

Breakthroughs

Feinberg School of Medicine Research Office

June 2021

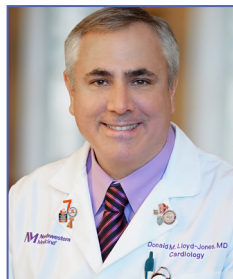


Feinberg Leaders Tackle Cardiovascular Research and Advocacy in Chicago and Nationally

By Will Doss

The COVID-19 pandemic has exposed deep structural inequities in American health. Though vaccines are illuminating a path through the pandemic's tunnel, health inequities faced by many Americans remain. Chief among those problems are cardiovascular conditions; heart disease, obesity and diabetes represent an enormous disease burden, a burden that is not shared equally.

"COVID really brought to the fore how communities of color are disproportionately affected by disease — not because of any genetic predisposition, but because of the social determinants of health," said [Donald Lloyd-Jones, MD ScM](#), the Eileen M. Foell Professor and chair of [Preventive Medicine](#) and the newly elected president of the American Heart Association (AHA). "This is a major focus and I'm very excited to help lead Feinberg and the AHA in becoming a champion for health equity."



Donald Lloyd-Jones, MD

A Close Partnership

Feinberg and the AHA have a longstanding partnership in translational science, with Feinberg participating in a nation-leading six Strategically Focused Research Networks (SFRN). The centers study topics including the arc of cardiovascular health from childhood across the life course, cardiovascular disease prevention, health disparities, atrial fibrillation, peripheral vascular disease and sudden cardiac death. The resources of Northwestern University, Feinberg School of Medicine and the Chicagoland area afford a unique opportunity to study a broad array of research questions, according to [Clyde Yancy, MD, MSc](#), the Magerstadt Professor, vice dean for [Diversity and Inclusion](#) and past president of the AHA.

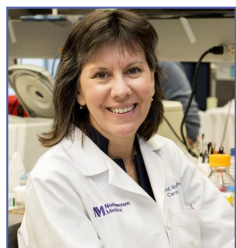


Clyde Yancy, MD, MSc

"In many ways, Chicago is an epicenter of the U.S.; things that work in Chicago are exportable and should work anywhere else," said Yancy, who is also chief of [Cardiology](#) in the Department of [Medicine](#) and a professor of [Medical Social Sciences](#). "This becomes an incredible incubator for the messaging and initiatives of the AHA."

Cardiovascular Research *(continued from cover page)*

[Elizabeth McNally, MD, PhD](#), the Elizabeth J. Ward Professor of Genetic Medicine, leads a SFRN that examines how sudden cardiac death intertwines with arrhythmia. Feinberg scientists are using genetic data from young patients who have experienced sudden cardiac death and arrhythmias, running large-scale analyses to tease out how these conditions are related, before testing the impact of variants in stem cell models of heart tissue.



Elizabeth McNally, MD, PhD

“Even with all the rapid advances in the genetics of arrhythmias, there are still many patients for whom we do not find clear-cut mutations,” said McNally, who is also director of the [Center for Genetic Medicine](#), a professor of Medicine in the Division of Cardiology and of [Biochemistry and Molecular Genetics](#). “This is because we don’t yet know all the genes, and in some cases the risk correlates with having combinations of gene variants. Because of this complexity, we are also studying how to better communicate genetic cardiovascular risk to patients and families.”

Lloyd-Jones is the fourth Feinberg faculty to ascend to the helm of the AHA, along with Yancy, [Robert Bonow, MD](#), the Max and Lilly Goldberg Distinguished Professor of Cardiology and the late Oglesby Paul, MD. This means the connections between Feinberg and the AHA are deeply intertwined and capable of spawning new initiatives, including new investigations studying the social determinants of health.

“I think we have many more things to discover at a very basic science level about health and disease,” Lloyd-Jones said. “But I think that we must also transform our approach to improving public health.”

Bettering Public Health

Inequalities in the delivery of healthcare are present in clinical cardiovascular care, from underfunded hospitals in poor neighborhoods to areas that may not have adequate care capacity at all. Potentially more important, however, are broader

social determinants of health: jobs, housing, education and nutrition that greatly impact an individual’s cardiovascular health. This is especially the case for children who already bear a disproportionate burden of potential cardiovascular disease risk, despite their young age.

For clinical care, the AHA operates the [Get with The Guidelines](#) program, encouraging hospitals to monitor and implement metrics that improve cardiovascular care quality. Discharge checklists can help ensure patients go home with the prescriptions they need, or are connected to the appropriate rehabilitation and therapy providers. All of which can help produce long-lasting change in the cardiovascular health of patients, according to Lloyd-Jones.

“This is very much in the AHA’s sweet spot because it is so tightly linked to many health systems across the country,” Lloyd-Jones said. “Implementing the Get with the Guidelines modules actually abolishes racial disparities in care received and health outcomes.”

