



OSR | OFFICE OF SCIENCE
& RESEARCH



2023 END OF YEAR REVIEW

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Acronym Reference Guide

WELCOME, NEW FACULTY

Hector Arciniega, PhD

Assistant Professor
Rehabilitation Medicine

Marie Brault, PhD

Assistant Professor
Population Health

Miriam Bredella, MD, MBA

Professor
Radiology

Josef Coresh, MD, PhD

Professor
Optimal Aging Institute

Umamaheswar Duvvuri, MD, PhD

Professor
Otolaryngology-Head and Neck Surgery

Courtney Filippi, PhD

Assistant Professor
Child and Adolescent Psychiatry

Molly Gale Hammell, PhD

Associate Professor
Institute for Systems Genetics

Ula Hwang, MD

Professor
Emergency Medicine

Orna Issler, PhD

Assistant Professor
Anesthesiology

Magdalena Janecka, PhD, MSc

Associate Professor
Child and Adolescent Psychiatry

Brendan Keating, PhD

Associate Professor
Surgery

Esteban Mazzoni, PhD

Professor
Biochemistry and Molecular
Pharmacology

Alexandra Miller, MD, PhD

Assistant Professor
Surgery

Hakhamanesh Mostafavi, PhD

Assistant Professor
Neurology

Mia Petljak, PhD

Assistant Professor
Perlmutter Cancer Center

Yiqiu Shen, PhD

Assistant Professor
Radiology

Liat Shenhav, PhD

Assistant Professor
Institute for Systems Genetics

Lauren Shuffrey, PhD

Assistant Professor
Child and Adolescent Psychiatry

Jonathan So, MD

Assistant Professor
Radiation Oncology

Meiling Ying, PhD

Assistant Professor
Foundations of Medicine

The Vilcek Institute

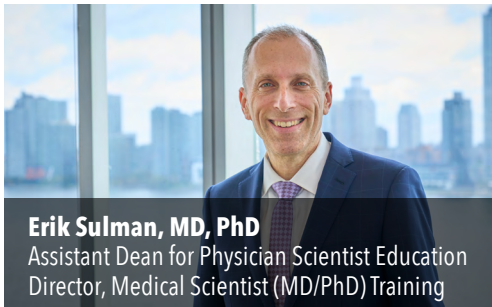
New Leadership and New Opportunities



Over the past decade at the Vilcek Institute, I have overseen many periods of change, and with the partnership and support of our new directors and associate directors in both the PhD and MD/PhD programs, I look forward to a successful and productive future for our graduate school.

Susanne Tranguch, PhD, MBA

Associate Dean, Research Training & Communications



Erik Sulman, MD, PhD

Assistant Dean for Physician Scientist Education
Director, Medical Scientist (MD/PhD) Training

What is your role?

I was honored to assume the leadership of the Medical Scientist Training Program (MSTP) this year. As one of the oldest programs in the country, it has a long history of producing leaders in medicine. Our program is a partnership between the NYU Grossman School of Medicine and the Vilcek Institute of Graduate Biomedical Sciences.

What changes have you implemented?

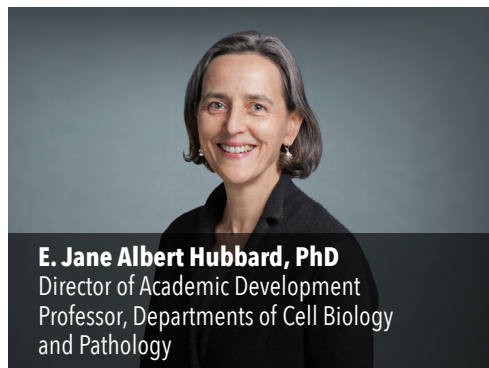
Medical education is constantly advancing and the MSTP is embracing the curriculum changes in the medical school. With the adoption of the 3-year MD curriculum, our students now complete their training one year earlier and begin their graduate training after their clinical clerkships. Students can now better align their research and clinical interests, which will improve their long-term commitment to a physician-scientist career. Students can also apply to the residency "opt-in" program to be selected to remain at an NYU Langone residency program and maintain momentum in their research training by remaining within a research environment they have come to know well.

In addition to my new role, we are fortunate to have a new leadership structure. Gregory David, PhD, long associated with the program, assumed the role of associate director of admissions; Tanya Sippy, MD, PhD, joined as associate director of mentorship; and Bo Shopsin, MD, PhD, became associate director of curriculum and programming. Each has developed innovative changes to the MSTP. Our admissions process has been completely redeveloped to tightly integrate with the medical school MD admission process. We have also overhauled our recruitment

process to attract admitted applicants, including the addition of an onsite visit. Similar to the MD interviews, we have added "multiple mini-interviews" (MMIs) to the MSTP admissions process. Our mentorship strategy has also been updated, including the addition of a group of MD/PhD faculty to serve as career mentors to our students as part of our new Medical Scientist Advisory Committee. To ease the transition back into medical school following graduate training, our students will participate in a new clinical skills reacquisition program. These changes to our program, along with many others, such as Director's monthly breakfasts, annual leadership meetings, and our new MSTP retreat, will improve the training of our students and increase the appeal of our program to potential applicants.

