



DEPARTMENT OF NEUROBIOLOGY & BEHAVIOR

Fall 2019 Newsletter

Message from the Chair

Dear Friends,

My first year as Chair of the Department of Neurobiology and Behavior has been an exciting one! The Department has continued to generate exceptional research, with a series of impressive publications on topics such as synaptic physiology, neurogenesis, neural development, behavioral neuroscience and computational neuroscience. For instance, [Dr. Shaoyu Ge](#) discovered a novel mechanism that links changes in brain blood flow with adult neurogenesis (the generation of newborn neurons in the adult brain). This research has fundamental implications for understanding learning and memory, aging and neurodegeneration. Speaking of newborns, during the past year, our newborn [Center for Neural Circuit Dynamics](#) (a center that integrates experimental and computational approaches to study neural circuits) has continued to grow. In addition to performing groundbreaking research, we submitted our first large team grant (the first of many) and contributed to the organization of a large symposium on computational neuroscience.

Of course, while we love research, that's not our only passion. We are equally passionate about education and training. In the past year, we worked on many new educational initiatives focused on developing innovative methods for teaching neurobiology. For instance, a team of our faculty members, in collaboration with colleagues from the Program in Writing and Rhetoric, worked on new methods for teaching writing in large biology classes. A second group of faculty members designed a new undergraduate course that combines neuroscience, data analysis, modeling, and machine learning to understand the fundamental computations of brain circuits.

Finally, we are revising our graduate curriculum to revamp our educational offering and include new quantitative courses. The strengthening of this quantitative core matches the growth of our computational center and responds to requests from many students and applicants.



The Neurobiology and Behavior Postdoc Group was recently created to help postdoctoral trainees in their scientific growth and career development. In January, the Postdoc Seminar Series (PoSSe) successfully held its first postdoctoral seminars. Great talks and terrific attendance!

We've been quite active and busy with many other activities, events and initiatives. To mention a few:

- [The Swartz Mind/Brain Lecture](#) with Dr. Giulio Tononi was a success and packed the Staller Center
- Our seminar series continued to attract outstanding neuroscientists
- We began two more faculty searches

Read on for more great news!

Alas, space is running out and I'll have to leave additional updates for my next letter. Thank you for your interest in the Department and for your support.

Ciao!

Alfredo Fontanini
Professor and Chair
Department of Neurobiology & Behavior



2019 Giving Day Update

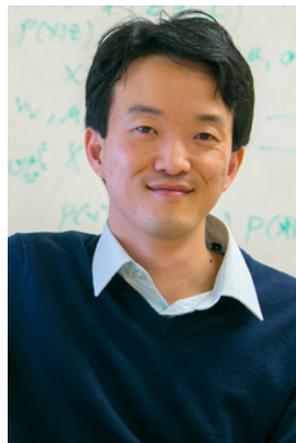
Fifty-eight generous donors contributed to our first successful gift campaign as part of Stony Brook University's inaugural annual Giving Day on April 30, 2019. Our Department's Fund for Excellence supports efforts toward innovative research and education. We used this year's funds (\$5,125), plus an additional contribution from the Department, to establish a Summer fellowship for undergraduate research in neuroscience. The recipient of the 2019 Fellowship was senior Kole Nikprelaj (pictured above). His project, conducted under the mentorship of William Collins, focused on studying overactive bladder – a condition that is characteristically comorbid with neurodegenerative disorders and CNS injury. This work is part of Nikprelaj's senior honors thesis toward his BS degree in Biology – Neuroscience Specialization. Thank you again for your continued support! We hope you'll join us on Giving Day April 28, 2020.

Faculty Spotlight: Memming Park and Mary Kritzer

This past Spring, Assistant Professor [Dr. Memming Park](#) was awarded the [2019 Discovery Prize](#), a very selective award established in 2013 at Stony Brook to advance pioneering scientific breakthroughs. The recipient selection process for the Discovery Prize was overseen by a panel of Judges including Dr. Michael Brown (Nobel Laureate), Dr. Barry S. Coller (Chief and Vice President for

Medical Affairs at the Rockefeller University) and Dr. James H. Simons (Chairman of the Simons Foundation). In August, Dr. Park's outstanding research was recognized, with a prestigious CAREER Award from NSF. Dr. Park's research focuses on a fundamental problem in neuroscience: understanding how populations of neurons process complex sensory and cognitive variables underlying intelligent behaviors. His research is central for understanding the link between neural activity, perception, action and cognition. To address this crucial problem, he analyzes neural signals and develops novel computational methods using tools from machine learning, dynamic systems theory, signal processing and statistics. Dr. Park's research program has fundamental neuroscientific and clinical relevance.

