

RUTGERS

School of Arts and Sciences

December 2020

IN THIS ISSUE

A Message from the Chair

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

This has been an extraordinarily difficult year for all with education being no exception. Faculty had to adjust to remote teaching, students had to adapt to learning online under demanding circumstances and research labs were shut down for months. Despite these and many other challenges, CBN, the Rutgers community and the entire country, pulled together to give each other a helping hand to prevail. In this issue, we will focus on some of the notable outstanding achievements during these difficult times. Dr. Wei Dai, a rising star structural biologist in the department, was presented with the prestigious NSF Career Award. A new CBN Youtube channel was launched to keep our students informed. We also highlight a tribute to our frontline workers and a vision for the future of the Division of Life Sciences from Dean Lori Covey. On the last page, you will find CBN new bites, a collection of events and happenings within the department.

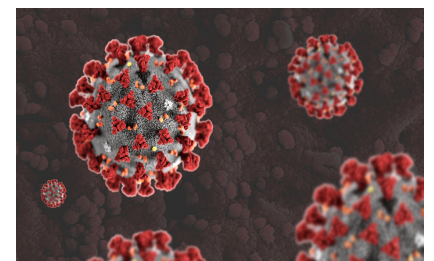
Best wishes for a happy and healthy holiday season and a hopeful 2021.

With warm regards,



Faculty Feature: Dr. Wei Dai

Assistant Professor Dr. Wei Dai was presented with the NSF Career Award



Spotlight: Covid-19 Efforts

Special thanks to our front-line workers for their efforts in helping fight Covid-19 and a message from Dean Covey

Faculty Feature

Assistant Professor Dr. Wei Dai has received a CAREER award from NSF to study structural organization of phase transition assemblies formed by proteins with extended polyglutamine (polyQ) homorepeats. PolyQ proteins are associated with Huntington's Disease (HD) and at least eight other human neurodegenerative diseases. They are one of the simplest intrinsically disordered proteins (IDPs) that can condense into membraneless liquid-like or gel-like assemblies through a process termed phase transition. At present, it remains a mystery how the ultrastructure of phase transition assemblies supports spatiotemporal control of functions of the enclosed proteins. By applying cutting edge bioimaging of cryo-electron tomography and 3D ultrastructure analysis, this project will assess how the formation of polyQ protein phase transition assemblies are affected by cellular factors such as lipid vesicles, and provide a deeper understanding of how biophysical and structural properties of phase transition assemblies support biological activities of enclosed IDPs. This project also includes a research-driven education component that will introduce interdisciplinary research to undergraduates, and provide engaging online training resources on biostructure imaging to undergraduate and graduate students. This grant will start in Jan. 2021 and run through 2025.



Check out the CBN Youtube!

With the help of Dr. Brian Daniels, CBN is now the proud owner of our very own YouTube channel! Be sure to check out videos from our faculty offering support and advice regarding course scheduling, prerequisites, and other core fundamentals [\[here\]](#).

Uploads ▶ PLAY ALL



146:410 - Research Thesis in CBN: Dr. Gabriella...
38 views • 3 months ago



146:356 - Systems Physiology: Dr. Cassie Nelson
213 views • 4 months ago



146:270 - Fundamentals of Cell and Molecular Biology:...
80 views • 4 months ago



146:470 - Advanced Cell Biology: Dr. Ron Hart
128 views • 4 months ago



146:445 - Advanced Neurobiology I: Dr. Bonnie...
80 views • 4 months ago

Frontline COVID Workers



A BIG shoutout to the doctors, nurses, and healthcare professionals who are Rutgers University—New Brunswick and ODASIS-Rutgers alums, from Dr. Kamal Khan:

During these challenging times, Office for Diversity and Academic Success in the Sciences alumni are providing highly critical support—specifically, as physicians, nurses, and healthcare workers on the frontlines of the ongoing battle against COVID-19. We could not be more proud of the incredible work that each and every one of them is doing!

