

OMV Neuroscience
Ohio Miami Valley Chapter of the Society for Neuroscience

The Ohio Miami Valley Chapter
of the Society for Neuroscience
Presents the 7th Annual:

Neuroscience Day

Monday, May 10, 2010
University of Cincinnati
Cincinnati, Ohio

Thank you to all our sponsors:

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College of Medicine

Department of Psychiatry and Behavioral Neuroscience

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Department of Neurology

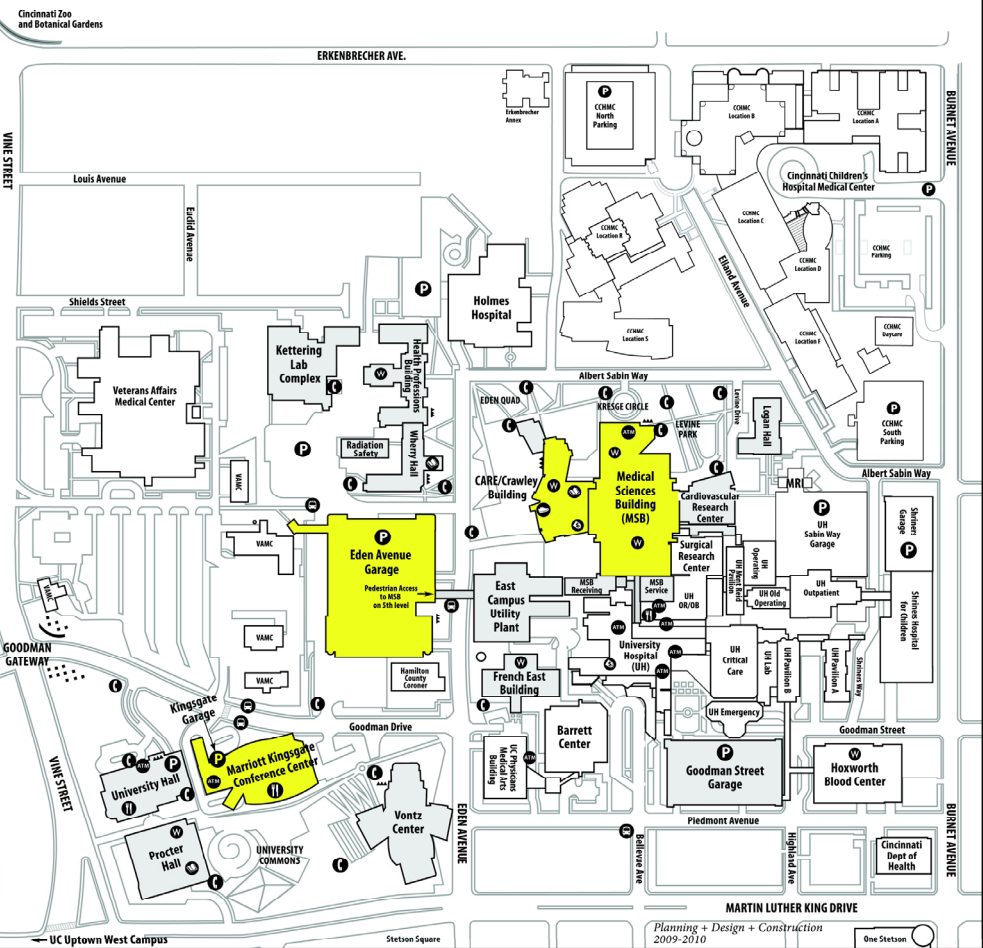
Department of Biological Sciences

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LEVINE PARK

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UH Old Operating

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UH Pathology B

UH Pathology A

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Ohio Miami Valley Chapter of the Society for Neuroscience

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Poster Judges

Miami University: Phyllis Callahan, Kathy Killian, and Lori Isaacson.

University of Cincinnati: Jean Neils-Strunjas, Yve Ulrich-Lai, Neil Richtand, Karen Gregerson, and Steve Danzer.

Wright State University: Michael Hennessy, Robert Fyffe.

University of Dayton: Amit Singh.

**Ohio Miami Valley Chapter, Society for Neuroscience
Neuroscience Day – May 10, 2010
University of Cincinnati**

10:00-10:45 a.m. **Registration & Poster Set-up**
CARE/Crawley Atrium

11:00 a.m.-12:15 p.m. **Keynote Lecture**
Medical Sciences Bldg
Room 7051
**“Desire gone awry! Can the Neuroscience of Stress and Reward-seeking
Provide Clues for Understanding and Treating Addiction?”**

Rajita Sinha, Ph.D.
**Professor of Psychiatry, faculty member of the Yale Child
Study Center, and Director of the Yale Stress Center at the
Yale School of Medicine**

Normal healthy desire is at the core of human functioning. It is involved in motivating humans to achieve greatness and also in destruction of ourselves and others. This presentation will focus on the neuroscience of desire, brain circuits involved in the process by which desire progresses to craving and compulsive seeking of rewarding stimuli and the role of stress in such progression. Dysregulation of key corticostriatal brain circuits associated with compulsive seeking of alcohol and drugs will be shown as an integral part of addiction and high rates of relapse. Finally, novel treatment approaches to address the neurobiological changes associated with addiction will be discussed.