Last fall, [Dr. Mary Kritzer](#) was appointed as SUNY Distinguished Service Professor, an honor that recognizes extraordinary service by faculty across SUNY. Dr. Kritzer has provided outstanding service to the University in many capacities beyond her primary teaching and research responsibilities. She has volunteered to serve on medical school governance, the University's athletics programs, services for underrepresented graduate students, and services for commuter students. She has also gained an impressive reputation for service outside the University by participating in science programs in local high schools, serving as an effective leader in numerous NIH study section activities, and bringing the Healthy Minds Across America Outreach program to Stony Brook University. Dr. Kritzer has twice taken on the demanding task of Graduate Program Director for the Program in Neuroscience, a crucial aspect of the departmental mission.



Welcome New Assistant Professor Roger Sher



After a national search, [Dr. Roger Sher](#) was hired as Assistant Professor in our Department. Dr. Sher's research focuses on Amyotrophic Lateral Sclerosis (ALS) and neurodegeneration in general. His lab uses a combination of approaches from

molecular genetics and cellular biology to unveil the molecular mechanisms that lead to neuronal degeneration. His research is supported by "ALS Ride for Life." In addition to his research efforts, Dr. Sher will be actively involved in the educational mission of the Department, directing an undergraduate course on cellular signaling and participating in graduate teaching. Welcome, Roger!

Maya Shelly receives Godfrey Award for Excellence in Teaching



Assistant Professor [Maya Shelly](#) received a 2019 [Godfrey Excellence in Teaching Award in Life Sciences](#). Last semester, students across the College were asked to nominate professors who demonstrate not only excellence in teaching, but a warmth of spirit and true caring for

students in and outside the classroom. Many exceptional faculty were nominated, making this recognition all the more significant. As teaching awards go, this award is distinctive because it comes from and is decided by the students themselves. Congratulations, Maya!

Welcome New Department Coordinator Meghan Heim



Ms. Meghan Heim is our new Department Coordinator! She comes to us from Montana State University, where she was the coordinator for the Department of Ecology. Ms. Heim arrived in August and hit the ground running. She is the administrator of our Master's program

in Neuroscience, assists faculty with funding opportunities and efforts, and is helping the Chair with the communications of the Department – a new website is in the making! Welcome, Meghan!

Welcome new MS and PhD Students

Of course, we are very excited to welcome our new group of graduate students.

The Master's Program in Neuroscience:

- Mohamed Badawy
- Ava Gurba
- Peter Hsu
- Jacqueline Martin
- Bharadwaj Ravi
- Taylor Russo
- Siddarth Swaminathan
- Aishwarya Patwardhan
- Jonathan Plessis-Belair

The PhD Program in Neuroscience:

- Kathryn Hill
- Isabel Hubbard
- Maria Isaac
- Joshua Kogan
- Tianshu Li
- Ayesha Vermani
- Elizabeth Vlattas



Fall 2019 Department Retreat

The Department gathered at the Old Field Club on September 27, 2019 for a retreat day, which included excellent research presentations by members of the department, a poster session, and keynote speaker Dr. Hollis Cline from the Scripps Research Institute. We look forward to making this an annual gathering.

Thank you for your generosity!

The Department of Neurobiology and Behavior depends on our alumni and friends to obtain seed funding to support student and faculty innovation. At a time when technology moves at the speed of light, seed support is very much needed to catalyze interdisciplinary teams, adopt new techniques and spearhead research directions and major initiatives.

Your generosity, whether it's the renewal of your support or the decision to give for the first time, allows us to do what we do best – innovative, creative research and teaching that's the hallmark of a great public research university. I hope you'll consider investing in our students and faculty by clicking the button below or speaking with Christina Rosa-Ragona, Director of Development, at (631) 632-4380 or Christina.Rosa-Ragona@stonybrook.edu.

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NEUROBIOLOGY & BEHAVIOR**