



## ON-CAMPUS

by Sara Feijo

## “Magical Science Space” for First-year Graduate Students in Neuroscience

Through an immersive eight-day workshop at the Marine Biological Lab, Brown University graduate students gain hands-on neuroscience experience and form connections.

Meghan Gonsalves, a first-year neuroscience graduate student at Brown University, spends most of her time studying imaging techniques used to measure brain activity in humans. So when she was asked to dissect the brain of a fruit fly—which is roughly the size of a poppy seed—she thought she wouldn't be able to do it.

By later on the same January day, Gonsalves found herself gazing in awe at a video of a glowing fly brain. She had stained and imaged the brain using a confocal microscope to visualize neurons that affect fly behavior.

“To be able to manipulate your data through a microscope is pretty crazy,” said Gonsalves, who holds both bachelor's and master's degrees from Brown as well. “I was really nervous doing this because I'm computational/behavioral-oriented. This shows I'm capable of doing more than I thought I was capable of.”

Gonsalves gained that experience as one of 19 first-year students in Brown's neuroscience graduate program who participated in NeuroPracticum, an immersive workshop with hands-on rotations held in January at the

Marine Biological Laboratory (MBL) in Woods Hole, Massachusetts. Students spent eight days exploring various neuroscience techniques, from optogenetics (the use of light to control cells, such as neurons, in living tissue) and electrophysiology (the study of the electrical properties of biological cells and tissues) to tracking mouse behavior and analyzing the genes that make flies sleepy.

“The goal is to get students excited about doing science, and to get them learning what the various aspects are,” said Karla Kaun, an assistant professor of neuroscience who helped to organize this year’s NeuroPracticum. “MBL is a magical science space for students. This course is truly a unique opportunity for first-year students.”

### Pop-up Science

This month’s NeuroPracticum marked the eighth since the program’s inception in 2013, and each year brings the opportunity to add new elements to the experience.

A feature for this year’s participants was computationally focused rotations for four advanced pre-doctoral candidates who are part

“To be able to manipulate your data through a microscope is pretty crazy. I was really nervous doing this because I’m computational/behavioral-oriented. This shows I’m capable of doing more than I thought I was capable of.” —MEGHAN GONSALVES, FIRST-YEAR NEUROSCIENCE GRADUATE

of the Carney Institute for Brain Science’s new Interdisciplinary Training in Computational, Cognitive and Systems Neuroscience (ICoN) program. Launched in 2019, ICoN supports the training of Ph.D. candidates whose research incorporates a combination of empirical and theoretical approaches.

In a rotation led by Susan Harbison, a visiting faculty member from the National Institutes of Health, both ICoN and first-year students explored the basics of genome-wide association analysis in sleep data from flies.

“We recorded sleeping activity in flies, done previously, and the students are analyzing the data,” Harbison said. “This is real experimental

data. I don’t know the answer any more than the students know.”

The goal is to get students excited about doing science, and to get them learning what the various aspects are. For first-year graduate student Molly McQuillan, Harbison’s rotation was a chance to put into action a concept she had discussed in a cellular molecular neuroscience class.

“To be able to take something from my class and actually do it, to sit down at the computer and work with the programs, is really cool,” she said, adding that NeuroPracticum gives students a much deeper understanding of what they are studying in class.

# AVAMPLIVOX®

**Functional Multimedia Solutions** for every University need: teaching, meeting, studying, sports, events and more!



**NEW!  
FOR 2020**

Bluetooth

NOW WITH  
**96 CHANNELS**  
and an additional  
interior antenna  
for the most  
expansive,  
exceptional sound  
quality yet!

925-96 Digital Audio  
Travel Partner Plus



**NEW!  
FOR 2020**

Our multipurpose lectern is an excellent choice for classrooms and academic settings.

Now available in a variety of custom color and trim combinations to match your organization's decor.