What are you most excited about for 2024?

Many of the programs will be implemented and the results of our new admissions process will be realized with the entering class of 2025. We also look forward to the new programmatic and curriculum changes at Vilcek and have been working to integrate them with the MSTP.



E. Jane Albert Hubbard, PhD

Director of Academic Development
Professor, Departments of Cell Biology
and Pathology

What is your role in the Vilcek PhD Program?

I am in charge of establishing new programs for strengthening the professional development of our students.

What changes have you implemented?

In consultation with representative groups of faculty and students, I initiated three changes (so far) to the first-year PhD student experience.

First, to give new students a chance to hear directly from and interact with potential future research mentors, we held a series of research "blitz" sessions. Faculty members interested in recruiting a PhD student described their lab's mission, major experimental approaches, and a sample rotation project—all in 5 minutes or less. In total, more than 60 faculty presented over the course of nine sessions.

Second, to demystify the PhD experience, we held a series of discussion sessions titled "A PhD Experience" (APEX). Over 10 sessions, the students discussed topics such as what it means to be a professional scientist, strategies for identifying their research topic and suitable rotations, learning from mistakes, and more. APEX 'refresher' sessions were also held for later-year students.

Third, to encourage building a mentoring network and developing one-on-one relationships beyond the current program structure, first-year mentors were assigned to incoming students. These are faculty members with whom the student is not interested in rotating, but who have agreed to meet with the student until they have made a lab commitment. This was already an option for many years in some, but not all, programs.

What are you most excited about for 2024?

I am excited to collect feedback from both students and faculty on the new initiatives from this year so as to improve these initiatives going forward so that our students are prepared to excel in the scientific profession of their choosing. I also look forward to further revamping orientation and to working with Vilcek leadership, faculty members, and students to establish clear and more uniform expectations and guidelines for mentees, mentors, qualifying exams, and thesis committees.

Lastly, and this may take us into 2025, I envisage an efficient and effective tracking system for student progress—from matriculation, to classes, to rotations, to lab selection, to qualifying exams, to committee meetings, to thesis preparation and defense—to provide structure and timely benchmarks.

The Vilcek Institute

New Leadership and New Opportunities



Amanda Lund, PhD
Director of PhD Curriculum
Associate Professor, Departments of
Dermatology and Pathology

What is your role in the Vilcek PhD Program?

As the new director of curriculum for the Vilcek Institute of Graduate Biomedical Sciences, I oversee the administration of the curriculum across all of the current programmatic tracks. I will work with the Vilcek leadership and our faculty to design and implement an integrated PhD program focused on leveraging our strengths as a world-class basic research and medical center. We hope to use this redesign as an opportunity to strengthen interactions between trainees and members of our research community while also increasing the competitiveness and rigor of our program. Additionally, I serve as the director for graduate studies and act as liaison with the downtown Graduate School of Arts & Sciences, where I ensure our program is compliant with State standards and aligns with the broader educational goals of the University.

What changes have you implemented?

In the past 6 months since assuming this position, I have been focused on reviewing our current curriculum and holding sessions with faculty and students across the various tracks to collect feedback and identify areas for improvement. This review has also included a comprehensive and quantitative analysis of our current class offerings. Based on an improved understanding of the current Vilcek landscape, we have put together a proposal for a new programmatic structure that builds on and strengthens our current offerings. This new program will be more integrated with a common first-year structure across all Vilcek disciplines. We will offer full-time coursework in the fall semester with laboratory rotations beginning in the winter of the first year. Not only will this structural change provide more time for students to commit to their rotation activities but it will synergize with our ongoing efforts to provide appropriate mentoring and guidance for successful lab selection. We expect this new streamlined but rigorous curriculum to be a recruiting tool and plan a full rollout for the incoming class of Fall 2025.

In addition to changes to the program, I am working together with the Vilcek administration to increase guidance for new course development that specifically

meets the instructional time standards and provide support for faculty in their teaching efforts. It is critical that we set clear expectations for both students and faculty, from core courses through qualifying exam and defense, so that we maintain consistent high rigor and transparency across all of our tracks.

Finally, we are working with the medical school to adopt strategies for course assessment at the individual and programmatic level to ensure that we are able to benchmark the success of our trainees and the new curriculum moving forward.

What are you most excited about for 2024?

In the next year, I am looking forward to working with the leadership team and faculty to finalize the proposed program structure and begin implementation. We will be introducing the new curriculum proposal to the faculty in January 2024. In addition to streamlining our scientific curriculum to get our students into the laboratory faster with the right practical tools in place to be successful, we are expanding the scientific communication component of the curriculum. This curricular series will focus on establishing the skills needed for effective communication and critical analysis of the literature preparing our students for the high quality, and rigorous scientific exchange expected of them as scientists. In particular, we are already leveraging in-house expertise and proprietary platforms to teach best practices around generative AI for scientific writing. We are holding a workshop for current graduate students in January 2024, and expect that a forward approach to AI will give our students a competitive edge in this rapidly changing writing environment and importantly help to overcome communication disparities.

