



14th Annual Neuroscience Day

Friday, June 9, 2017
Wright State University
Dayton, Ohio

OMV Neuroscience
Ohio Miami Valley Chapter of the Society for Neuroscience

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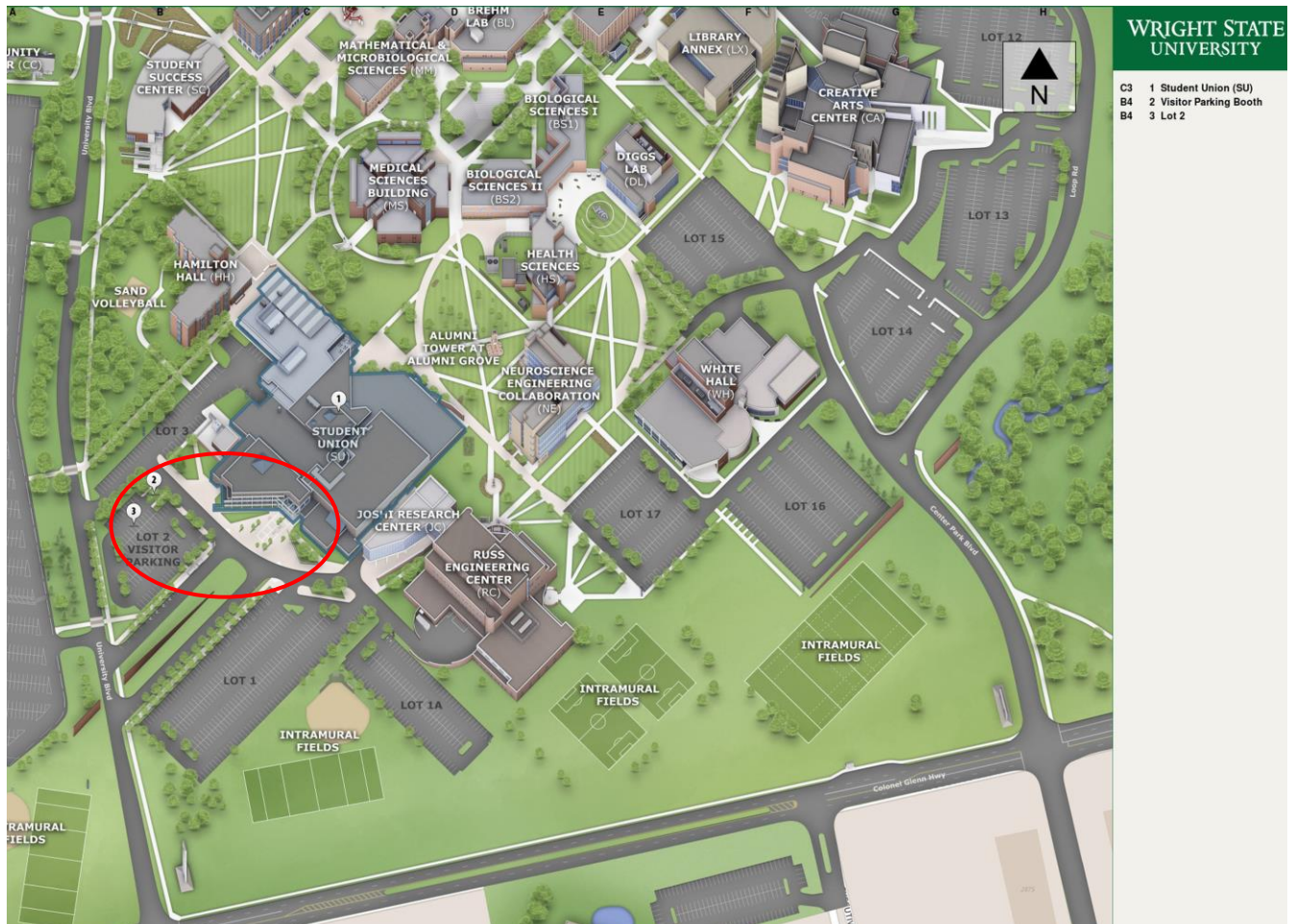
Society for Neuroscience, chapter grant



**Wright State University Foundations:
Department of Biological Sciences
Department of Neuroscience, Cell Biology and Physiology**



**Wright State University
3640 Colonel Glenn Highway
Dayton, OH 45435**



Driving Directions

From the South

I-75 north to I-675 north

I-675 north to North Fairfield Road (Exit 17). Follow sign for North Fairfield Road (not WSU)

Turn left on North Fairfield Road, travel approximately 1/2 mile to Colonel Glenn Hwy

Turn left on Colonel Glenn Highway

Turn right at the second traffic light onto University Blvd.

