

NEURO NEWS

News from Admissions, Recruiting and YouTube Outreach

From the Admissions Committee Chair - Michael Deans

The Neuroscience Program admissions committee recently invited **Drs. Sungjin Park** (Neurobiology & Anatomy) and **Skyler Jennings** (Communication Sciences) to join our returning members: **Hilary Coon** (Psychiatry), **Mike Deans** (Otolaryngology), **Chuck Dorval** (Bioengineering), **Bryan Jones** (Ophthalmology), **Jason Shepherd** (Neurobiology & Anatomy) and **Jun Yang** (Ophthalmology). Previous committee members **Drs. Chris Gregg** and **Karen Wilcox** have completed their commitments and we appreciate their service.

The committee has been active and we have received a total of 112 applications from students across the US and world. **NP faculty and current students are invited to meet our top candidates at a dinner reception and poster session to be held at the JCC on February 12th--so save the date!**

From the Recruitment Committee Chair - Megan Williams

Faculty and student representatives were busy recruiting top undergraduates at several national meetings this fall including SFN, SACNAS, and ABRCAMS. Thanks to a new "public relations" student committee we had a lot of new material for these recruitment events and they were a huge success. If any students are interested in helping with recruitment, either by attending conferences or working behind the scenes on promotional materials and webpages, please email **Megan Williams** (Recruitment chair) or **Andrew Taibi** (Public relations committee chair).

Brain Education videos

Suzanne Stensaas, PhD, and emeritus professor in the Department of Neurobiology and Anatomy has finished a series of 26 HD videos now posted on YouTube through the Eccles Health Science Library, <http://library.med.utah.edu/e-channel/brain-anatomy-dissection/>

The project started in 2012 as videos to be used in teaching Neurology in Ghana and Kenya where cadaver material is essentially non-existent. The focus was to teaching the core anatomy necessary for localizing most patient lesions.

The focus of the videos is on gross material but it includes some diagrams, animations and models. The style is informal, similar to the approach used during 45 years of teaching at the University of Utah. Some of the videos are short (5 min) and others longer (30 min) covering the external and internal features and principal sensory and motor systems.

In association with the local Brain Awareness week, two of the videos, the Unfixed Brain and the Unfixed Spinal Cord were posted on YouTube three years ago and the former has been viewed by three million people, while the puny, but so important, spinal cord has had only 29,000 views! The fresh tissue is oh so vulnerable compared to the rubbery fixed brain and this is graphically emphasized in hope of encouraging the use of helmets, seat belts and caution.

The audience for these videos can be nurses, physician assistants, medical students, residents or anyone interested in the brain. Videos can also be used in conjunction with the NeurologicExam Website, http://library.med.utah.edu/neurologicexam/html/home_exam.html All of the videos have English captions to assist those for whom English is not their native language or to visualize the many new terms.

Progress is being made in posting the videos to a website where they can be downloaded and put on local servers in the many foreign places where Internet connectivity is slow.

Credit goes to the Eccles Health Sciences Library of the School of Medicine for the videography and server support and to Paul Burrows from Teaching and Learning Technology at the University of Utah.

****ALUMNI NEWS****

Elliot Smith:

Smith, E.H., Banks, G.P., Mikell, C.B., Cash, S.S., Patel, S.R., Eskandar, E.N., and Sheth, S.A. (2015) Frequency-Dependent Representation of Reinforcement-Related Information in the Human Medial and Lateral Prefrontal Cortex. *Journal of Neuroscience*, 35(48):15827-15836. doi: 10.1523/JNEUROSCI.1864-15.2015

Benedict Albensi:

Djordjevic, J., Sabbir, M.G., and **Albensi, B.C.** (2015) Traumatic brain injury as a risk factor for Alzheimer's disease: Is inflammatory signaling a key player? *New Concepts in Alzheimer's Research in Current Alzheimer Research*, in press.

Omar, S.I., **Albensi, B.C.**, and Gough, K. (2015) Modelling the binding of Ca²⁺ and Zn²⁺ to Calbindin D28k and understanding their competition through protein structural analysis. *Current Alzheimer Research*, in press.

