

PROF. FRANCESCO RAMIREZ RETIRED AFTER 45 YEARS



Prof. Francesco (Checco) Ramirez, Dr. Amy and James Elster Professor of Molecular Biology in the Department of Pharmacological Sciences, retired in February 2024 at the Icahn School of Medicine at Mount Sinai where he distinguished himself as a scholar, educator, and leader.

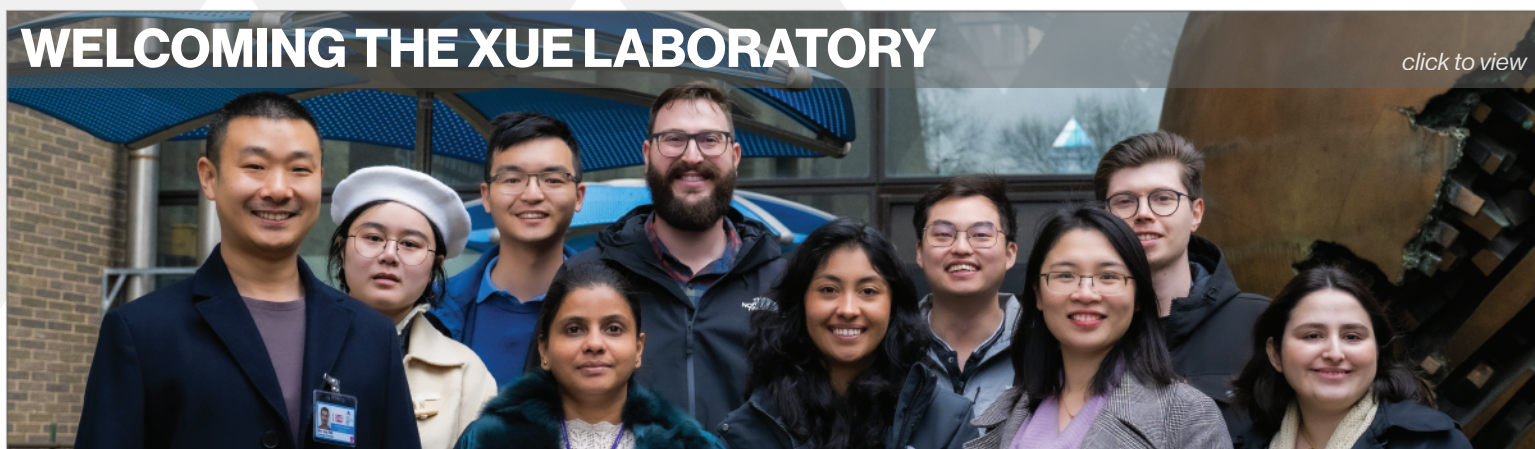
A world-renowned molecular biologist and geneticist, Dr. Ramirez made seminal contributions, including the cloning of human collagen and fibrillin genes (*Nature* 1984), identifying factors regulating collagen gene expression and elucidating pathways involved in fibrotic diseases (*Nature* 1983). He discovered genetic mutations responsible for conditions such as osteogenesis imperfecta, Ehlers-Danlos syndrome, Marfan syndrome, and developed mouse models for these disorders (*Science* 1989; *Nature Genetics*

1997). He also demonstrated the regulation of TGF β and BMP signaling in tissue dynamics and pioneered TGF β antagonism to treat the cardiovascular manifestations of Marfan syndrome (*Nature* 1991; *Nature Genetics* 1995; *Science* 2006; *Nature Medicine* 2007).

Dr. Ramirez earned his DSc in Genetics and Embryology from the University of Palermo (Italy) in 1969 and completed postdoctoral studies at the University of Palermo and Columbia University. He began his academic career at UMDNJ-Rutgers Medical School before joining Mount Sinai in 1989. During his tenure at Mount Sinai, Dr. Ramirez held several leadership roles, including Deputy Director of the Brookdale Center, Interim Chair of the Department of Biochemistry, and Dean for Research. He consistently secured NIH funding, served on numerous NIH grant review panels, and editorial boards of prestigious journals, and led as President of both the American Society of Matrix Biology and the International Society of Matrix Biology.

Dr. Ramirez was also dedicated to training future scientists and physician-scientists, many of whom have achieved success in academia and industry. His contributions were recognized with honors and awards such as the Purdue-Frederick Award, the Mount Sinai Faculty Achievement Award, the Antoine Marfan Award, and the NIH MERIT Award. He was elected a Fellow of the American Association for the Advancement of Science (AAAS) in 2012.

Please join us in thanking Dr. Ramirez for his outstanding contributions to Mount Sinai's scientific and educational achievements. We wish him a fulfilling retirement.