Follow the signs to Lot 2, Visitor Parking. Please tell the staff member at the gate that you are here for Neuroscience Day.

Neuroscience Day will be in the Apollo Room, Student Union.

From the East or West

I-70 to I-675 south

I-675 south to North Fairfield Road (Exit 17)

Turn right on North Fairfield Road, travel approximately 1/2 mile to Colonel Glenn Hwy

Turn left on Colonel Glenn Highway

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From the North

I-75 south to I-70 east

I-70 east to I-675 south

I-675 south to North Fairfield Road (Exit 17)

Turn right on North Fairfield Road, travel approximately 1/2 mile to Colonel Glenn Hwy

Turn left on Colonel Glenn Highway

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Ohio Miami Valley Chapter of the Society for Neuroscience

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OMV-SfN 2017 Neuroscience Day Local Organizing Committee:

Lynn Hartzler, Kimberly Hagler, Sherif Elbasiouny

Webmaster: Jun-Ming Zhang
OMV logo: Steve Davidson

Poster Judges:

Miami University: Dawn Blitz, Jenn Quinn, Lori Isaacson
University of Cincinnati/Cincinnati Children's Hospital and Medical Center (CCHMC):
Steven Crone
University of Dayton: Tracy Butler
Wright State University: Trish Schiml, Kei Susuki, Pat Sonner, Mike Hennessy, Mark Rich, Debra Mayes, Mike Matott, Quan Zhong, Christopher Wyatt, Ashot Kozak

Special thanks to: Jordan Young, Martha Sonner, Teresa Garrett, Mauricio Vallejo Martelo, and Ryan Griggs

Ohio Miami Valley Chapter of the Society for Neuroscience
Neuroscience Day – June 9, 2017
Wright State University

8:45 – 9:15 AM	Registration & Hang Posters	<i>Apollo Room (160A/B/C)</i>
9:15 – 9:25 AM	Brief Business Meeting	<i>Endeavor Room (156A/B/C)</i>

Call for nominations for Secretary/Treasurer for the Ohio Miami Valley chapter of the Society for Neuroscience. Many thanks to Kim Hagler for her years of dedicated service in this capacity.

9:25 AM	Introduction of Keynote Speaker	<i>Endeavor Room (156A/B/C)</i>
Sherif Elbasiouny	Neuroscience, Cell Biology and Physiology at Wright State University	

9:30 – 10:30 AM	Keynote Address	<i>Endeavor Room (156A/B/C)</i>
<u>Teepu Siddique, MD</u>	Professor of Neurology, Northwestern University Feinberg School of Medicine	

10:45 AM – 12:00 PM	Poster Session A	<i>Apollo Room (160A/B/C)</i>
Odd numbered posters will be presented during session A		

12:00 PM-1:00 PM	Lunch	<i>Apollo Room (160A/B/C)</i>
Adam Katz, Society for Neuroscience: Grassroots Advocacy		

1:00 PM –2:15 PM	Poster Session B	<i>Apollo Room (160A/B/C)</i>
Even numbered posters will be presented during session B		

2:30 PM – 4:00 PM	Symposium	<i>Endeavor Room (156A/B/C)</i>
Moderator: Ryan Griggs		

“Role of Wnt signaling in Amyloid-beta 42 (A β 42) mediated neurodegeneration in Alzheimer’s Disease”
Ankita Sarkar, Graduate Student, Lab of Amit Singh, University of Dayton

“Knockdown and knockout of dnmt3a affects chick eye morphogenesis”
Zeyu Han, Graduate Student, Lab of Katia Del Rio-Tsonis, Miami University

“Comorbid Panic-PTSD: Understanding the ins and outs of fear”
Katherine McMurray, Postdoctoral Fellow, Lab of Renu Sah, University of Cincinnati

“Depressed Synaptic Transmission in Huntington’s Disease Neuromuscular Junctions”
Shannon Romer, Postdoctoral Fellow, Lab of Andrew Voss, Wright State University

4:00 PM	Announcement of Poster Awards	<i>Endeavor Room (156A/B/C)</i>
4:15 PM – 5:00 PM	Professional Development	<i>Endeavor Room (156A/B/C)</i>

Adam Katz, SfN; Kim Seroogy, UC; Pat Sonner, WSU; & Christopher Wyatt, WSU: Grassroots Advocacy

Poster Presentations

Poster 1

Presenter: **Zuhair Abdulla**

Co-authors: Abdulla, Z.I., Pennington, J.L., Latushka, N., & Skelton, M.R.

