

# NEURO NEWS

## News from the Director and Admissions Chair

### Mary T. Lucero, Ph.D., Director:

#### Neuroscience Program Receives Excellent Review!

Thanks to all faculty, students, alumni, and especially Tracy Marble for your efforts in the Graduate Council Review of the Neuroscience Program. We received excellent feedback and will be implementing some of the recommendations in the upcoming academic year. Below is the commendation from the external review committee. "This is an excellent doctoral training program in neuroscience, deserving of strong support so that it can not only maintain its current status but expand. This program, and UU, should be proud of what they have accomplished. The external review committee was impressed with all aspects of the program. A thoughtfully designed training program has been developed and has now matured. The interdepartmental group of faculty that comprise the training faculty are excellent and they are committed to the success of the program. The program recruits very good students and trains them well. The training that the students receive serves as a good launching off point for them to continue their training and ultimately secure appropriate professional positions." ... "The quality of students that elect to matriculate at UU PIN is high by all objective measures, including GPAs and GREs." Both internal and external reviews are available upon request. Please feel free to comment on the recommendations.

#### It's Time for the NIH Training Grant Renewal and Recruitment Weekend!

Hard to believe it has been almost 4 years since we received the NIH T32 Neuroscience Training Grant. Our competitive renewal application will be due May 1, 2010. Tracy is already gathering information from students and will soon contact faculty for updated CVs. Please be extremely responsive to her requests. The quality and number of new students recruited for this upcoming fall will have an important impact on the success of the renewal application. Please mark your calendars now to be available to whole heartedly participate in our Recruitment Weekend (Feb. 12 & 13, 2010). Dr. Sabine Fuhrmann and the Admissions Committee have consistently done an outstanding job of selecting students to invite for interviews. Let's all support their efforts by interviewing, hosting, and attending the Recruitment Reception at the JCC on February 12th.

### Sabine Fuhrmann, Ph.D., Admissions Chair:

The success of our admissions and recruitment activities is highly dependent on the help and enthusiasm of the current graduate students who are hosting the student candidates. This year, **Scott Lauritzen** and **Elissa Pastuzyn** will play a major role in hosting the student candidates.

Our committee members continue to be: **Gary Rose** (Biology), **Alessandra Angelucci** (Ophthalmology & Visual Sciences), **Kuby Balagurunathan** (Medicinal Chemistry), and **Yukio Saijoh** (Neurobiology & Anatomy), and **Sabine Fuhrmann** - Chair (Ophthalmology & Visual Sciences). Joining the committee this year are: **Ning Tian** (Ophthalmology & Visual Sciences), **Maureen Condic** (Neurobiology & Anatomy) **Sharif Taha** (Physiology), and **Joshua Bonkowsky** (Pediatrics). A big thank you to **Jeanne Frederick** (Ophthalmology & Visual Sciences), **Ray Kesner** (Psychology), and **Shannon Odelberg** (Internal Medicine), who rolled off the committee this year after serving for the past several years.

**This year our main admissions interview day will be Friday, February 12th and, as usual, there will be a reception at the Jewish Community Center, 2 North Medical Drive, on Friday evening from 6:00-9:00pm. Your participation at the reception is a crucial part for the success of all our admissions activities.**

We will be soliciting support during the reception again with a poster session. Neuroscience students who have received travel support \$\$ from the Neuroscience Program will be asked to bring a poster (as part of the travel \$\$ received) and we will be asking for others to help out by bringing posters from their labs. This was very successful last year and we are excited to do this again this year.

This gives candidates insight into the research activities and interests of the faculty, postdocs and students involved in the Program. If you would like to present a poster this year, please, send an e-mail to Tracy Marble ([tracy.marble@hsc.utah.edu](mailto:tracy.marble@hsc.utah.edu)).

