Breakthroughs

Feinberg School of Medicine Research Office

November 2017

Feinberg has produced more than 70 new inventions and four startups in 2017. There are 22 startups associated with the medical school, compared to just three in 2010.

Fostering New Innovation at Feinberg

By Anna Williams

In the past, biomedical scientists usually took one of two distinct career routes: academic research or industry. Today, Feinberg joins a growing number of universities in encouraging entrepreneurship from within. Through resources that support a culture of innovation among faculty investigators, the medical school strives to accelerate a key mission: translating novel discoveries into treatments that improve human health.

"Entrepreneurship is incredibly important in academic medicine, and getting more so every day," said Alan Krensky, MD, vice dean for Development and Alumni Relations. "We sit in academic towers thinking of great ideas, but bringing them to society is what's most important. Entrepreneurship is a conduit to bring the intellectual power of our faculty to the development of new drugs, devices, diagnostics, preventives and therapeutics that truly impact people's lives."

For faculty investigators, academic research and entrepreneurship are increasingly seen as complementary, rather than in conflict.

"Entrepreneurship creates a beneficial feedback loop: Applied research influences basic science, making your work better, more relevant and impactful," explained Alicia Löffler, PhD, associate provost for Innovation and Entrepreneurship, associate vice president for Research, and executive director of the Innovation and New Ventures Office (INVO), which is dedicated to strengthening entrepreneurial activity across the university. "Most people go into medicine because they want to change patients' lives — and this is one way to really impact the world."

Entrepreneurship has been rapidly expanding at Feinberg in recent years. While the McCormick School of Engineering continues to lead the university in invention disclosures, the medical school has held the second spot since 2014, when it surpassed the Weinberg College of Arts & Sciences, according to Löffler. Today, there are 22 startups associated with the medical school, compared to just three in 2010. In 2017, Feinberg has already produced more than 70 new inventions and four startups.

Through a range of initiatives like INVO's INVOForward — a four-week mentorship program to accelerate biomedical commercialization — and Feinberg's own Office of Corporate Partnerships, medical school leadership anticipates that the culture of innovation will only continue to grow in coming years.

"At Feinberg, with the talent of our faculty and the powerful alliance of Northwestern Medicine, we have this really great opportunity to build the biotech industry in the Chicago area," Löffler said. "The future of entrepreneurship at Feinberg is incredibly vibrant."

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Northwestern Medicine®

Innovation

(continued from cover page)

Innovators at Feinberg

While there's no such thing as a typical trajectory in academic entrepreneurship, several Feinberg faculty show the range of possible opportunities.

C. Shad Thaxton, '04 MD, '07 PhD, began his entrepreneurial journey as a medical student at Feinberg in 2001, when he received a Howard Hughes Institute fellowship to conduct scientific investigations in the laboratory of Chad Mirkin, PhD who is a professor of Chemistry at Weinberg and of Medicine in the Division of Hematology and Oncology, director of the International Institute for Nanotechnology and a member of the Robert H. Lurie Comprehensive Cancer Center of Northwestern University.

Thaxton and his collaborators developed novel therapeutic applications for nanostructures called spherical nucleic acids (SNAs) in regulating gene expression. After joining Feinberg's faculty and building his own laboratory, Thaxton began to explore commercialization of therapeutic SNAs.

In 2011, Thaxton and Mirkin co-founded Exicure, Inc. to support pre-clinical and clinical development of SNA therapies for diseases like cancer and inflammatory disorders. As of September, Exicure has raised more than $62 million from investors including Bill Gates, AbbVie Ventures and former Google CEO Eric Schmidt. The company currently has three clinical stage programs.

"Entrepreneurship in academic medicine can serve to better focus research on everyday medical challenges and the needs of patients to provide innovative and practical solutions to health," said Thaxton, now an associate professor of Urology and a member of the Robert H. Lurie Comprehensive Cancer Center of Northwestern University. "It can also provide research funding that enables the translation of new technologies from the bench to the clinic."

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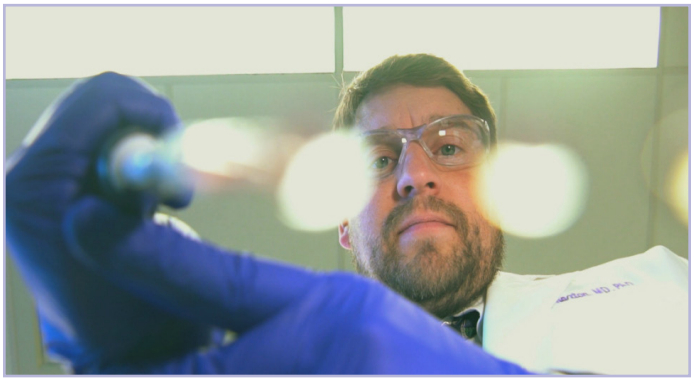

C. Shad Thaxton, MD, PhD, is a standout among Feinberg faculty in the area of entrepreneurship in academic medicine.

Michael Abecassis, MD, '00 MBA, chief of Organ Transplantation in the Department of Surgery and the James Roscoe Miller Distinguished Professor of Medicine, is another faculty member active in "intrapreneurship," the term he uses to describe the type of entrepreneurship that takes place within an institution. In 2013, Abecassis co-founded Transplant Genomics, a joint venture with the Scripps Research Institute; the company aims to improve organ transplant outcomes through molecular diagnostics.