Title: ***Assessing affective behaviors in creatine transporter knockout mice***

Keywords: anxiety, sociability, depression, affect, energy, creatine

Poster 2

Presenter: **Samer Alkhalili**

Co-authors: Samer Alkhalili, Alex Kawa, Terry Robinson

Title: ***Using the intermittent access self administration procedure to assess sex differences in motivation for cocaine***

Keywords: sex differences, cocaine, drug addiction, self-administration

Poster 3

Presenter: **Bradley Bailey**

Co-authors:

Title: ***Preference between two novel sweet foods in guinea pigs (Cavia porcellus)***

Keywords: Guinea pigs, novel foods, bananas, carrots

Poster 4

Presenter: **Tiara Bishop**

Co-authors: Bishop T. J., Bailey B., Argumedo Y., Henshaw K., Austin T., & Kleven G.A.

Title: ***The Development of Lettuce Preference in Hartley Guinea Pig Pups (Cavia porcellus)***

Keywords: Food Preference, Guinea Pigs, Maternal Hyperthermia, Developmental Disability

Poster 5

Presenter: **Elizabeth Borchers**

Co-authors: Elizabeth Borchers, Lydia Payton, Ankita Sarkar, Neha Gogia, Amit Singh

Title: ***Investigate the Role of Opa1 and Drp1 Gene Mutations in amyloid-beta 42 Mediated Neurodegeneration in Alzheimer's Disease***

Keywords: Alzheimer's Disease, Drosophila, Opa1, Drp1, neurodegeneration

Poster 6

Presenter: **Michelle Borchers**

Co-authors: Borchers, M.L., Kango-Singh, M.

Title: ***Study of the Interaction Between the Wg and JNK Pathways in the RAS Scribble Tumors***

Keywords: JNK, Hippo, Wingless

Poster 7

Presenter: **Steven Borchers**

Co-authors: Borchers S., Glenn N., Gogia N., Singh A.

Title: ***Role of Relish/NFkB Apoptosis Pathway in Amyloid-beta 42 mediated neurodegeneration in Alzheimer's disease***

Keywords: *Drosophila*, Alzheimer's, Neurodegeneration, NF-kB, Relish, Amyloid-beta 42

Poster 8

Presenter: **Aikaterini Britzolaki**

Co-authors: Britzolaki Aikaterini, Saurine Joseph, Thelen Connor, Pitychoutis Pothitos

Title: ***Exploring Novel Calcium Circuits In The Mouse Brain***

Keywords:

Poster 9

Presenter: **Nathan Burns**

Co-authors: Burns N.G., Luz-Madrigal A., Shi J., Sreeskandarajan S., Liu L., Tsonis P.A., Liang C., Del Rio-Tsonis K.

Title: ***miRNAs in Chick Retina Regeneration***

Keywords: Chick, Retina, RPE, miRNA, Regeneration, Transdifferentiation, Injury

Poster 10

Presenter: **Sisi Chen**

Co-authors: Sisi Chen, Xingjun Wang, Shamili Sammohi, Steve Davidson

Title: ***Peripheral inflammation induces hyperexcitability in Group II mGluR-positive neurons in anterior cingulate cortex***

Keywords: Anterior cingulate cortex, glutamate, chronic pain

Poster 11

Presenter: **Abigail Chumley**

Co-authors: Abigail Chumley, Elliott Hayden, Shuzhen Chen, Shulin Ju

Title: ***A Genetic Screen to Identify Human Genetic Modifiers of ALS Associated Proteins***

Keywords: ALS, FUS/TDP43, yeast model, mating, human library

Poster 12

Presenter: **Alan Cone**

Co-authors: Cone A., Ju S.

Title: ***Using Fission Yeast to Understand FUS-Dependent Cytotoxicity and Inclusion Formation in Amyotrophic Lateral Sclerosis***

Keywords: ALS, FUS, cytotoxicity, neurodegenerative

Poster 13

Presenter: **Yiyun Dai**

Co-authors: Yiyun Dai, Todd Rapetti, David Ladle

Title: ***Analysis of proprioceptive sensory input on renshaw cells in neonatal mice***

Keywords: Proprioceptive sensory afferent, neural activity, renshaw cells, spinal cord, development

Poster 14

Presenter: **Christina Estrada**

Co-authors: Estrada, C.E., Caldwell, J.L., Ghisays, V., Rokvic G., Balmer, N., Nguyen, E.N., & Solomon, M.B.

