14th Annual Neuroscience Day

Friday, June 9, 2017
Wright State University
Dayton, Ohio
Thank you to our sponsors!

Society for Neuroscience, chapter grant

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

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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 Apollo Room (160A/B/C)

9:15 – 9:25 AM Brief Business Meeting Endeavor Room (156A/B/C)

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 Endeavor Room (156A/B/C)
Sherif Elbasiouny Neuroscience, Cell Biology and Physiology at Wright State University

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

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

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

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

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

“Role of Wnt signaling in Amyloid-beta 42 (Aβ42) 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 Endeavor Room (156A/B/C)

4:15 PM – 5:00 PM Professional Development Endeavor Room (156A/B/C)
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, Pitychous Pothitos  
Title: *Exploring Novel Calcium Circuits In The Mouse Brain*  
Keywords:
Poster 9
Presenter: Nathan Burns
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: Abagail Chumley
Co-authors: Abagail 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  
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: *Gliarial proliferation in rat and mouse spinal cord in response to peripheral axon injury*  
Keywords: BrdU, EdU, Oligodendroctye 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
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. Elbsaiouny
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, Alghamdhi 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 Aβ42 Mediated Neurodegeneration*  
**Keywords:** Drosophila eye, Hippo signaling, Ecdysone signaling, Taiman, neurogeneration, 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, Reprograming
Notes