Women are often the majority of students, postdoctoral fellows and instructors across academic institutions, but not professors who lead independent research programs. Women of color are especially underrepresented in medical school faculty and research staff, which contributes to the lack of diversity, equity and inclusion in academic research and education as well as role models and support systems for trainees. The Department of Pharmacological Sciences (DPS) at the Icahn School of Medicine at Mount Sinai (ISMMS) is fully committed to improving “Diversity & Inclusion” in our Department through programs including “Kruwich Fellowship”, “Diversity Lectureship”, “Diversity Symposium”, and “Commission of Diversity and Equity Support (CoDES)” that are collectively led by our students, postdoctoral fellows and faculty members. In this Newsletter, we are extremely proud with great enthusiasm to feature our five outstanding woman faculty members who head their vibrant research laboratories in our Department. Their extraordinary personal qualities and scientific accomplishments and unwavering dedication as academic leaders in research and education make them exceptional role models and inspirations not only for women in science but also all of us that enrich the academic working environment at Mount Sinai as a nation’s leading academic biomedical institution.

**Women in the Faculty**

**JINYE DAI, PHD**, has recently been recruited to Mount Sinai as an Assistant Professor in the DPS this summer after completing her highly productive postdoctoral study at Stanford University School of Medicine with Prof. Thomas Südhof (Nobel Laureate, 2013 in Physiology or Medicine). Dr. Dai’s research interest is directed at better elucidating mechanistically the function of synaptic signaling in analgesia, addiction and reward-related disorders. Her group has taken a pioneering role in establishing the physiological significance of G protein-coupled receptor heteromers and establishing them as new therapeutic targets (Nature 1999). Dr. Devi’s recent research defined deoxygenizing G protein-coupled receptors as druggable targets. This has resulted in the identification of receptors for three highly abundant novel neuropeptides and identification of small molecule ligands for these receptors; these ligands are being used to explore the physiological roles of the receptor systems in health and disease. Dr. Devi is deeply committed to mentoring of students, postdoctoral trainees as well as junior faculty. She has mentored more than 80 trainees. Dr. Devi served as the Director of the NIDA Interdisciplinary Postdoctoral Training in Addiction Research at Mount Sinai (2009-2019) and Dean for Academic Development and Enrichment (2013-2020) and currently serves as the Vice Chair of Education, Department of Pharmacological Sciences (2017-present). In the current capacity... Read More Here!

**LAKSHMI DEVI, PHD**, is the Mount Sinai Professor of Molecular Pharmacology. Her research focus is to explore novel mechanisms of G protein-coupled receptor signaling in analgesia, addiction and reward-related disorders. Her group has taken a pioneering role in establishing the physiological significance of G protein-coupled receptor heteromers and establishing them as new therapeutic targets (Nature 1999). Dr. Devi’s recent research defined deoxygenizing G protein-coupled receptors as druggable targets. This has resulted in the identification of receptors for three highly abundant novel neuropeptides and identification of small molecule ligands for these receptors; these ligands are being used to explore the physiological roles of the receptor systems in health and disease. Dr. Devi is deeply committed to mentoring of students, postdoctoral trainees as well as junior faculty. She has mentored more than 80 trainees. Dr. Devi served as the Director of the NIDA Interdisciplinary Postdoctoral Training in Addiction Research at Mount Sinai (2009-2019) and Dean for Academic Development and Enrichment (2013-2020) and currently serves as the Vice Chair of Education, Department of Pharmacological Sciences (2017-present). In the current capacity... Read More Here!

**LAHOUARIA HADRI, PHD**, is an Assistant Professor at the Departments of Pharmacological Sciences and Medicine at Mount Sinai. She received her M.Sc. degrees in Cell and Molecular Biology and Physiology and Integrative Biology and Medicine at University of Pharmacy PARIS XI, Paris, France. In 2006, she relocated to the United States and undertook a postdoc position at Massachusetts General Hospital/Harvard Medical School in Boston, and in 2007, she moved with the team to Mount Sinai. The research focus of her lab is centered on studying pathophysiology and the underlying molecular and cellular events that contribute to the development and progression of cardiovascular diseases, pulmonary vascular and lung diseases, and defining a platform for the design of novel therapeutic strategies using gene and small compounds targeted therapies. The long-term objective is to obtain a comprehensive knowledge of genes & signaling alterations (calpain handling proteins, calcium signaling, cAMP/EPAC enzyme, gene expression and epigenetic alterations) to identify relevant targets for the... Read More Here!