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## \*\*\*ALUMNI NEWS\*\*\*

**David Hutcheson (Vetter lab '03):** is now a research scientist at the Moran Eye Center in Dr. Greg Hageman's group.

**Hutcheson, D.A.,** and Kardon, G. (2009) Genetic manipulations reveal dynamic cell and gene functions: Cre-ating a new view of myogenesis. *Cell Cycle*, Nov 15;8(22):3675-8. Epub 2009 Nov 4.

**Hutcheson, D.A.,** Zhao, J., Merrell, A., Haldar, M., and Kardon, G. (2009) Embryonic and fetal limb myogenic cells are derived from developmentally distinct progenitors and have different requirements for beta-catenin. *Genes Dev.*, Apr 15;23(8):997-1013. Epub 2009 Apr 3.

**Kerry-Ann Stewart (H.S. White lab '09):** is now in her second quarter at Stanford Medical School.

Boison, D., **Stewart, K.A.** (2009) Therapeutic epilepsy research: from pharmacological rationale to focal adenosine augmentation. *Biochemical pharmacology*, 78(12):1428-1437.

**Stewart, K.A., Wilcox, K.S., Fujinami, R.S.,** and **White, H.S.** (2009) Theiler's virus infection chronically alters seizure susceptibility. *Epilepsia*, Early View Online: 1 Dec 2009.

**Matt Schmolesky (Leventhal lab '00):** is the WSU Neuroscience Program Director. He recently initiated and gained approval for the WSU undergraduate Interdepartmental Neuroscience Minor. He is also the SFN Intermountain Chapter President and did a great job getting GrassTraveling Scientist Program funding for the keynote speaker at the Snowbird Symposium.

**Josh Cameron (Zhang lab '07):** has just finalized an offer to be an Assistant Professor in Optometry at the Western University of Health Sciences College of Optometry in Pomona, CA beginning in June 2010. He and his family are very excited about the opportunity and look forward to being back West.

**Matt Reidy (Keefe lab '09):** and his wife Jessica welcomed Madeline Gail Riedy (7 lbs. 7 Oz., 21") into the world on October 13th, 2009 at about 8:43 PM. Everyone is doing great!

## \*\*\*Important Dates\*\*\*

**Feb. 12: Neuroscience Program Recruitment.** Our annual reception devoted to recruiting student candidates for the upcoming academic year will be held at the Jewish Community Center, 2 North Medical Drive, Friday, February 12th from 5:00-9:00pm. There will be, of course, the usual amounts of food and drink.

**March 15-21: National Brain Awareness Week.** **Rebecca Parker** (parker.becca@utah.edu) chair of the committee this year.

**May 13: Annual Neuroscience Student Symposium**  
Student organizer: Jeremy Wilkerson

**Oct. 22: Annual Snowbird Symposium**

## \*\*\*STUDENT AWARDS\*\*\*

**Andrew Zayachkivsky (Dudek lab)** has been awarded an Epilepsy Foundation Fellowship.

## \*\*\*Post Doc Opportunities\*\*\*

### Mouse Behavior Postdoctoral Fellow

Several post-doctoral positions are available to study mouse models of human aneuploidy and neurobiology in the group of Dr. Julie R. Korenberg at the Center for Integrated Neuroscience and Human Behavior at the University of Utah.

Qualified applicants must have a Ph.D in neuroscience, human genetics or related field. One position is for an individual with experience or post-graduate training in mouse behavior and anatomical analysis. A second position is for an individual with experience in high throughput compound screening, molecular biology, genome analysis or cellular neurobiology.

Individuals will work in a highly interactive and productive environment with the potential to advance to a future faculty position. Communication skills, past research experience, and a productive record of publications will be strongly considered in the selection process.

Please apply by sending a brief statement describing research experience and career goals, a CV, and letters from three (3) references to Melissa Burback at [Melissa.burback@utah.edu](mailto:Melissa.burback@utah.edu) with a cc to Dr. Korenberg at [Julie.korenberg@hsc.utah.edu](mailto:Julie.korenberg@hsc.utah.edu).

