



DEPARTMENT OF NEUROBIOLOGY & BEHAVIOR

Fall 2020 Newsletter

Message from the Chair

I hope this letter finds you all healthy and in good spirits.

As the fall semester in this very unusual year comes to an end, we look back with satisfaction at a busy summer and fall, filled with research and educational activities.

During the summer, we successfully and safely returned to research, reactivating all the laboratories whose activities had been dramatically curtailed during the COVID shut down.

In September, we had our yearly departmental retreat. Of course, it was a virtual retreat, and while we missed the atmosphere of a live event and the beautiful setting on the Long Island Sound, we had an exciting morning filled with outstanding talks from our faculty members and postdocs. To cap a morning of great science, our keynote speaker, Dr. Gonzalo Torres (Chair for Department of Molecular Cellular and Biomedical Sciences), gave a phenomenal presentation on dopaminergic signaling and told us about his very successful MINDS initiative aimed at increasing retention of diversity faculty in neuroscience.

In September, a busy month, we celebrated (with bittersweet feelings) the retirements of Dr. Craig Evinger (who is now Emeritus Professor) and Dr. Joel Levine (who transitioned to a Toll Professorship). Joel and Craig have been two pillars of the Department in the past decades. Their contributions to research have been exceptional (Joel in glial biology and Craig in motor control of blinking). Their leadership in their fields had a big impact for the Department and University. But both have been much more than extraordinary scientists. They have both been exceptional educators, mentors of students and colleagues and two role models for many of us. We also welcomed a new junior faculty member, Dr. Markus Reissland, who came to us from Rockefeller University and is setting up a group to study cellular aging and neurodegeneration. Our second new faculty member, Dr. Prerana Shrestha (currently at NYU), will join us in January to establish

a group studying the role of protein synthesis in learning and memory. At a time of great disruption – COVID certainly does not make it easy to set up new labs – the arrival of two new outstanding assistant professors is a breath of fresh air, hope and excitement.

Since our last newsletter, groups in the Department continued to produce outstanding research, publishing very impactful articles on high profile journals (such as *Neuron*, *Current Biology*, *eLife* and *Nature Communications*) and obtaining federal grants. Labs are operating smoothly and safely. And we moved our seminar series online, giving everyone a chance to attend outstanding talks!

As for our educational efforts, a new class of MS and PhD students arrived in the summer. These are not easy times to start a new experience, but we did our best to welcome the new class first virtually and then in person, opening the doors of our labs for training and research experiences. During the fall, most of our classes for undergraduate students were online, including the newly minted "Introduction to Neural Computation" created by Dr. Braden Brinkman and Dr. Memming Park. We did have an in person lab course, "Neurobiology Laboratory" directed by Dr. Maurice Kernan, and thanks to all the safety precautions it proceeded smoothly despite the many challenges. I want to personally thank all the faculty, instructors, TAs and students who faced a very difficult semester and pulled it off without major setbacks.

Like many, we adapted to a new way of working. Of course, it is not the ideal way of working, studying, training, and staying together, but I think we made the best of it. We look forward to what 2021 holds for the Department and our community, and as always we look ahead with optimism.

Ciao!

Alfredo Fontanini

Professor and Chair

Department of Neurobiology and Behavior

Welcome New Faculty



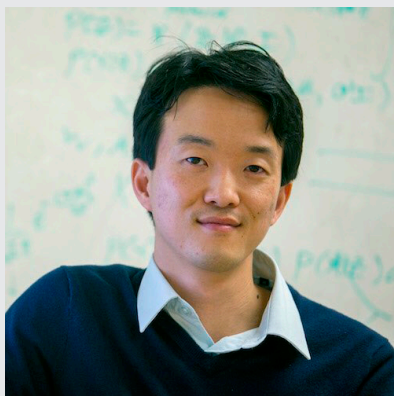
Markus Riessland
Started September 2020

"I am thrilled to join Stony Brook University as SUNY EIP Assistant Professor and to set up my lab at the outstanding Department of Neurobiology and Behavior! My research will focus on age-related neurodegeneration, inflammaging and cellular senescence. Exciting!"



Prerana Shrestha
Starting January 2021

"I am very excited to start my lab at Stony Brook, and join the vibrant community of accomplished faculty in the department of Neurobiology and Behavior. My lab will focus on understanding the neuromodulation of protein synthesis dynamics in specific cell populations in neural circuits engaged during memory processes. In addition, my lab is also interested in exploring the mechanisms of aberrant translation pathways that underlie social and cognitive deficits in mouse models of Autism Spectrum Disorder."



Congratulations I. Memming Park

Congratulations to our own Memming Park for his promotion to Associate Professor with tenure!

Memming leads the Computational and Theoretical Neural Information Processing (CATNIP) group. His group specializes in designing statistical models and machine learning methods for analyzing neural time series data with the goal of understanding how information and computations are represented and implemented in the brain, both at a single-neuron and systems level. His current focus is building a theory on the emergence of meta-stable neural dynamics in the process of learning.



October 2020 Giving Day Update and Thank You

Thank you to everyone who supported our efforts on Stony Brook University's second Giving Day held on October 8, 2020. It was you - our faculty, staff, alumni, and friends - sharing your gifts, tweets, and your stories that allowed us to raise well above our goal in support of neuroscience students.

Your combined gift of \$11,090 will support the Department's efforts toward innovative student research and educational opportunities.

