

RUTGERS

School of Arts and Sciences

NELSON BIOLOGICAL LABORATORIES



December 2017

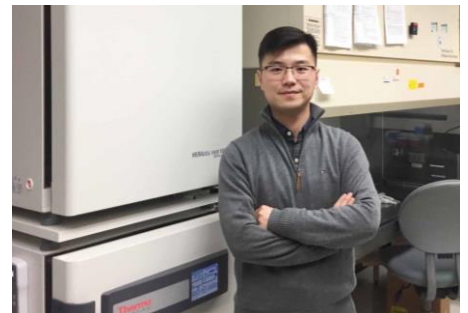
IN THIS ISSUE

A Message from the Chair

Welcome to the Winter issue of Department of Cell Biology and Neuroscience (CBN) newsletter. In this newsletter, we have included features on one of our newest faculty member and one of our exemplary undergraduate students at the Keck Center. We also have news bites of happenings within the CBN Department throughout the fall and winter semester. The featured faculty, Dr. Peng Jiang is a neurobiologist studying early brain development using 3-Dimensional “mini-brain” organoid cell culture systems that can be derived from patient stem cells. This is an exciting area of cutting edge research that can uncover the molecular causes of neurodevelopmental disorders. We are also especially excited to announce that CBN is celebrating its 20th anniversary in 2018! As you may have read in the previous newsletter, CBN is the original descendant from the “Scientific School” at Rutgers in the 1800s, undergoing many changes both in structure and name until it came to be how it is today – how far we’ve come!

Best wishes for a happy and healthy holiday!

With warm regards,

Faculty Feature: Dr. Peng Jiang

Dr. Jiang joined CBN in July 2017 from the University of Nebraska Medical Center.



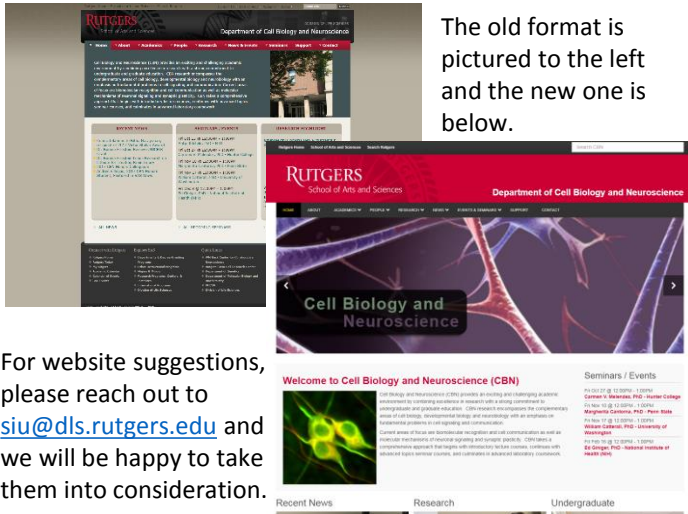
Photo by Roy Groething

Student Spotlight – Avina Rami

Meet Avina, one of our CBN students and how her research experience in the Keck Center helped shape her career direction.

Check out the CBN Website!

On October 17th, our new website went live!



The old format is pictured to the left and the new one is below.

For website suggestions, please reach out to suu@dls.rutgers.edu and we will be happy to take them into consideration.

The new website also contains more information for prospective students, as well as student features, an updated course list, and quick links for students looking for information. We hope the new update will make information more accessible to students and others!



2018 SPRING SEMINAR SERIES

Join us for our 2018 Spring Seminar Series!

- February 16th 12PM:** Ed Giniger, NIH
- February 23rd 12PM:** Zixu Mao, Emory University
- March 9th 12PM:** Martin Frank, The American Psychological Society
- March 23rd 12PM:** Kebin Liu, Georgia Cancer Center
- March 30th 12PM:** Taekyung Kim, UT Southwestern
- April 13th 12PM:** Roko Rasin, Rutgers University RWJ
- April 20th 12PM:** Wange Lu, University of Southern California
- April 27th 12PM:** Adam Carter, New York University

All are held in Nelson D406, Open to all.
For more details, visit us at cbn.rutgers.edu.

Faculty Feature Q & A with Peng Jiang, PhD



Dr. Jiang did his graduate studies at the University of Science and Technology of China and pursued postdoctoral training at University of California at Davis, focusing on developing stem cell regenerative medicine and stem cell models of neurodevelopmental disorders. Until joining us in July 2017, Dr. Jiang was an Assistant Professor and ran his own lab at the University of Nebraska Medical Center.

How did you become interested in science?

