

THE TRIANGLE TRANSMITTER

A New Year Filled with New Opportunities

Friends and colleagues,

It was only 15 months ago that our chapter was reinstated after more than 15 years of dormancy. I am thrilled to report that thanks to the hard work of a dedicated team and the enthusiastic support of our members and the neuroscientist community in the Triangle area, our chapter is one of the most vibrant in the country. Our “sold out” Science Day in April, Science Policy Day with Congressman David Price, community outreach activities, and exchange scientists program between local universities are some examples of our successes during this relatively short period.

As we start our second year and the new academic year, I would like to encourage all members to get involved. We need the dedication of our members to continue promoting neuroscience, fostering collaboration and enhancing our outreach program for the greater population in our area. Please join us in this exciting journey.



*Amir H. Rezvani, PhD
Triangle SfN President*

Amir H. Rezvani

OCTOBER 2015

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Gretchen Spro, PhD

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*Stephanie Heflin, PhD
Shannon Farris, PhD*

Mark your Calendar for These Upcoming Events!

October 1: “The Fly Room” movie introduced by the director Alexis Gambis, NC Museum of Natural Sciences (7:00 pm)

October 17-21: Neuroscience 2015, Chicago; see pages 6-7 for a list of talks by Triangle SfN members!

November 12: Harold Zakon, public lecture at the NC Museum of Natural Sciences (3:30 pm, 101 DCL)

November 18: Inaugural T-K Li Distinguished Lecture by Dr. George Koob at the Mary Duke Biddle Trent Semans Center (4:00 pm; see page 8 for information)

March 17: Brain Awareness Day Presentation with Marina Picciotto, Science Café at the NC Museum of Natural Sciences (7:00 pm, 101 DCL)

Have an event you'd like to promote in an upcoming newsletter? Send an email to trianglesfnnews@gmail.com

Reflections 2015: Triangle SfN Anniversary Celebration

At the end of July, Triangle SfN members gathered at RTP Headquarters to look back at the many events and achievements in the first year of chapter reactivation, including the successful town hall meeting with Congressman David Price, the highly-attended North Carolina social at Neuroscience 2014, numerous brain awareness week events, the initiation of the speaker exchange program with the Western NC SfN Chapter, and the First Annual Spring Meeting.

During this midsummer social event, SfN members viewed a slide show of pictures from events over the past year, mingled with fellow neuroscientists from around the Triangle while enjoying live music from the Counterclockwise String Band, and listened to brief presentations from the executive board and committee chairpersons.

At the end of the event, a brief business meeting was held to close out finances for the 2014-2015 fiscal year, welcome new committee members, and begin brainstorming for the new year.

*Gretchen Sprow, PhD
Communications Committee Chair*



Top: Counterclockwise String Band entertained with traditional and progressive bluegrass.

Bottom: President-elect Tricia Jensen helped cut a specially-designed cake to celebrate a successful first year.



Triangle SfN Members gathered to celebrate a successful first year of reactivation at RTP headquarters

Department of Biological Sciences at NCSU Seeks Assistant and Associate Professors

The Department of Biological Sciences at NCSU (<https://bio.sciences.ncsu.edu>) in the newly formed College of Sciences seeks outstanding candidates for tenure-track faculty positions at the rank of Assistant or Associate Professor.

We seek candidates whose research programs use cutting-edge quantitative and genetic approaches that integrate across multiple levels of biological organization to address fundamental problems in neuroscience, while bridging and augmenting existing research programs in the department. Candidates must hold a Ph.D. and must have demonstrated the capacity to develop and/or maintain a high-quality independent research program.

Support will include attractive start-up packages, laboratory space, and an

exceptionally interactive research environment. To apply, visit jobs.ncsu.edu and search on position number PG150648EP. Complete a candidate profile online, attach a cover letter, curriculum vitae, statement of research interests (1-2 pages), statement of teaching philosophy (1 page), and names and contact information of three individuals willing to write letters of recommendation.

Positions will remain open to applications until October 15, 2015. For additional information please contact Ms. Kathleen Wilson, Department of Biological Sciences (kswilso2@ncsu.edu). North Carolina State University is an equal opportunity/affirmative action employer. Women, minorities, veterans and persons with disabilities are strongly encouraged to apply.

Interested in Science Outreach?

Are you eager to present science to the general public? Are you a teacher at an elementary school, looking for a scientist to visit your students?

The new Triangle SfN Science Outreach Committee is looking to form a Triangle outreach network to make it easier to connect scientists and members of the public!

There are already many efforts underway across the Triangle to increase the public's access to science. There are also many different forms of outreach, each with their own unique opportunities and challenges. Together, we hope to further common outreach goals through networking, coordination, advice, and perhaps even funding.