Dr. Min Xue joined our Department at Mount Sinai as an Associate Professor of Chemical Biology in January 2024. He earned his PhD in Chemistry from the University of California, Los Angeles in 2013 and completed postdoctoral studies at Caltech before becoming an Assistant Professor at UC Riverside in 2016. A recognized expert in peptide chemistry and drug discovery, [Dr. Xue's research](#) focuses on developing chemical and biomolecular tools to better understand and treat diseases, particularly cancer. His team takes an interdisciplinary approach, combining bioanalytical methods, drug delivery, systems biology, medicinal chemistry, and cancer biology. Dr. Xue's research is well funded by the NIH and other foundations, and publications in top-tier journals including *J. Am. Chem. Soc.*, *J. Med. Chem.*, *Nature Commun.*, *PNAS*, and *Cancer Cell*. We welcome Dr. Xue and his team to Mount Sinai and wish them continued success.

RESEARCH HIGHLIGHT

Cutting-edge technologies drive research breakthroughs, as demonstrated by recent advances in single particle cryo-EM (electron microscopy) that have revolutionized structural biology. The Cryo-EM Center at Mount Sinai, co-directed by Drs. Aneel Aggarwal and Daniel Wacker, offers advanced CryoEM technology for sub-atomic visualization of molecular interactions in complex biological systems. Dr. Aneel Aggarwal (PI) has been awarded with a High-End Instrumentation grant (S10) from the NIH (\$2M) to support the purchase of a Glacios 2 cryo-TEM (Thermo-Fisher) at Mount Sinai. The microscope, equipped with a Falcon 4i direct electron detection camera, 200 kV X-FEG optics, and an Autoloader, will significantly enhance NIH-funded research on diverse biological systems underlying human biology and diseases across the institution.



Radhika Malik, Shekar Patil, Alex Barkatz, Aneel Aggarwal, and Emmanuel Antigua

PAPERS AND GRANTS

Rechkoblit O, Sciaky D, Kreitler DF, Buku A, Kottur J, **Aggarwal AK**. Activation of CBASS Cap5 endonuclease immune effector by cyclic nucleotides. **Nature Struct. Mol Biol.** 2024 May;31(5):767-776.

Liu J, Hu X, Luo K, Xiong Y, Chen L, Wang Z, Inuzuka H, Qian C, Yu X, Xie L, Muneer A, Zhang D, Paulo JA, Chen X, **Jin J**, Wei W. USP7 -Based Deubiquitinase-Targeting Chimeras Stabilize AMPK. **J Am Chem Soc.** 2024 Apr 10.

Warren AL, Lankri D, Cunningham MJ, Serrano IC, Parise LF, Kruegel AC, Duggan P, Zilberg G, Capper MJ, Havel V, Russo SJ, Sames D, **Wacker D**. Structural pharmacology and therapeutic potential of 5-methoxytryptamines. **Nature.** 2024 Jun;630(8015):237-246.

Cheung KL, Zhao L, Sharma R, Ghosh AA, Appiah M, Sun Y, Jaganathan A, Hu Y, LeJeune A, Xu F, Han X, Wang X, Zhang F, Ren C, **Walsh MJ**, Xiong H, Tsankov A, **Zhou MM**. Class IIa HDAC4 and HDAC7 cooperatively regulate gene transcription in Th17 cell differentiation. **Proc Natl Acad Sci USA.** 2024 Apr 30;121(18):e231211121.

Aneel Aggarwal, PI, "Glacios 2 Cryo-TEM for Structure Analysis", S10OD036213, NIH/OD, 08/15/2024-08/14/2025, \$2,000,000

Avi Ma'ayan and Shankar Subramaniam, MPI, "The CFDE Workbench", OT2 OD036435, NIH/OD, 09/18/2023 – 09/17/2028, \$8,500,000

Lahouaria Hadri, PI, "The Chromatin Remodeling Factor ARID1a and the Epigenetic Landscape In Pulmonary Arterial Hypertension", R01HL173203, NHLBI, 03/05/2024-02/28/2028, \$3,277,730

Kirk Campbell, Jamilia Sly & **Eric Sobie**, MPI, "Postbaccalaureate Research Education Program (PREP)", R25 PREP, NIGMS, 02/01/2024-01/31/2029, \$1,653,995

Min Xue, PI, "Mapping the Cancer and Organ Degradome Atlas (CODA) to Unlock Synthetic Biomarkers for Multi-Cancer Early Detection", AWD-005373 Transfer, ARPA-H/GIT, 04/01/2024-03/25/2028, \$9,121,359

Mone Zaidi, Contact PI, "FSH - an Aging Hormone?", U19AG060917, NIA, 05/15/2024-04/30/2029, \$20,778,380

Please see [Publication](#) & [Grants and Awards](#) for the 2024!