"The result was not only the ability to move towards commercialization of an invention, but also having the company sponsor research at both institutions that would not otherwise have been funded by other sources," Abecassis said.

Dimitri Krainc, MD, PhD, the Aaron Montgomery Ward Professor and chair of The Ken and Ruth Davee Department of Neurology, has a long history of entrepreneurship. While at Harvard Medical School, Krainc co-founded Lysosomal Therapeutics, Inc., which develops novel therapies for severe neurological diseases, including LTI-291, a new drug compound for treating patients with GBA-associated Parkinson's disease.At Northwestern, Krainc has also co-founded Ulara Therapeutics, LLC, a nascent biopharmaceutical company developing next-generation, recombinant enzyme therapies.

"Most innovation results from academic research translated into practice by biotechs and pharmas," Krainc said. "It's very important for our faculty to be aware of how their discoveries can be advanced through collaborations with industry and spin-off companies to impact human disease."

Supporting Entrepreneurs

Entrepreneurship within the medical school isn't limited to launching a new company; partnering with existing companies can be an equally impactful route to move discovery forward.

"There are actually two areas in entrepreneurship, and both are important," explains Jeff Masters, PhD, senior director of Corporate Partnerships and Business Development at Feinberg. "One is coming up with game-changing technology and starting your own company. The other is forming relationships with large companies so you can license that technology out and see it transition into industry that way."

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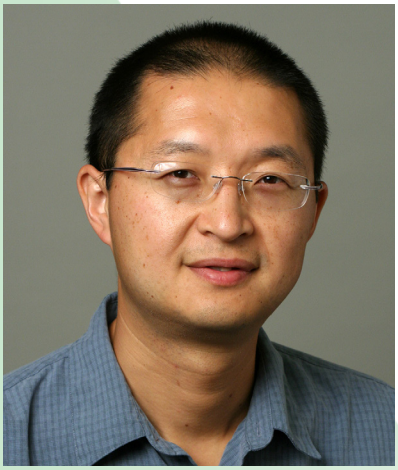
Mapping Neuropsychiatric Disorders

Lei Wang, PhD, Associate Professor of Psychiatry and Behavioral Sciences



Lei Wang, PhD, associate professor of Psychiatry and Behavioral Sciences and of Radiology, is focused on the future. His lab is developing neuroimaging biomarkers for a wide range of neuropsychiatric disorders, neurodegenerative and genetic diseases, but it isn't looking to innovate purely on medical imaging. His team is also on the front lines of virtual collaboration, partnering with a lab at Simon Fraser University in Vancouver to create a fully-fledged virtual lab that conducts research and publishes in journals, with over 20 papers published so far.

Wang's involvement in other big data and open science initiatives such as Northwestern University Neuroimaging Data Archive (NUNDA) and SchizConnect underscore his commitment to next-generation data collection and utilization.

Wang is also a member of the Cognitive Neurology and Alzheimer's Disease Center (CNADC), Northwestern University Clinical and Translational Sciences Institute (NUCATS), Robert H. Lurie Comprehensive Cancer Center of Northwestern University, and Northwestern University Interdepartmental Neuroscience.

Q&A

What are your scientific interests?

I am interested in developing neuroimaging biomarkers for neuropsychiatric disorders ranging from psychosis and dementia to pediatric HIV and cancer-treatment related cognitive dysfunction. I am interested in understanding these disorders at the brain circuit and systems levels.

Neuroimaging biomarkers are complex, multidimensional and should be integrated across multiple modalities. I use computational anatomy tools to develop these biomarkers, bridging mathematics, engineering and clinical neuroscience. I am also interested in contributing to the building of big data and open science infrastructure for neuroimaging research.

Other interests of mine include reproducibility science: standards on data collection, terminology, manipulation and reporting.

What is the ultimate goal of your investigations?

The ultimate goal of my research is to leverage the understanding of the neural mechanisms of neuropsychiatric disorders to develop personalized biomarkers for prediction and intervention. I want to develop both horizontal and vertical approaches towards this goal.

Horizontal approaches would allow for integration across different disorders and species, and vertical approaches would allow for integrations across genetics, molecules, cells, brain circuits and behavior.

I also would like to see scientific resources reach as many people as possible. Such people include students at smaller labs or institutions, clinicians without access to a wealth of resources, or geographically isolated collaborators.

How does your work advance medical science and knowledge?

Neuroimaging biomarkers can help us see the structure and function of the living brain and help us see when and where disease breaks down neural function. This advances both basic science and patient care.

For example, we can use multimodal imaging approaches to examine what happens to the brain's ability to activate and communicate with other brain regions when there is a structural breakdown. That understanding could help explain why people develop certain cognitive dysfunctions or clinical symptoms, and in turn help develop targeted intervention strategies.

Big data and the increasingly large amount of open science research will help us get to the truth faster, making new discoveries by combining and more fully utilizing already-collected data. Open science will also encourage sharing of tools and foster new collaborations.

What types of collaborations are you engaged in across campus (and beyond)?

My research philosophy is one that fosters and emphasizes collaborative interactions.