You can help us form this network by:

- 1) Joining our committee if you are a Triangle SfN member (*Hint: there's a membership form on the back of this newsletter if you're not yet a member!*)
- 2) Letting us know about groups performing science outreach in your area
- 3) Telling us about a great idea *you* have for science outreach in the Triangle
- 4) Signing up as a potential volunteer

If interested in being part of our network, please send an email to the committee at TriangleSfNOutreach@gmail.com

*Christina Lebonville, UNC
Science Outreach Committee Chair*

Triangle Spotlight, October 2015: Duke Professors

This column, a new and recurring series of *The Triangle Transmitter*, will focus on the ongoing research in the academic institutions around the Triangle. This month, I talked with two Duke Neurobiology professors at different stages in their careers.

Jeremy Kay, PhD

Dr. Jeremy Kay is an Assistant Professor in the Neurobiology and Ophthalmology departments. Dr. Kay is intrigued with development of neuronal circuits and how cell-to-cell recognition affects the wiring of circuits. Specifically, his lab is looking for the molecular basis of how neurons find other neurons and make wiring decisions using the “simple” model system of the retina. This is an excellent system to work with, since the morphology, function and development of the retina has been known for some time. There are countless mouse models of retinal diseases and disorders, which Dr. Kay can use to find molecules to treat eye disease. The Kay lab uses mouse genetics to label neighboring cells of the same classification with different colors for easy identification, to knock genes out and to investigate how the development of the retina is perturbed. He is excited about a new project in which he will use live imaging of retinal explants to follow the developing retina over time.

I wondered about the moment when Dr. Kay realized that research was the career for him. He revealed that his undergraduate mentor at Columbia, Dr. Darcy Kelley, was instrumental in his discovery of laboratory work. When he entered her lab, she gave him a project-but he did not know any of the techniques needed to answer the questions. At first, this challenge was overwhelming, but he soon learned he really enjoyed teaching himself new techniques and figuring out creative ways to handle the tasks. Dr. Kelley explained to him that a possible career in science would certainly take a lot of work and commitment. After undergrad, Dr. Kay worked in a lab for two years to ensure

he wanted this career. The lab work cemented his ambition and, once at graduate school, he knew that laboratory research would be his career.

Dr. Kay has been with Duke for over two years, and I asked him about the challenges of setting up a new lab. He said that he intellectually knew what he needed to do - fill an empty lab with people, equipment and reagents. However, once he actually saw the space in person, it was a bit overwhelming. But one year later, he looked around and realized it was done!

Another challenging aspect was the decisions he had to make about the research direction of the lab. Choosing one research path ensured that the door would be closed on other experiments and he had to trust he was making correct decisions. Now that the lab has been operational for a few years and funding is secured, Dr. Kay is excited about the progress being made and how well his lab members are working together.

Nicole Calakos, MD, PhD

Dr. Nicole Calakos is an Associate Professor with the Department of Neurobiology. Dr. Calakos is interested in understanding the mechanisms of synaptic plasticity and how specific types of synaptic plasticity influence behaviors. Her experiments probe these areas at two levels. One is investigating the “nuts and bolts” of the molecular machinery affecting synaptic plasticity and the changing strength and nature of neurons. Another is examining the behavioral significance of specific plasticity and finding possible therapeutics to help patients. She is particularly drawn to the dysfunction of the basal ganglia circuitry, as seen in the movement disorders dystonia and Tourette’s syndrome as well as neuropsychiatric diseases. Utilizing brain slices from mouse models of these diseases, the lab takes measurements of synaptic strength and integrity using electrophysiological techniques.

Dr. Calakos likes to say she has a “dual citizenship” with her MD and PhD backgrounds. Seeing patients with diseases and disorders reveals the behavior linked to the neurological disorders. In the lab, she investigates the disorders on a molecular level to understand the intricate details of the brain. She enjoys bridging the gap between the basic science researchers and the doctors working with patients. She encourages non-clinical researchers to take advantage of talking with medical doctors to see what is needed in the clinical world, and then develop the tools and techniques in the research laboratories. Collaborations among researchers from multiple backgrounds are energizing parts of science that Dr. Calakos truly enjoys.

As a professor with 10 years of experience, Dr. Calakos would never have envisioned when she first started the things she does now. One big component she enjoys is mentoring students and post-docs and helping them develop their careers. Additionally, academia has allowed Dr. Calakos the flexibility to branch into new areas of research. Creating small projects for undergraduates and rotation students have serendipitously developed into drug discovery and drug screening that her lab is investigating. Research is a dynamic environment and Dr. Calakos enjoys adapting new techniques to answer ever more detailed questions in her research.

*Stephanie Heflin, PhD
Duke University*

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Introducing the Triangle SfN Science Policy Working Group

For all of the promise and scientific breakthroughs made possible by the field of neuroscience, funding for our research is overwhelmingly provided through the federal government. With the looming budget negotiations on the horizon, it becomes important for all neuroscientists to be informed on specific legislature that may impact the ability to carry out groundbreaking research. With this in mind, we have formed the Triangle SfN Science Policy Working Group.