To study and hopefully improve the impact of social determinants of health on cardiovascular disease, the AHA has committed to invest \$100 million by 2024 through [social impact funds](#); grants or loans to local organizations and businesses who can address social cohesion, employment, food access or education. The funds are current operating in Boston, Chicago and Flint, Mich.

“We’re committed to improving the social position of our neighborhoods so that there isn’t a 16-year-difference in life expectancy across zip codes, such as from South Chicago to right here where I’m sitting in Streeterville,” Lloyd-Jones said.

These programs are a reflection of the public health mission of both the AHA and Feinberg, according to Yancy.

“To state that Feinberg and the AHA are in simpatico, still doesn’t fully capture the natural alignment in research, advocacy and leadership,” Yancy said. “We are aligned with AHA as advocates for lives free from heart disease and stroke; we are aligned as researchers to explore cardiovascular science; and we are connected as investigators to discover meaningful next steps for all people to realize their best health.”

Cardiovascular disease is unlike other chronic non-communicable diseases such as cancer; 80 to 90 percent of cardiovascular disease is preventable, according to Lloyd-Jones. The synergistic relationship between the AHA and Feinberg strives to improve cardiovascular health both in the clinic and in the community, with the goal of reducing the burden of cardiovascular disease — especially for populations who are disproportionately affected.

“There are really important things we need to do better to implement our knowledge into care settings so that we help our patients prevent and receive better treatment for cardiovascular disease,” Lloyd-Jones said. “Beyond that, we also need to design better public health; better ability to access healthy foods and safe spaces for exercise. All of these things would be transformative and realize a shared aspiration to prevent cardiovascular disease.”

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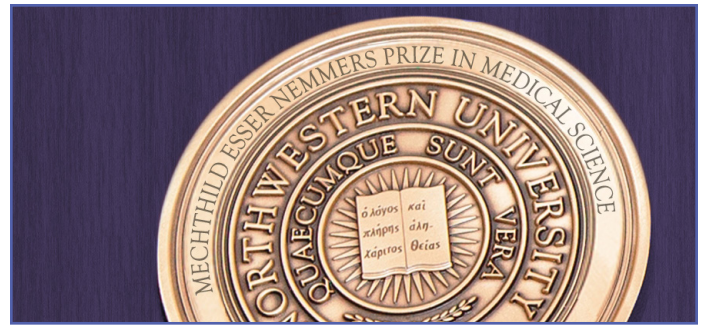
Northwestern Accepting Nominations for \$200,000 Nemmers Prize in Medical Science

Northwestern University is accepting nominations for its \$200,000 Mechthild Esser Nemmers Prize in Medical Science. The biennial prize will be awarded in fall 2022. Candidacy for the 2022 Nemmers Prize is open to physician-scientists whose body of research exhibits outstanding achievement in their disciplines as demonstrated by works of lasting significance. Individuals of all nationalities and institutional affiliations are eligible, except current or recent members of the Northwestern faculty, past recipients of the Mechthild Esser Nemmers Prize and recipients of the Nobel Prize.

The 2022 recipient of the Nemmers Prize will deliver a public lecture and participate in other scholarly activities at Northwestern.

Distinguished past recipients are:

- [Huda Zoghbi, MD](#) (2016), a Howard Hughes Medical Institute investigator and professor at Baylor College of Medicine known for her groundbreaking research on Rett syndrome and other neurological disorders;
- [Stuart Orkin, MD](#) (2018), a Howard Hughes Medical Institute investigator at Boston Children's Hospital and professor at Harvard Medical School, known for his landmark discoveries into blood cell development and the genetic basis of blood disorders;
- [David Sabatini, MD, PhD](#) (2020), professor of biology at the Massachusetts Institute of Technology, Member of the Whitehead Institute and Howard Hughes Medical Institute investigator known for his landmark discoveries in the area of cell signaling and growth regulation.



"The Mechthild Esser Nemmers Prize in Medical Science honors not only the painstaking work that takes place in scientific laboratories, but more importantly, the indelible impact these achievements have on society," said Northwestern Provost Kathleen Hagerty, PhD. "Northwestern University is proud to consider the nominations of scientists who have committed themselves to this noble pursuit, improving the lives of people around the globe with each discovery."

This award is made possible by a generous gift to Northwestern by the late Erwin Esser Nemmers and the late Frederic Esser Nemmers. The Nemmers Prize in Medical Science is the fourth Nemmers prize established by Northwestern and joins the Erwin Plein Nemmers Prize in Economics, the Frederic Esser Nemmers Prize in Mathematics, the Michael Ludwig Nemmers Prize in Music and the new Nemmers Prize in Earth Sciences, now the fifth Nemmers prize at Northwestern.