Chowdhury, S.R., Djordjevic*, J., **Albensi, B.C.**, and Fernyhough, P. (2015) Simultaneous evaluation of substrate-dependent oxygen consumption rates and mitochondrial membrane potential by TMRM and safranin in cortical mitochondria. *Bioscience Reports*, BSR2015/0244, in press. *This author is a co-first author.

Cadonic, C., Sabbir, M.G., and **Albensi, B.C.** (2015) Mechanisms of Mitochondrial Dysfunction in Alzheimer's Disease. *Molecular Neurobiology*, 2015 Nov 4..[Epub ahead of print]

Snow, W., Pahlavan, P., Djordjevic, J., McAllister, D., Platt, E., Alashmali, S., Bernstein, M.J., Suh, M., and **Albensi, B.C.** (2015) Morris water maze training in mice elevates hippocampal levels of transcription factors nuclear factor (erythroid-derived 2)-like 2 and nuclear factor kappa B p65. *Frontiers Molecular Neuroscience*, 2015 Nov 18;8:70. doi: 10.3389/fnmol.2015.00070. eCollection 2015.

Tim Simeone has been promoted to Associate Professor. Roundtree, H.M., **Simeone, T.A.**, Johnson, C., Matthews, S.A., Samson, K.K., and Simeone, K.A. (2015) Orexin Receptor Antagonism Improves Sleep and Reduces Seizures in Kcna1-null Mice. *Sleep*, Oct 5. pii: sp-00192-15. [Epub ahead of print]

Simeone, K.A., Johnson, C.J., Samson, K.K., Roundtree, H.M., **Simeone, T.A.**, and Tarhok, L.A. (2015) 'Part III: Homeostatic Manipulators: Preventative and Restorative Opportunities: Chapter 18: Sleep' In Masino & Boison (Eds), Homeostatic Control of Brain Function. Oxford Press. Dec 2015, 314-332.

****Other 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 **AND chocolate fountain!**

March 14-20: National Brain Awareness Week. Patrick Parker is the chairs of the committee this year.

May 11: Annual Neuroscience Student Symposium
Student organizer: Michelle Reed

October 28: Annual Snowbird Symposium
Student organizers: Evan Ratzan

****SEMINAR SERIES 2015-2016****

Remaining seminars for this year:

January 19: Rick Haganir, Ph.D., Johns Hopkins SOM

February 16: Yang Dan, Ph.D., UC-Berkeley

March 15: Chris Dulla, Ph.D., Tufts U

April 19: David J. Loane, Ph.D., U of Maryland SOM

see more details at:

<http://neuroscience.med.utah.edu/Meetings.html>

ACADEMIC DEFENSES

Since the last issue of NeuroNews, the Neuroscience Program congratulates the following students on successfully passing their qualifying exams: **Anthony Iuso (Krizaj lab)**, **Sasha Luks-Morgan (Douglass lab)**, and **Pablo Maldonado (Maricq lab)**.

and dissertation proposals; **Jefferson Brown (Marc lab)**, **Rishi Alluri (Rose lab)**, **Sarah Anderson (Vetter lab)**, **Tyler Hanak (Fujinami lab)**, **Jaycie Loewen (Wilcox lab)**, and **Donn Van Deren (Capecchi lab)**.

****NEWSWORTHY****

Congrats to Tom Eiting, postdoc in the **Wachowiak lab**, who was awarded an NRSA fellowship beginning April 1. Title: 'Effects of sniffing on olfactory bulb processing'.

RECENTLY PUBLISHED

Duncan, R.N., Panahi, S., Piotrowski, T., and **Dorsky, R.I.** (2015) Identification of Wnt Genes Expressed in Neural Progenitor Zones during Zebrafish Brain Development. *PLoS One*, Dec 29;10(12):e0145810. doi: 10.1371/journal.pone.0145810. eCollection 2015.

Duncan, R.N., Xie, Y., **McPherson, A.D., Taibi, A.V., Bonkowsky, J.L., Douglass, A.D.,** and **Dorsky, R.I.** (2016) Hypothalamic radial glia function as self-renewing neural progenitors in the absence of Wnt/B-catenin signaling. *Development*, Nov 24. pii: dev.126813. [Epub ahead of print]

Iuso, A., and **Križaj, D.** (2016) TRPV4-AQP4 interactions 'turbocharge' astroglial sensitivity to small osmotic gradients. *Channels*, in press.