Title: ***Estradiol in the medial amygdala prevents ovariectomized induced metabolic responses in female rats***

Keywords: estrogen, glucose, body weight, open field

Poster 15

Presenter: **Emily Flaherty**

Co-authors: Emily M Flaherty, Connor F Thelen, Joseph E Saurine

Title: ***Dissecting the synaptogenic effects of the rapid-acting antidepressant drug ketamine in the female hippocampus***

Keywords:

Poster 16

Presenter: **Karishma Gangwani**

Co-authors: Gangwani K., Snigdha K., Kango-Singh M., Singh A.

Title: ***Transcriptional regulation of dronc***

Keywords:

Poster 17

Presenter: **Neha Gogia**

Co-authors: Gogia N., Kango-Singh M., Singh A

Title: ***Growth Regulatory Pathway collaborates with Axial Patterning Genes to regulate Patterning and Growth in Drosophila Eye***

Keywords:

Poster 18

Presenter: **Erika Grajales-Esquivel**

Co-authors: Grajales-Esquivel E., Luz-Madrigal A., Bierly J., Haynes T., Reis E., Han Z., Gutierrez C., McKinney Z., Tzekou A., Lambris J., Tsonis P., Del Rio-Tsonis K.

Title: ***Complement component C3aR constitutes a novel regulator for chick eye morphogenesis***

Keywords: Complement, eye development, microphthalmia, coloboma, C3aR, C3, optic vesicle

Poster 19

Presenter: **Paige Greenwood**

Co-authors: Greenwood P.B., Hutton J., Philean K.J., Holland S., Vannest J., Dudley J., Horowitz-Kraus T

Title: ***The relationship between maternal fluency and cognitive control networks***

Keywords: reading, maternal, fluency, rest, cognitive, control, networks, MRI

Poster 20

Presenter: **Ishita Haider**

Co-authors: Ishita Haider, Shuzhen Chen, Elliot Hayden, Shulin Ju, Quan Zhong

Title: ***An inter-species platform to systematically identify human genetic modifiers of neurodegenerative disease-associated proteins***

Keywords: Parkinson's Disease, genetic modifiers

Poster 21

Presenter: **Jessika Hutchinson**

Co-authors: Isaacson L.G., Henkel N.D., Schneider L.J., Sullivan D., Kollias A., Maloney J.

Title: ***Glial proliferation in rat and mouse spinal cord in response to peripheral axon injury***

Keywords: BrdU, EdU, Oligodendrocyte lineage cells, microglia

Poster 22

Presenter: **Shaimaa Ibrahim**

Co-authors: S.I.A. Ibrahim, W. Xie, J.A. Strong, T. Berta and J.-M. Zhang

Title: ***Unexpected interactions between the mineralocorticoid and glucocorticoid receptors in a rat model of inflammatory low back pain***

Keywords: Steroid, Glucocorticoid

Poster 23

Presenter: **Md Moydul Islam**

Co-authors: Md Moydul Islam, Shuzhen Chen, Shulin Ju, Quan Zhong

Title: ***Mapping the Physical and Functional Networks of Neurodegenerative Disease Associated Optineurin Protein in Yeast***

Keywords: Neurodegenerative Diseases, Systems Biology, Yeast Model, Physical interaction, Functional Interaction

Poster 24

Presenter: **Victoria Jensen**

Co-authors: V.N. Jensen, S.H. Romer, K. Seedle, S.M. Turner, S.A. Crone

Title: ***V2a Neurons Drive Accessory Respiratory Muscle Activity and Degenerate in Mouse Models of ALS***

Keywords: ALS, V2a neurons, respiration, accessory respiratory muscles

Poster 25

Presenter: **Kathryn Kohl**

Co-authors: Kathryn Kohl, Alexandra Unger, Kelsy Schultz, Elizabeth Jacobs, Kathleen Killian

Title: ***Impact of Cold Stress on the Behavior of Male Acheta domesticus Crickets***

Keywords: Behavior, Motivation

Poster 26

Presenter: **Adam Koraym**

Co-authors: Koraym, A., Costello, A., Shoemaker, A., Claflin, D.