Nominations for the prize will be accepted until November 1, 2021. Nominating letters of no more than one page should describe the nominee's professional experience, accomplishments, qualifications for the award and a curriculum vitae of the nominee. Nominations from experts in the field and institutional nominations are welcome; direct applications will not be accepted.

Nominations can be submitted at www.feinberg.northwestern.edu/nemmers.

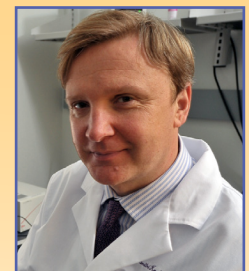
Krainic receives NIH Grant

[Dimitri Krainic, MD, PhD](#), chair and the Aaron Montgomery Ward Professor of [Neurology](#), has received a Research Program Award grant from the National Institute of Neurological Disorders and Stroke (NINDS), part of the National Institutes of Health (NIH).

The award allows investigators freedom to embark upon long-term research projects without the constraints of specific aims. It provides eight years of funding totaling about \$9 million.

"This award will help us tackle some key questions in Parkinson's disease that take more time and resources than what can be done with regular funding," said Krainic, who is also director of the [Simpson Querrey Center for Neurogenetics](#).

Krainic has worked to define key molecular pathways in a variety of neurodegenerative diseases and identify new targets for therapies. Along with collaborators, Krainic discovered the previously unknown role of astrocytes in Parkinson's disease in a study [published](#) in *The Journal of Neuroscience*, and used patient-derived neurons to test a new strategy to treat Parkinson's disease in a study [published](#) in *Science Translational Medicine*.



This award will allow Krainic to develop collaborations across academic institutions and industry to perform translational science. The prospect of a disease-modifying treatment for Parkinson's disease—and what that might do for patients and their families — is what drives Krainic and his collaborators.

Graduate Student/Post-Doc Events and Opportunities

A Space for Us

Friday, June 25, July 23 and August 27

Online via [Zoom](#)

A Space for Us will meet over the summer months to center the experiences of Black women and non-binary staff, graduate and professional students and faculty from the Evanston and Chicago campuses and serve as an opportunity to check in on each other, connect, share experiences, build community and create strategies for navigating race and gender.

Facilitated by associate director of the Women's Center, Njoki Kamau, and senior project manager of Inclusive STEM Teaching Project, Veronica Womack, PhD.

[More information](#)

Contact: [The Women's Center](#)

Zumba Gold Group Exercise (All Levels)

Monday, June 28, July 5, 12, 19 and 26

Time: 8:30 a.m. to 9 a.m. CST

Online via [Zoom](#) [Register here](#)

An easy-to-follow class that recreates the original Zumba® dance moves at a lower intensity, focusing on balance, range of motion and coordination.

Please review the [Virtual Group Exercise Online Consent](#) before participating in any virtual classes.

To view more group exercise sessions, [click here](#).

Contact: [Northwestern Recreation](#)

Practical Communication for Gender

Affirming Healthcare

Wednesday, June 30

Time: Noon to 1 p.m. CST

Online via [Microsoft Teams](#)

Working with transgender and non-binary people (TGNB) requires an awareness of the unique barriers that they face when seeking health care. This training will be presented by [Sue Jordan, MD, PhD](#), plastic surgeon and medical director of the Northwestern Medicine Gender Pathways Program, and [Nikk Selik](#), Chicago-based transgender expert, and will support clinical staff in understanding best practices of gender affirming communication in order to create a welcoming and inclusive clinical environment for TGNB patients.

Contact: [Feinberg Office of Diversity and Inclusion](#)

ResilientNU Summer Cohort

Beginning July 12

Online

ResilientNU is your crash course on increasing wellness, managing stress and finding balance. This student and staff collaboration will host virtual small-group cohorts for 75-minute sessions, over five weeks, starting July 12. Groups are co-facilitated by a Northwestern student and an Health Promotion and Wellness (HPaW) staff member. ResilientNU will be running at least two cohorts.

[Register here](#)

Contact: [ResilientNU](#)

Research in the News

HealthDay, May 12

[Debunking Social Media Myth, Study Finds COVID Vaccine Won't Harm Placenta](#)

Jeffrey Goldstein, MD, PhD, and Emily Miller, MD, MPH, was featured.

This research was also featured in *U.S. News & World Report*.

WTTW News, May 13

[Northwestern Team Develops Wireless Monitors for Pregnant Moms](#)

John A. Rogers, PhD, was featured.

NBC Chicago, May 19

[New Artificial Intelligence Software at Northwestern Will Help Scan Mammograms](#)

Sarah Friedewald, MD, was featured.

This research was also featured in *Crain's Chicago Business*.

Chicago Tribune, May 21

[Return visits to hospital for additional care were common for many early COVID-19 patients as the disease's impact lingered, new study finds](#)

Erica Liotta, MD, MS, was featured.