King, J.B., Lopez-Larson, M.P., and **Yurgelun-Todd, D.** (2016) Mean cortical curvature reflects cytoarchitecture restructuring in mild traumatic brain injury. *Neuroimage Clin*, doi: 10.1016/j.nicl.2016.01.003

Martin, E.A., Muralidhar, S., Wang, Z., Cervantes, D.C., Basu, R., Taylor, M.R., Hunter, J., Cutforth, T., Wilke, S.A., Ghosh, A., and **Williams, M.E.** (2015) The intellectual disability gene Kirrel3 regulates target-specific mossy fiber synapse development in the hippocampus. *Elife*, Nov 17

McPherson, A.D., Barrios, J.P., Luks-Morgan, S.J., Manfredi, J.P., **Bonkowsky, J.L., Douglass, A.D.,** and **Dorsky, R.I.** (2016) Motor Behavior Mediated by Continuously Generated Dopaminergic Neurons in the Zebrafish Hypothalamus Recovers after Cell Ablation. *Current Biology*, in press. DOI: <http://dx.doi.org/10.1016/j.cub.2015.11.064>

Viswanathan, S., **Williams, M.E.,** Bloss, E.B., Stasevich, T.J., Speer, C.M., Nern, A., Pfeiffer, B.D., Hooks, B.M., Li, W.P., English, B.P., Tian, T., Henry, G.L., Macklin, J.J., Patel, R., Gerfen, C.R., Zhuang, X., Wang, Y., Rubin, G.M., and Looger, L.L. (2015) High-performance probes for light and electron microscopy. *Nat Methods*, Jun;12(6):568-76.



From the YouTube videos from page 1: **Suzanne Stensaas, Ph.D.,** emeritus professor of Neurobiology and Anatomy

Neuroscience Initiative News

Brain Awareness Week

Brain Awareness Week is quickly approaching! From March 14th - 18th, we'll head into various schools to educate elementary through high school students on brain function and neuroscience research. The week will end with a larger event on March 20th that is oriented toward all ages and open to the general public. Brain Awareness Week is always a hit and is only possible because of volunteers from the greater neuroscience and medical community, so save the dates and keep an eye out for emails with more information as the week approaches. You can also email neurobaw@gmail.com with any questions. See you soon!

Brain Awareness 2016 Chair: **Patrick Parker**, Graduate Student, Neuroscience Program

Making a Difference in Nicaragua

Not only do neuroscience volunteers from the University of Utah make a difference in the local community, but worldwide. An ambitious team of trainees led by **Evan Ratzan** is taking educational modules, designed to be appropriate for the local people, to rural Nicaragua where resources (and formal education in science) are hard to come by.

Organizer: **Evan Ratzan**, Graduate Student, Neuroscience Program
Patrick Parker, Graduate Student, Neuroscience Program
 Daniela Chavez, Graduate Student, Human Genetics
 Judith Simcox, Postdoctoral Associate, Biochemistry

Creating Buzz About the Brain

2016 marks the year of the first annual Salt Lake Brain Bee! The Brain Bee is an high school (age 14-18) neuroscience competition. The students will work with histology slides, real human brains, and question/answer segments based on material provided by the SfN Brain Facts, the British Neuroscience Association, and the European Dana Alliance for the Brain. They'll be treated to a presentation by **Dr. Scott Rogers**, have a meet and greet with graduate students and scientists, go on lab tours, and be treated to lunch. The top three winners get cash prizes and gifts, and the first place winner and a parent are provided travel and boarding to the Maryland National Competition in March.

We cannot underestimate how this experience could inspire students to join scientific careers or help them get into college. We are currently looking for volunteers to help with running the event on January 30th. If you're interested, email **Jennifer Cheng** at Jennifer.Cheng@utah.edu or fill out the volunteer form on our website at <https://sites.google.com/site/saltlake-brainbee/>.