I am excited to see this take shape and am thrilled to have the opportunity to showcase the strengths of the NYU Grossman School of Medicine's scientific and clinical community through our curriculum.



Rich Possemato, PhD
Director of Admissions and Recruitment
Associate Professor, Department of Pathology

What is your role in the Vilcek PhD Program?

I work with the Vilcek team to perform outreach to prospective students and plan the PhD application and interview process. I coordinate the review of applicants

by Vilcek training faculty and students from primary application to interviews and ultimate acceptance. Finally, I coordinate the recruitment efforts of our admitted applicants.

What changes have you implemented?

We added outreach activities this year aimed at introducing prospective applicants to the Vilcek program, as well as giving applicants advice on completing the application and preparing for interviews, activities designed to both increase equity and the size of the applicant pool. Each of these virtual outreach events was attended by 400 – 600 prospective students, and our number of applications is up a staggering 30% over recent years. Many faculty have remarked on the high quality of this year's applicant pool, which I am sure will carry forward to an outstanding 2024 class.

Our major innovation comes in applicant review, where Vilcek will be the first major PhD program that replaces the 1-on-1, 30-minute style interview with a multiple, short interview format. In this process, adapted from our MD program's "multiple mini-interview" style, applicants are tested on a set of pre-specified skills without prior review of their application by the faculty interviewer. This format will allow us to interview 50% more PhD applicants in one-third of the time, obtain more accurate data on the performance of each applicant over a broader skill set than previously tested, and increase the fairness of the interview process. Moreover, by separating evaluation from recruitment efforts we hope that faculty and student interviewers will be able to better focus on each component. Finally, we have increased the number of foreign applicants selected for an interview dramatically, allowing us to carefully consider top talent from 32 other countries.

What are you most excited about for 2024?

Our goals for the upcoming year are three-fold: market our program to prospective students, identify outstanding individuals who would thrive in our biomedical PhD program, and recruit them to join our institution. Therefore, we have enhanced our efforts in outreach and recruitment while revamping our admissions process.

To enhance our recruitment efforts, we are requiring our best applicants to visit in person to gain admission, enabling us to showcase the amazing scientific research being driven by Vilcek PhD students in a pair of focused recruitment events. The changes to our interview format have enabled us to move up our recruitment timeline by months, allowing additional opportunities for research programs and students to perform individual outreach to these top applicants, starting in mid-January.



THE AGE OF AGING

An Interview with Josef Coresh, MD, PhD
Founding Director, Optimal Aging Institute



What are the goals of the Optimal Aging Institute?

The Optimal Aging Institute aims to advance the science of aging and inform its translation to improve the health and prolong the lives of the patients of NYU Langone Health and the world. Aging is inevitable, but its consequences are variable and uncertain. Studying the causes of age-related disease and functional decline can guide primary prevention and treatments aimed at maintaining and restoring good health. The Institute will build a hub that connects world-leading teams of scientists and clinicians throughout the health system, centering both discovery research and translational efforts on the patient. We will create platforms for collaboration, embrace innovative investigative approaches, and pursue how this knowledge can be applied to provide individualized prediction and improve health. Diverse cohorts of patients and communities will be assembled to create shared resources, including longitudinal data and biorepositories, that will energize interdisciplinary research. Integration with the health system and the ability to implement and study interventions will enable real-world impacts to be tested in real-time, advancing practice-changing research with a profound impact on the future of healthcare and improving outcomes for all.

Why is this Institute so relevant right now?

By the year 2030, an estimated one in five Americans will be over age 65; by 2034, the number of adults older than 65 will be greater than the number of children under 18. Older age is often accompanied by multiple chronic diseases including dementia, heart disease, kidney disease, and cancer. The central tenant of the Optimal Aging Institute is that aging-associated declines are not inevitable and should not be accepted as “normal”. NYU Langone is uniquely poised to lead in the science of optimal health. Seamless integration across the health system provides a special opportunity to connect discovery and translation, exemplifying the concept of a “learning health system.” New omics technologies, state-of-the-art core facilities, and expertise across the enterprise will enable unbiased, multimodal profiling of biologic samples pointing to relevant pathways that are perturbed with aging and forming the basis for follow-up studies. NYC is where this research needs to be conducted. It is a microcosm of the world with incredible diversity across race, ethnicity, culture, and income that provides a great opportunity for understanding the myriad factors at play. Collaborations between scientists and the community can establish resources that fuel discoveries about the origins of age-related diseases and strategies to combat them, translating these discoveries to better medical care, prolong life, and optimize health in the community.

What are the primary research interests of the Institute?