The New York Times, May 25

[Scientists Drove Mice to Bond by Zapping Their Brains With Light](#)

Yevgenia Kozorovitskiy, PhD, John A. Rogers, PhD, and Mingzheng Wu, PhD candidate, were featured.

U.S. News & World Report, May 26

[AHA News: Surprisingly Few Women May Have Good Heart Health Before Pregnancy](#)

Natalie Cameron, MD, was featured.

This research was also featured in HealthDay.

[More media coverage >>](#)

Characterizing Molecular Mechanisms That Drive Brain Tumorigenesis and Metastasis

Peiwen Chen, PhD, assistant professor of Neurological Surgery



[Peiwen Chen, PhD](#), is an assistant professor of [Neurosurgery](#) and a member of the [Robert H. Lurie Comprehensive Cancer Center](#) of Northwestern University. His [laboratory](#) focuses on characterizing the mechanisms that drive heterotypic interactions across different cell types in brain tumors. Chen's ultimate aim is to improve the understanding of how this heterotypic signaling gives rise to a tumor-promoting ecosystem, which may aid in the development of novel targeted therapeutic strategies.

Q&A

What are your research interests?

Our first research interest is to characterize the mechanisms that underlie heterotypic interactions across diverse cell types (macrophages, cancer cells, endothelial cells and T cells) in brain malignancies, including primary and metastatic brain cancers.

The second research interest of my laboratory is to reveal how such heterotypic signaling enables a tumor-promoting ecosystem and informs therapeutic strategies intercepting these co-dependencies in brain cancers.

What is the ultimate goal of your research?

The goal of our research is to uncover novel mechanisms governing the development of brain malignancies and offer new therapeutic strategies for patients with these diseases.

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

We are interested in collaboration with experts in different areas, including but not limited to cancer immunology and therapeutics, single-cell sequencing, cancer genetics and nanomedicine.

How is your research funded?

Our research is currently funded by the National Institutes of Health (NIH) K99/R00 Path to Independence Award, the Department of Defense Career Development Award-Scholar Option, the Cancer Research Foundation Young Investigator Award, the NIH Brain Cancer SPORE Career Enhancement Program Award and the Lynn Sage Scholar Award, as well as startup funds from the Feinberg School of Medicine.

Where have you recently published papers?

Our research has been published in journals such as [Cancer Cell](#), [Cancer Discovery](#), [Trends in Immunology](#) and [Cell Reports](#).

Who inspires you?

My postdoctoral and PhD mentors, Ronald DePinho, MD, at the MD Anderson Cancer Center and Paolo Bonaldo, PhD, at the University of Padova in Padova, Italy.

Please share your recent awards and honors.

- Harter Prize, MD Anderson Cancer Center (2020)
- Pathway to Independence Award, NIH/NCI (2020)
- Caroline Ross Endowed Fellowship in Brain Cancer Research, MD Anderson Cancer Center (2019)
- Harold C. and Mary L. Daily Endowment Fellowship, MD Anderson Cancer Center (2019)
- AACR-American Brain Tumor Association Scholar-in-Training Award, AACR (2018)
- Irvington Postdoctoral Fellowship Award, Cancer Research Institute (2018)
- Chinese Award for Outstanding Self-Financed Students Abroad, China (2013)
- Cariparo International PhD Award, Italian Cariparo Foundation (2012)

Investigating Motor Impairment After Stroke

Grace Bellinger, fifth-year PhD/MPH candidate in NIUN program



Grace Bellinger, a fifth-year PhD/MPH candidate in the Northwestern University Interdepartmental Neuroscience (NIUN) program, studies motor impairments that emerge following stroke in the [Investigational Technologies in Stroke Recovery Laboratory](#). She is advised by [Michael Ellis, PT, DPT](#), associate professor of [Physical Therapy and Human Movement Sciences](#) and of [Physical Medicine and Rehabilitation](#). Bellinger also conducts public health research under the supervision of [Lauren Beach, JD, PhD](#), research assistant professor of [Medical Social Sciences](#).

Q&A

Where is your hometown?

I was born and raised in Rochester, Minn. Growing up around the Mayo Clinic, I developed a strong interest in biomedical science at a very young age.

What are your research interests?

My dissertation research is in stroke rehabilitation. Specifically, I am interested in the impairments that develop after stroke and how they impact reaching function throughout early recovery and into the chronic phase. As part of my public health education, I have developed an interest in health equity and am currently studying the cardiovascular health of gender minority populations.

What exciting projects are you working on?

I am preparing to launch the final study of my thesis. This project involves measuring various post-stroke impairments longitudinally. I will be recruiting individuals who survived their first stroke and assessing them out to three months post-stroke. This study will give rehabilitation researchers a better understanding of the development of weakness, spasticity and abnormal muscle co-activation patterns as well as how the impairments interact over time to impact reaching function.

What attracted you to your program?