Sharing the Excitement

Generously sponsored by the Castle Foundation, the Eskuche Foundation, the Dana Alliance for Brain Initiatives, and private donations, The Lending Library at the University of Utah has a wide variety of models, books, movies, activities, and lesson plans freely available to any educator or volunteer in the Salt Lake metro area. To learn more or request materials, please contact us:

Rebecca Parker, Program Manager
 801-585-0343, parker.becca@utah.edu
www.neurogateway.utah.edu

POSTDOCTORAL POSITIONS

Joint Coon-Williams lab

The labs of **Drs. Hilary Coon (Psychiatry)** and **Megan Williams (Neurobiology and Anatomy)** jointly seek a post-doc to investigate the neurobiology of suicide. This project involves handling human post mortem brain tissue, spine analysis, microscopy, and possibly human iPS cell work. The person should also have very good communication and leadership qualities because, although they will lead an individual project, they will coordinate a highly collaborative team of multi-disciplinary researchers working on suicide. Position available immediately. Interested candidates should email their research interests and C.V. with a list of references to hilary.coon@utah.edu and megan.williams@neuro.utah.edu.

Mansour Lab

My laboratory has an open position for a postdoctoral fellow to work on NIH-funded projects involving FGF signaling in cochlear development, with a focus on auditory supporting and sensory cell differentiation in the mouse model. The ideal candidate should have at least two years of graduate or postdoctoral research experience in perinatal/postnatal inner ear development, including anatomic, molecular and functional analyses, with strong publications (can be pending) in these areas. Individuals with expertise in confocal microscopy of other developing and mature sensory systems with an interest in studying the ear are also encouraged to apply. Experience with mouse genetics is not absolutely required, but is a big plus. The stipend will follow the NIH guidelines (based on years of experience). Benefits include health and dental insurance through the University of Utah Faculty and Staff plan. The candidate will be mentored through the process of applying within two years of the initial appointment for individual support (for stipend and/or newly developed project) as appropriate. In addition, presentation and networking opportunities include participation in the weekly Human Genetics Research-in-Progress series and the monthly University of Utah Inner Ear Research Group, which comprises multiple labs with diverse interests. I will also provide an opportunity to attend at least one appropriate scientific conference per year.

If interested, please contact me at suzi.mansour@genetics.utah.edu and provide a very brief (< 1 page) current research description, a Biosketch, and the names and contact information of two individuals (current PI and one other), who can be contacted to comment on your suitability for this position.

Yamaguchi Lab

Postdoctoral and doctoral positions in vocal motor production, University of Utah

Postdoctoral and doctoral positions are currently available in the laboratory of Ayako Yamaguchi (<http://bioweb.biology.utah.edu/yamaguchi/>) in the Department of Biology at the University of Utah. Successful candidates will work on a project that investigates the cellular and synaptic mechanisms underlying rhythmic vocal production in the African clawed frog, *Xenopus laevis*. A unique feature of the *Xenopus* vocal system is that we can study the functional properties of the vocal pathways in vitro using a "singing brain in a dish" preparation that we previously developed. By applying a variety of experimental methods including electrophysiological, pharmacological, immunohistochemical, and more recently developed optogenetic techniques, we will strive to answer how neurons function together to generate male- and female-specific vocal rhythms in androgen-dependent manner. The positions are funded through an NSF grant, and available starting June 2016. A background in cellular neurobiology and/or electrophysiology is preferred for postdoctoral candidates. In addition to receiving a strong training in cellular and systems neuroscience, the collaborative nature of the research program together with the diverse faculty in the neuroscience community on campus provides an opportunity to pursue various directions of research including computational neuroscience, optical imaging, and molecular neuroscience. Please e-mail a CV and a list of references to Dr. Ayako Yamaguchi.

Ayako Yamaguchi
Associate Professor
a.yamaguchi@utah.edu
<http://bioweb.biology.utah.edu/yamaguchi/>

*Do you have something to submit in the next issue of NeuroNews?
Send your information to: Tracy Marble, Program in Neuroscience
401 MREB, FAX: 581-4233, or e-mail: tracy.marble@hsc.utah.edu*