### in vivo Electrophysiology Postdoctoral Fellow

A Postdoctoral Fellow position is available in the laboratory of Dr. Sharif Taha. We're looking for a candidate interested in studying the neural circuits underlying reward and motivation. Work in the lab is focused on two projects: understanding the contribution of endogenous opioids to gustatory reward; and elucidating the neural circuit substrates of impulsivity, especially drug induced impulsivity. We use a combination of behavioral, molecular/cellular and systems neuroscience approaches in our experiments, with special emphasis on in vivo electrophysiological recording in behaving animals. Highly motivated candidates with a broad range of scientific backgrounds are welcome to apply but preference will be given to those with training in in vivo electrophysiology techniques. Salt Lake City, Utah offers the benefits of an urban setting with uniquely accessible outdoor attractions, including world-class skiing and rock-climbing. Candidates must possess a recent Ph.D. or equivalent degree. To apply, please submit a CV including a statement of research experience/interests and a list of references to Dr. Sharif Taha ([s.taha@utah.edu](mailto:s.taha@utah.edu)) at the Department of Physiology, University of Utah, 420 Chipeta Way, Suite 1700, Salt Lake City, UT, 84108.

## \*\*\*\*NEW FACULTY\*\*\*\*

Since the last issue of NeuroNews we have added the following new faculty:

### **Chuck Dorval, Ph.D., Assistant Professor of Bioengineering.**

Research: Information processing in the brain from a functional electrophysiological perspective.

### **Gholson J. Lyon, M.D., Ph.D., Assistant Professor of Psychiatry.**

Research: Genetics, pathophysiology and treatment of neuropsychiatric disorders, including Tourette Syndrome, Attention Deficit Hyperactivity Disorder, and Obsessive Compulsive Disorder, autism and mental retardation.

### **Anthea Letsou, Ph.D., Associate Professor of Human Genetics.**

Research: Human disease and development using both embryonic and adult stages of fruit fly.

### **Ning Tian, Ph.D., Associate Professor of Ophthalmology & Visual Sciences.**

Research: Mechanisms of synaptic plasticity in retinal development.

## \*\*\*\*Society for Neuroscience (SfN)\*\*\*\*

### \*\*\*\*Intermountain Chapter 2009 Survey Results\*\*\*\*

The Intermountain (IM) Chapter ([brain.utah.edu/SfN](http://brain.utah.edu/SfN)) held an all-members meeting on November 7th, 2009, during the annual Neuroscience Symposium held at Snowbird. The results of the member survey (52 respondents) are below:

#### Suggested Level of IM Chapter Involvement:

	Extensive	Moderate	None
Prof Dev (Career Panels, etc.)	57%	40%	3%
UT NeuroResrch Day/Ann Meeting	52%	37%	11%
Chapter Grants & Award	69%	27%	4%
Building Inter-U Collaborations	35%	55%	10%
Public Advoc/Engaging Legislators	36%	53%	11%
Public Outreach and Education	46%	46%	8%
Intermountain Chapter Website	26%	63%	11%
BAW Training and Social Event	46%	44%	10%
Reporting to the SfN	24%	65%	11%

In addition to these responses, the majority of the membership voted for the IM chapter to collect dues, ranging from \$10 to \$30 annually, with different faculty and student rates. The most popular suggested roles for the IM chapter included: 1) an IM chapter-sponsored poster session at the annual Snowbird Neuroscience Symposium; 2) an IM chapter-sponsored social at the SfN Annual Meeting; 3) career development offerings for trainees, e.g., career panel and grant writing workshops; and 4) an IM chapter-sponsored Utah Neuroscience Meeting, distinct from the annual retreat at Snowbird.

The IM chapter executive advisory committee will meet in February 2010 to formulate a plan for the year based on the valuable member feedback.

Comments? Email [Intermountain\\_SfN@unite.utah.edu](mailto:Intermountain_SfN@unite.utah.edu) .