Icahn School
of Medicine at
Mount
Sinai



HONORS & AWARDS

The outstanding academic accomplishments of our students, postdocs and faculty are exemplified by the notable honors and awards they have received from peers in their respective fields. We are especially pleased and honored to announce that Dr. Aneel Aggarwal has been elected as a Fellow to the American Association for the Advancement of Science (AAAS), Dr. Daniel Wacker has received Dr. Harold and Golden Lampert Research Award at Mount Sinai, and Dr. Mone Zaidi has been elected as a Foreign Member to the Academia Europaea, The Academy of Europe. Please join us in congratulating our esteemed awardees for their exceptional achievements, which bring honor to our entire Department.



ANEEL AGGARWAL, PhD
Professor



DANIEL WACKER, PhD
Assistant Professor



MONE ZAIDI, MD, PhD, MACP
Professor

UPCOMING EVENT



THE 17TH JACK PETER GREEN LECTURESHIP

Robert E. Gerszten, M.D.

Herman Dana Professor of Medicine
Harvard Medical School
Chief of Cardiovascular Medicine
Beth Israel Deaconess Medical Center

“Out for Blood: Biochemical Profiling of Human Populations for Cardiovascular Pathway Discovery”

THE 17TH ANNUAL RESEARCH RETREAT OF THE DEPARTMENT OF PHARMACOLOGICAL SCIENCES

Icahn School of Medicine at Mount Sinai | September 12, 2024 | New York Botanical Gardens, Bronx, New York

THE 24TH IRVING L. SCHWARTZ LECTURESHIP

The Department continues its rich tradition of hosting scientific lectures at the forefront of science. On March 21, 2024, the Department hosted Dinshaw J. Patel, PhD, Abby Rockefeller Mauzé Chair in Experimental Therapeutics, Member of Structural Biology Program from Memorial Sloan-Kettering Cancer Center (New York, NY). Dr. Patel delivered the 24th Irving L. Schwartz Lecture in Structural & Chemical Biology, titled “Structural Biology of Bacterial Antiphage Defense”, held in Davis Auditorium in the Hess Research Building, followed by a reception.



THE CRYO-EM IN DISEASE AND MECHANISM & DIVERSITY TRAINING SYMPOSIUMS

Drs. Aneel Aggarwal and Daniel Wacker organized a symposium on Cryo-EM held on May 7th, 2024, featuring speakers from The New York Structural Biology Center, faculty from the Icahn School of Medicine at Mount Sinai, and keynote speaker Jue Chen, PhD, a William E. Ford Professor and Howard Hughes Medical Institute Investigator at The Rockefeller University. The Symposium on Diversity, held on May 28th, 2024, was organized jointly by the DPS Student-Postdoc Association (DPS-SPA) and Neuroscience Postdoc Association with keynote speaker Angeline Dukes, PhD, Assistant Professor in the Department of Neuroscience at the University of Minnesota Twin Cities.



MEMBERS UPDATE

NEW MEMBERS



Min Xue, PhD
Associate Professor



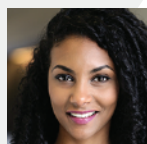
Joana Davies, PhD
Assistant Professor
Lazarus Lab



Francesco Ramirez, PhD
Professor



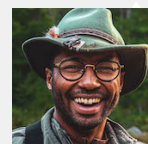
Almu Bosch, PhD
Assistant Professor
Walsh Lab



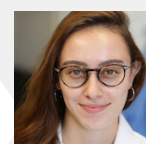
Aya Osman, PhD
Assistant Professor
Devi Lab



Vitali Ryu, PhD
Associate Professor
Zaidi Lab



Dale Bandon
Jin Lab



Emily Teichman
Jin, Morel, &
Slesinger Labs



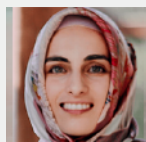
Zhili Guo, PhD
Senior Scientist
Xue Lab



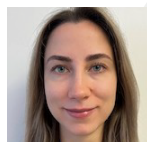
Lucia Wang, PhD
Assistant Professor
DeVita Lab



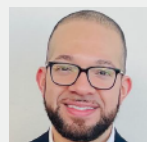
Rikhia Ghosh, PhD
Senior Scientist
Filizola Lab



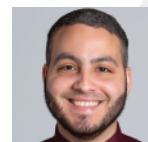
Funda Korkmaz, PhD
Instructor
Zaidi Lab



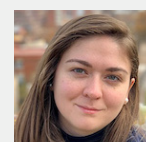
Darya Vasilyeva
Associate Researcher I
Zaidi Lab



Emmanuel Antigua
Admin. Coordinator
Admin Team



Richard Feliciano
Aggarwal Lab



Audrey Warren
Wacker Lab

ALUMNI

PROMOTIONS

DISSERTATION DEFENSE

EXTERNAL PAGES

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