Dr. Yi Shi has joined Mount Sinai as an Associate Professor with tenure in our Department in March 2022. An internationally recognized scientist, Dr. Shi has unique research expertise and impressive track-record in protein engineering and nanobody development as new therapeutic agents against infectious diseases including SARS-CoV-2-associated COVID-19. After receiving his PhD degree in mass spectrometry/proteomics from Baylor College of Medicine in 2011, Dr. Shi pursued his postdoctoral study in 2011-2016 with Prof. Brian Chait at The Rockefeller University, a pioneer in mass spectrometry/structural biology. Of Dr. Shi’s notable postdoctoral research accomplishments are novel method development and the structural determination of the eukaryotic nuclear pore complex, a macro-molecular assembly with over 550 proteins (Nature Methods 2015; Cell 2016; Nature 2018).

As an Assistant Professor at University of Pittsburgh School of Medicine, Dr. Shi has established a highly productive research program centered on cutting-edge mass spectrometry and proteomics technologies and protein engineering. Inspired by high translational potential of camelid single-chain antibodies (nanobodies, NbS), he and his colleagues developed a robust proteomic pipeline for nanobody-drug discovery (Cell Systems 2021; Structure 2022) and obtained sub-pM and multi-epitope NbS against SARS-CoV-2 spike protein (Science 2020; Nature Communications 2021). One of such extra-high-affinity and stable NbS was shown with remarkable preclinical efficacy as an inhalation therapy for SARS-CoV-2 infection in a COVID-19 model (Science Advances 2021). This novel Nb therapy represents a convenient and cost-effective option to mitigate the pandemic. Dr. Shi’s recent work uncovers antigenicity features of SARS-CoV-2 Omicron and shines a light on the rational development of new nanobodies with “super-immunity” against a full spectrum of SARS-like viruses (bioRxiv 2022a, 2022b). Dr. Shi has been extremely successful in securing grant funding for his research program, which is currently funded with three NIH grants (R35, R21, R01) and an MJFF/Alzheimer Disease Association grant. At Mount Sinai, Dr. Shi aims to integrate machine learning, structural biology and proteomics methods to facilitate engineering and design of novel protein therapeutics and vaccine development. Dr. Shi will establish a new Center of Protein Engineering and Therapeutics, which will help fulfill his exceptional promise in science.

Dr. Jinye Dai will join Mount Sinai as an Assistant Professor in our Department in this summer after she completes a 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 understanding of basic molecular mechanisms of brain synaptic function and neuropsychiatric disorders. She received her PhD degree from the Institute of Biophysics, the Chinese Academy of Sciences in 2015 where she studied the fundamental mechanisms of synaptic transmission (J. Neurosci. 2015). At Stanford, she has elucidated mechanistically the function of synaptic molecules whose mutations are found in neuropsychiatric disorders including autism spectrum disorder or schizophrenia (Cell 2019; Neuron 2019; Nature 2021). In her new lab at Mount Sinai, Dr. Dai will dissect the interplay between genetic and environmental stressors in the adaptive healthy brain function and pathology of stress-induced decompensation in neuropsychiatric disorders. Dr. Dai will have a joint primary appointment in the Department of Neuroscience, and be a member of the Friedman Brain Institute.

**PAPERS AND GRANTS**


**See Full List Here!**

**GRANTS**

**Ka Lung Cheung.** PI, “Role of Class IIa HDACs HDAC4 and HDAC7 in Pathogenic Th17 Cell Development and Colitis,” R01, NIAID, 4/2022-3/2027, $2,112,500

**Wang G & Jian Jin, MPI, “Dissecting and Targeting Canonical and Noncanonical Oncogenic Functions of EZH2 in Cancer,” R01/UNC, 1/2022-12/2026, $1,613,105

**Ginzburg Y, Mone Zaidi & Yuen Tony, MPIs, “The Role of Erythroferrone in Regulating Bone Metabolism in Beta-Thalassemia,” R01, NIDDK, 2/2022-1/2026, $2,323,053**
DPS-SPA UPDATE

NEW MEMBERS AND LEADERSHIP
New DPS Student and Postdoc Association (DPS-SPA) members have been assembled under the guidance and mentorship of their President Md Kabir and advisor Dr. Lakshmi Devi.