## \*\*\*\*ACADEMIC DEFENSES\*\*\*\*

Since the last issue of NeuroNews, the Neuroscience Program has had the following students successfully defend their dissertation: **Peter Westenskow (Fuhrmann lab)**, and **Sarah Farnsworth (Fleckenstein lab)** Sarah should have been mentioned in the Fall 2009 issue.

Since the last issue of NeuroNews, the Neuroscience Program has had the following students successfully pass their qualifying exam: **Christina Rossi (Kesner lab)**, **Ryan Constantine (Baehr lab)**, **Yelena Filchakova (McIntosh lab)**, **Cornelia Stacher-Horndli (Chien lab)**, **Eli Iacob (Wilcox lab)**, **Shaili Johri (Jorgensen lab)**, **Andrea Schwager (Hoffman lab)**, **James Tucker (Marc lab)**, and **John Gaynes (Chien lab)** and dissertation proposal; **Sean Flynn (H.S. White lab)**, **Vernon Twede (Olivera lab)**, and **Randi Rawson (Jorgensen lab)**.

## \*\*\*\*Brain Awareness Week 2010\*\*\*\*

### Castle Foundation Grant for Brain Awareness Week

The Castle Foundation awarded \$4,000 to the Brain Institute in December 2009 to support Brain Awareness Week outreach education. The funds will be used to build the Brain Awareness Week library of educational materials, including anatomical models; neuroscience posters and videos; and other fun materials to engage the public in neuroscience.

This year's Brain Awareness Week events are scheduled for March 15-21. BAW is designed to spread the word about brain health and neuroscience research to the public of Salt Lake City, and get kids excited about science! Plans for this year include local school visits, public events at the City Library, and setup of a Brain Awareness 'Home Base' on campus. As always, the committee is looking for volunteers who enjoy public outreach! For those interested in donating their time to a worthy cause: please email [parker.becca@utah.edu](mailto:parker.becca@utah.edu).

## \*\*\*\*The Brain Institute brings cutting-edge neuroscience to U in March 2010\*\*\*\*

This spring, the Brain Institute will launch a new program—the Biannual Brain Institute March Symposia featuring invited, world-class neuroscientists and clinicians. One symposium will have a basic neuroscience theme and the other, a clinical & translational neuroscience theme. This year's symposia, to be held at the Utah Museum of Fine Arts, will highlight Imaging Neurons (March 1, 2 to 6 PM) and Neurobiology of Addiction (March 19, 2 to 6 PM). Visit [brain.utah.edu](http://brain.utah.edu) for more details. All faculty, staff and students are welcome. This spring, the Brain Institute will put out a call for proposals from Brain Institute members to select next year's topics.

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## \*\*\*\*\*Recently Published\*\*\*\*\*

Agathocleous, M., Iordanova, I., Willardsen, M.I., Xue, Y., **Vetter, M.L.**, Harris, W.L., and Moore, K.B. (2009) A directional Wnt/ $\beta$ -catenin-Sox2-Proneural Pathway Regulates the Transition from Proliferation to Differentiation in the Xenopus Retina. *Development*, 136:3289-3299.

Amiott, E.A., Lott, P., Soto, J., Kang, P.B., McCaffery, J.M., DiMauro, S., Abel, E.D., Flanigan, K.M., Lawson, V.H., and Shaw, J.M. (2008) Mitochondrial fusion and function in Charcot-Marie-Tooth type 2A patient fibroblasts with mitofusin 2 mutations. *Exp Neurol.*, May;211(1):115-127. Epub 2008 Jan 26.

Amiott, E.A., Cohen, M.M., Saint-Georges, Y., Weissman, A.M., and Shaw, J.M. (2009) A mutation associated with CMT2A neuropathy causes defects in Fzo1 GTP hydrolysis, ubiquitylation, and protein turnover. *Mol Biol Cell*, Dec;20(23):5026-35. Epub 2009 Oct 7. Highlighted as an "INCYTES FROM MBC" in the December 2009 American Society for Cell Biology Newsletter.

