

## Message from the Director

As September arrives, so does the start to another academic year. While great research happens year-round in our labs, this is a particularly exciting time of the year to me – people back from conferences and vacations with fresh ideas and energy, new students rotating on the floor, and our seminars & floor meetings restarting. It's also a great time to remember the accomplishments of the past year, particularly those done by people who've graduated or moved on to new positions. I generally enjoy this blend of gratitude for the past and excitement for the future, but particularly so now before the many demands of the academic year hit full-bore in the weeks ahead.

With that in mind, I'm glad to share some of what we've all done in the past year in SBI and a bit of what's ahead. I think this is one of the best ways that I can show how proud I am of our community – our discoveries, our facilities, and most importantly, our people – and to encourage others to join us. If you're interested in learning more about any aspect, please reach out to me or others on our team – *KG*



### Articles used in this issue

<b>NEW FACULTY AND STUDENTS</b>	<b>PUBLICATIONS</b>	<b>ACHIEVEMENTS AT A GLANCE</b>	<b>SPOTLIGHT ON... AND UPCOMING EVENTS</b>
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# New Faculty and Staff

## Dr. Denize Favaro

dfavaro@gc.cuny.edu

Denize joined the ASRC community as the new Biomolecular Nuclear Magnetic Resonance (NMR) Facility Director in November 2021. She received her B.S. in Chemistry from the State University of Maringa, a Master's degree from the State University of Campinas, and a Ph.D. from the same University for her research with Prof. Cláudio F. Tormena on the "Study of the mechanisms of transmission of the scalar couplings through bond and/or through space, and development of diffusion of  $^{19}\text{F}$  (DOSY)."

She's a stellar addition from Brazil who worked at the State University of Campinas (UNICAMP) as a professor and established a research group exploring the relationship between enzyme structure/dynamics and catalytic efficiency.

When Denize is not in the lab doing great work, she's on a field playing soccer or hanging out with her four cats.

## Yee Pui "Jenn" Chow

jchow@gc.cuny.edu

Arriving in January 2022, our new SBI Associate Director, Yee Pui "Jenn" Chow is an accomplished administrator with two decades in academia. She has worked in various roles at three neighboring medical schools: NYU, Mount Sinai, and recently, CUNY School of Medicine.

Jenn's portfolio showcases the extensive experience of supporting deans, faculty, staff and students. And this fact is highlighted by her collaborative work on the publication "An Integrated Metric for Evaluation of Research Performance (November 2009)."

Outside of work, Jenn is supporting her children at softball practices and swim meets. She also enjoys employing her culinary skills to create delicious meals. And during her down-time, Jenn can be found relaxing on the sofa with her 4.5lb Yorkie named "Chewie" aka Chewbacca.

# New Students and Postdocs

Deijona Brown (des Georges Lab), Research Technician

Joseph Closson (GardnerLab), PhD student in Biochemistry

Dr. Ali Ebrahim (Keedy Lab), postdoc

Jack Mechler (des Georges Lab), PhD student in Biochemistry

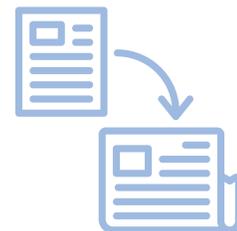
Liliana Margent (Keedy Lab), PhD student in Biochemistry