Our goal is to develop a population-based incubator for research that will connect leaders in the field of aging and enable studies that move from observational epidemiology to biobanking, biomarker discovery, molecular research, and clinical trials that inform risk factor prediction, community interventions, and policy changes. At its core, the institute will build and assemble several cohorts that will be a platform for aging research and empower innovation, career development, NIH funding, and philanthropy. One example

is the Atherosclerosis Risk in Communities–Neurocognitive Study (ARIC-NCS), a detailed follow-up over 35 years on 15,792 participants connected to over 2 million specimens. With thousands of participants over 85 years of age and the longest-followed cohort of African Americans for cognition, this cohort includes four decades of health-related and banked biomarker data to be related with cognitive function, physical decline, and age-related diseases. Optimizing vascular health will also be a major goal of the institute since vascular disease is both preventable and linked to heart disease, dementia, and kidney disease. Traditional epidemiology cohort methods will be advanced by connecting them to the health system and real-time data collection. Data platforms will be built to enable teams of experts to collaboratively mine this data through artificial intelligence and machine learning to understand how underlying multimorbidity, vascular risk factors, and social determinants of health influence not only biomarker levels but the timing of their alterations, and predict dementia risk decades earlier. Cohort research infrastructure and expertise will be leveraged to develop a pipeline for testing interventions to optimize aging. This is exemplified by the recent ACHIEVE clinical trial, which used adults already participating in the ARIC study as part of the study population and demonstrated how hearing intervention slowed down loss of thinking and memory abilities by 48% over three years in older adults with hearing loss associated with higher risk for cognitive decline.

What are you looking forward to accomplishing in 2024?

We will hit the ground running by building on existing strengths and partnerships to study cohorts of older adults. This will dovetail with continued work in several studies including ARIC-NCS and the Chronic Kidney Disease Prognosis Consortium (CKD-PC), a global consortium with baseline and follow-up health data from over 30 million individuals in over 40 countries, co-led with the Division of Precision Medicine. Major data assets will be generated and expanded to include real-time data on sleep, heart rate patterns, and physical activity using wearables. This will be integrated with decades of raw data in the cloud to fuel precision medicine approaches with the goal of improving disease risk prediction, diagnosis, prognosis, and treatment. Given the cross-disciplinary nature of this work, the Institute will lay the groundwork for partnerships with Geriatrics, Population Health, Precision Medicine, Neurology, Emergency Medicine, Radiology, Otolaryngology, Center for Health Care Innovation & Delivery Science, Center for Human Genetics and Genomics, Center for Surgical & Transplant Applied Research (C-STAR), and other institutes including Excellence in Health Equity, Neuroscience, Vilcek (among other Institutes and Centers), and dementia researchers to break down siloes, forge collaborations, and connect disciplines. We will aim to recruit the current leaders in the field and train the future leaders in the field by building training programs aimed to foster interdisciplinary education, mentorship, and professional development. We will host a speaker series and convene workshops, inviting the world's leading scientists in aging research to engage in vibrant intellectual discussions across disciplines with our researchers and trainees and launch new initiatives that push the boundaries and invite new perspectives.

RESEARCH SPACE

Campus Transformation: What's Coming in 2024

Coinciding with our meteoric rise in national research rankings over the last decade has been the recognition of the need for a campaign focused on improving and increasing the amount and types of spaces dedicated to research activities. Four large-scale projects focused on research enterprise assets progressed significantly in 2023, with all of them slated for early to mid-2024.



540 First Ave Building Renovation Program

Starting in 2021, over 30 research labs and shared resource centers were moved from 540 First Ave to make way for a full-scale gut renovation and modernization. Working closely with the capital renovations team in Real Estate Development and Facilities (RED+F), a new highly efficient state-of-the-art space utilization concept for the building was arrived at and work was began in 2022. The renovated spaces on floors 2-5 of the building, which is slated to open in mid-2024 and encompasses over 80,000 square feet of dedicated research labs, office-based research spaces, and meeting rooms, will be the new home for over 30 faculty and their research teams from the Department of Cell Biology and the Regenerative Medicine Program, as well as other programs under consideration. Labs that were moved from the building in 2021 will be moving from their temporary locations across the research enterprise to their new research homes starting in summer 2024, with an anticipated completion date in early fall 2024. In addition to accommodating existing faculty and their research programs, the new labs will also support new research faculty and their programs in the coming years.

Medical Science Building Restack Program

Early in 2024, nearly 24,000 square feet of dedicated research space will reopen on two renovated floors in the Medical Science Building. This new space will accommodate a new clinical research center and investigational pharmacy, Vaccine Center labs, Core laboratories, and computational biology programs in AI & Medicine and Human Genetics & Genomics. In addition, the Vilcek Institute of Biomedical Studies and Postdoctoral Affairs offices will have new homes here.

Innolabs Building (Long Island City)

The research enterprise will open two new floors of research space in the Innolabs building in Long Island City into which four programs will be moved in mid-2024. These four programs will anchor what is envisioned to

be a technology development hub for the institution, with each program contributing a different set of technology-based opportunities that will synergize with one another aimed at the development of new cross-disciplinary approaches to understanding human biology.