**SW3230 Custom Color  
Stand up Workstation**



**We Love Custom Orders!** Contact Us Today For More Information About Custom Lecterns And Logos



Check out our blog: [blog.ampli.com](http://blog.ampli.com)

[ampli.com](http://ampli.com) • 1-800-267-5486

“It’s fun and challenging. Getting experience seeing and designing the experiment, and identifying the flaws, is really useful for me.”

— RYAN THORPE, A FIRST-YEAR DOCTORAL STUDENT

In a rotation led by Christopher Moore, associate director of the Carney Institute, students conducted a preliminary study of what happens when they stimulate the choroid plexus—a brain structure that looks like lung tissue and is implicated in diseases such as hydrocephalus, a build-up of fluid in cavities within the brain.

Working in teams, students designed behavioral experiments to see if, for example, stimulating the choroid plexus influences memory formation and retention.

“It’s an opportunity to come together to try to address a question that’s highly understudied,” said Ryan Thorpe, a first-year doctoral student. “It’s fun and challenging. Getting experience seeing and designing the experiment, and

identifying the flaws, is really useful for me.”

The rotations were set up in one day using equipment that faculty brought from Brown and instruments borrowed from MBL. Moore, who is a professor of neuroscience, calls it “pop-up science.”

### Shared Memories

Since its launch in 2013, NeuroPracticum has also proven a successful way to introduce new graduate students to the neuroscience community, including through informal, fun activities with faculty, such as candlepin bowling and movie night.

“It’s really hard to go to a P.I. [principal investigator] who you don’t know to ask them for a

resource that you may need,” said Moore, who helped to organize this year’s NeuroPracticum and is a co-founder of the program. “But if you have these eight days together, you get a feel for the person and you have a shared memory. It will allow those future interactions to occur, and that’s the kind of glue that forms community.”

Sinda Fekir, a fourth-year graduate student, met Moore at NeuroPracticum four years ago. The two bonded over common research interests, and she is now a member of the Moore Lab.

“NeuroPracticum is a great opportunity for first years to try new techniques and meet P.I.s,” said Fekir, an ICoN student who participated in the computationally focused rotations. “While I was at NeuroPracticum my first year, I found a lab to do my third rotation in and ended up joining that lab. I hope students continue to use it as an opportunity to broaden their horizons.”



**ABOUT THE AUTHOR:** Sara Feijo is Communications and Outreach Manager for Carney Institute for Brain Science at Brown University.

# SLIP AND FALL PREVENTION!

Since 1993

**NEW!**



**TESTING DYNAMIC COEFFICIENT OF FRICTION (DCOF) ASM 925**

## DIGITAL ASM 825A SLIP METER

**WET AND DRY TESTING  
CALIBRATES TO ANSI/NFSI B101.1**

**SAFE FLOORS MAY INCREASE PRODUCTIVITY  
AND WILL CERTAINLY REDUCE LOSSES**

**SCOF RESULTS WITH AN EASY-TO-USE  
PORTABLE FLOOR FRICTION TESTER**

**PH: 941-681-2431 | FAX: 941.681.2487**

**AMERICAN SLIP METER®**

**WWW.AMERICANSLIPMETER.COM**





# LABS X PRESS

Get Your Laboratory Fast—All Orders Are Shipped in Just 5 Business Days



### **Our Streamlined Process.**

LabsXpress is built to deliver a laboratory fast—direct to you—and ships out in just 5 business days. Choose from our curated selection of casework, tall storage, tops, sinks, and fixtures. We have everything you need to create a laboratory space that is both functional and beautiful.

### **Our Years of Experience.**

We are proven manufacturers with years of experience in outfitting laboratories nationwide. We provide quality products that are built to last—meeting SEFA standards—with proven, unsurpassed quality.

For more information, contact us:  
[Info@LabsXpress.com](mailto:Info@LabsXpress.com)

**sheldonlabs**<sup>™</sup>

800.531.7604  
SheldonLabs.com

**DIVERSIFIED**  
CASEWORK

877.348.9663  
DiversifiedCasework.com