At a time when technology moves at the speed of light, our Department depends on the support of our alumni and friends to obtain funding needed to catalyze interdisciplinary teams, adopt new techniques, and spearhead research directions and major initiatives. If you are interested in supporting our students and faculty, please [give here](#) or contact [Christina Rosa-Ragona](#), Director of Development, at (631) 632-4380.

Alumni Spotlight



Julia Dallman

"I am an Associate Professor and Director of Graduate Studies in Biology at the University of Miami. I helped design and now direct

the UM Zebrafish Facility. I have 27 years of experience using animal models (sea squirt, fly, and zebrafish) to understand neurodevelopmental processes. I received my undergraduate degree from Swarthmore College. I did my doctoral training in electrophysiology and developmental neuroscience with William Moody at the University of Washington, and post-doctoral training in molecular and chromatin biology and genetics with Gail Mandel and Paul Brehm at Stony Brook University. My research seeks to understand how genetic mutations impact the development of neural circuits to produce behavioral phenotypes. I have helped to launch many collaborative studies with human geneticists and clinicians at UM and other universities that utilize zebrafish as a model for inherited disorders including forms of autism spectrum disorder caused by mutations in SHANK3 and SYNGAP1.

I completed my post-doctoral training with Gail Mandel and Paul Brehm at Stony Brook University. Drawn to Stony Brook to work with Gail Mandel, I found myself in a collective of five interdisciplinary neuroscience labs headed by Gail Mandel, Paul Brehm, Simon Halegoua, Gary Matthews, and Jim Trimmer. These PIs had complementary forms of expertise, enjoyed a little inter-lab competition as

well as highly productive collaborations, and were always available to help troubleshoot, tease, talk about science, or other life issues. Collectively, the technicians and trainees were from all over the world, including Spain, Italy, Chile, Mexico, France, Japan, Israel, England, China, Germany, Russia, Dominican Republic, Morocco, and the United States. While the windowless basement space was far from glamorous, the science was exciting, and the community was both upbeat and committed, not only to scientific pursuits but to each other. I had my only child in Stony Brook and he was/is dearly loved by that international community, many of whom have become lifelong friends. I was then diagnosed with Hodgkin's Lymphoma and, after initial failures, was successfully treated at Memorial Sloan Kettering Cancer Center with a stem cell transplant. This procedure was tough and required a lot of platelets; and my extended Stony Brook family set the record at the time in platelet donation for a single patient. When I got back in the lab, Howie Sirotkin taught me how to do a forward genetic screen in zebrafish and Paul Brehm mentored me through writing a career development K01 grant to NINDS that was funded and helped launch my own career at the University of Miami. I am a proud Seawolf and very grateful for my time at Stony Brook University."

Alumni Spotlight

SUNY Stony Brook: Sherman lab 1993



(1) Murray Sherman, Professor & Chair Univ. Chicago (2) Bill Vaughan Assistant Professor, Wake Forest Univ. (3) Martha Bickford, Professor Univ. Louisville, (4) Bill Guido, Professor & Chair, Univ. Louisville (5) Alev Erisir, Professor & Chair Univ. Virginia (6) Michele Basso, Professor UCLA (7) Sue Van Horn, SUNY Stony Brook (8) Alice Powers, Professor SUNY Stony Brook (9) Dwayne Godwin, Professor & Dean Wake Forest Univ. (10) Donna Schmidt, SUNY Stony Brook

Bill Guido

"Currently, I am Professor and Chair of the Department of Anatomical Sciences and Neurobiology at the University of Louisville School of Medicine. I have an active and NIH funded lab that studies the development, form, and function of the visual thalamus. I came to Stony Brook in 1989 as a Research Assistant Professor to work in the lab of Murray Sherman. It was here where my research focus took shape and shifted from studying receptive field properties to examining the cellular mechanisms underlying visual function. The Sherman lab was an exciting place, with many of my fellow trainees having highly successful academic careers. The lab took an integrative approach to understand thalamic circuit function using pathway tracing, electron microscopy, and in vivo and in vitro electrophysiology. My studies

focused on the low threshold Ca²⁺ channel and its role in regulating burst and tonic firing modes of thalamocortical neurons. The work was both exciting and controversial but seemed to pave the way for a more contemporary mechanistic understanding of thalamic function. I was surrounded by many world class investigators with expertise in membrane biophysics (Adams, Matthews, Brehm) and systems/circuit analysis (Evinger, Gnadt, Fetcho, Mendell, Yazulla). They served as valuable mentors and helped shape my current scientific perspective. The Department was an extremely collegial place where ideas flowed, and collaborations flourished. I have fond memories of lab parties, Friday afternoon "Sherry Hour," Department retreats with comic student skits, and intramural softball games. While the Department has seen many changes since the early 90s it still remains a place that values mentorship, career development, collegiality, and scholarship."

CONGRATULATIONS!

To our Spring 2020 graduates:

- **Kelvin Chan**, MD PhD, Wollmuth Lab
- **Shruti Gupta**, MS, Kritzer Lab
- **Richard Keegan**, PhD, Dubnau Lab
- **Rachel Kery**, MD PhD, Ge Lab
- **Ruiqi Pan**, MS, Duong Lab
- **Olivia Swanson**, PhD, Maffei Lab

To our Summer 2020 graduates:

- **Kacper Iwanowski**, MS, Plotkin Lab
- **Elizabeth Vlattas**, MS, Maffei Lab

Have a story to share? We'd love to hear from you about your experience in the Department and what you've been up to more recently. Contact meghan.heim@stonybrook.edu with your updates for a chance to be featured on Twitter or in a future newsletter.