Akshay Raju (Keedy Lab), CCNY Undergrad honor student in Biotechnology

Jinho Seo (Gardner Lab), CCNY Undergrad honor student in Biochemistry

Tarsisius Tiyani (Gardner Lab), PhD student in Biochemistry

# Publications



- Yin et al. (Abzalimov - Mass Spec Facility) Brain-specific lipoprotein receptors interact with astrocyte derived apolipoprotein and mediate neuron-glia lipid shuttling. Nat Commun 2021. DOI: 10.1038/s41467-021-22751-7.
- Zacarias et al. (Abzalimov - Mass Spec Facility) Synthesis of Oligonucleotides Containing Trans Mitomycin C DNA Adducts at N6 of Adenine and N2 of Guanine. Chemistry 2021. DOI: 10.1002/chem.202102338.
- Piserchio et al. (Abzalimov - Mass Spec Facility) Structural dynamics of the complex of calmodulin with a minimal functional construct of eukaryotic elongation factor 2 kinase and the role of Thr348 autophosphorylation. Protein Sci. 2021. DOI: 10.1002/pro.4087.
- Catalano et al. (des Georges Lab) Cryo-EM Structure of Mechanosensitive Channel YnaI Using SMA2000: Challenges and Opportunities. Membranes (Basel), 2021. DOI:10.3390/membranes11110849.
- Kazemi et al. (des Georges Lab) ENRICH: a fast method to improve the quality of flexible macromolecular reconstructions. Progress in Biophysics and Molecular Biology, 2021. DOI: 10.1016/j.pbiomolbio.2021.01.001.
- Xu et al. (Gardner Lab) Volume and Compressibility Differences Between Protein Conformations Revealed by High-Pressure NMR. Biophysical Journal, 2021. DOI:10.1016/j.bpj.2020.12.034.
- Ebrahim et al. (Keedy Lab) The temperature-dependent conformational ensemble of SARS-CoV-2 main protease (Mpro). IUCrJ, 2022. DOI: 10.1101/2021.05.03.437411.
- Molina et al. (Abzalimov - Mass Spec Facility) Living with a giant, flowering parasite: Metabolic differences between Tetrastigma aloheri Gagnep. (Vitaceae) shoots uninfected and infected with Rafflesia (Rafflesiaceae) and potential applications for propagation. Planta, 2022. DOI: 10.1007/s00425-021-03787-x.
- Soliman G. et al. (Abzalimov - Mass Spec Facility) mTORC1 and mTORC2 Complexes Regulate the Untargeted Metabolomics and Amino Acid Metabolites Profile through Mitochondrial Bioenergetic Functions in Pancreatic Beta Cells. Nutrients. 2022 Aug; 14(15): 3022. DOI: 10.3390/nu14153022



# Achievements at a Glance:

## Promotion:

Mass Spec Facility Director, Prof. Rinat Abzalimov was recently promoted to Research Associate Professor. In a city full of stellar facilities applying this technique, Dr. Abzalimov has established a new one with unique strengths in HDX-MS and MALDI Imaging (the latter together with Dr. Ye He, Neuroscience Initiative).

## Awards:

Professor Daniel Keedy was named a 2022 Cottrell Scholar by the Research Corporation for Science Achievement for innovative approaches to biochemical research and education.

Xingjian "Jim" Xu (Gardner Lab) won the 2022 Horst Schulz Prize for best paper first-authored by a Biochemistry PhD student. The winning article was published in the Biophysical Journal.

Leandro Pimentel Marcelino (Gardner Lab) and Kelly Veerasammy (Abzalimov - Mass Spec Facility) were two of eight outstanding CUNY undergraduates who received the Jonas E. Salk Award for STEM students.

## Grants:

Professor Kevin Gardner was awarded a grant from The Mathers Foundation (with Prof. Joseph Garcia, Columbia University Medical Center) to support interdisciplinary research to understand more aspects of how cells normally respond to low oxygen, and how to target additional cancers with new therapeutic strategies.

