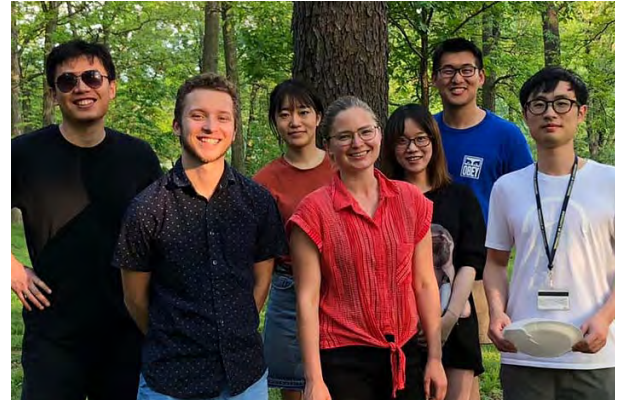


WELCOMING NEW LABS



YI SHI, PHD
Assoc Professor

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.



JINYE DAI, PHD
Asst Professor

PAPERS AND GRANTS

Malik R, Johnson RE, Prakash L, Prakash S, Ubarretxena-Belandia I, **Aggarwal AK**. Cryo-EM structure of translesion DNA synthesis polymerase ζ with a base pair mismatch. *Nat Commun*. 2022 Feb 25;13(1):1050.

Kropiwnicki E, Lachmann A, Clarke DJB, Xie Z, Jagodnik KM, **Ma'ayan A**. DrugShot: querying biomedical search terms to retrieve prioritized lists of small molecules. *BMC Bioinformatics*. 2022 Feb 19;23(1):76.

Wang J, Yu X, Gong W, Liu X, Park KS, Ma A, Tsai YH, Shen Y, et al, **Jin J**, Wang GG. EZH2 noncanonically binds cMyc and p300 through a cryptic transactivation domain to mediate gene activation and promote oncogenesis. *Nat Cell Biol*. 2022 Mar;24(3):384-399.

Rifkin D, Sachan N, Singh K, Sauber E, Tellides G, **Ramirez F**. The role of LTBP3 in TGF beta signaling. *Dev Dyn*. 2022 Jan;251(1):95-104.

Xiong J, Kang SS, Wang Z, Liu X, Kuo TC, Korkmaz F, Padilla A, Miyashita S, Chan P, Zhang Z, Katsel P, Burgess J, Gumerova A, Ilevieva K, Sant D, Yu SP, Muradova V, Frolinger T, Lizneva D, Iqbal J, Goosens KA, Gera S, Rosen CJ, Haroutunian V, Ryu V, **Yuen T, Zaidi M**, Ye K. FSH blockade improves cognition in mice with Alzheimer's disease. *Nature*. 2022 Mar;603(7901):470-476.

Cheung KL, Jaganathan A, Hu Y, Xu F, Lejeune A, Sharma R, Caescu CI, Meslamani J, Vincek A, Zhang F, Lee K, Zaware N, Qayum AA, Ren C, Kaplan MH, He JC, Xiong H, **Zhou MM**. HIPK2 directs cell type-specific regulation of STAT3 transcriptional activity in Th17 cell differentiation. *Proc Natl Acad Sci USA*. 2022 Apr 5;119(14):e2117112119.

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

[See Full List Here!](#)

DPS-SPA UPDATE

NEW MEMBERS AND LEADERSHIP

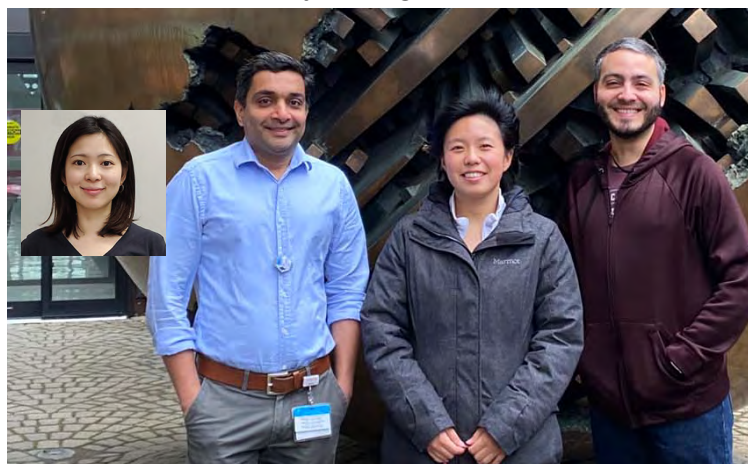
New DPS Student and Postdoc Association (DPS-SPA) members have been assembled under the guidance and mentorship of their President Md Kabir and advisor Dr. Lakshmi Devi.

- **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)



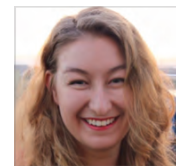
MD KABIR
Jin Lab

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



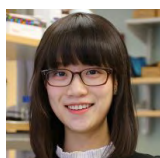
Tuesday, October 25th, 11AM
Hybrid Event - Goldwurm Auditorium

DPS MEMBER UPDATE

NEW MEMBERS



Yi Shi, PhD
Assoc Professor
Shi Lab



Yufei Xiang
Instructor
Shi Lab



Eric Marsan, PhD
Postdoctoral Fellow
DeVita Lab



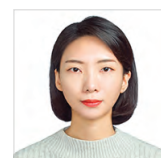
Anusha Pallapati, PhD
Postdoctoral Fellow
Zaidi Lab



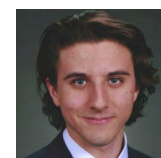
Satish Rojekar, PhD
Postdoctoral Fellow
Zaidi Lab



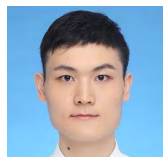
Sakshi Gera
Research Scientist
Envisagenics



Minji Jeon, PhD
Assistant Professor
Korea University



Eryk Kropiwinicki
Bioinfo Data Sci
Benevolent



X. Song, PhD
Postdoctoral Fellow
JinLab



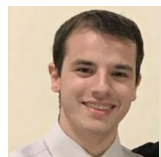
Qiong Wu, PhD
Postdoctoral Fellow
Zaidi Lab



G. Van Caloen, PhD
Postdoctoral Fellow
Zaidi Lab



Orly Barak
Assoc Researcher
Zaidi Lab



Anthony Blando
Assoc Researcher
Morel Lab



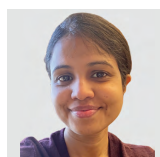
Cody Secor
R&D Specialist
Regeneron



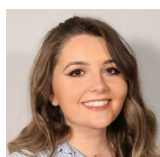
Ning Sun, PhD
Cullgen Inc.



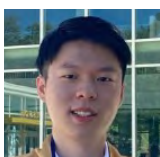
Judit Gimenez
Assoc Researcher
Zaidi Lab



Hasni Kannangara
Assoc Researcher
Zaidi Lab



Amanda Sabovic
Assoc Researcher
Lazarus Lab



Juncheng Pan
Software Engineer
Maayan Lab

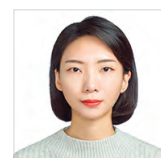


Beagan Ngyu
Software Engineer
Maayan Lab

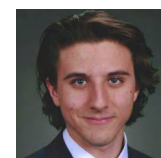
NEW ALUMNI



Sakshi Gera
Research Scientist
Envisagenics



Minji Jeon, PhD
Assistant Professor
Korea University



Eryk Kropiwinicki
Bioinfo Data Sci
Benevolent



Cody Secor
R&D Specialist
Regeneron



Ning Sun, PhD
Cullgen Inc.

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