The primary focus of this working group will be making information on government policy affecting neuroscience research readily accessible to all of our chapter members. We also plan on meeting regularly with state and federal legislators to discuss how neuroscience research is beneficial to the health and economy of this country. Additionally, we will engage in outreach efforts inform the public of about how critical federal and state funding is to advances in our field.

The working group recently met with Congressman David Price (NC-4) to discuss how valuable biomedical research is and why NIH and NSF funding must be protected.

Unfortunately, the threat of another government shutdown is very real and would result in NIH and NSF budgets being cut over 8%, having devastating effects on North Carolina researchers.

Our goal is that the Triangle SfN Science Policy Working Group can provide critical information on relevant policy and legislation for busy neuroscientists so that they may stay better informed on decisions that impact their work. If you would like more information or to become involved in the working group please contact Dr. Ryan Bell at: ryan.bell@unc.edu.

*Ryan Bell, PhD, UNC
Science Policy Working Group Chair*



Dr. Shannon Farris, the Triangle Chapter Representative, Congressman David Price and Dr. Ryan Bell, the chair of the Triangle Science Policy Working Group, pose for a picture after the in-district meeting at Congressman Price's Chapel Hill Office.

Presentations by Triangle SfN Members at Neuroscience 2015 (October 17th-21st, Chicago, Illinois)

Special Lecture

James O. McNamara (Duke)

*SfN Clinical Neuroscience Lecture-Neurotrophin Signaling and Epileptogenesis:
Mechanistic and Therapeutic Insights*
Sunday, 11:30 AM -12:40 PM
Hall B1

Symposia

H. Scott Swartzwelder (Duke)

*Enduring effects of Adolescent Ethanol Exposure
on Functional Circuitry of Hippocampus and
Prefrontal Cortex*
Wednesday, 9:10 AM - 9:45 AM
Location: S105

Session: Adolescent Alcohol Exposure: Long-term
Neurobiological & Behavioral Consequences

Fulton Crews (UNC)

*Persistent Neuroimmune Gene Induction:
Neurodegeneration and Altered Neurocircuitry
Following Adolescent Alcohol Exposure*
Wednesday, 9:45 AM - 10:20 AM
Location: S105

Session: Adolescent Alcohol Exposure: Long-term
Neurobiological & Behavioral Consequences

Continued from page 6
Minisymposia

Anne E. West (Duke)

Chromatin Regulation of Neuronal Differentiation in the Developing Cerebellum
 Sunday, 1:55 PM - 2:15 PM
 Location: S103

Session: Genomic Views of Transcriptional Enhancers: Essential Determinants of Cellular Identity & Activity Dependent Responses in Neurons (1:30PM – 4:00 PM)

Nanosymposia

Michael L Platt (Duke)

Neurons in Posterior Cingulate Cortex Encode Information Signals and Regulate Behavioral Plasticity
 Saturday, 2:00 PM - 2:15 PM
 Location: N228

Session: Reward & Uncertainty (1:00 PM – 3:00 PM)

D. Li (Duke)

Associations Between Intrinsic Neural Activities And Reactions to Stressful Events, Narrative Centrality, and Negative Affectivity
 Sunday, 10:00 AM -10:15 AM
 Location: N226

Session: Individual Differences (8:00 AM – 10:45 AM)

Kelly Carstens (NIEHS, UNC)

Perineuronal Nets in Hippocampal Area CA2: A Role in Restricting Synaptic Plasticity?
 Sunday, 3:30 PM - 3:45 PM
 Location: N226

Session: Synaptic Plasticity: Mechanisms & Modulation (1:00 PM 3:45 PM)

C. J. Lonergan (UNC)

Neuronal SH-SY5Y Cells Display Different Innate Immune Response to Ethanol and TLR3/4 Stimulation Compared to Microglial BV2 Cells
 Sunday, 4:15 PM - 4:30 PM
 Location: S404

Session: Neuroinflammation & Diseases (1:00 PM – 4:30 PM)

Il Hwan Kim (Duke)

Spine Pruning in Frontal Cortex Drives Antipsychotic-Sensitive Locomotion via Circuit Control of Striatal Dopamine

Monday, 8:30 AM - 8:45 AM
 Location: S102

Session: Neuropathology: Mechanisms & Biomarkers (8:00 AM – 10:45 AM)

Nanosymposia continued...