I have a virtual joint lab with my main collaborator at Simon Fraser University in Vancouver. Not only do we have weekly video conferencing for lab members, but we also have set up a virtual lab environment for computing, supervision and publication.

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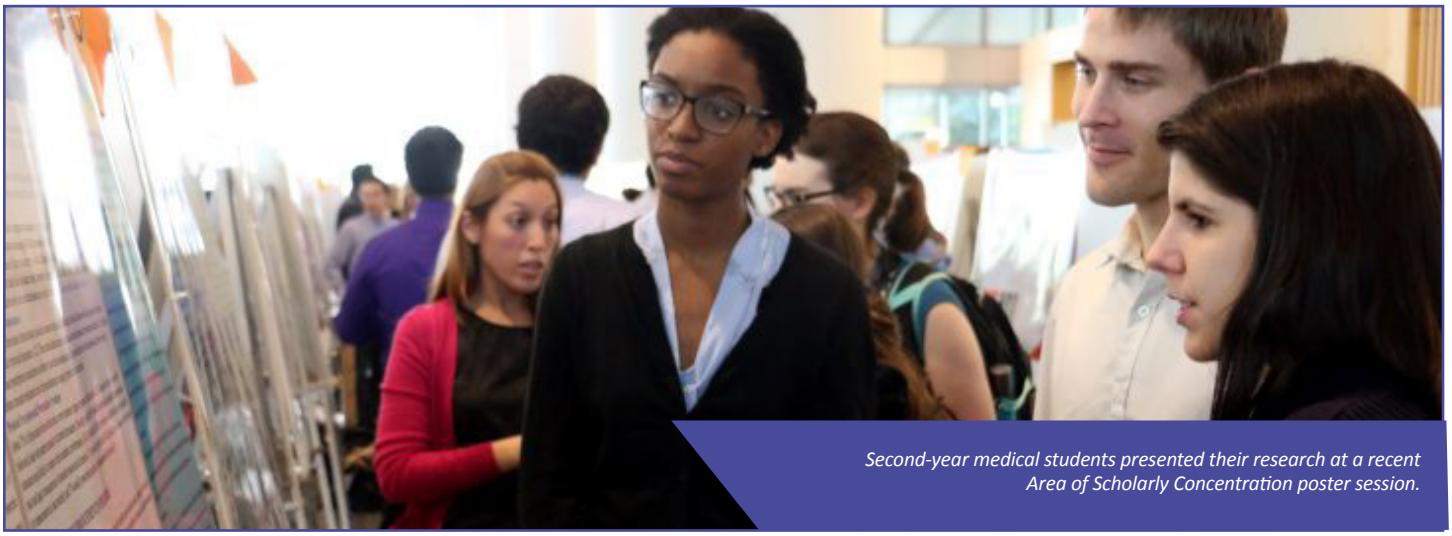
Spotlight on Feinberg Poster Sessions



Second-year medical students presented their research at a recent Area of Scholarly Concentration poster session.

Several symposia and retreats with poster sessions have taken place at Feinberg since the beginning of the academic year. These events showcase the diverse and impactful research taking place across campus.

Current Research & Future Careers Symposium

In August, graduate students and postdoctoral fellows in the biomedical field gathered for an all-day symposium dedicated to showcasing research and exploring careers in the biotech and pharmaceutical industries, as well as academia. The poster session during the event featured a mix of graduate students and postdoctoral fellows across a range of disciplines. Examples from the poster session include an abstract from Eugene Wyatt, PhD, a postdoctoral fellow who studies Limb Girdle Muscular Dystrophy Type 2C, and Amanda Bayer, a fifth-year graduate student who studies how zinc affects male fertility. Read more.

Area of Scholarly Concentration Poster Session

More than 100 second-year medical students presented ongoing results from their Area of Scholarly Concentration — a four-year longitudinal research project that culminates with the writing of a thesis — to Feinberg faculty, mentors and fellow students on Friday, October 13. Research topics included how excess body fat contributes to metabolic diseases on a genetic level and immunologic features of cancer metastases to the brain. Read more.

Feinberg's Global Health Day

Students, residents and fellows from across the Northwestern community with projects relevant to global health presented their work at poster session during Feinberg's Global Health Day, Monday, Oct. 23. Projects fell into three different tracks: research, public health or epidemiology, and case studies. One stand-out case study presented featured the pain management of a 60-year-old male with an incarcerated urinary catheter in the emergency department of a Quito, Ecuador, public hospital. Other research showcased at the poster session ranged from approaches to male acceptance of family planning in Kenya, to understanding the health effects of urbanization in an indigenous Maya population in Guatemala. Read more.

Stem Cells and Regenerative Biology Research Retreat

More than 140 scientists, students and trainees from dozens of departments gathered October 28 to discuss and present the results of their research in the rapidly-expanding fields of stem cells and regenerative medicine. A pair of poster sessions included projects such as the development of granulosa-like cells derived from induced pluripotent stem cells. This work is part of a Northwestern project to create 3-D printed ovarian bioprosthetics generated from patient-derived cells to use for fertility preservation and restoration. Another poster focused on reprogramming blood cells to generate cardiomyocytes for use in precision medicine applications. Read more.