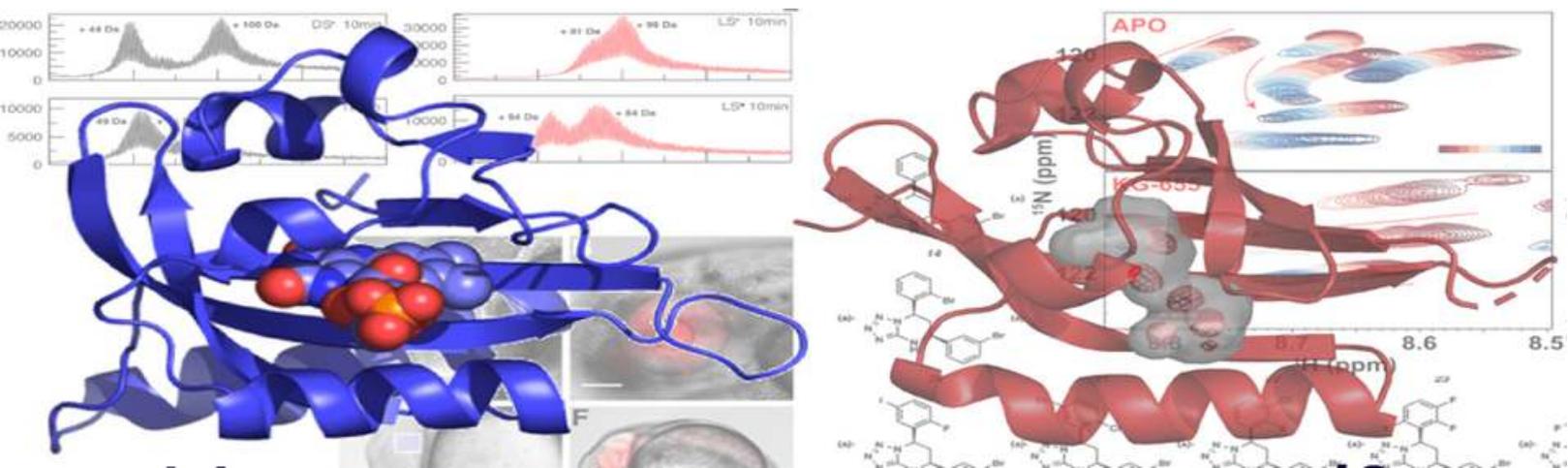
Professor Amedee des Georges received a NIH R56 award (with Prof. David Weber, Univ Maryland) to study *Clostridium difficile* CDTb.

## Highlights:

Professor Ghada Soliman was invited to serve as as Associate Editor for the Frontiers in Public Health, Subspecialty: Public Health and Nutrition.

Matthew Cleere (Gardner Lab) was spotlighted by the Graduate Center for his continuous advocacy to establish simplified systems beneficial to the student body.

## Congratulations!!!



# SPOTLIGHT ON...



Dr. Ali Ebrahim  
Postdoctoral Research Associate  
Keedy Lab

*How long have you been with SBI?*

I joined in April 2020, but due to the pandemic, I've physically been at SBI since May.

*What was your previous academic and research background?*

I completed my BSc (Hons) Biology and MPhil Biochemistry degrees at the University of Portsmouth, UK, with my MPhil focused on the characterization of cellulases involved in the production of second-generation biofuels.

I subsequently earned my PhD from the University of Essex, UK, in early 2020; my research focused on the development of serial crystallography data collection and processing methods for both synchrotrons and X-ray free-electron lasers, used to analyze and exploit the effects of radiation damage in metalloproteins.

*What are you working on now?*

I am interested in visualizing phosphatase ligand binding, activity and allostery, using a range of X-ray crystallography data collection methods. By using methods that perturb proteins during data collection, we look to effectually bias them toward specific conformations, revealing how protein conformation underlies function.

*What is your favorite thing about NY?*

No two days are the same!

## UPCOMING EVENTS

**AUGUST 25**

FIRST DAY OF FALL 2022 SEMESTER

**SEPTEMBER 7**

FIRST ASRC & CCNY B3 SEMINAR AT 12 NOON – 1PM

LOCATION:

ASRC 1st FLOOR AUDITORIUM

*NOTE:*

THE SEMINARS RUN TILL 12/7. DETAILED INFO AND ZOOM LINKS WILL BE PROVIDED CLOSER TO THE EVENT DATE.