Title: ***Amygdala Activity Parallels Corticosterone Levels Associated with Social Buffering Following Periorbital Shock Exposure in Juvenile Rats***

Keywords: Psychology, Amygdala, Central Nucleus of Amygdala, Zif-268, IHC, Maternal Separation, Social Buffering

Poster 27

Presenter: **Sarah Kosse**

Co-authors: Sarah Kosse, Agustin Luz-Madrigal, Erika-Grajales Esquivel, Stetzel L., McCorkle A., Tangeman J., Tsonis P.A. and Katia Del Rio-Tsonis

Title: ***Analysis of DNA methylation during RPE reprogramming towards retina regeneration***

Keywords: DNA methylation, histone modification, bivalent chromatin, RPE reprogramming, retina regeneration, Epigenetics

Poster 28

Presenter: **Manisha Kullar**

Co-authors: Manisha Kullar, Elizabeth Borchers, Ankita Sarkar, Amit Singh

Title: ***The Effects of a High-Fat Diet on Amyloid-beta 42 mediated neurodegeneration in Drosophila model of Alzheimer's Disease***

Keywords: High Fat Diet, Alzheimer's, Drosophila, Neurodegeneration

Poster 29

Presenter: **Joseph Landers**

Co-authors: Joseph Landers, Nancy Paola-Ruiz Echeverri, Katia Del Rio-Tsonis

Title: ***N-acetyl Cysteine Induces Retina Regeneration via the MAPK Pathway***

Keywords: Retina, Regeneration, Antioxidants

Poster 30

Presenter: **John Latimer**

Co-authors: Latimer J.K., Blitz D.M.

Title: ***Central Effects of Hormonal Modulation on Muscle Contraction***

Keywords: neuromodulation, hormones, motor circuit

Poster 31

Presenter: **Kelsey Lloyd**

Co-authors: Kelsey R Lloyd, Nicola M Grissom, Teresa M Reyes

Title: ***Automated Touchscreen Delay Discounting and Probability Discounting Tasks for Mice***

Keywords: prefrontal cortex, delay discounting, probability discounting, executive function

Poster 32

Presenter: **Amr Mahrous**

Co-authors: Amr A. Mahrous, Sherif M. Elbasiouny

Title: ***Adapting sensory and motor inputs generate non-adapting motor output***

Keywords: spinal cord, motoneurons, monosynaptic inputs, descending inputs, synaptic integration

Poster 33

Presenter: **Jessie Maloney**

Co-authors: Maloney J., Isaacson L.G

Title: ***Investigating the role of microglia in the spinal cord plasticity observed following peripheral axon injury***

Keywords: minocycline, nerve injury, glial plasticity

Poster 34

Presenter: **Abijeet Mehta**

Co-authors: Mehta AS, Alghamdhhi A, Luz-Madrigal A, Tsonis PA, Singh A

Title: ***Investigating the role of novel putative regeneration genes of Notophthalmus viridescens using Drosophila melanogaster model***

Keywords: Regeneration, Newts, Drosophila, Novel genes

Poster 35

Presenter: **Keila Miles**

Co-authors: Keila Miles, Matthew Skelton

Title: ***The Effect of Ketosis on Creatine Transporter Deficiency***

Keywords: Creatine Transporter Deficiency, Ketosis, Mitochondria, Calorimetry

Poster 36

Presenter: **Elizabeth Nguyen**

Co-authors: Nguyen E.T., Streicher J., Berman S., Caldwell J.L., Ghisay V., Estrada E.M, & Solomon M.B.

Title: ***CORT 118335 and imipramine affect endocrine stress responses through different central mechanisms in male and female rats***

Keywords: HPA axis, glucocorticoid, forced-swim-test, anti-depressant

Poster 37

Presenter: **Lydia Payton**

Co-authors: Lydia Payton, Dr. Amit Singh, Ankita Sarkar, Neha Gogia

Title: ***Investigation of the role of Mitochondrial Dysfunction as a trigger for neurodegeneration in Alzheimer's Disease***

Keywords: *Drosophila melanogaster*, disease model, Alzheimer's Disease, mitochondria

Poster 38

Presenter: **Amanda Rainey**

Co-authors: Rainey A.N., Blitz D.M.

Title: ***Anatomical Analysis of Peptidergic Neurons in the Crustacean Central Nervous System***

Keywords: anatomy of *Cancer borealis*, neuromodulation, neurosecretory cells, tachykinin-related protein

Poster 39

Presenter: **Ashlie Reker**

Co-authors: Sammohi, S., Etter, K., Chen, S. and Davidson, S.