12:30-1:30 p.m. **Lunch**
Marriott Kingsgate
Conference Center
(Salon A & B on the second floor)

1:30-3:00 p.m. **Student & Post-doc Presentations**
Medical Sciences Bldg.
Room 7051

- 1:30-1:50 Jane Allendorfer, Ph.D., Department of Neurology, University of Cincinnati
“Block-design versus event-related fMRI for language evaluation in post-stroke aphasia”
- 1:50-2:10 Meghana Tare, Department of Biology, University of Dayton
“Role of a ubiquitin ligase Cullin-4 in axial patterning in *Drosophila* eye”
- 2:10-2:30 Ann Imber, Biomedical Sciences (BMS), Boonshoft School of Medicine, Wright State University
“The Role of Calcium in the Chemosensitive Response of Locus Coeruleus Neurons”
- 2:30-2:50 Soumya Banerjee, Department of Zoology, Miami University
“Glial remodeling during the reorganization of abdominal nerves in *Drosophila*”

3:00-5:00 p.m. **Poster Session and Reception**
CARE/Crawley Atrium *(Poster Competition Award Ceremony at 4:45 p.m.)*

Poster 1

Presenter: Matej Bajzer, Neuroscience, University of Cincinnati.

Coauthors: MK Haas, S Obici.

Title: **Effects Of Fasting/Refeeding On Brown Adipose Tissue Thermogenesis In Lean And Obese Mice.**

Key Words: obesity, brown adipose tissue.

Poster 2

Presenter: Meghana Tare, Department of Biology, University of Dayton.

Coauthors: Rohan M Modi, Jaison J Nainaparampil.

Title: **Genetic Basis of Cell Death in Neurodegeneration in Alzheimer's Disease.**

Key Words: drosophila eye, neurodegeneration, cell death, Amyloid plaques.

Poster 3

Presenter: Ben Ausdenmoore, NCBP, Wright State University

Coauthors: David Ladle

Title: **Where are the synapses? A semi-automated tool for 3-dimensional analysis of synaptic contact distribution on neurons.**

Key Words: Synapses, Reconstruction, Morphology

Poster 4

Presenter: Heather Bryner, Zoology, Miami University.

Coauthors: Megan Mendoza, Erin Burba, Kathleen A. Killian

Title: **Does the immune system regulate adult neurogenesis in an insect model?**

Key Words: neurogenesis, immune, cricket, phenoloxidase

Poster 5

Presenter: Matthew Smith, Center for Imaging Research, University of Cincinnati College of Medicine.

Coauthors: Christopher Erb, James Eliassen.

Title: **Bimodal imaging of associative learning in human MDMA (ecstasy) users: preliminary results.**

Key Words: EEG, fMRI, ERP, substance abuse, learning.

Poster 6

Presenter: Oorvashi Roy Puli, Department of Biology, University of Dayton.

Coauthors: Sarah Oros, Meghana Tare.

Title: **Dorsal eye selector pannier (pnr) suppresses retinal differentiation in the *Drosophila* eye.**

Key Words: DV patterning, axial patterning, Drosophila eye, early eye development, neural development.

Poster 7

Presenter: Jessie Caraway, Psychology, Wright State University.

Coauthors: Kris Paik, Patricia Schiml-Webb, Terry Deak, Michael Hennessy.

Title: Proinflammatory activity appears necessary, but not sufficient, to sensitize the passive, depressive-like response of guinea pigs pups during maternal separation.

Key Words: stress, proinflammatory activity, depression.

Poster 8

Presenter: Soumya Banerjee, Zoology, Miami University.

Coauthors: Matthew Siefert, Camilo Molina, Bridget Hartman, Meredith Dorr and Joyce J. Fernandes.

Title: Glial remodeling during reorganization of the peripheral nervous system.

Key Words: Drosophila, Nervous system, Glia.

Poster 9

Presenter: Amanda Braun, Neuroscience, University of Cincinnati.

Coauthors: Herring, N.R.; Schaefer, T.L.; Hemmerle, A.M; Dickerson, J.W.; Seroogy, K.B.; Vorhees, C.V.; Williams, M.T.

Title: Acute (+)-methamphetamine (MA) exposure selectively increases brain-derived neurotrophic factor (BDNF) and modulates TrkB expression in the adult rat brain.