- Shakti Ingle, Postdoc, Bechhofer lab (left)
- Janice Yang, PhD Student, Sobie lab (middle)
- Sari Miyashita, Postdoc from Zaidi lab (insert)
- Richard Quintana-Feliciano, PhD Student, Aggarwal lab (right)

The team began their work in DPS Works in Progress Series, DPS Diversity Inclusion and Training Symposium, Special Seminars, Career Conversations, Career Development sessions and their participation in the DPS Research Retreat. Janice and Shakti will be working toward becoming Co-Presidents this summer. Shakti will have a focus on events and social media. Janice will focus on career development; Sari will take initiative for the Women Lead session and Richard will also be on career development and youth motivation. Joining DPS-SPA is an excellent opportunity to learn leadership, teamwork and communication skills. Please reach out to us if you would like to join the team by emailing us Here.

MEMBER SPOTLIGHT

Nicole Zatorski, MD/PhD student, Schlessinger lab, uses computational methods such as machine learning to predict cardiovascular toxicity of drugs. She was awarded with the National Cancer Institute, Ruth L. Kirschstein National Research Service Award, “Compound Cardiovascular Activity Prediction Using Structural and Genomic Features” (NIH F30 HL160179, 09/01/2022-06/30/2025, $48,756/year). When not in the office she can be found backpacking, golfing, kayaking, gardening, reading, knitting and has a black belt in Tae Kwon Do.

EVENTS

2022 DIVERSITY, INCLUSION AND TRAINING

Ann-Gel Palermo, Dr PH
Senior Associate Dean for Diversity, Equity, & Inclusion
Associate Professor, Medical Education
Assistant Professor, Pediatrics
Icahn School of Medicine at Mount Sinai

Featuring T32 and PREP
Tuesday, May 24th, 9AM
Hybrid Event - Goldwurm Auditorium

THE 22ND IRVING L SCHWARTZ LECTURESHIP

Craig M. Crews, PhD
American Cancer Society Professor
John C. Malone Professor
of Molecular, Cellular, and Developmental Biology
Dept of Chemistry, Dept of Pharmacology
Executive Director, Yale Center for Molecular Discovery
Yale University School of Medicine

Tuesday, October 25th, 11AM
Hybrid Event - Goldwurm Auditorium

DPS MEMBER UPDATE

NEW MEMBERS

- Yi Shi, PhD
  Assoc Professor
  Shi Lab
- Yufei Xiang
  Instructor
  Shi Lab
- Eric Marsan, PhD
  Postdoctoral Fellow
  DeVita Lab
- Anusha Pallapati, PhD
  Postdoctoral Fellow
  Zaidi Lab
- Satish Rojekar, PhD
  Postdoctoral Fellow
  Zaidi Lab
- Anthony Blando
  Assoc Researcher
  Morel Lab
- Orly Barak
  Assoc Researcher
  Zaidi Lab
- X. Song, PhD
  Postdoctoral Fellow
  JinLab
- G. Van Caloen, PhD
  Postdoctoral Fellow
  Zaidi Lab
- Orly Barak
  Assoc Researcher
  Zaidi Lab
- Anthony Blando
  Assoc Researcher
  Morel Lab
- Cody Secor
  R&D Specialist
  Regeneron
- Ning Sun, PhD
  Cullgen Inc.

NEW ALUMNI

- Sakshi Gera
  Research Scientist
  Envisagenics
- Minji Jeon, PhD
  Assistant Professor
  Korea University
- Eryk Kropiwnicki
  Bioinfo Data Sci
  Benevolent

LINKS

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