Title: ***The Operant Plantar Thermal Assay: A Novel Method to Assess Pain Tolerance in Rodents***

Keywords: Tolerance, Operant Conditioning, Inflammatory Model, Analgesia

Poster 40

Presenter: **Matthew Riccetti**

Co-authors: Riccetti M., Sarkar A., Gogia N., Payton L., Moberg K., Kango-Singh M., Singh A.

Title: ***Ecdysone (Ec) Signaling Pathway Activation Can Block A β 42 Mediated Neurodegeneration***

Keywords: Drosophila eye, Hippo signaling, Ecdysone signaling, Taiman, neurodegeneration, Amyloid-beta 42, Alzheimer's disease

Poster 41

Presenter: **Logan Roebke**

Co-authors: Logan Roebke, Kirti Snigdha, Dr. Kango-Singh

Title: ***Investigating cell-cell Interactions in Drosophila Glioma***

Keywords: Cell-cell interaction, glioma, EcR, Taiman

Poster 42

Presenter: **Joseph Saurine**

Co-authors: Saurine Joseph, Britzolaki Aikaterini, Thelen Connor, Pitychoutis Pothitos

Title: ***Behavioral mouse phenotyping to investigate novel calcium-handling mechanisms in the brain***

Keywords:

Poster 43

Presenter: **Jessie Scheimann**

Co-authors: Scheimann J.R., Morano R.L., Mahbod P., Herman J.P.

Title: ***Cell type specific and region specific knockdown of glucocorticoid receptors: sex specific effects on the HPA axis and behavior***

Keywords: stress, glucocorticoid receptor, sex differences, behavior, ventral subiculum

Poster 44

Presenter: **Kirti Snigdha**

Co-authors: Kirti Snigdha, Amit Singh, Madhuri Kango- Singh

Title: ***Investigating the role of inflammatory cytokines on tumor progression and metastasis in a Drosophila cancer model***

Keywords: Inflammatory cytokines, tumor micro environment

Poster 45

Presenter: **Zongbin Song**

Co-authors: Zongbin Song, Wenrui Xie, Judith A. Strong, and Jun-Ming Zhang

Title: ***High fat diet but not obesity per se prolongs mechanical pain responses in a rat model of postoperative pain in a sex dependent fashion***

Keywords: Obesity, High fat Diet, Pain, Inflammation

Poster 46

Presenter: **Mollie Sorrell**

Co-authors: Sorrell, M.R., Killian, K.A.

Title: ***Characterizing the adult neurogenic niche in the cricket Acheta domesticus***

Keywords: Septate Junctions, Adherens Junctions, Junctional Communication

Poster 47

Presenter: **Connor Thelen**

Co-authors: Thelen C., Sens J., Mauch J., Mohammad S., Flaherty E., Saurine J., Pitychoutis P.M.

Title: ***Ketamine Elicits Sex-Specific Temporal Neuromolecular Alterations in the Prefrontal Cortex of C57Bl/6J mice***

Keywords: Ketamine, Depression, Sex, Prefrontal Cortex

Poster 48

Presenter: **Georgios Tsissios**

Co-authors: Madison Burgei, Matthew Comment, Aidan Bean, Georgios Tsissios, Dr. Panagiotis Tsonis

Title: ***The Role of Ephrin Signaling Pathway During Lens Regeneration in Newts***

Keywords: Regeneration, lens, iris pigment epithelial cells (iPECs), newts, cell migration, Ephrin signaling pathway

Poster 49

Presenter: **Marie Walters**

Co-authors: Marie Walters, Jessica Kane, Martha Sonner, David Ladle

Title: ***Neural Transmission of Proprioceptive Neurons Lacking Cell Bodies***

Keywords: proprioception, calcium imaging, laser ablation, dorsal root ganglion, peripheral nervous system

Poster 50

Presenter: **Andrew Winter**

Co-authors: A. Winter, R. Ahlbrand, L. Vollmer, N. Quan, E. G. Krause, R. Sah

Title: ***Delineating mechanisms underlying panic pathophysiology***

Keywords: Panic, Microglia, Angiotensin, Carbon Dioxide, Acidosis, Behavioral Neuroscience, Pathophysiology of Anxiety, Panic Disorder

Poster 51

Presenter: **Phuong Lam**

Co-authors: Lam P.T., Gutierrez G., Del Rio-Tsonis K., Robinson M.L.

Title: ***Engineering human induced pluripotent stem cells to assay for retinal pigment epithelium to neural retina transdifferentiation***

Keywords: iPSC, CRISPR/Cas, RPE, Regeneration, Reprogramming

Notes