The four pillars of the tech hub at the Innolabs building will draw from programs across the NYU Langone research ecosystem, including the Institute for Systems Genetics, the Tech 4 Health Institute, the Neuroscience Institute, and the Tandon Biomedical Engineering Program.

The themes that these four inaugural programs will pursue include:

- Reprogramming gene expression using new and novel synthetic biology tools for therapeutics and diagnostics
- Core engineering capabilities focused on sensing and diagnostics tech development, with strong support for shared maker space
- *In vivo* and *in vitro* physiology capabilities with initial focus on autism, ALZ, addiction
- Nucleation point for Biomedical Engineering



Cure Building (Manhattan)

Spring 2024 will witness the opening of ~25,000 square feet of new research space on two floors dedicated to Cancer Genetics and Genomics and Cancer Immunology programs in the Cure building at 345 Park Avenue South in Manhattan. The Cancer Genetics and Genomics Program (CGGP) aims to capitalize on seismic changes underway in genomic technology that will lead to the next generation of breakthroughs in the study and treatment of human cancer. The CGGP will comprise world-class wet and dry lab investigators developing and applying cutting-edge approaches to profile and analyze cancer tissue to develop improved diagnostics and treatments.

From the desk of Miriam Bredella, MD, MBA

Director of the Clinical and Translational Science Institute
Associate Dean for Translational Science
Vice Chair for Strategy, Department of Radiology

I am delighted to introduce myself as the new director of the Clinical and Translational Science Institute (CTSI) and associate dean for translational science. I joined NYU Langone Health this past August, after spending 19 years at the Massachusetts General Hospital and Harvard Medical School, where I served as PI of the CTSA KL2 Program, director of the Mass General Center for Faculty Development, and vice chair for faculty affairs and operations in the Department of Radiology.

My passion lies in faculty development and operations, and I am committed to facilitating research operations in the CTSI. I believe that the key to successful research lies in fostering a supportive environment that encourages innovation, collaboration, and the pursuit of excellence.

In the past year, the NYU CTSI has made significant strides in various areas. In Biomedical Informatics, the Biomedical Informatics Core and Predictive Analytics Unit have taken the lead in the use of generative AI for research and operations. This includes infrastructure development and the creation of institutional policy. Dr. Aphinyanaphongs' work in the first use of generative technology to support clinical workflows in a real-world setting is a testament to this.

In the realm of community and collaboration, the community-led grants program was launched to support quality improvement and evaluation activities projects within community-based organizations in New York City. The program, developed based on feedback from the CTSI Community Advisory Board, has already awarded ten grants since its inception in 2021.

Our Workforce Development Endeavors have also seen significant progress. The successful first offering of three new tracks in our Master's program in Clinical Investigation (MSCI) and the completion of the second K-to-Independence program cohort are just a few highlights. We developed and implemented a training program to teach research coordinators how to better interact with potential and enrolled subjects. Our Research Studio program in the first 10 months resulted in 5 new extramurally supported research projects.

In Research Methods, the Biostatistics, Epidemiology, and Research Design Core published 29 publications resulting from CTSI collaborative activities and introduced an innovative fairness model to integrate fairness criteria directly into data-driven prediction tools. We completed the development of a messaging tool for smart IRBs and are collaborating with CTSA hubs on a potential grant submission to support the development and dissemination of the technology.

Our Hub Capacity initiatives have also been successful. The Integrating Special Populations Core continues to work on more adequately capturing and standardizing the collection of demographic data of our patient population within the NYU Langone Health system. Additionally, the new Race, Ethnicity and Language (REaL) Initiative, which aims to expand and standardize these categories in Epic to have more accurate demographic reporting of patients and research participants went live in Epic in March 2023.

The research pillar of Beyond Bridges has made significant strides in expanding clinical research in the Brooklyn community, particularly among underrepresented populations. Over the past two years, we have recruited 240 patients and conducted 477 research visits at the Clinical Research Center, with 16 studies opened and 12 more expected this year.

In addition to expanding clinical research, we are also developing educational programs aimed at training the next generation of the research workforce. Our Scientific and Technical Education Pipeline Program for Students (STEPPS) provides specialized programs for high school, undergraduate, and medical students underrepresented in medicine.

Our STEPPS programs include the Awareness Program for high school students, the Experience Program for undergraduates, and the Proficiency Program for graduate students. These programs offer a range of opportunities, from educational lectures and workshops to paid internships and hands-on training in clinical and translational science.

In addition, we have developed a training program for community health workers and patient navigators to enhance health literacy about clinical research. This program empowers these key community members to advocate for their communities' health needs and actively participate in research.

As the new CTSI Director, I am excited to build on these accomplishments and look forward to working with all of you to further our mission and the renewal of the CTSI grant.