I've always been interested in animals since I was a kid. Back when I was in high school, I liked chemistry and biology courses very much and learned about cells. I became interested in neuroscience during undergraduate and graduate studies, simply because the brain is the body's most mysterious organ and no one can really say how the brain works. When I was exploring new territories for my postdoctoral research, the groundbreaking human induced pluripotent cells emerged as a powerful tool in understanding human brain development and disease mechanisms, and potentially cure the diseases. I thus became very interested in stem cell biology and since then, I've been pursuing research at the interface of stem cell and neuroscience.

What are you researching?

Pluripotent stem cells are capable of becoming all cell types of the body. We're particularly interested in the brain cells derived from human pluripotent stem cells. In order to understand human brain development, we're building "mini-human brain" in a dish using human pluripotent stem cells. We are also able to reprogram cells (e.g. skin cells) from patients with various neurodevelopmental disorders, back to pluripotent stem cells. Making "mini-brain" from these disease-specific stem cells allows us to investigate the abnormal brain development with copies of patients' own brain cells. Moreover, pluripotent stem cells hold great promise for developing cell therapies to replace damaged brain cells after brain injury and further restore brain functions. My research goal is to dissect the development pathways and corresponding pathogenesis of neurodevelopmental diseases, and develop stem cell regenerative medicine to treat CNS injury.

Three things people may not know about me:

I'm a big fan of soccer and love to play soccer.
I enjoy traveling to new places and trying new food, especially spicy food.
I enjoy fishing.

Discovering Her Mission Through Research

By John Chadwick

Avina Rami was always strong in science. She graduated from Biotechnology High School in Freehold, New Jersey, a magnet school where the academic program is intensely focused on biology, technology, and engineering. But it was at Rutgers, as a cell biology and neuroscience major, where Rami found the calling that would drive her research and exert a profound influence over the direction of her undergraduate work.

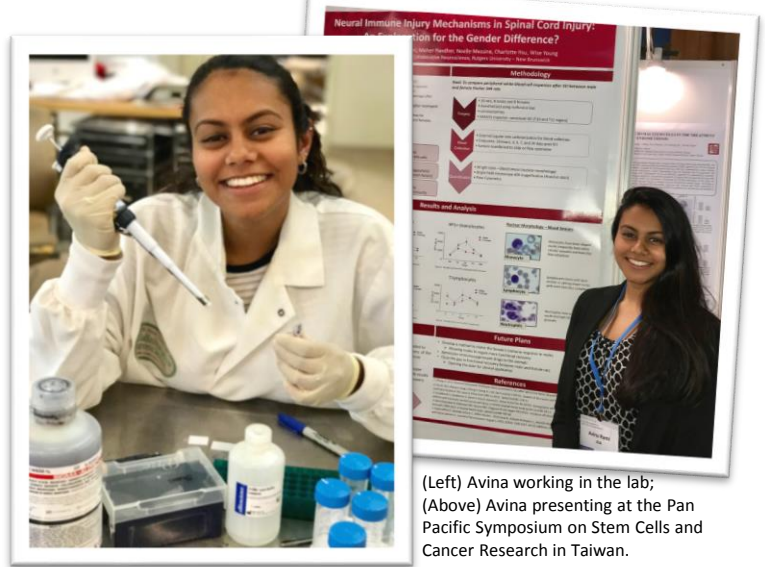
That calling was spinal cord injury, a devastating condition that blocks communication between brain and body, leaving patients paralyzed and needing help with everyday tasks such as eating, dressing, and going to the bathroom. Entering Rutgers, she knew little about spinal cord injury, and had never met anyone living with the condition. Then she attended a lecture for undergraduates given by Wise Young, an SAS professor of Cell Biology and Neuroscience and the founding director of the W. M. Keck Center for Collaborative Neuroscience. Young is one of the world's foremost experts on spinal cord injury.

"I was trying to decide where I should do research, and I was looking at different facilities," Rami says. "I remember taking my seat in the conference room, listening to Dr. Young's lecture, and just being drawn to the work of the Keck Center."

She was impressed by Young's vision for treating spinal cord injury and the down-to-earth way he explained his work to students. She was also struck by his emphasis on collaboration.

"I was coming from a very competitive environment," she said. "And listening to Dr. Young, you get the sense that research is more than a competition. It's a life mission."

The full scope of that mission hit home when Rami started doing undergraduate research at Keck. She worked in the lab but also became part of the larger community that Keck has helped build over 20 years—a network that stretches beyond the university and includes patients and their families from throughout the region. Every month, the center opens up its doors to the public, drawing dozens of people in wheelchairs and their loved ones who come to learn about the latest research.