Submit Abstract for Sex Inclusion Symposium

Scientists have until Dec. 18 to submit an abstract for the Second Annual Symposium on Sex Inclusion in Biomedical Research. This year's symposium will be held Jan. 25 from 8:00 a.m. to 3:00 p.m. at Prentice Women's Hospital. Participants are encouraged to submit an abstract that describes their original sex-inclusive or sex-based discoveries. Accepted abstracts will be presented in scheduled poster or oral sessions. Abstract authors will be notified by email of the status of their abstract and any pertinent scheduling information on Dec. 18. The symposium is hosted by the Women's Health Research Institute in collaboration with the Northwestern University Clinical and Translational Sciences Institute. Find out more about the symposium and how to submit an abstract.

Exploring the Impact of Non-clinical Services on Treatment Adherence Among Underserved Cancer Patients

Aparna Balakrishnan, MPH, MPA, Health Sciences Integrated PhD Program

Aparna Balakrishnan, MPH, a second-year student in the Health Sciences Integrated PhD Program (HSIP), studies how non-clinical services may impact treatment adherence for cancer patients who are part of vulnerable populations.

Q&A

Where is your hometown?
I grew up in Baltimore, but spent the last seven years in New York City before I moved to Chicago. I'd lived in Indianapolis for a short time after college, but the last year in Chicago has been my first true introduction to the Midwest.

What are your scientific interests?
Broadly, I'd like to explore how access to and use of non-clinical services impact treatment adherence among underserved cancer patients in the safety net hospital setting. Safety net hospitals organize and deliver a significant level of healthcare and other related services to uninsured, Medicaid and other vulnerable populations.

What exciting projects are you working on?
Right now, I'm trying to lay the foundation to work with outpatient oncology clinics at safety net hospitals to look at aspects of non-clinical support service availability and treatment adherence. Underserved cancer patients, including those who are under/uninsured, minority, immigrant and undocumented, face a lot of fundamental barriers, such as lack of language-appropriate information about diagnosis and treatment, unmet logistical and psychosocial needs, and food insecurity. These have the potential to really impact quality of care, quality of life and the patient's ability to adhere to life-saving treatment. My goal is to try and find out to what extent within-clinic services like professional interpretation, nutrition counseling, access to food resources, psychosocial services and transportation assistance are available and how these can be harnessed to improve treatment adherence.

What attracted you to the PhD program?
I was drawn to the fact that the HSIP program offers a collaborative environment and allows for strong mentorship and student-faculty interaction. I appreciated that the program pushes students to get in-depth training in their track, along with exposure to other elements of social science research, to develop broad, applicable skill sets. I also found that when compared to more traditionally structured PhD programs, HSIP was the ideal setting to try and implement my research ideas.

What has been your best experience at Feinberg?
I was encouraged by a professor to turn a research paper I wrote into a manuscript for journal submission. I'd never considered it as an option and felt intimidated by the whole process, which was pretty new to me. But I went through with it, and every aspect of it (including the initial rejection) was a great learning experience.

How would you describe the faculty at Feinberg?
Faculty are open and encouraging. I have struggled to figure out how best to operationalize my research interests, but every faculty member I have met with has given me ideas and told me to stick with it. When a faculty member hasn't had a clear answer for me, they've sought out someone else who might. I really appreciate that kind of supportive environment and mentorship.

What do you do in your free time?
I've lived in Chicago for a little more than a year now, but am still getting to know the city. I've been trying to see everything it has to offer, which is a lot! Aside from that, I try to make time to read – I was an English major in college and have always loved fiction, especially classic literature.

What are your plans after graduation?
At this stage, I hope to take on a management role at an urban, health-focused nonprofit or a health administration role at a safety net hospital. My goal is to develop, implement and assess targeted programming for underserved and minority cancer patients, with a focus on educating patients and providers regarding the mediating role of non-clinical factors on treatment adherence. Ideally, this would lead to creation of a holistic cancer treatment plan incorporating emphases on language accessibility, food security and other supportive services, to improve patients' willingness and ability to complete prescribed treatment.

Connect with Aparna on LinkedIn.

Partnering with Scientists to Meet Recruitment Goals

Ashley Sipocz, Recruitment & Retention Services Manager Northwestern University Clinical and Translational Sciences Institute

Ashley Sipocz, MPH, recruitment and retention services manager at Northwestern University Clinical and Translational Sciences (NUCATS) Institute partners with scientists to provide the knowledge, tools and support needed to effectively engage participants and meet recruitment goals in clinical studies.

Q&A

Where are you originally from?
I'm from Glendale Heights, IL, a western suburb of Chicago.

What is your educational background?
My undergraduate degree is in psychology and I have a master's in public health with an emphasis on health policy and promotion.

Why did you choose to work at Northwestern?
I love to learn and to be challenged regularly, and in my career I've found academic environments to be the best places to fulfill that. Aside from exposure to its talented and renowned faculty and staff, I was very excited by Northwestern's commitment to growth and improvement and encouragement of a collaborative, interdisciplinary environment.

NUCATS' mission and vision particularly attracted me because it aligned with my personal and professional mission to make research more accessible to the general public. Research is most useful when it can be lived. Working for people and an organization who not only share that perspective but also have it embedded in the way they do things is incredibly fulfilling.