I chose to pursue a doctorate in neuroscience because of the motor neuroscience community. NIUN is one of the best programs to study motor control, especially in the context of neurorehabilitation. Additionally, I love Chicago and felt a strong sense of belonging with both the current and prospective students during my interview weekend.

What has been your best experience at Feinberg?

One of the best decisions I have made at Northwestern was adding a Master of Public Health degree to my training. While I entered the dual degree program much later, as I was beginning my fourth year in NIUN, there has never been a better time to be in public health. I entered the MPH program in fall 2019, unaware that public interest in the field was about to surge. I have especially enjoyed my training in health equity. As a clinical scientist, it is important to understand the healthcare system, social determinants of health and health inequities when working with patients.

How would you describe the faculty at Feinberg?

Feinberg faculty are phenomenal! Northwestern has experts in every area of neuroscience, and I have enjoyed learning from leaders in the field. I have been particularly impressed by faculty within the Public Health program and how they have responded to the pandemic and other recent events. I felt very supported while taking virtual classes and the instructors always acknowledged current events and created space for discussion.

What do you do in your free time?

As a kinesiologist by training, physical activity is an important part of my life. I enjoy various forms of exercise such as dancing, cycling and weightlifting. I also love trying new foods and exploring places around Chicago.

What are your plans for after graduation?

I plan on remaining in academia for the rest of my career. After graduation, I hope to complete a postdoctoral fellowship in motor neuroscience and study motor control in animal models, which would allow me to explore the neural control of movement more directly than is possible in humans.

The Feinberg Research Office regularly tracks research 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."

Supporting Clinical Trials at Feinberg

Carlos Martinez, clinical research project manager,
Center for Translational Metabolism and Health



Carlos Martinez is a clinical research project manager at the [Center for Translational Metabolism and Health](#).

Q&A

Where are you originally from?

I was born and raised in Chicago.

What is your educational background?

I attended to the University of Illinois at Chicago (UIC), where I graduated with a Bachelor of Arts degree in psychology and minor in sociology.

Please tell us about your professional background.

I volunteered at the UIC InTouch Crisis Hotline during my undergraduate education and for some time afterward. I started working as a research assistant at UIC in the Department of Kinesiology and Nutrition. I then worked as a clinical research coordinator for Apex Medical Research, just before coming to Northwestern in 2015. Aside from functioning as a clinical research project manager and core navigator for NU-GoKidney's Core C, I also volunteer on Northwestern's institutional review board (IRB) panel A as a reviewer and as an NMHC Access Program Liaison.

Why do you enjoy working at Northwestern?

I enjoy working at Northwestern because I am part of a really great team. The research assistants, coordinators, investigators and clinic staff get along very well. I also enjoy contributing to something that is bigger than myself; research that helps chronically ill patients and research that helps further establish investigators.

How do you help scientists and or research students at the medical school?

I help by providing feedback on study design and implementation logistics. I provide initial submissions and modifications of study protocols, consent forms and other study-related documents to IRBs.

What is your favorite part of the job?

My favorite part of the job is meeting new study participants and enrolling them in our research studies. I get to develop relationships with patients who have diverse personalities and medical backgrounds. It is very fulfilling to work on projects that may lead to a breakthrough in medicine or projects that help secure prominence or funding for investigators. It is especially nice when you get to see drugs or interventions move from research to real world application outside of research.

What exciting projects are you working on?

I think all of the projects I am working on are exciting in their own way. However, I think one of the most exciting projects I am working on currently is our EMPA-KIDNEY clinical trial, because the study medication (Empagliflozin) appears to have some promising results for patients with chronic kidney disease. I also like the idea of being able to expand the population that is able to receive a medication that can help improve health outcomes.

What do you like to do in your spare time?

I love spending time with family and those I care about. I like to learn more about news relevant to clinical research. I also like to learn more about financial independence and take steps toward building wealth. I also love to draw and play guitar.

Welcome New Faculty

[Amy Krambeck, MD](#), joins as professor of Urology. She specializes in the surgical and medical treatment of stone disease and benign prostatic hyperplasia (BPH). Her research interests include the pathogenesis of stone disease and the treatment of urolithiasis during pregnancy as well as the economics of BPH surgery. Krambeck completed her urology residency at the Mayo Clinic in Rochester, Minn., and an endourology fellowship at the Methodist Institute for Kidney Stone Research in Indianapolis, Ind. From 2009 to 2016 she worked as an endourologist in the Mayo Clinic Department of Urology, then joined the staff at Indiana University, where she ran the benign urologic diseases division until 2020.



NIH News

Navigating NIH Programs to Advance Your Career

Find out which NIH funding mechanisms apply to you throughout your career. [This talk](#) presented by the NIH director of Biomedical Research Workforce, Kay Lund, PhD, covers many of the mechanisms that apply to PhD's and MD's (or equivalent research and clinical doctoral degrees), from graduate or medical school through early-stage faculty years.