Bleyl, S.B., **Saijoh, Y.**, Bax, N.A.M., Gittenberger-de Groot, A.C., Wisse, L.J., Chapman, S.C., Hunter, J., Shiratori H., Hamada, H., Yamada, S., Shiota, K., Klewer, S.E., Leppert, M.F., and **Schoenwolf, G.C.** (2010) Dysregulation of the PDGFRA gene causes inflow tract anomalies including TAPVR: Integrating evidence from human genetics and model organisms. *Human Molecular Genetics*, in press.

Brunzell, D.H., Boschen, K.E., Hendrick, E.S., Beardsley, P.M., and **McIntosh, J.M.** (2009) alpha-Conotoxin MII-Sensitive Nicotinic Acetylcholine Receptors in the Nucleus Accumbens Shell Regulate Progressive Ratio Responding Maintained by Nicotine. *Neuropsychopharmacology*, Nov 4. [Epub ahead of print]PMID: 19890263

**Federer, F.**, Ichida, J.M., Jeffs, J., Schiessl, I., McLoughlin, N., and **Angelucci, A.** (2009) Four projection streams from primate V1 to the cytochrome oxidase stripes of V2. *J Neurosci.*, Dec 9;29(49):15455-15471.

**Hone, A.J.**, Whiteaker, P., Christensen, S., Xiao, Y., Meyer, E.L., and **McIntosh, J.M.** (2009) A novel fluorescent alpha-conotoxin for the study of alpha7 nicotinic acetylcholine receptors. *J Neurochem*, Oct;111(1):80-89.

Jackson, K.J., **McIntosh, J.M.**, Brunzell, D.H., Sanjakdar, S.S., and Damaj, M.I. (2009) The role of alpha6-containing nicotinic acetylcholine receptors in nicotine reward and withdrawal. *J Pharmacol Exp Ther*, Nov;331(2):547-554.

Quik, M., Campos, C., Parameswaran, N., Langston, J.W., **McIntosh, J.M.**, and Yelushvili, M. (2009) Chronic Nicotine Treatment Increases nAChRs and Microglial Expression in Monkey Substantia Nigra After Nigrostriatal Damage. *J Mol Neurosci*, Aug 15.

**Riedy, M.D., Kesner, R.P., Hanson, G.R., and Keefe K.A.** (2009) Discriminative stimulus- vs. conditioned reinforcer-induced reinstatement of drug-seeking behavior and arc mRNA expression in dorsolateral striatum. *The Basal Ganglia IX: Advances in Behavioral Biology*. H. J. Groenewegen. New York, Springer. 58:269-284.

Schwabe, L., Ichida, J.M., **Shushruth, S.**, Mangapathy, P., and **Angelucci, A.** (2010) Contrast-dependence of surround suppression in Macaque V1: Experimental testing of a recurrent network model. *Neuroimage*, in press.

Willardsen, M.I., Suli, A., Pan, Y., Marsh-Armstrong, N., **Chien, C.B.**, El-Hodiri, H., Brown, N.L., Moore, K.B., and **Vetter, M.L.** (2009) Temporal regulation of Ath5 gene expression during eye development. *Dev. Biol.*, 326(2):471-481.

Xiao, C., Nashmi, R., McKinney, S., Cai, H., **McIntosh, J.M.**, and Lester, H.A. (2009) Chronic nicotine selectively enhances alpha4beta2\* nicotinic acetylcholine receptors in the nigrostriatal dopamine pathway. *J Neurosci*, Oct 7;29(40):12428-12439.

Yun, S., **Saijoh, Y.**, Hirokawa, K.E., Kopinke, D., Murtaugh, L.C., Monuki, E.S., and **Levine, E.M.** (2009) Lhx2 links the intrinsic and extrinsic factors that control optic cup formation. *Development*, Dec;136(23):3895-3906.

Do you have something to submit in the next issue of NeuroNews?  
Send your information to: Tracy Marble, Program in Neuroscience  
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