

RUTGERS
School of Arts and Sciences

June 2021

IN THIS ISSUE

A Message from the Chair

Welcome to the Spring issue of Department of Cell Biology and Neuroscience (CBN) newsletter. In this newsletter, you will find a feature on some of our students who despite the Covid-19 pandemic, received prestigious awards such as the Rutgers Fulbright award, the 2021 Wayne Duke Award and named Henry Rutgers Scholars. Be sure to check out our Research Opportunities for Undergraduates Page, recently added to the CBN Website if you are interested in finding a lab to carry out research in the 2021-2022 academic year. We were also especially excited to close out the school year with our CBN graduation celebration—a big congratulations to the CBN class of 2021!

With warm regards,



Staff and Student Highlights:

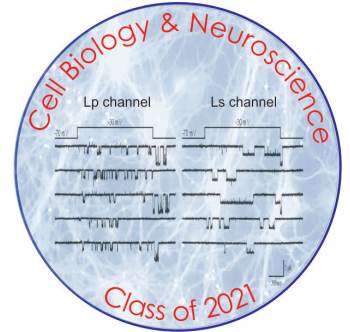
Sean O'Leary, Veterinary Research Technician, received the School of Arts and Sciences Staff COVID-19 Response Award. Kieran Mullins Named 2021 Wayne Duke Award Recipient and Elena Wei and Mansi Shah were recognized as Fulbright Top Producer Recipients.



Congratulations to the Class of 2021!
The Class of 2021 graduated on May 16, 2021 and the department held a celebration on May 13, 2021.

Congratulations CBN Class of 2021

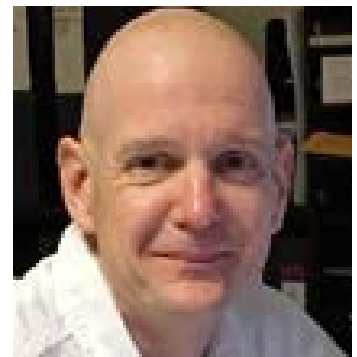
On Thursday May 13th students participated in the second virtual CBN Celebration where we heard from faculty who shared memorable moments with students in the lab and class. Student speakers took part in the celebration giving their feedback on their time at CBN, all they have learned, and their dreams and aspirations moving forward. We recognize those who received the Academic Achievement Award as Patrick Aldy-Gendi, Sameer Ahmad, Sanya Bansal, David Natanov, Cynthia Nguyen, Ivana Nikodijevic, Himali Patel, Jay Phansalkar, Michele Philip, Raaga Rambhatla, Anthony Saad, Swetha Sathi, Mikayla Walsh. We also want to acknowledge our Research Award recipients Atul Bhattiprolu, Danielle Sainato, Sanya Bansal, and Nikpreet Boparai; in addition, we acknowledge our Thesis Award recipients, Nithisha Cheedalla and Shivani Patel. CBN also had 5 Henry Rutgers scholars Atul Bhattiprolu, Jay Phansalkar, Danielle Sainato, Anna Shi, and Joyce Xu. We thank Professor Robin Davis for the personalized medallion design mailed to the students to hold proudly during the celebration. Congratulations CBN class of 2021!



SAS Recognizes Sean O'Leary for the Individual Staff COVID-19 Response Award

Sean O'Leary, Department of Cell Biology and Neuroscience/Keck Center

The abrupt shut-down required swift action in order protect valuable research. While others packed up supplies to work from home, Sean headed to the animal care facility. As some staff and faculty of the Keck Center professors have underlying conditions or family situations that made it impossible for them to come back to campus, Sean willingly took on the additional responsibility for their animals to enable his co-workers to stay safe. In addition to his already added responsibilities, Sean saw missing links and went to work on them. He took emails for those people off-site and placed orders for them, he received and distributed packages, and even figured out the erratic mail system so he could pick up correspondence and get it to the right people. Sean came into the Center, day after day after day, never missing a beat.



Rutgers CBN Graduates Named Fulbright Top Producer for 12th Year

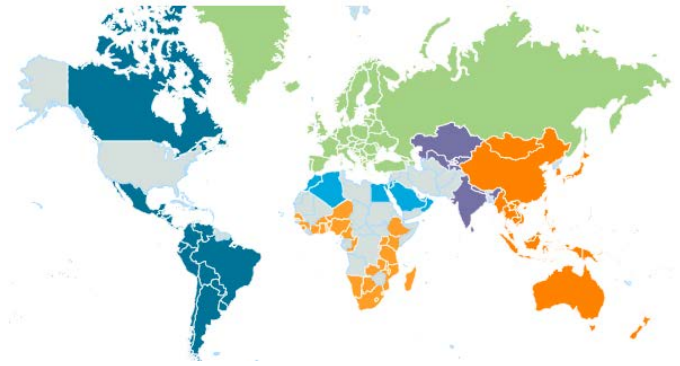
Here is a brief description of Elena Wei's research in the Keck Center from mentor Dr. Wise Young:

Elena is one of our brightest students who worked on several projects in the laboratory, including the role of acrolein in hemorrhagic cystitis associated with spinal cord injury, the cause of male urethral blockade by sperm plugs after spinal cord injury, and the effect of lithium on neonatal rats that had hypoxic ischemic damage of the brain.