How do you help scientists and/or PhD students at the medical school?
Situated within NUCATS' Center for Clinical Research (CCR), the Recruitment & Retention Program partners with research teams to provide the knowledge, tools and support to effectively engage participants and meet recruitment goals on time and within budget. Increasing people's access to research and connecting scientists to the resources they need to do that is the primary focus of my work.

What is your favorite part of the job?
I love that I get to collaborate with a lot of very talented, smart and kind people every day. My favorite moments are when we have people from a few different areas, or even other institutions, working on or sharing ideas on ways we can make research better. For example, in public health, the community is very much at the center of what you do. I've been lucky to collaborate with and learn from my colleagues in the Center for Community Health on a few projects since I started at NUCATS. I always find myself feeling inspired, motivated and enriched after those experiences. We get further by doing things together, and I'm happy and very grateful to work with people who value and enjoy working with others.

What exciting projects are you working on?
Aside from work we're doing for specific studies to enhance participant engagement, we're working on a few projects to develop more resources and tools (e.g., templates for different recruitment tactics) study teams can implement on their own to engage people around research at Northwestern. In particular, we're working on a "where to go?" guide to help scientists and their study teams learn about and locate the people and tools available to help them reach their recruitment and retention goals.

We're also working on a project in collaboration with the Center for Community Health to develop a tool to assist research teams in identifying concrete opportunities where community stakeholder engagement can inform and enhance the study to more effectively reach diverse populations in health literate and culturally responsive ways.

This project is still very much in the early stages, and we've gotten some exciting feedback from community stakeholders about it. We're looking forward to gathering feedback from academic stakeholders to further enhance and refine the tool.

What do you like to do in your spare time?
I love Chicago, and one of the things I love about it is there's always something new to explore or some new adventure to go on, whatever the mood you're in. Insatiably curious, I'm on a regular nerd diet of books, podcasts, documentaries, Chicago's great museum scene and its people to help keep me learning and "nerding" regularly. I love bringing people together and creating shared experiences, so I volunteer at the Chicago Children's Museum, help put on live, intimate, music events and plan get-togethers for my friends.

Music is one of my favorite ways to connect with others and myself. If I'm not reading in a coffee shop or exploring the city by foot or bike, you can find me at one of this city's amazing music venues. I volunteer for Sofar Sounds Chicago, which is a global community focused on enhancing the way people to experience live music and their city.

Connect with Ashley on LinkedIn.

Science in the News

***Reuters*, October 4**

Exercise prevents elderly mobility problems, and the more the better

Dorothy Dunlop was quoted.

***NPR*, October 4**

'Hypoallergenic' and 'fragrance-free' moisturizer claims are often false

Steve Xu was quoted.

***U.S. News & World Report*, October 4**

7 Major gaps in women's health research

Teresa Woodruff was quoted.

***Reuters*, October 4**

Plastic surgery videos need strict ethics standards, doctors argue

Clark Schierle was quoted.

► This was also featured in *Chicago Tribune* and *Fox News*

***NPR*, October 11**

How messing with our biological clock impacts well-being

Fred Turek was quoted.

***The New York Times*, August 16**

Choosing the best moisturizer for your skin

Steve Xu was quoted.

***Reuters*, October 16**

After medical errors, patients want doctors to hear them out

Gary Noskin was quoted.

***U.S. News & World Report*, October 19**

I was 26 and diagnosed with inflammatory breast cancer

Lurie Cancer Center OncoSET at Northwestern University was mentioned.

***Wall Street Journal*, October 26**

Scientists use new Crispr system to edit RNA in human cells

Elizabeth McNally was quoted.

***U.S. News & World Report*, October 27**

Kids' food allergies , especially to peanuts, are on the rise

Ruchi Gupta was quoted.

More media coverage available online.

Northwestern University
NUCATS
Clinical and Translational Sciences Institute

NUCATS Corner

NUCATS at Your Service

NUCATS is here to support your investigations from start to finish. Several of our centers and programs offer regular drop-in hours or meetings where investigators and research staff are invited to stop by and members of our team will address questions related to:

Regulatory topics: The Regulatory Team will address questions related to, but not limited to, Institutional Review Board, Food and Drug Administration, Investigational New Drug and Investigational Device submissions, clinicaltrials.gov and essential regulatory documentation and binder preparation. This takes place the first Wednesday of the month, 2 p.m. to 4 p.m. in Rubloff, 420 East Superior, 11th floor, Streeterville Conference Room

REDCap: Existing REDCap project owners can obtain a one-on-one consultation with the REDCap support team. Reserve a time slot here. Every other week on alternating Tuesdays/Wednesdays, 10 a.m. to noon, Galter Health Sciences Library, 303 E Chicago Ave, Room 01-407

Coordinator updates: The Center for Clinical Research holds monthly "Coordinator Connections" meetings that are open to all and consist of a 30-to 45-minute presentation and a short Q&A session. These take place the second Tuesday of the month, noon to 1 p.m., 676 N. St. Clair, 6th floor, Surgical Conference Room

Galter services: The Galter Team is available to answer any questions related to their services. Monday to Friday, 8 a.m. to 5 p.m., Galter Health Sciences Library, 303 E Chicago Ave

If you have questions about anything else, whether you would like advice on addressing a challenge you are facing in your research, are in need of a specific NUCATS service or want to learn more about the ways NUCATS could support your research project, contact a research navigator today.