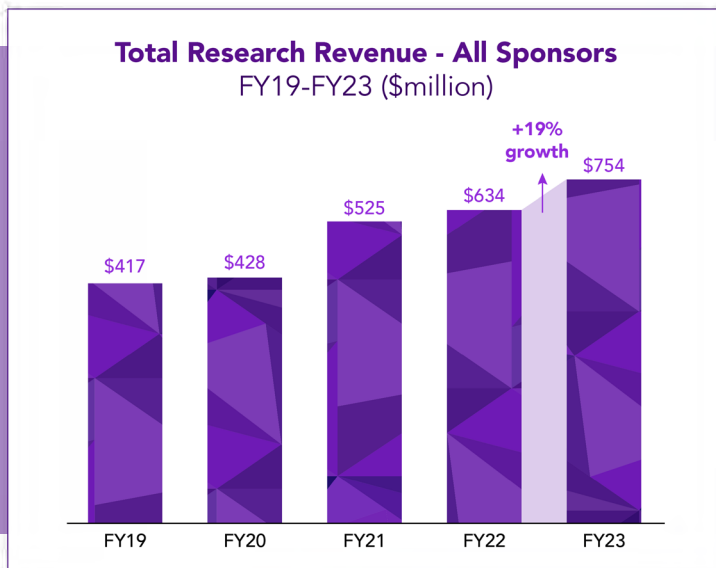
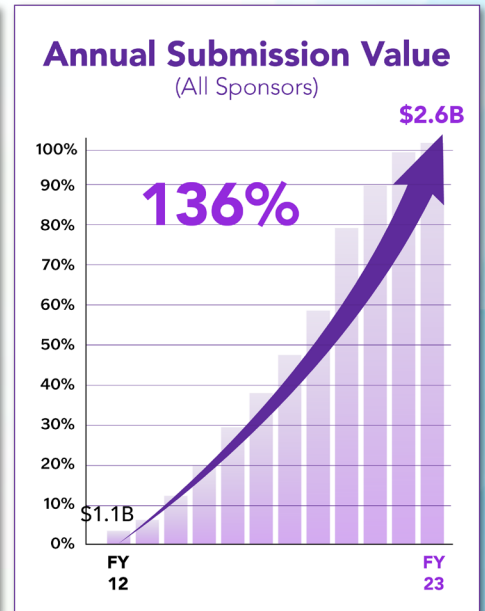
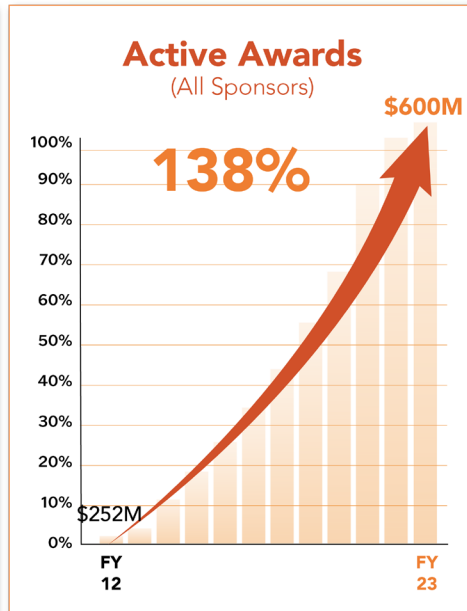
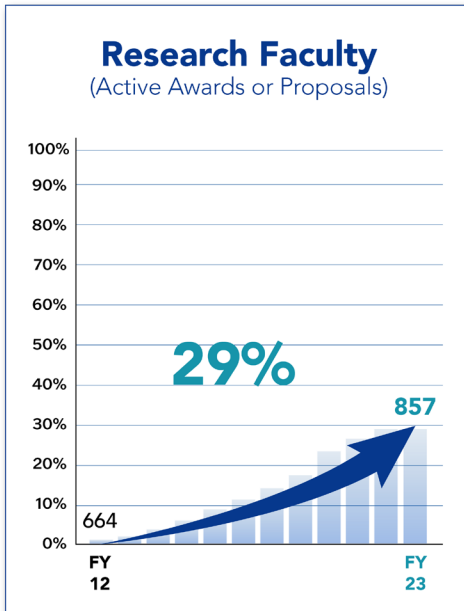


*Miriam Bredella, MD, MBA
Director CTSI, Associate Dean for Translational Science
Vice Chair for Strategy, Department of Radiology*

**For more information about the CTSI,
please email ctsi@nyulangone.org.**

BY THE NUMBERS

Our Growth Trajectory



4,500
PAPERS PUBLISHED
BY NYU LANGONE RESEARCHERS

66 THESIS DEFENSES
VILCEK INSTITUTE
OF GRADUATE BIOMEDICAL SCIENCES

INSIDE THE BRAIN OF PAUL GLIMCHER, PHD



The New Director of the Neuroscience Institute

What was the path that brought you to this role?