Key Words: methamphetamine, BDNF, TrkB.

Poster 10

Presenter: Teresa Morris, Zoology, Miami University.

Coauthors: A.P.Coulibaly, R.G. Walker, L.G. Isaacson.

Title: Characterization of immune cell infiltration into the adult rat superior cervical ganglion following injury.

Key Words: transection, axotomy, immune.

Poster 11

Presenter: Ann Imber. Neuroscience, Cell Biology and Physiology, Boonshoft School of Medicine, Wright State University.

Coauthors: Robert W. Putnam.

Title: The Role of Calcium in Central Respiratory Control Neurons.

Key Words: Ca ions, locus coeruleus, pons, KCa channels, Ca channels.

Poster 12

Presenter: Oorvashi Roy Puli, Biology, University of Dayton.

Coauthors: Michaela Minichello.

Title: Defective proventriculus (dve), a new member of DV patterning in the eye.

Key Words: Drosophila eye, axial patterning, dve, growth & patterning.

Poster 13

Presenter: Lauren Larke, Department of Psychiatry and Behavioral Neuroscience
University of Cincinnati.
Coauthors: Brian Henry, Floyd R. Sallee & R. Sah.
Title: Altered Behavioral Reactivity to Stress in Mice Lacking the Glucocorticoid Induced Receptor (GIR).

Poster 14

Presenter: Aminata Coulibaly, Zoology, Miami University.
Coauthors: Lori G. Isaacson, Teresa A. Morris, Ryan G. Walker.
Title: Changes in sympathetic pre-ganglionic neurons and associated glial cells following injury to peripheral axons.
Key Words: sympathetic pre-ganglionics, transection, peripheral injury, glial cells.

Poster 15

Presenter: Ke-Yong Li. Neuroscience, Cell Biology and Physiology, Boonshoft School of Medicine, Wright State University.
Coauthors: Robert W. Putnam.
Title: Hypercapnia Inhibits Both Transient and Sustained Potassium Currents in Chemosensitive Neurons from Neonatal Rat Locus Coeruleus (LC).
Key Words: K channels, pons, brainstem, pH, excitability.

Poster 16

Presenter: Meghana Tare, Biology, University of Dayton.
Coauthors: Dr. Madhuri Kango-Singh.
Title: Study of role of an E3 ubiquitin ligase in early eye development.
Key Words: Drosophila melanogaster, eye development, E3 ubiquitin ligase, axial patterning, cell survival.

Poster 17

Presenter: Brian Murphy, Neuroscience Graduate Program/Anesthesia, University of Cincinnati/CCHMC.
Coauthors: Cynthia Walter, Andreas W. Loepeke, Steve C. Danzer.
Title: A genetic fate-mapping approach for assessing the long-term impact of early life seizures on SGZ progenitors.
Key Words: status epilepticus, cell-fate, neurogenesis.

Poster 18

Presenter: Cathy Graham, Neuroscience, Cell Biology and Physiology, Boonshoft School of Medicine, Wright State University.
Coauthors: Robert W. Putnam.
Title: Unique Structure and Ion Channels of Chemosensitive Neurons from the Locus Coeruleus.
Key Words: K channels, pons, brainstem, immunocytochemistry.

Poster 19

Presenter: Manu Kalyani, Zoology, Miami University.

Coauthors: E. Murphree, P. Callahan, J. Janik, E. Murphree.

Title: PRL-R mRNA Levels in the Choroid Plexus During the Postpartum Period: Effects of Pup Separation.

Key Words: Lactation, Corticosterone, Restraint, Choroid plexus, HPA-axis.

Poster 20

Presenter: Susan Israel, Neuroscience, University of Cincinnati.

Coauthors: Kari Dunning, Samir Belagaje, Jun Ying, Lynn Sprafka, Peter Levine, Jarmo Laine, Jari Karhu, Steve Page, Brett Kissela.

Title: Navigated transcranial magnetic stimulation is more sensitive than non navigated in obtaining upper extremity motor evoked potentials for low functioning stroke patients.

Key Words: Stroke, transcranial magnetic stimulation.

Poster 21

Presenter: James Olson, Emergency Medicine, Wright State University.

Coauthors: Amanda Freeman.

Title: Regulation of the Neuronal Taurine Transporter Protein.

Key Words: Cell volume, brain, cell culture.

Poster 22

Presenter: Sara Gombash, Neurology, University of Cincinnati.

Coauthors: T.J. Collier, B.F. Daley, S.L. Wohlgenant, B.T. Terpstra, R.J. Mandel, F.P. Manfredsson, C.E. Sortwell.

Title: Optimal Nigrostriatal Transduction Targets for Pleiotrophin Gene Therapy in the Parkinsonian Rodent Model.

