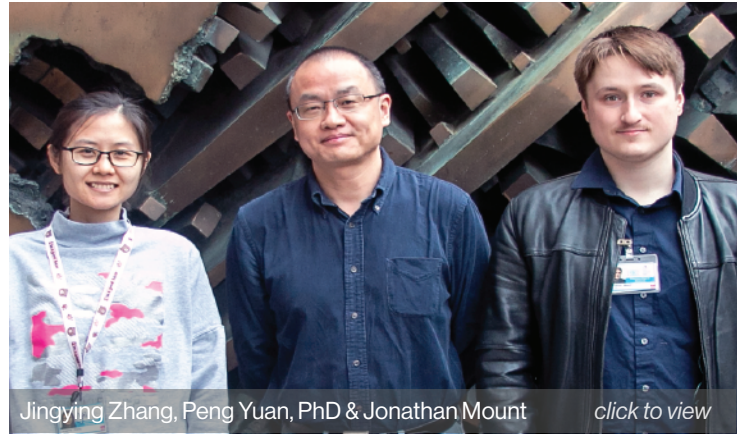




WELCOMING A NEW LAB

Dr. Peng Yuan has joined our Department at Mount Sinai as a Professor of Structural Biology in January 2023. A highly accomplished structural biologist, Dr. Yuan studies structure-function and mechanism of membrane receptors, ion channels and transporters in health and human diseases including neurological and infectious diseases, and cancers. Dr. Yuan received his PhD degree from University of Pennsylvania in 2008 and conducted his postdoctoral study in 2008-2013 with Prof. Roderick MacKinnon at The Rockefeller University (the Nobel Laureate in Chemistry 2003) and ran his own research lab at Washington University of School of Medicine in 2013-2023. Dr. Yuan has built a highly productive research program, as illustrated by his extraordinary ability in securing research funding (currently 5 R01 and 1 U19 NIH grants) and producing impactful papers in *Nature*, *Nature Structural & Molecular Biology*, *Nature Communications*, and *Science Advances*. We welcome Dr. Yuan and his group to Mount Sinai and wish them continued success in science.



Jingying Zhang, Peng Yuan, PhD & Jonathan Mount

[click to view](#)

“Selective transport of ions, drugs, and folded proteins across cell membranes, mediated by membrane transport proteins, is a fundamental biological process. Dysfunction of these membrane proteins leads to a wide range of diseases, including neurodegeneration, asthma, hypertension, cancer, diabetes, heart failure, and chronic pain. [The Yuan lab](#) is interested in the structure and function of membrane transport proteins that play central roles in physiology and disease. Their long-term goal is to advance our understanding of the structure and function of these essential membrane proteins at the atomic level and establish new foundations for rational therapies. Towards this end, they strive to develop new approaches and tools to investigate the molecular mechanisms of these challenging membrane proteins. How do channels and transporters recognize their specific substrates? How do channels open and close their pores in response to environmental cues and cellular stimuli, including chemicals, temperature, membrane voltage, and mechanical force? To answer these fundamental questions, we use multidisciplinary approaches, including electrophysiology, biochemical and biophysical assays, and structural techniques including X-ray crystallography and cryo-electron microscopy. They’re excited to provide an integrative understanding of the structure and function of important membrane proteins and to establish solid foundations for mechanism-based drug design. Over the years, the lab has advanced its understanding of the structure and mechanism of several membrane proteins, including transient receptor potential (TRP) channels, copper transporters, proton-activated chloride channels, pannexin channels, and mechanosensitive channels. We look forward to our new chapter at Sinai and welcome motivated young scientists to join our team to make important discoveries.” - Dr. Peng Yuan

GRANT HIGHLIGHT



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Lakshmi Devi, Elyssa Margolis (UCSF), Manojkumar Akkappillil Puthenveedu (U. Michigan), MPIs, “*Regulation Of Opioid Receptor Signaling by Endogenous Peptides*,” R01, NIDA, 04/2023-01/2028, \$2,997,955.

Opioids such as morphine and fentanyl are widely used for the treatment of severe pain; however, prolonged treatment with these drugs can lead to the development of tolerance, opioid use disorder, and death from respiratory depression. Over the past 3 decades, this grant award has uncovered molecular mechanisms that regulate opioid receptor function including phosphorylation-induced receptor desensitization (1st decade), receptor dimerization-induced novel pharmacology (2nd decade), and ligand-induced biased signaling and differential trafficking (3rd decade). The current award extends the funding period into the 4th decade, with a focus on delineating the receptor signaling elicited by 20 distinct endogenous opioid peptides acting through each of the three opioid receptor types in brain areas involved in reward/addiction and those involved in respiratory depression. Because endogenous peptides signal differently compared to opioid drugs, a better understanding of signaling by endogenous peptides may lead to the development of better drugs for the treatment of pain.