Thirty years ago, as a third-year postdoc, I was hired by NYU's Faculty of Arts and Science's Center for Neural Science. It was a time when I was focused entirely on defining the basic brain science behind human and animal decision-making. My work was typical of many of our young faculty; I had a clear vision of what I wanted to learn and a sense that I was always going to be a basic scientist. As our understanding of human decision-making grew, however, it became clearer and clearer that what we were learning had important clinical and social implications. That led me, about fifteen years ago, to my first translational study at the School of Medicine working on decision-making in Bellevue patients addicted to opiates. Over the next five years, while maintaining a thriving basic science lab, my clinical footprint continued to grow. About five years ago, I founded and served as CEO of an exciting startup that used state-of-the-art behavioral science to transform the way clinical trials are run. At that point it seemed obvious that the natural home for my interests was at NYU Langone. Drs Grossman, Bar-Sagi, and Tsien (a mentor of mine and then chair of the Neuroscience Institute) were gracious enough to offer me a place at this amazing institution. As a new chair, my goal is to live up to the model Dr. Tsien set, preserving every aspect of the amazing Department he built, while strengthening the translational neuroscience community here are the NYU Grossman School of Medicine.

You founded the field of neuroeconomics, can you explain what that is?

When I began my career as a young physiologist interested in decision-making I was convinced that simply tracing the circuits involved in animal decision-making would fully explain how we humans make choices. Within a few years, however, it became clear that it was going to take much, much more than that. My first move, once I realized how arrogant I had been, was to work through the graduate curriculum in the Psychology of Judgement and Decision-Making. Subsequently, I took the same path through economics, which landed me as a professor of Neuroscience, Psychology, and Economics. All three of those fields study human decision-making but from very different perspectives. The core idea in Neuroeconomics is that by combining those three approaches we can learn more than by keeping them separate. Now I am working on the third edition of my textbook, so I guess we must have been right to some degree.

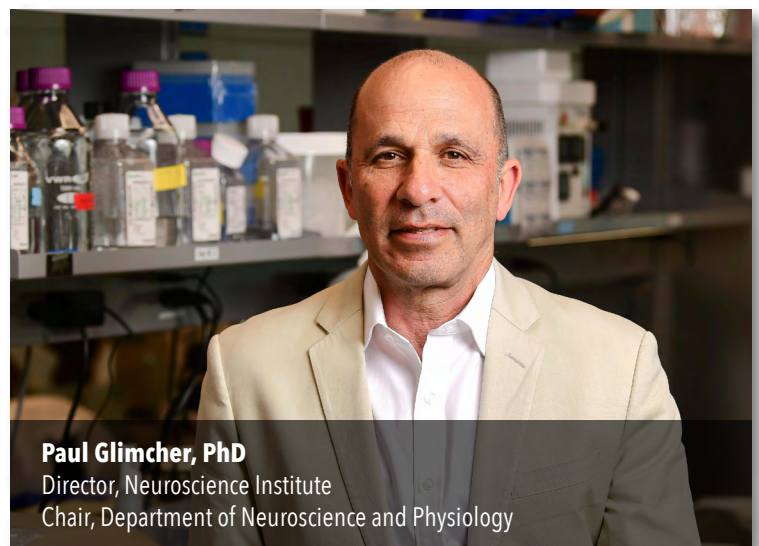
What are some of the most promising new technologies or approaches that you see emerging in Neuroscience?

In neuroscience, the past half-decade has seen amazing technological innovations driven by genetics and biochemistry. It is now possible to use genetic approaches to insert a molecule into a specific kind of cell that indicates

when that cell is active—with millisecond resolution—by changing the color of the cell. Or you can insert genes in specific cells that let you turn those cells on or off electrically with blue or red flashes of light. Perhaps just as amazing, we can now profile the protein synthesis ongoing in a single cell, or in thousands of single cells, all at the same time. To take another example of the innovations that are transforming neuroscience, when I was a postdoc we could just barely record the activity of a single nerve cell in the brain of a living animal. Today, recording the activity of more than a thousand neurons all at the same time is commonplace. These innovations seem to get more amazing every day and completely change the game, making what was science fiction a decade ago mundane today. These technologies are opening new avenues of research every single day, and getting us closer to the inevitable revolution in how we treat mental health as doctors.

What are you looking forward to accomplishing in 2024?

Neuroscience at the NYU Grossman School of Medicine is at the most exciting inflection point—thanks to our amazing faculty and to Professor Tsien's work as our past chair. We are on the cusp of launching a new Translational Neuroscience Institute that will bring together our great basic neuroscientists with the hundreds of amazing translational and clinical neuroscientists at NYU Langone. We are also looking at new ways to support high-risk, high-reward basic science, and hope to be developing new programs to perpetuate that kind of innovation in our Neuroscience community using an incubator model. Finally, we are also looking to continue building core services for the larger neuroscience community that make research faster, leaner, and more precise. All-in-all, 2024 is going to be a tremendously exciting year for Neuroscience at the NYU Grossman School of Medicine!