Updated NIH-Wide Strategic Plan for COVID-19 Research Now Available

Responses to a [Request for Information](#) helped inform a recently updated [Strategic Plan for COVID-19 Research](#) available on the [NIH COVID-19 website](#). This iteration, building on progress [since the 2020 plan](#). The updated strategic plan highlights progress made in the development of diagnostics, therapeutics and vaccines, along with developing strategies on how to effectively provide these resources. It also directs NIH-supported research into:

- Investigating and treating the long-term health consequences of COVID-19;
- Understanding and responding to new SARS-CoV-2 variants;

- Understanding and engaging disproportionately impacted populations.

Change Notification: Updated Biographical Sketch and Other Support Format Pages Now Available and Required January 2022

In March, NIH [announced](#) their updated biosketch and other support format pages and instructions were available for use in applications, Just-in-Time Reports and Research Performance Progress Reports. Use of the new format pages is preferred and required for due dates and submissions on or after January 25, 2022 ([NOT-OD-21-110](#)). This represents a change from the original May 25, 2021 requirement date for the updated formats and other support signatures. Applicants and recipients can use this time to align their systems and processes with the new formats and instructions. Failure to follow the appropriate formats on or after January 25, 2022 may cause NIH to withdraw applications or delay consideration of funding. See NIH [biosketch](#) and [other support](#) pages for additional information.

NUCATS Accepting Applications for Four Funding Opportunities



The NUCATS Institute has posted a [Request for Proposals](#) for four funding opportunities intended to support and accelerate innovative research to improve human health. Awarded projects are expected to be completed within 12 to 24 months depending on the funding mechanism. The deadline to apply is July 9.

Clinical and Translational Pilot Awards

The NUCATS Clinical and Translational Pilot Awards Initiative is seeking proposals for highly innovative, multidisciplinary clinical and translational research projects where the potential for strong clinical or translational impact on human health is clear. Proposals may also request funding for projects involving critical steps in the device and drug development pathway or for a need, while critical to translational science, that is too small to be suitable for conventional research funding mechanisms.

Dissemination and Implementation Pilot Awards

The NUCATS Dissemination and Implementation Pilot Awards Initiative is seeking proposals that explore innovative approaches to the dissemination and implementation (D&I) of research findings that address the gap between research

discoveries and the translation of this knowledge into evidence-based programs, practices, or policies in the clinic or community to improve public health.

Joseph and Dorothy Giddan Child Health Research Awards

The Joseph and Dorothy Giddan Child Health Research Awards Initiative is seeking proposals for highly innovative, lab-based basic or translational research projects that expand the knowledgebase in the field of child health. Applicants must propose such research addressing a significant child health problem that is based in the laboratory to meet eligibility criteria.

Northwestern Medicine Clinical Innovation Awards

The Northwestern Medicine Clinical Innovation Awards Initiative is seeking proposals that advance translational research projects or support early, novel scientific ideas that have the potential to transform the practice of medicine. Applicants should propose projects that challenge existing paradigms or clinical practice, explore innovative hypotheses, and/or address critical barriers to progress. Ideal projects will demonstrate innovation and novelty of the proposed clinical and translational research.

Sponsored Research

PI: Seth Pollack, MD, associate professor of [Medicine](#) in the Division of [Hematology and Oncology](#) and the [Steven T. Rosen, MD, Professor of Cancer Biology](#)



Sponsor: National Cancer Institute

Title: Novel IL-12 Gene Delivery Vehicles for Transformation of Solid Tumors

Immunotherapies are revolutionizing oncology, allowing many cancer patients with aggressive disease to enjoy durable remissions with excellent quality of life. However, these therapies are generally not effective for patients with “cold” solid tumors that have few infiltrating T cells and low levels of antigen presentation. IL-12 is a highly inflammatory cytokine with the potential to transform cancer immunotherapy. It can make “cold” tumors “hot,” drive elimination of tumors as a single agent and synergize with checkpoint inhibitors and adoptive cellular therapy in multiple experimental models.

Despite multiple clinical trials of IL-12, using direct intravenous administration or a variety of formulations and vehicles, finding an optimal delivery method remains a critical barrier to its widespread clinical use. Several intra-tumor (IT) IL-12 gene delivery vehicles are currently being tested clinically, however, each of these has major drawbacks that could prevent general implementation. Our group has been testing two separate, novel and highly promising IL-12-producing vectors for gene delivery. One uses a potent self-replicating RNA delivery system to delivery high levels of IL-12 production throughout the tumor. The other uses a lentivirus with an envelope that specifically targets dendritic cells. While both experimental vectors can eliminate tumors and prevent re-challenge in murine models, the significant investment required for clinical-grade virus production has impaired their swift movement into the clinic. Using a large animal model to demonstrate anti-tumor efficacy in a spontaneous cancer will catalyze the production of a clinical-grade product, thus in this proposal we will test both these vectors in spontaneous high-grade soft tissue sarcomas in companion animals.