PTD UPDATE

Congratulations to Dr. Michael Lazarus who is now co-director of the [Pharmacology and Therapeutics Discovery Program \(PTD\)](#), along with Dr. Avner Schlessinger. The program has received 71 applicants, and the Graduate School invited 20 for in-person interviews, the first in-person interviews since 2020. Thanks to all the students and faculty that took the time to meet with them and help recruit them to Sinai. Thanks to the DPS admin team who made the visit possible. We welcome this class of 6 new students joining the PTD Program at Mount Sinai in 2023. To see the new students, [Click Here!](#)



M. LAZARUS, PHD
Assoc Professor



[click to view](#)



[click to view](#)

DPS-SPA UPDATE

NEW MEMBERS AND LEADERSHIP

The DPS-SPA team, under the guidance of Dr. Lakshmi Devi, aims to foster community and support career development within DPS. The SPA team wishes its former co-president, Dr. Shakti Ingle, all the best in his new position at NYU. The team also welcomed 2 new members in 2023, and its current members are:

- **Janice Yang**, President, PhD student, Sobie lab
- **Nicholas Johnson, PhD**, Postdoc, Iyengar lab
- **Sari Miyashita, PhD**, Postdoc, Zaidi lab
- **Richard Quintana-Feliciano**, PhD student, Aggarwal lab
- **Zhe Sang**, PhD student, Shi lab
- **Md Kabir**, PhD student, Jin lab (temporarily returning)

Janice and Nicholas will focus on career development events and activities. Sari and Richard will continue working on the upcoming Diversity, Inclusion, and Training Symposium, WELead, and similar initiatives. Md and Zhe will take the lead for social events. Joining DPS-SPA is an excellent opportunity to learn leadership, teamwork, and communication skills. Interested in joining the team or have any suggestions, email janice.yang@icahn.mssm.edu. Feel free to join our new [LinkedIn](#) page as well, open to all DPS members and alumni.



EVENTS

THE 3RD DIVERSITY, INCLUSION AND TRAINING

Martha Dávila-García, PhD

Associate Professor of Pharmacology
Director of Graduate Programs
Howard University College of Medicine



“What’s DEI Got to Do With Me?”

Thursday, May 25, 2023, 10:45AM
Hess Center, Seminar Room B

THE 23RD IRVING L SCHWARTZ LECTURESHIP

Ian Wilson, PhD

Hansen Professor of Structural Biology
Chair of the Department of Integrative Structural
and Computational Biology
Scripps Research institute



Tuesday, September 28, 2023
Hatch Auditorium, Guggenheim Pavilion

THE 16TH RESEARCH RETREAT

Save The Date

Hyatt Regency Greenwich
Old Greenwich, Connecticut
September 11 & 12, 2023



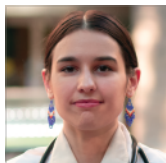
Stay Tuned For More Information!

For Information on the
Hyatt Regency [Visit Here!](#)

MEMBER SPOTLIGHT

DeAnalisa Jones’s MD/PhD, Dissertation Defense

“Modeling the Ultrastructural Features of Ventricular Cardiomyocytes: Implications for Ca²⁺ Signaling in Heart Failure”



Tuesday, May 9, 2023, 1PM
Hatch Auditorium, 2nd Floor Guggenheim Pavilion
<https://mssm.zoom.us/j/2122413321> | [PDF Flyer](#)
Mentor: Eric Sobie, PhD

Md Kabir’s PhD, Dissertation Defense

“Development of Bifunctional Modalities for the Treatment of Cancer”



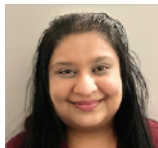
Friday, May 5, 2023, 10AM
Hess Building, Seminar Room B
<https://mssm.zoom.us/j/7977153187> | [PDF Flyer](#)
Mentor: Jian Jin, PhD

DPS MEMBER UPDATE

NEW MEMBERS



Xing Gao, PhD
Postdoctoral Fellow
Jin Lab



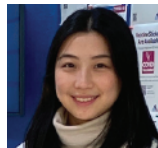
Anurupa Ghosh, PhD
Postdoctoral Fellow
Zhou/Cheung Lab



Jonathan Mount
Trainee
Yuan Lab



Keiichi Asano, PhD
Assistant Professor
University of Tsukuba



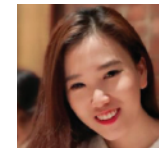
Claudia Kim
Project Manager
Tri-I-TDI



Youngeun Lee
Assoc. Researcher
Jin Lab



Farhath Sultana, PhD
Senior Scientist
Zaidi Lab



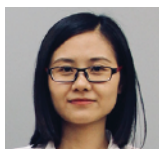
Yifei Sun, PhD
Instructor
Walsh Lab



Eric Purisic
Assoc. Researcher
Dai Lab



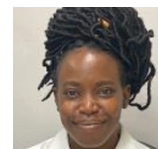
Joshua Stamos, PhD
Postdoctoral Fellow
Dai Lab



Jingying Zhang
Trainee
Yuan Lab



Michael Ngai



Mukami Wamalwa
Asst. Research Scientist
Columbia University

PROMOTIONS

LINKS

Please visit our other pages for additional information from our department, click on the buttons below!

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[TWITTER](#)