Paul Glimcher, PhD
Director, Neuroscience Institute
Chair, Department of Neuroscience and Physiology

Awarding Mentors for Rewarding Mentorship



Recipient of the 2023 CTSI Translational Research Mentorship Award

Harmony Reynolds, MD

Associate Professor, Department of Medicine
Associate Director, Cardiovascular Clinical Research Center

"Dr. Reynolds has shown dedication to, and profound interest in my career development as a clinician investigator. She has been a role model for the effective, methodologically sound, and ethical conduct of clinical and translational science. It is well known that women are underrepresented in the field of cardiology and even more so in academic medicine. Much of this gender gap has been attributed to a lack of female role models for medical students and residents. Dr. Reynolds was one of the first to pave the way for women at our institution and has helped set the standards for equality and excellence."

-Anaïs Hausvater, MD, Clinical Instructor, Department of Medicine

"Dr. Reynolds is a brilliant clinical investigator, and she sets a high bar for herself and her trainees. Her scientific curiosity, laser-like focus and attention to detail, and high expectations for those she mentors drive her trainees to constantly improve. She is forthright and candid and maintains impeccable honesty and integrity—admirable qualities that I try to emulate—as every project she leads is completed with the most rigorous scientific methods and conduct. Dr. Reynolds' feedback is consistently constructive, comprehensive, thoughtful, and meticulous, with numerous suggested edits, comments, and queries; her involvement in any scientific undertaking undoubtedly improves the final product."

-Nathaniel Smilowitz, MD, Assistant Professor, Department of Medicine



Recipient of the 2023 Outstanding Mentor Award from Postdoctoral Affairs

Sergei Koralov, PhD

Associate Professor, Department of Pathology

"Dr. Koralov exemplifies everything I would hope for in a mentor. This is most evident through his unwavering support for scientific development, personal growth, and ability to foster a lab culture that all of his trainees and employees enjoy being in. Among the numerous mentors I've encountered during my scientific journey, Dr. Koralov stands out as a selfless mentor."

-Tim Borbert, PhD, Postdoctoral Researcher

"Dr. Koralov creates a rich intellectual environment to promote scientific development and excellence for trainees at all levels. He strives for all his lab members to be well-rounded scientists and emphasizes the importance of not only wet lab skills, but also presentation and communication skills. Dr. Koralov exemplifies how to be a thoughtful mentor, and foster a collegial and professional environment in research."

-Ali Rashidfarrokhi, PhD, Postdoctoral Researcher

"First and foremost, Dr. Koralov shows tremendous respect to everyone including his trainees. He respects everyone as a developing scientist and he also respects our time. While working in his lab I would say none of the individuals in his lab feel like an employee; we truly feel like a trainee and that Dr. Koralov is someone who is fully invested in our development. I hope to one day have my own lab where I plan to model my mentorship approach after Dr. Koralov."

-Ray Pillai, MD, Pulmonology Fellow

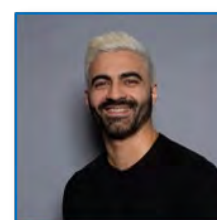
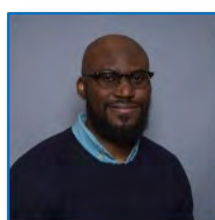
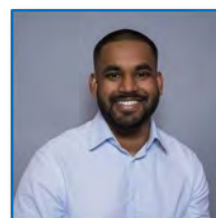
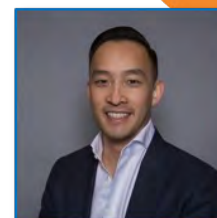
SAY CHEESE:

OSR Concierge Launches Researcher Headshots

In March of 2023, the OSR Concierge began offering headshots to the entire research community. Since then, over 550 researchers took the opportunity to have a professional headshot taken. This year, we plan to open up even more slots and expand this offering to include group lab shots as well.

Find out how to book your headshot [here](#).

All new dates will be announced first in Research Weekly.



OSR Acronyms and Initialisms Reference Guide

ABL Applied Bioinformatics Laboratories

ACCRM Association of Clinical Coordination and Research Management

BHC Bellevue Hospital Center

CBRD Center for Biospecimen Research and Development

CIMU Conflicts of Interest Management Unit

CRMS Clinical Research Management System

CRSU Clinical Research Support Unit

CTSI Clinical and Translational Science Institute

DART Division of Advanced Research Technologies

DCM Division of Comparative Medicine

EH&S Environmental Health & Safety

EM+ER Emergency Management and Enterprise Resilience

ESCRO Embryonic Stem Cell Research Oversight

FINCH Funding SearCH

GTC Genome Technology Center

HRP Human Research Protections

HSL Health Sciences Library

IACUC Institutional Animal Care and Use Committee

IBC Institutional Biosafety Committee

IRB Institutional Review Board

OSR Office of Science and Research

QIA Quality Improvement and Assurance

RABO Regulatory Affairs and Business Operations

RDI Research Development and Implementation

RDX Research Digital Experience

RED+F Real Estate Development and Facilities

RNav Research Navigator

RSS Research Support Service

SPA Sponsored Programs Administration

SRO Sponsored Research Operations

TCoE Training Center of Excellence

TOV Technology Opportunities and Ventures