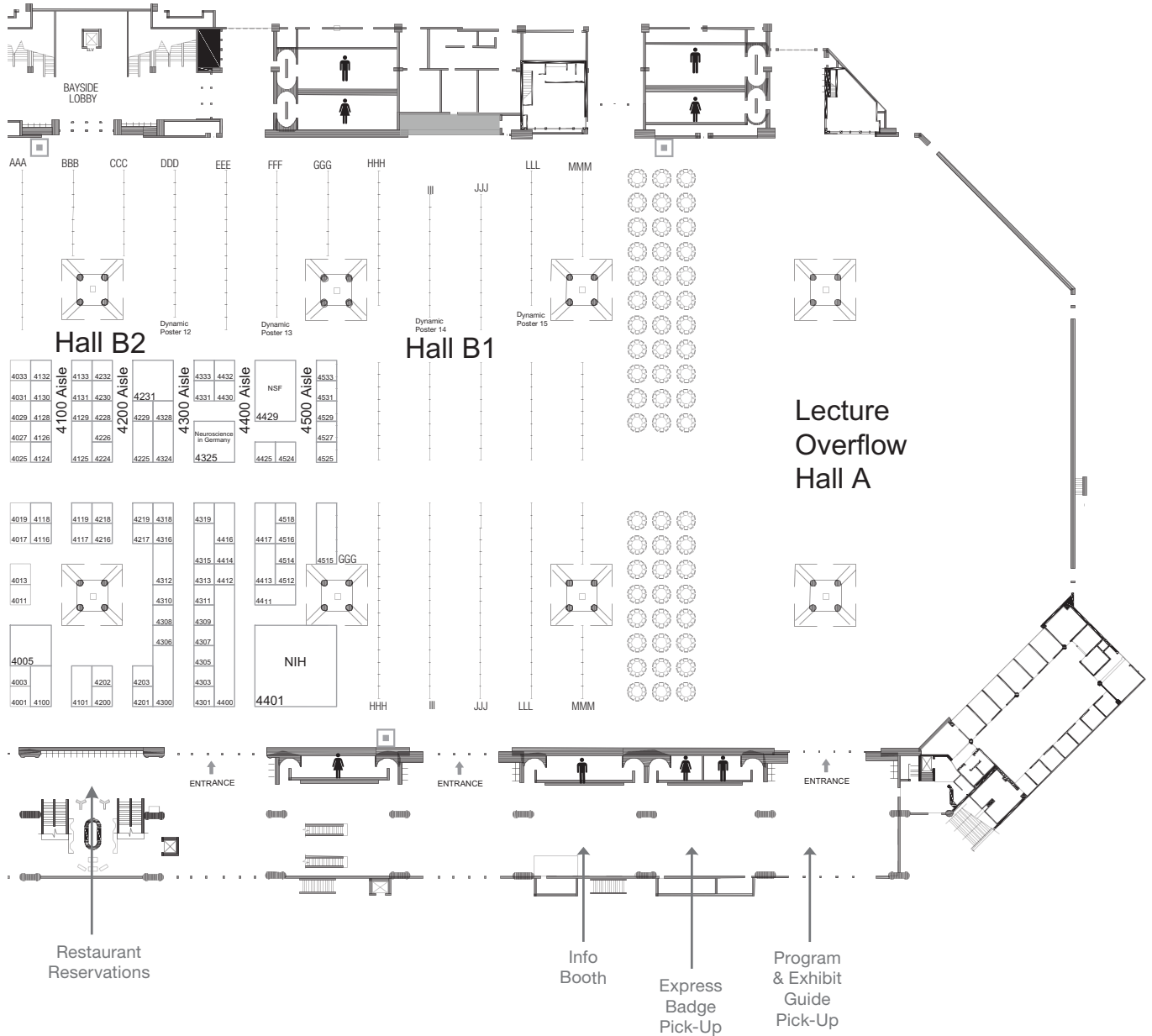
Floor plans subject to change. For current floor plan, visit SfN.org/exhibits.



- Publishers Row
- SfN Booth
- Nonprofits/ U.S. Government Agencies
- Abstract Locator
- Sustaining Associate Members
- Concession Area
- Entrance
- Women's Restroom
- Men's Restroom
- First Aid

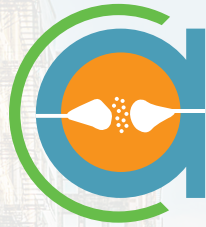


- Publishers Row
- SfN Booth
- Nonprofits/ U.S. Government Agencies
- Abstract Locator
- ★ Sustaining Associate Members
- Concession Area
- ↑ Entrance
- ♀ Women's Restroom
- ♂ Men's Restroom
- ✚ First Aid



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