Hypoxic-ischemic encephalopathy (HIE) is a common cause of brain damage in babies. As many as 0.5% of babies around the world suffer from hypoxic ischemia during birth due to prolonged time in the birth canal. This can also be caused by vascular occlusion from the umbilical cord being wrapped around the neck, and other causes. In a collaborative project with the Chinese University of Hong Kong (CUHK), we were studying a rat neonatal model of HIE and the effects of umbilical cord blood infusion, cord blood mononuclear cells, and umbilical cord blood exosomes on behavioral and histological changes in the brain. The rats were subjected to bilateral temporary carotid occlusion, followed by an hour of exposure to 8% hypoxia.

The model, which was developed at the W. M. Keck Center for Collaborative Neuroscience, involved surgical occlusion of both common carotid arteries followed by exposure to an hour of 8% hypoxia and then reperfusion of the brain. Elena conducted most of the surgeries for these experiments before she went on to her Fulbright scholarship at NIH. To our surprise, this relatively straightforward model did not yield consistent behavioral or histological changes associated with the hypoxia ischemia. After experiments to identify why our model did not show the same damage that our colleagues saw at CUHK, we identified the cause of the difference.

We are now undertaking the histology of the brain and hope to publish the article soon with Elena as one of the co-authors. Elena's work showed that failure to reperfuse was the reason why mortality rates were high when ligatures were used rather than the kinking method. Depending on the histological results, we believe that continuing partial ischemia prevents neurogenesis and other mechanisms by which the neonatal rats recover from the hypoxia-ischemia. If confirmed, this finding will change thinking about what is necessary and sufficient to restore function in babies that have suffered hypoxic ischemia. If blood flow is restored rapidly, the brain is capable of reversing and replacing the neurons in the neonatal rats.



Here is a brief description of Mansi Shah's Research from mentor Dr. Sunita Kramer:

I first met Mansi at the Honors College when I was serving as the Associate Dean for Academic Affairs. She was at the beginning stages of her college experience and already thinking about ways that she could make an impact on the Rutgers Community. My conversation with her really stood out to me and I knew that she was going to do exceptional things while at Rutgers and beyond. As part of her senior capstone project, Mansi, together with Dr. Arthur Brewer, statewide medical director of UCHC (University Correctional Health Care), part of Rutgers Behavioral Health Care, created the Correctional Health Summer Program which allows Rutgers students to shadow medical professionals and implement a health educational project in correctional facilities.

It was my pleasure to work with members of the Honors College staff to help implement this extremely popular program. I was most impressed with the depth of the program, and how she really thought through all of the details from student recruitment and selection, to creating a learning experience that benefited both the students as well as the incarcerated individuals they worked with. Mansi made the most of her time here at Rutgers, and she is leaving the university better for it by creating a meaningful and impactful program that students will experience for years to come.

CBN Major Kieran Mullins Named 2021 Wayne Duke Award Recipient

INDIANAPOLIS – Rutgers' men's lacrosse captain Kieran Mullins has been chosen as one of this year's Wayne Duke Postgraduate Award recipients, it was announced Thursday by the Big Ten Conference and Indiana Sports Corp. Mullins joins Michigan State's Lea Mitchell as recipients of the annual \$10,000 scholarship for their achievements in academics, athletics, extracurricular activities and leadership.

Mullins is a three-time captain who holds a 3.8 GPA while majoring in cell biology and neuroscience with minors in health & society and sociology. He has been a member of the Dean's List every semester to date, as well as a three-time Academic All-Big Ten honoree, was selected as a Rutgers Interdisciplinary Research Team (IRT) Fellow, a Rutgers Postgraduate Big Ten scholarship recipient, a Senior CLASS Award nominee and received the RU Athletic Directors Award.

Outside of the classroom, Mullins is a patient transporter at CentraState Healthcare System and a volunteer as a Crisis Text Line Counselor. Prior to his time as a Crisis Text Line Counselor, he served as a mentor with Rutgers Educational & Athletic Developmental Initiative, Rutgers Athletics Department's RWJ Bristol-Myers Squibb Children's Hospital "Thanksgiving Day", and Rutgers Recreation "Special Friends Day".

The Wayne Duke Postgraduate Award is named for the late Big Ten Conference commissioner who served from 1971 to 1989. While leading the Big Ten, Duke spent much of his time working to improve academic standards and graduation rates for students competing in conference athletics.



Full article found [here](#).

CBN Faculty Research Opportunities: 2021-2022 Academic Year

CBN faculty will be recruiting new undergraduate research assistants in Fall 2021. Please check the information that will be posted on our new Faculty Research Opportunities page going live this summer to learn which professors are recruiting new undergraduate students, along with descriptions of their research projects and details about how to apply.

Join the Rutgers CBN Society for more information on getting involved with research: <https://linktr.ee/rucbnsociety>

Your gift will help 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!



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