E. OH (Duke)

PCM1 is Necessary for the Maintenance of Focal Ciliary Integrity and Dopamine Signaling in the Postnatal Brain

Monday, 8:45 AM - 9:00 AM
 Location: S102

Session: Neuropathology: Mechanisms & Biomarkers (8:00 AM – 10:45 AM)

C. C. Winkle (UNC)

Deletion of the E3 Ubiquitin Ligase TRIM9 Disrupts Hippocampal Neuron Morphology, Anatomy and Spatial Learning and Memory

Monday, 9:15 AM - 9:30 AM
 Location: N426A

Session: Dendritic Growth & Branching (8:00 AM – 10:45 AM)

Srishti Bhagat (Duke)

A Novel Role for the Metabotropic Glutamate Receptor MGLUR5 in Regulating Striatal Synapse Maturation

Monday, 2:30 PM - 2:45 PM
 Location: S403

Session: Striatal Circuits in Psychiatric Diseases (1:00 PM – 4:15 PM)

Michael Trumpis (Duke)

A Low-Cost Digital Headstage for High Channel Count μ ECoG

Tuesday, 3:30 PM - 3:45 PM
 Location: N227

Session: Electrode Arrays III (1:00 PM – 4:15 PM)

M Weber (UNC)

Cognitive Control and Affective Processing Dysregulation in Veterans with Comorbid PTSD and TBI: An fMRI And Resting State Functional Connectivity Study

Wednesday, Oct 21, 2015, 2:45 PM - 3:00 PM
 Location: N227

Session: Human Cognition: Cognitive Control & Flexibility (1:00 PM – 4:15 PM)

Live tweet with us in Chicago using #TriangleNeuro and #SfN15

**Save the Date:
Wednesday, November 18, 2015**



The Inaugural T-K Li Distinguished Lecture

**The Great Hall, Mary Duke Biddle Trent Semans Center
4:00 pm**

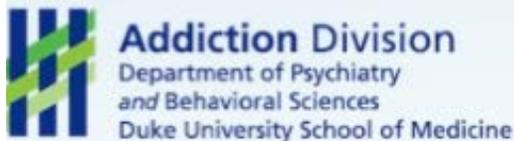
**Dr. George Koob
Director, National Institute on Alcohol
Abuse and Alcoholism**



Dr. Koob is an internationally recognized expert on alcohol and stress, and the neurobiology of alcohol and other drug addiction. Dr. Koob received his PhD in behavioral physiology from Johns Hopkins University and spent most of his career at the Scripps Research Institute, where he was a Professor and Chair of the Scripps Committee on the Neurobiology of Addictive Disorders. Dr. Koob's work has significantly broadened our understanding of the neurocircuitry associated with the acute reinforcing effects of alcohol and other drugs of abuse, and of the neuroadaptations of the reward and stress neurocircuits that lead to alcoholism and addiction. He is the author of more than 650 peer-reviewed scientific papers, and the co-author of *The Neurobiology of Addiction*, a comprehensive review of the most critical neurobiology of alcoholism and addiction research conducted over the past 50 years. Dr. Koob became the Director of NIAAA in January 2014.

About the T-K Li Distinguished Lecture

The T-K- Li Distinguished Lecture Series was established to provide the opportunity to hear from and interact with world leaders in addiction science. The Series honors Dr. Li, who has served as a pioneer in alcohol research, an influential scientific leader and caring and thoughtful mentor. After a long and distinguished career in alcohol research at Indiana University, Dr. Li became the Director of the National Institute on Alcohol Abuse and Alcoholism (NIAAA) in 2003. In 2010 he joined the faculty at Duke and he is currently Professor Emeritus in the Department of Psychiatry and Behavioral Sciences at Duke University School of Medicine. The award acknowledges Dr. Li's outstanding research and scientific leadership accomplishments; and his generosity of advice and mentoring in helping to establish addiction programs at Duke.



Jointly sponsored by the
Addiction Division
Department of Psychiatry & Behavioral Sciences
Duke University School of Medicine &
Triangle Chapter of the Society for Neuroscience



**NORTH CAROLINA TRIANGLE CHAPTER SOCIETY FOR NEUROSCIENCE
MEMBERSHIP AND DUES FOR 2015-16**

Annual Dues:

Regular Membership: \$20.00/year or \$50.00/3 years

Student Membership: \$5.00/year or \$12.00/3 years

Partner Membership: \$25.00/year or \$60.00/3 years

**Membership in Triangle SfN
does not require membership in
National SFN**

Name: _____

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CHECK ONE

Regular:	1 year	\$20.00	()	Student:	1 year	\$5.00	()
	3 years	\$50.00	()		3 years	\$12.00	()
Partner:	1 year	\$25.00	()				
	3 years	\$60.00	()				

Date: _____

Dues payable by cash, check or paypal (TriangleSfNChapter@gmail.com)

Return your payment and this form to:

Dr. Shannon Farris
Chapter Representative
111 T.W. Alexander Dr.
Mail Drop F2-04
Research Triangle Park, NC 27709

Please make checks payable to:

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Keep in Touch!

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