**JAAZMINA KHAN, PHD**, is a postdoc in the lab of Dr. Jinye Dai. She received her Ph.D. in 2018 from the University of Pittsburgh School of Pharmacy with Prof. Thomas Südhof (Nobel Laureate, 2013 in Physiology or Medicine). Her research interest lies in investigating the physiological role of integrin receptors in analgesia, addiction and reward disorders. Her recent research focused on characterizing the function of a novel heterodimeric epithelial sodium channel/α2δ-2 channel complex and developing small molecule ligands to target this complex as a potential therapeutic strategy. Dr. Khan’s lab is currently investigating the role of these heterodimers in pain and addiction and exploring the therapeutic potential of small molecule ligands targeting these complexes. In her current work, she is exploring the role of integrin receptors in pain and addiction and developing small molecule ligands to target these complexes as potential therapeutic strategies. Dr. Khan’s lab is currently investigating the role of these heterodimers in pain and addiction and exploring the therapeutic potential of small molecule ligands targeting these complexes. In her current work, she is exploring the role of integrin receptors in pain and addiction and developing small molecule ligands to target these complexes as potential therapeutic strategies. Dr. Khan’s lab is currently investigating the role of these heterodimers in pain and addiction and exploring the therapeutic potential of small molecule ligands targeting these complexes. In her current work, she is exploring the role of integrin receptors in pain and addiction and developing small molecule ligands to target these complexes as potential therapeutic strategies. Dr. Khan’s lab is currently investigating the role of these heterodimers in pain and addiction and exploring the therapeutic potential of small molecule ligands targeting these complexes. In her current work, she is exploring the role of integrin receptors in pain and addiction and developing small molecule ligands to target these complexes as potential therapeutic strategies. Dr. Khan’s lab is currently investigating the role of these heterodimers in pain and addiction and exploring the therapeutic potential of small molecule ligands targeting these complexes. In her current work, she is exploring the role of integrin receptors in pain and addiction and developing small molecule ligands to target these complexes as potential therapeutic strategies. Read More Here!
Professor Aggarwal and colleagues reported the first high-resolution crystal structures of SARS-CoV-2 N7-methyltransferase (Nat. Struct. Mol. Biol., 2022). The SARS-CoV-2 N7-methyltransferase (N7-MTase) is an attractive target for the development of antivirals, but there was no high-resolution structural information available for this critical enzymatic activity that employs S-adenosylmethionine (SAM) as a cofactor to methylate or cap the viral mRNA. The work uncovered distinctive structural characteristics of N7-MTase that are essential for the development of antiviral drugs and reported on the identification of S-adenosylhomocysteine (SAH) as the optimal scaffold for the design of SAM competitors. The high quality and high resolution of the structures reported in this work will inspire efforts in many labs to develop new inhibitors of SARS-CoV-2 and other pathogenic coronaviruses. This work was led by postdoctoral fellow Jithesh Kottur, PhD. Read More Here!

### PAPERS AND GRANTS

#### PAPERS


#### GRANTS

Inga Peter & Robert DeVita, MPI, “Preclinical Validation of Novel Gut-Restricted LRRK2 Inhibitors as Therapeutic Leads for IBD,” R01, NIDDK, 09/2022-06/2025, $1,199,934.


Pep Wang, Avi Ma’ayan, MPis, “Proteogenomic translator for cancer biomarker discovery towards precision medicine,” U24, NCI, 07/2022-04/2027, $4,203,785.

Magdalena Janecka, Anner Schlessinger, MPis, “Prenatal medication exposure in autism, birth complications and developmental disabilities,” R01, NICHD, 09/2022-08/2027, $3,439,860. Full Grants List!

### MEMBER SPOTLIGHT

Emily Teichman, is a 4th year PhD student who uses electrophysiology (brain slice, cell culture), molecular biology techniques, and mutagenesis to study drug selectivity towards HCN ion channels as a basis for future antidepressant drug discovery. This multidisciplinary project spans the labs of Drs. Ming-Hu Han/Carole Morel, Dr. Jian Jin, and Dr. Paul Slesinger. She recently received the National Institute of Mental Health, Ruth L. Kirschstein National Research Service Award for her project “Unveiling and Exploiting the Structural Determinants of HCN2 Channel Selectivity” (F31, NIMH, 09/2022-09/2025, $46,752 per year). Outside of lab she is actively involved in Student Council and THAW (Trainee Health and Wellness), works as a counselor for the Crisis Text Line, and loves to play soccer, rock climb, ski, and travel.

Audrey Warren, is a PhD student in the Wacker lab. She uses cryo-EM and in vitro signaling assays to study G-protein coupled receptors. She was recently awarded the National Institute of Mental Health’s Ruth L. Kirschstein National Research Service Award for her project “Structural studies of psychedelic activity at the serotonin receptor 5-HT1A” (F31, NIMH, 09/2022-09/2025, $45,152 per year). Outside of lab, Audrey enjoys cooking and cycling.

### DPS ON TWITTER

The department is on twitter! With this platform we can extend the range in which our news and publications can reach. We encourage the faculty, labs and members to create an account and join us! Visit the Department’s Twitter Page Here!

### NEW ALUMNI

Valeria Muradova, MD
Pediatric Endo. Fellow
SUNY Downstate

Alcina Rodriguez
PhD Student
Rutgers BHS

Yu, Xufen, PhD

L. Sédés, PhD

See Full Members List!

### DPS MEMBER UPDATE

#### NEW MEMBERS

Jinje Dai, PhD
Asst. Professor

Z. Bolgarina, PhD
Assoc. Researcher
Zaidi Lab

William Cheung, PhD
Asst. Professor

S. Khamnui, PhD
Instructor
Lazarus Lab

P.S. Akella, PhD
Postdoctoral Fellow
DeVita Lab

Ido Diamant
Bioinfo Softw. Engr
Maiayan Lab

Funda Korkmaz, PhD
Instructor
Zaidi Lab

Kwang-Su Park, PhD
Instructor
Jin Lab

#### PROMOTIONS

#### NEW ALUMNI