In order to illuminate some of these amazing individuals and recognize and honor their sacrifices, endless hours of hard work, and deeply caring and compassionate spirits as they employ everything they learned during their time at Rutgers and in their respective medical and professional schools, we have put together several pictures to share with you.

Scarlet Pride shines bright in them, and seeing their hard work only encourages us to work harder in our mission to support the students we serve and enable them to pursue their dreams of pursuing careers in healthcare.

Please join us in applauding these incredible alumni—no matter if we are separated by distance, we are all in this together. And together, we will overcome!

Dr. Kamal Khan, Director
Office for Diversity and Academic Success in the Sciences

A VISION FOR LIFE SCIENCES AT RUTGERS



"I can't think of a more critical time than now to be a life scientist," says Dr. Lori Covey, the Division Dean for Life Sciences in the School of Arts and Sciences. Dr. Covey, who is starting her third year as a division dean, is a veteran professor of cell biology and neuroscience, an accomplished scholar in the field of immunology, and a dedicated mentor to young scientists. Here she discusses how she found her calling, how her field has changed over the years, and her vision for life sciences in the age of COVID-19.

Check out the Q&A found [\[here\]](#).

Dr. Lori Covey
Dean for the Division of Life Sciences

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 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 counts.

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 Grant Awards 2020

This year we would like to recognize a few faculty members who were awarded prestigious grants from numbers foundations. The department recognizes Dr. Victoria Abaira for her Touch and Locomotion R01 National Institute of Neurological Disorders and Stroke grant and her Whitehall Foundation Rev2 award. Dr. Bonnie Firestein was awarded the Inhibitors of Guanine Deaminase for Hyperuricemia and Gout Office of Research and Economic Development grant, and the Cypin Activators as Treatments for Traumatic Brain Injury, NJ Commission on Brain Injury Research. Dr. Kelvin Kwan received the SGN regeneration R01 National Institute on Deafness and Other Communication Disorders, and Dr. Max Tischfield received grants from the Tourette Association of America and the NJ Center for Tourette Syndrome and Associated Disorders.

Assistant Professor David Margolis Promoted

Dr. David Margolis, a rising star neurobiologist in the department, was promoted to Associate Professor with Tenure.

New Website to be Unveiled Next Year

We're excited to share our new website with you! The new layout features quicker access to information for our Undergrad and Graduate programs, Faculty profiles, and research interests. The new and improved layout will also feature a video hosted by Dr. Shu-chan Hsu outlining all you need to know for those thinking about becoming a CBN Major. Visit us at www.cbn.rutgers.edu to see the revamped layout in 2021.

CBN and Life Sciences Scholarship Funding from Mike Azzara

A big thank you and shout out to Rutgers alum Mike Azzara for funding scholarships in the life sciences, including one for students in CBN.

Assistant Research Professor Noriko Goldsmith Leaving Rutgers, October 2020

After 8 years with us, Assistant Research Professor Dr. Noriko Goldsmith has retired from her W.M. Keck Center for Collaborative Neuroscience position managing our InCell and LSM800 microscopes. We are sad to see her go and wish her the best of luck!

2021 Virtual CBN Retreat

CBN will be hosting a virtual retreat open to undergraduate students, graduate students, postdoctoral associates, and faculty. Stay tuned for the schedule and Zoom invite!

CBN Spring Seminar Series

2/08/2021 Dr. Cedric Ferschotte hosted by Genetics Dr. Chris Ellison

2/26/2021 Dr. Congcong He hosted by CBN's Dr. Qian Cai

3/12/2021 Dr. Abdel El Ouaamari hosted by CBN's Dr. Max Tischfield

3/26/2021 Dr. Wei-Dong Yao hosted by CBN's Dr. Qian Cai

4/23/2021 Dr. Todd Mowery hosted by CBN's Dr. Max Tischfield

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