Key Words: Parkinson's disease, neurotrophic factor, gene therapy, striatum, substantia nigra, rAAV2.

Poster 23

Presenter: Shweta Nayar, Zoology, Miami University.

Coauthors: Emily Murphree, Rainer Reinscheid, James Janik and Phyllis Callahan.

Title: Effects of Nociceptin/Orphanin FQ (N/OFQ) on Corticotropin Releasing Hormone in Postpartum Female Mice.

Key Words: Lactation, Opiates, Stress, Corticosterone, Hypothalamus, HPA axis.

Poster 24

Presenter: Hilary Wilson-Perez, Internal Medicine, University of Cincinnati.

Coauthors: Chambers A, Stefater MA, Sandoval DA, Woods SC, Seeley RJ.

Title: GLP-1 and changes in diet selection following vertical sleeve gastrectomy.

Key Words: Sleeve Gastrectomy, GLP-1, food choice.

Poster 25

Presenter: Shannon Romer, Neuroscience, Cell Biology, and Physiology, Wright State University.

Coauthors: Robert Tracy.

Title: **Dynamic Redistribution of Kv2.1 Ion Channels on Spinal Motoneurons Following Increased Neuronal Activity.**

Poster 26

Presenter: Christopher Erb, Psychology, University of Cincinnati.

Coauthors: K.V. Patel, J.B. Allendorfer, M. Lamy, M.A. Cerullo, E.B. Nelson, J.C. Eliassen.

Title: **fMRI Brain Activation During Associative Learning in Major Depressive Disorder.**

Key Words: Major Depressive Disorder, associative learning.

Poster 27

Presenter: Nicholas Jury, Neuroscience Graduate Program, University of Cincinnati.

Coauthors: Nelson D. Horseman, Karen A. Gregerson.

Title: **Altered responsiveness to selective serotonin reuptake inhibitors during lactation.**

Key Words: serotonin, antidepressants, postpartum depression, mood, lactation.

Poster 28

Presenter: Anne Christiansen, Psychiatry, University of Cincinnati.

Coauthors: A.A. Jones, J.P. Herman, Y.M. Ulrich-Lai.

Title: **Synaptic plasticity after intermittent sucrose consumption: An anatomical roadmap from reward to stress.**

Key Words: amygdala, hypothalamus, bed nucleus of the stria terminalis, medial prefrontal cortex, sucrose, synaptophysin, CaMKII, CREB, gephyrin, PSD95.

Poster 29

Presenter: Kristy Heppner, Internal Medicine, University of Cincinnati.

Coauthors: Chaudhary, N., Mueller, T.D., Kirchner, H., Ottaway, N., Holland, J., Hembree, J., Marcus, Z., Smiley D., DiMarchi R., Pfluger, P.T., Perez-Tilve, D., Tschöp, M.

Title: **Length of fatty acid acylating ghrelin affects food intake, body weight, and body composition.**

Key Words: ghrelin, fatty acid, food intake, body weight.

Poster 30

Presenter: Meera Seshadri, Zoology, Miami University.

Coauthors: Kathleen McEwen, Emily Murphree, Phyllis Callahan, James Janik.

Title: **Gender Differences in the Nociceptin/Orphanin FQ (N/OFQ)-mediated Neuroendocrine Response Following Stress.**

Key Words: Prolactin, Restraint, Estrogen.

Poster 31

Presenter: Kimberly Krawczewski Carhuatanta, Internal Medicine, University of Cincinnati.

Coauthors: Stephen C Benoit, Matthias Tschöp, Silvana Obici.

Title: **Voluntary running wheel exercise increases fosB expression in the dorsal medial portion of the ventromedial hypothalamic nucleus.**

Key Words: Energy balance, exercise, leptin, VMH.

Poster 32

Presenter: Lalitha Madhavan, Neurology, University of Cincinnati.

Coauthors: Brian F Daley, Ryan L Boudreau, Jack W Lipton, Allyson Cole-Strauss and Timothy J Collier.

Title: **Neural stem cell mediated neuroprotection in a rat model of Parkinson's disease: Role of endogenous precursors and graft-expressed molecules.**

Key Words: Neural Stem Cells, Parkinson's Disease, Transplantation, Neuroprotection.

Poster 33

Presenter: Matthew Loftspring, Neurology, University of Cincinnati.

Coauthors: Craig Hansen, Joseph F. Clark.

Title: **Heme products and inflammation after intracerebral hemorrhage.**

Key Words: Stroke, inflammation, intracerebral hemorrhage.

Poster 34

Presenter: Derrick Choi.

Coauthors: Jon F Davis, Maureen E Fitzgerald, Stephen C Benoit.

Title: **Anticipation of palatable food and maintenance diet differentially activates the orexin system.**

Key Words: Orexin, Conditioned palatable feeding, Food Reward.

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