Sponsored Research

PI: Richard Gershon, PhD, Vice Chair for Research, Department of Medical Social Sciences, Professor of Medical Social Sciences and Preventive Medicine in the Division of Health and Biomedical Informatics

Sponsor: National Institute of Neurological Disorders and Stroke

Title: "MyCog - Rapid detection of cognitive impairment in everyday clinical settings"

Gershon's project will create a brief, readily available, standard set of cognitive impairment (CI) screening measures called "MyCog: Rapid detection of cognitive impairment in everyday clinical settings" for use in diverse settings and with diverse populations. CI and dementia are significant public health burdens that can have profound social and emotional effects on older adults.

Early detection of CI is imperative in order to identify potentially treatable underlying causal conditions and, in cases where a cure is not possible, to provide supportive services to minimize the effects of CI. While primary care and other clinical settings are ideal places for identifying CI, it frequently goes undetected. Available screening tools may be unsuitable for implementation in such settings because of their length, cost or need for specialized equipment or highly trained administrators.

"MyCog" will be available as an app, in English and Spanish versions, that can be easily implemented in everyday clinical settings with diverse populations. MyCog, comprised of existing measures of cognitive function, will be validated in a large, general population sample of elderly individuals, including many African-Americans and people with low socioeconomic status who are at increased risk of experiencing health disparities.

Read more about this project.

PI: CongCong He, PhD, Assistant Professor of Cell and Molecular Biology

Sponsor: National Institute of Allergy and Infectious Diseases

Title: "Mechanism of autophagy activation in the prevention of type 2 diabetes"

The pathogenic mechanism of type 2 diabetes (T2D) is incompletely understood and effective treatments are limited. He's group has recently uncovered a potential role of the autophagy pathway in the pathogenesis of T2D. Autophagy is an essential lysosomal degradation pathway for energy balance and cell survival and is the major mechanism that cells use to recycle nutrients and clear damaged organelles in response to stress.

Both sedentary lifestyle and overly rich nutrition, the two causative factors of the global prevalence of T2D, impairs the autophagy activity, whereas fasting and physical exercise, two effective methods to prevent T2D, can potently induce autophagy. Thus, autophagy may mediate the beneficial effects of fasting and exercise against diabetes, and it is intriguing to investigate whether and how stimulation of autophagy may protect against T2D.

In this proposal, He's team will investigate how Beclin-mediated autophagy coordinately regulates insulin production in β cells and insulin sensitivity in insulin-responsive tissues and will develop a new approach to improve the function of both β cells and insulin-responsive tissues in type 2 diabetes by modulating autophagy pharmacologically.

Read more about this project.

Welcome New Faculty

Oren Becher, MD, joins as an associate professor of Pediatrics in the Divison of Hematology, Oncology, and Stem Cell Transplantation. He uses genetic modeling tools to study diffuse intrinsic pontine glioma, an incurable brain cancer that arises in children. Previously, he was an assistant professor in the department of pediatrics at Duke University Medical School and an attending physician in the pediatric neuro-oncology department at Duke University Medical Center. Becher earned his medical degree from Johns Hopkins School of Medicine and completed training at Children's National Medical Center and Memorial Hospital for Cancer and Allied Diseases. He has published more than 20 journal articles and is currently the principal investigator on numerous grants from the National Institute of Cancer, the National Institute of Neurological Disorders and Stroke, the American Cancer Society and many more.

Lei Wang

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I sit on their thesis committees and we published over 20 peer-reviewed papers together.

My lab is the lead site for two NIH-funded multisite studies: PREDICT-AD/FTD, which focuses on biomarker discovery and SchizConnect, which focuses on data science. My lab is also a key component of other NIH- and National Science Foundation-funded multisite data science initiatives: Advanced Computational Neuroscience Network (ACNN), Brain Life and Subcortical Shape Diffeomorphometry (BD2K). I attribute our success in large part to the successful collaborative relationships we have built.

I also collaborate actively with PIs from Northwestern University and across the world in a variety of clinical studies: adult HIV, childhood origins of coronary heart disease disparities, cerebral small vessels in motor and cognitive decline, glioblastoma, TIC disorder, schizophrenia, and dementia. I am also collaborating with NU labs on neuroimaging of animal models.

Who makes up your team and what role does each individual play in your scientific investigations?
I have a hybrid physical and virtual environment in the lab. The team consists of trainees from across the spectrum: Lisanne Jenkins, PhD, is a psychology postdoc, Paula Lewis-De Los Angeles is a neuroscience student in the Medical Scientist Training Program, Ali Apple and Julie Peterson are students in the Clinical Psychology PhD Program, Amandeep Jutla, MD, is a clinical fellow at Ann & Robert H. Lurie Children's Hospital of Chicago, Ivy Huang is a medical student at Feinberg, Samantha Yang is a Northwestern University undergrad, and Shun Chin "Jim" Wu is a visiting student from Taiwan.

The daily operations are supported by two incredibly dedicated and skilled software engineers who work remotely: Kate Albert enjoys living in Boulder, CO, and Alex Kogan prefers the Big Apple.

