



RUTGERS
School of Arts and Sciences



IN THIS ISSUE:

A Message from the Chair

Welcome to the Winter issue of Department of Cell Biology and Neuroscience Newsletter!

After almost a year and a half of absence, it was wonderful to see students back on campus this semester! Although many classes remained remote, the excitement and energy of students on campus was a greatly welcomed sight and we look forward to a return to fully in person classes next semester (conditions permitting). In this issue, we will focus on some of the notable outstanding achievements in the past year. In particular, Ms. Melissa Gonzalez, an undergraduate student in Dr. Victoria Abaira's lab who received NIH Funding for Biomedical Research. The CBN news bites section includes a collection of events and happenings within the department as well as the outstanding success of our faculty in securing external funding for their research endeavors.

Best wishes for a happy and healthy holiday season and a hopeful 2022!

With warm regards,

Mike Kiledjian



Student Spotlight: Melissa González

"... it was just a very comforting environment to join LSAMP [Louis Stokes Alliance for Minority Participation] because it has people who look like me."



Mike Kiledjian awarded the Board of Trustees Award for Excellence in Research

Student Spotlight: Melissa González



Engineering Student Receives NIH Funding for Biomedical Research

Melissa González learned the secret behind great scientific discoveries while trying to solve a problem in her professor's neuroscience lab: If you can't figure out how to do something, Google it.

The lab where she worked was genetically altering neurons in mice to see how it affected their spinal cords and behavior. Instead of relying on the painstaking process of having lab technicians observe their movements, González set up two cameras that fed the data into a computer algorithm using a process that involves machine learning.

"She basically did it the way any scientist does it — by Googling things, asking questions, trying things out, failing and asking questions and trying again," says Victoria Abaira, an assistant professor of cell biology and neuroscience who runs the lab.

The cutting-edge technique González established has only been used by a handful of labs across the country that are studying mice to understand what happens to the human spinal cord after an injury, Abaira says.

Last April, González's research in the lab moved to a new level when she received a two-year, \$200,000 grant from the National Institute of Neurological Disorders and Stroke, part of the U.S. National Institutes of Health. The federal grant supports scientist from underrepresented groups in biomedical research.

"One of the best things at Rutgers is the different opportunities that are available to everyone," says González, a biomedical engineering major. "If you can't find the opportunities on your own, there's definitely various outlets that can help you find them."

When she arrived at Rutgers, González was interested in conducting research but didn't know how to start. A friend suggested she contact professors she wanted to work with, but the prospect of emailing faculty members seemed overwhelming.

It wasn't until the summer after freshman year, when she was working as a program mentor for the Rutgers Upward Bound Program, which works with underrepresented high school students and motivates them to attend college, that she learned about the Louis Stokes Alliance for Minority Participation (LSAMP). Founded in 1991 by the National Science Foundation, the program was created to increase the number of underrepresented students in STEM fields.

After being accepted to LSAMP at Rutgers, González applied to three research programs on campus and was selected by Abaira to work in her lab. "I was immediately impressed with how smart she was and just how quickly she picked up things," Abaira recalls. "Most of our students like to be told what to do. She just finds things out on her own."

González, whose parents are from the Dominican Republic and Puerto Rico, says she wanted to join the program so she could meet other students from diverse backgrounds who also love engineering.

"Rutgers is very diverse but with engineering, there are definitely more males than females, and then once you narrow it down, there's a lot fewer minority females in engineering," says González, who plans to pursue a PhD in optical or imaging engineering. "So it was just a very comforting environment to join LSAMP because it has people who look like me."

This year, the program at Rutgers — New Brunswick has nearly 400 students who are offered research opportunities, mentoring and stipends. The goal of LSAMP at Rutgers is to increase the number of underrepresented students earning bachelor's degrees and doctoral degrees in non-medical STEM fields.

"Melissa is the epitome of what we look for in a student," says Chelsie Riche, the senior program coordinator for the program. "She's dedicated, she's committed and she takes her studies seriously." Beyond her research, González has tutored students in physics and math and served as a summer counselor for The Academy at Rutgers for Girls in Engineering & Technology. She has also worked as a physical therapy aide, receptionist and Spanish translator at an outpatient facility for the past six years.

While she returned to working in the lab in May, González, who had been quarantining with her parents in Perth Amboy, is thrilled that she can see her friends in her classes this semester.

"I've missed interacting with people and being in a classroom in person," she says. "I just don't remember what it feels like so I'm so excited for that."

COVER PAGE: PHOTO CREDIT KWAN
LAB EDWARD J MARTINEZ; EMBRYO
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12 DAY OLD MOUSE EMBRYO WITH
FOCUS ON DEVELOPING INNER EAR

CBN News Bites

CBN Grant Awards 2021

Dr. Victoria Abaira was awarded an R01 and an NINDS grant from NIH, Burke Neurological Institute grant, and the Craig H. Neilsen grant. Dr. Abaira also received funding from NJA for Clinical and Translational Science. Post doc Mark Gradwell in Dr. Abaira's lab received NJ Commission on Spinal Cord Fellowship. Dr. Brian Daniels received two grants from NIH totaling \$2,323,299.00. Dr. Bonnie Firestein received an NIH grant totaling \$393,782.00. Dr. Peng Jiang received his R01 from NIH totaling \$2,094,748.00. Dr. David Margolis' graduate fellow Branden Sanabria was awarded an NIH F31 Training grant. Dr. Max Tischfield received the Tourette Association of America award totaling \$155,147.30. Dr. Ping Xie received the Tellos Pharmaceuticals grant for \$114,303.00. Dr. Rafiq Huda was awarded the Brain Research Foundation Seed Grant; \$80k, Parkinson's Foundation Impact Award; \$150k, American Parkinson Disease Association Research Grant; \$75k and the Brain & Behavior Research Foundation (aka NARSAD) Young Investigator Award; \$70k.

CBN Undergrad

Kieran Mullins Named Chi Alpha Sigma Scholar Athlete of the Year

CBN Website Updates

The Department of Cell Biology and Neuroscience's Dr. Brian Daniels launched a new initiative and addition to the department's website outlining for students, which PI's are accepting undergraduate research assistants, which can be found here.

Mike Kiledjian, PhD, named recipient of the Board of Trustees Award for Excellence in Research

The Rutgers Board of Trustees Award for Excellence in Research is one of Rutgers University's highest achievements, honoring tenured faculty members who have made distinguished research contributions to their discipline and/or society at large. CBN is proud to have their distinguished Chair receive this award.



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 our students, 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!*



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



2022 Spring Semester Repopulation Guiding Principles

1

We will recognize that there are many employees who never left campus to work remotely, and we are grateful for their service. We will all return in support of our mission of teaching, research, clinical care, and service.

2

To ensure the commitment to the health and safety of our community remains paramount.

- Public health guidelines will continue to be adhered to.
- State requirements will be followed.
- Science will lead us.

3

To recognize that safe repopulation of our university locations remains a shared responsibility.

- We all have to play a part in keeping our spaces safe.
- There will be equity in how our units manage the return to campus.

The Rutgers University logo, featuring the word "RUTGERS" in a stylized, red, serif font.

School of Arts and Sciences

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