(Left) Avina working in the lab; (Above) Avina presenting at the Pan Pacific Symposium on Stem Cells and Cancer Research in Taiwan.

"I think what differentiates the Keck Center is it's a place where you get to see who your research touches. You never forget what it's all about. It's always about the people."

Rami has worked on various research projects at Keck, including one that examines the role of the immune system in spinal cord injury. Rami was also selected as the student speaker at the 30th anniversary of the Douglass Project for Rutgers Women in Math, Science, and Engineering. Last spring, she and another student travelled with Dr. Young to Taiwan where they presented research at the Pan Pacific Symposium on Stem Cells and Cancer Research. That trip, as well as her Study Abroad mission this summer to Peru, where she volunteered in a clinic, has raised her interest in international healthcare as career. After graduating, she's considering going for an MD/PhD.

"I can honestly say that the Keck Center has allowed me to grow in ways I could not have foreseen," she says. "It has not only shaped me as a scientist, but has allowed me to grow into a more devoted student and compassionate person."

Support the CBN Awards Fund

With the holidays approaching and the season of gift giving upon us, we hope you will consider a gift to the **CBN Awards Fund**. Celebrate the holiday season by investing in students like Avina, who are the future leaders of tomorrow! Your gift will help to recognize our outstanding students, support them in their research and educational endeavors, and fund leading biomedical research accomplishments. Every gift goes a long way. Click on the link below to give now.

Best wishes for a happy and healthy holiday from the Department of Cell Biology and Neuroscience!



DONATE NOW

| [Click here to give to CBN](#)

CBN News Bites

CBN Major Fair, October 6, 2017

CBN recently held our first annual CBN Major Fair on October 6, 2017 at the Livingston Student Center. The fair was geared towards students who are currently in the CBN major and those who are interested in becoming CBN majors. It featured three presentations. Dr. Shu Chan Hsu, Undergraduate Director at CBN introduced the major and gave a brief overview of the classes and requirements, followed by Dr. Greg Sobol of the Health Professions Office, who spoke about getting into Medical School, and Joe Scott, the Associate Director of Career Services, presented about how to maximize efficiency in job and internship searching. After the presentations, students had the opportunity to visit booths, which included ones from CBN Student societies, such as RU WINS, RU Brain Society, and CBN Student Society. Students had the opportunity to meet and mingle with CBN faculty in an informal setting. There was a great turnout, including a high school student who was looking into CBN as a potential major in college!

New Website is Live, October 17, 2017

We're excited to share our new website with you! Visit us at www.cbn.rutgers.edu to see the revamped layout.

Professor Gabriella D'Arcangelo Receives Recognition

At the 2016-2017 Chancellor's Celebration of Faculty Excellence, held on Tuesday, October 17th, Professor Gabriella D'Arcangelo was recognized for receiving an Idea Development Award from the Department of Defense, Tuberous Sclerosis Complex Research Program. This grant award supports current research in Professor D'Arcangelo's lab aimed at better understanding the cellular mechanisms of Tuberous Sclerosis Complex, a developmental brain disorder associated with autism and epilepsy.

SAS Major Fair, October 25, 2017

Dr. Shu Chan Hsu, Undergraduate Director, at the School of Arts and Sciences Major Fair on Wednesday, October 25th answering questions about the CBN Major.

Professor Kelvin Kwan Featured in *Rutgers Today*, November 6, 2017

Assistant Professor Kelvin Kwan's research on inner ear stem cells was featured in *Rutgers Today*. To read the article, click [here](#).

Professor Long-Jun Wu Leaving Rutgers, December 2018

After 5 years with us, Associate Professor Long-Jun Wu will be leaving CBN to join the Mayo Clinic in Minnesota. We are sad to see him go and wish him the best of luck!

New CBN Faculty, January 2018

Join us in welcoming Drs. Victoria Abaira and Max Tischfield, who will be joining the CBN faculty as Assistant Professors! Dr. Abaira graduated from the University of Southern California with a degree in Biological Sciences and is coming to us from a postdoctoral fellowship at Harvard Medical School. Dr. Tischfield is a graduate of the Rutgers College Honors Program in the Department of Cell Biology. He recently completed postdoctoral studies at Johns Hopkins Medical School and the Boston Children's hospital. Welcome Drs. Abaira and Tischfield!

2018 CBN Retreat, January 11, 2018

CBN will be hosting a retreat open to undergraduate students, graduate students postdoctoral associates, and faculty. The first half of the retreat will consist of presentations from CBN faculty and the latter half will be a poster presentation by graduate students and postdoctoral associates. Click [here](#) for more information.

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