The lab environment is friendly and collegial, but people do argue about science and life. We do that at lab meetings and Wednesday afternoon tea times. Each person has a major focus but relies on collaboration with lab members and others to excel. My lab has been described as the "happiest bunch" by some folks in our department.

What do you enjoy about teaching/mentoring young scientists in the lab?
I want to see my trainees make each other better and make the lab grow — without growth we are nothing. I have an open door policy and enjoy having them walk in and talking just about anything. I also enjoy watching them becoming able to "see" – i.e., gaining the ability to synthesize and see the big picture and new patterns. I enjoy challenging them.

Funding

Clinical Investigator Awards

More information

Sponsors: Damon Runyon Cancer Research Foundation

Submission deadline: Feb. 1

Upper amount: $450,000 over three years

Synopsis: The Damon Runyon Clinical Investigator Award supports independent young physician-scientists conducting disease-oriented research that demonstrates a high level of innovation and creativity. The goal is to support the best young physician-scientists doing work aimed at improving the practice of cancer medicine.

Neuroscience Investigator Awards

More information

Sponsors: New York Stem Cell Foundation

Submission deadline: Feb. 1 (expected)

Upper amount: $1,500,000 over 5 years

Synopsis: The New York Stem Cell Foundation is soliciting applications from early career investigators for Innovator Awards in Neuroscience. The goal of this initiative is to foster truly bold, innovative scientists with the potential to transform the field of neuroscience. Applicants are encouraged in the fundamental areas of developmental, cellular, cognitive and behavioral neuroscience, broadly interpreted.

George M. O'Brien Urology Cooperative Research Centers Program

More information

Sponsors: National Institute of Diabetes and Digestive and Kidney Diseases

Submission deadline: Feb. 13

Upper amount: $1,000,000 in direct costs per year, maximum project period is five years

Synopsis: This program will provide a coordinated platform for multidisciplinary interactions between basic and clinical scientists with the overall goal of understanding the etiology and development of benign urologic diseases and disorders and providing a collaborative venue to design better treatments, diagnostics and prevention strategies for these disease conditions within the National Institute of Diabetes and Digestive and Kidney Diseases mission interests.

View more funding opportunities

Using Peer Review to its Full Potential

With over two million scientific articles published annually[1], we know that peer review has an essential role in monitoring the quality of this ever-growing body of scientific evidence. Below are some ideas and opportunities for learning about peer-review, keeping up with recent research and trends and tracking the impact of your peer-review efforts.

Enjoy a week of events. Be inspired each year during the global Peer Review Week (usually mid-September) with new blog pots, podcasts and webinars that highlight the latest discoveries and best practices for peer review.

Take an online class. Learn from *Nature* journal editors in the free online Nature Master Class called Focus on Peer Review (requires registration). See more tutorials and tips from Peer Review Week's resources page or check out Elsevier's Publishing Campus resource on peer review.

Follow the publications. Peer review is an important enough topic to have a Medical Subject Heading, which helps us follow this topic in the published literature. Copy and paste the following search strategy into the PubMed search box to find the latest research.: "Peer Review"[Mesh] OR "peer review"[ti]

Also in PubMed, use the "Create alert" link (found under the search box) to receive regular emails for newly indexed research on peer review.

Go to a conference. The International Congress on Peer Review and Scientific Publication is held every four years and focuses on "encouraging research into the quality and credibility of peer review." Consider looking at the most recent conference tweets by searching for #PRC8 using your twitter account.

Check out Twitter. Join the ongoing conversation on Twitter about peer review by searching the hashtag #PeerReview in your twitter account.

Take a quiz. If you want to test your peer review skills, consider taking this interesting quiz on "navigating tricky peer review scenarios" offered by the Research in Progress blog from the BioMed Central Blog Network.

Keep up on retractions. Nothing underscores the importance of quality peer review more than reading about the retraction of a paper from a well-respected journal. Consider following the Retraction Watch blog to better understand the circumstances around retractions.

Track the impact. Consider registering for a free Publons account to "track, verify and showcase" your peer review and editorial contributions. In addition, Publons allows publishers to identify and screen potential peer reviewers and provides you with statistics on the journals for which you review and your review to publication ratio.

If you are interested in learning more about information resources related to peer review, searching for recent research on peer review, or learning more about tools like Publons, consider contacting your Galter Library liaison librarian.

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Innovation at Feinberg

(continued from page 2)

Masters and his Corporate Partnerships team help faculty advance their discoveries through a variety of routes. "My office is here to help support entrepreneurship in the medical school by both helping faculty move their technology to industry or startups, as well as bringing corporate partnerships to support the research efforts inside," he said.

Masters notes that with the city of Chicago becoming a hub for biomedical innovation, there are also several important local resources for entrepreneurs, including MATTER, the Chicago Biomedical Consortium, iBIO and the iBIO Institute's PROPEL.

At INVO, beyond the new INVOForward mentorship program, other resources include New Cures, a therapeutics accelerator, and a partnership with the NIH Center for Accelerated Innovations at Cleveland Clinic (NCAI-CC) that provides funding for emerging technologies focused on cardiovascular, pulmonary, blood or sleep-related disorders. INVO's N.XT fund is also available to all faculty startups at Northwestern.