[Read more](#)

PI: Betina Yanez, PhD, associate professor of [Medical Social Sciences](#)



Sponsor: National Cancer Institute

Title: Technology-Facilitated Behavioral Intervention for Depression among Diverse Patients in Ambulatory Oncology

Depression is one of the most common psychological comorbidities experienced throughout the cancer continuum. Elevated depressive symptoms in oncology patients is a major concern as unmanaged depressive symptoms in cancer patients is associated with poor health-related quality of life, poor adherence to cancer treatments, delayed return to work and baseline function, greater emergency department visits, greater risk of suicide, and higher all-cause mortality.

Behavioral interventions for the management of depression are efficacious, but scalability and implementation of these evidence-based interventions in oncology is limited.

Health information technologies (HIT) provide an ideal opportunity to expedite the administration and scoring of depression screening with well-validated, brief and precise measurement tools that can provide actionable data to screen for depression, and deliver pragmatic and scalable evidence-based interventions.

Despite the benefits of these HITs, use of technology-based models to screen and deliver evidence-based behavioral treatments that address the depressive symptoms in cancer remains underdeveloped and poorly implemented. We will evaluate the effectiveness and the implementation of an evidence-based HIT behavioral treatment for cancer patients with elevated depressive symptoms.

[Read more](#)

Listen to Recent Podcast Episodes

- [Kids, Mental Health and COVID-19 with Tali Raviv, PhD](#)
- [COVID-19 Vaccine Safety with Eric G. Neilson, MD and Robert L. Murphy, MD](#)
- [COVID-19 Vaccines and Pregnant Women with Emily Miller, MD, MPH](#)
- [Pediatric Eczema and Scratch Sensors with Steve Xu, MD](#)
- [Neurological Complications of COVID-19 with Igor Koralnik, MD](#)
- [Kidneys, COVID-19 and ACE2 Connection with Daniel Battle, MD](#)
- [Black Men and Prostate Cancer with Edward Schaeffer, MD, PhD](#)
- [Northwestern Drug Kills Glioblastoma Tumor Cells with Priya Kumthekar, MD](#)

Funding

McKnight Brain Research Foundation Innovator Awards in Cognitive Aging and Memory Loss

[More information](#)

Sponsor: American Federation for Aging Research (AFAR) and McKnight Brain Research Foundation

Letter of Intent Due: July 15

Application by invitation only; invitation to submit full application: mid-October 2021

Amount: \$750K

Contact: Northwestern Office of Foundation Relations, Michelle Melin-Rogovin

Synopsis: Two awards will be given in 2021 – one to support studies focusing on clinical translational research and another award toward understanding basic biological mechanisms underlying cognitive aging and age-related memory loss. Research studies at the intersection of age-associated cognitive changes and disease-related cognitive impairment may be considered if a strong case can be made for their relevance to cognitive aging and age-related memory loss. However, research that is primarily focused on neurodegenerative diseases (e.g., Alzheimer’s disease) will not be supported. Scientists proposing to pursue basic research should clearly articulate the potential of their findings to be translated into clinically relevant strategies, and/or treatments.

Collaborative Initiative on Fetal Alcohol Spectrum Disorders Research Project (U01 Clinical Trial optional)

[More information](#)

Sponsor: National Institute on Alcohol Abuse and Alcoholism (NIAA)

Letter of Intent Due: July 16

Application Deadline: August 16

Amount: Undisclosed; Application budgets are not limited but need to reflect the actual needs of the proposed project.

The NIAAA seeks applications to continue the previously funded “Collaborative Initiative on Fetal Alcohol Spectrum Disorders.” Responsive applications are expected to address urgent and important unmet needs in the fetal alcohol spectrum disorders (FASD) field through an integrated and multidisciplinary research approach. These unmet needs include identifying FASD cases early and accurately, improving interventions to mitigate FASD outcomes, expanding basic and mechanistic understanding of alcohol teratogenesis aimed at accelerated translation and reducing prenatal alcohol exposure, and the incidence of FASD.

Clinical Research Professor Grant

[More information](#)

Sponsor: American Cancer Society

Letter of Intent Due: August 1

Application Deadline: October 1

Amount: \$80K per year for a five-year term

The American Cancer Society offers a limited number of grants to investigators who have had the rank of full professor for 15 years or less and made seminal contributions in the area of cancer control that have changed the direction of clinical, psychosocial, behavioral health policy or epidemiologic cancer research. Investigators are expected to continue to provide leadership in their research area.

[View COVID-19 funding opportunities](#)

[View more funding opportunities](#)

During the month of June, the pride flag flies on the Ward Building at 303 E. Chicago Avenue, in support of the LGBTQA+ community.