Feinberg is deeply committed to growing the overall spirit of entrepreneurship. As such, new initiatives like the "MDs in Business" seminar series allow faculty, trainees and students to interact and form relationships with entrepreneurial leaders.

"We want to get to a place where this is just part of our culture. The corporate pipeline of drugs and devices is waning, and a really important missing piece is academic training and focus on entrepreneurship," said Krensky, also a professor of Pediatrics in the Division of Kidney Diseases and of Microbiology-Immunology. "If you really want your idea to impact society, this is the way to do it."

Krensky, Abecassis, Mirkin and Thaxton are also members of the Robert H. Lurie Comprehensive Cancer Center of Northwestern University.

To learn more about entrepreneurship at Feinberg, contact Jeff Masters at Corporate Partnerships, or contact Sonia Kim at INVO.

Ramsey-Goldman Honored for Lupus Discoveries

The Lupus Foundation of America recognized Rosalind Ramsey-Goldman, MD, the Solovy/Arthritis Research Society Research Professor and Professor of Medicine, Division of Rheumatology with the 2017 Evelyn V. Hess Award.

The award recognizes a clinical or basic scientist whose body of work significantly advanced the understanding of the pathophysiology, etiology, epidemiology, diagnosis or treatment of lupus.

"I am honored to be the recipient of the Evelyn V. Hess Award from the Lupus Foundation of America," said Ramsey-Goldman. "Our studies of disease outcomes and health disparities, development of assessment tools and biomarkers, advances in management and new therapeutics, and the opportunities to mentor junior investigators have enriched not only my career but have also given hope to those with lupus."

The award was announced Nov. 6 at the American College of Rheumatology Annual Scientific Meeting in San Diego.

Help Feinberg Track Journals

The Feinberg Research Office regularly tracks studies published by Feinberg investigators. The citations are used on web pages, in newsletters and social media, for internal reporting, and more. To more accurately track these journals, the Research Office asks that Feinberg investigators use the following institution name in the address field when publishing in peer-reviewed journals: "Northwestern University Feinberg School of Medicine."

INVO Practicum Application Open

The next session of the INVO Practicum begins Jan., 2018. This unpaid internship program is open to all Northwestern students and postdocs who are interested in learning more about the technology transfer process as well as being exposed to the vast areas of innovation at Northwestern.

Download the practicum application and direct questions to Sonia Kim.

Calendar

Thursday, November 20

The Road to an Ideal Rescue System

Amir Ghaferi, MD, MS, University of Michigan Health Systems, will present.

Time: Noon to 1:00 p.m.

Location: Baldwin Auditorium, Robert H. Lurie Medical Research Center, 303 E. Superior

Contact: Ryan Splitt at ryan.splitt@northwestern.edu

More information

Friday, December 1

The Biology of AnnexinA2: From Fibrinolysis to Vascular Integrity

Katherine Hajjar, MD, Weill Cornell Medicine, will present.

Time: 8 a.m. to 9:00 a.m.

Location: Robert H Lurie Medical Research Center, Searle Conference Room, 303 E. Superior

Contact: cancer@northwestern.edu

More information

Friday, December 8

Glucagon-like peptide-1 regulation of allergic airway inflammation

Ray Stokes Peebles, MD, Vanderbilt University, will present.

Time: Noon to 1:00 p.m.

Location: Prentice Women's Hospital, 3rd Floor, Canning Auditorium, 250 E. Superior

Contact: justin.phillips@northwestern.edu

More information

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NIH News

Publish NIH-Funded Projects in Reputable Journals

A notice was issued by the NIH on Nov. 3 stating that they've seen an increase in the number of papers reported as products of NIH funding that are published in journals or by publishers that do not follow best practices promoted by professional scholarly publishing organizations.

To help protect the credibility of papers arising from its investment, NIH encourages its stakeholders, including grantees, contractors, intramural scientists and librarians, to help authors:

- Adhere to the principles of research integrity and publication ethics
- Identify journals that follow best practices promoted by professional scholarly publishing organizations
- Avoid publishing in journals that do not have a clearly stated and rigorous peer review process

Combating the Opioid Crisis with Scientific Solutions

On Oct. 26, President Trump declared America's opioid crisis a public health emergency. Francis Collins, MD, PhD, director of the NIH, responded with a statement that included details of recent investments in pain research and addiction prevent.

"NIH is committed to working with the White House, Health and Human Services and our sibling agencies, and the public and private sectors to take an 'all hands on deck' approach, delivering the scientific tools that will help end this crisis and prevent it from re-emerging in the future," Collins stated.

Director's Awards for Two Feinberg Scientists

Two investigators from the Departments of Biochemistry and Molecular Genetics and Dermatology have been awarded Director's Awards from the NIH. Jaehyuk Choi, MD, PhD, the Ruth K. Freinkel, MD, Research Professor, was awarded the NIH Director's New Innovator Award, one of just 25 awarded in 2017. Kyle Eagen, PhD, Feinberg fellow in the Department of Biochemistry and Molecular Genetics, received the NIH Director's Early Independence Award.

These awards reflect the considerable research portfolios of both the investigators and the Departments of Dermatology and Biochemistry and Molecular Genetics. Read more about the award recipients.