Timely New Resources From the Metrics and Impact Core at Galter Library



By Annette Mendoza, Research Impact Librarian

As COVID-19 vaccinations increase and businesses and workplaces begin to open back up, schedules will move back to their hectic pre-pandemic state. Of course, as part of the Feinberg School of Medicine family, we at the library understand that when it comes to medicine there is no “slow time” and that choosing how to spend your time is imperative.

A recent article in the *Journal of the Association for Information Science and Technology* looked at the use of bibliometric and alternative metric indicators by researchers as a method for determining which articles they will spend their time reading. The research by [Lemke, Mazarakis and Peters](#) indicated that “frequently metrics serve as filters, for example, during literature research, when deciding which sources to cite, or when planning where to publish own works”(p. 779). They noted that their research, along with other studies around this topic, have shown that there is value in researchers having a clear understanding of the “scopes, strengths, and limitations” of impact metrics.

The Metrics Guide

The Metrics and Impact Core (MIC) at the Galter Health Sciences Library and Learning Center want to help you work as efficiently as possible and provide you with the tools necessary to assist you in your research. Our new [Metrics Guide](#) will help you understand the definition and common uses of bibliometric indicators. For each of the eight most

common indicators, the guide includes the category, definition, use case, location, caveats and sample statement for that specific indicator. We will continue to add indicators and update information, so this guide can be a valuable tool you can bookmark for easy accessibility.

The Metrics Report Catalog

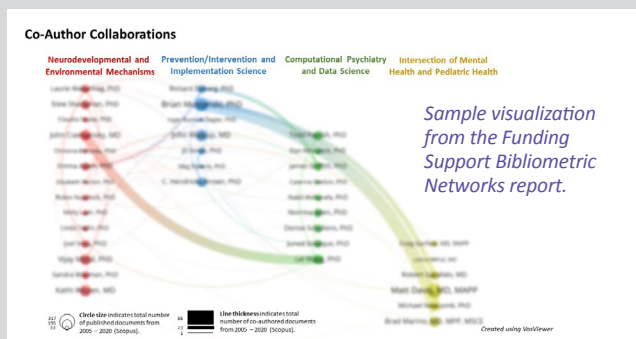
Another tool we’ve recently made available is the [MIC Report Catalog](#). This catalog contains a list of several standardized bibliometric reports that are available to the faculty, staff and students of Feinberg School of Medicine and can be requested via a form on the page. The five reports currently included are:

- Group Publication Metrics Report
- Funding Support Impact Statements
- Funding Support Bibliometric Networks
- Member Collaboration Report
- Group Publication Highlights Presentation

Each report is designed to fulfill a specific purpose and save the time of the team or department looking for impact metrics for a body of work. The report catalog describes each report in detail, provides an explanation of the purpose of the report, and provides a link to a sample PDF of the report specifics.

We encourage you to review the report samples so that when you request a report, you will know which details our team needs to complete it, the output format(s) in which the report will be returned, the data sources used to create the report, and which visualization images will be included. So we can be as thorough and efficient as possible, we request a two week window for the completion of these reports.

The MIC is constantly looking for ways to support the faculty, staff and students at Feinberg. We are hopeful that these new tools will be useful and will save you time.



High-Impact Factor Research

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Featured Core

Genomics Compute Cluster, Version 2.0

The Genomics Compute Cluster, version 2.0, is available to all Feinberg students, staff and faculty performing computational genomics research, including aligning sequencing data, RNA-Seq, ChIP-seq, single-cell analysis, whole genome analysis, running custom code and more.

The new cluster now provides a substantial increase in computing power, including:

- 4,404 cores across 80 nodes
- 70 Quest10 compute nodes with 52 cores/192GB RAM (3,640 cores)
- 6 Quest9 compute nodes with 40 cores/192GB RAM (240 cores)
- 2 GPU nodes, with 4 NVIDIA A100 cards each (104 cores)
- 2 High Memory nodes with 28 cores/1TB RAM (56 cores)
- 216 TB scratch space in/projects/b1042
- 20 TB library space in/projects/genomicsshare

GPU nodes are relatively new computational tools for the broader genomics community and on the [Genomics Compute Cluster \(GCC\)](#) they can be used to align genomes and apply machine learning techniques and AI to analyze genomics data. The GCC's high-memory nodes make it possible to work with very large datasets, for example aligning wild samples of microorganisms such as the microbiome. Genomics researchers often generate large amounts of data, which is where the GCC's 216TB of scratch space can be used for expanding files during jobs or transferring data from national data archives or collaborators.

Genomics researchers can learn more on the [GCC website](#) and are welcome to [apply to join](#). Everyone who joins the GCC will be invited to attend an orientation to help get started, and individual consultations with Research Computing Services are always available.

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