As Director, Quaggin Brings Big Ideas to FCVRI

Susan Quaggin, MD, new director of the Feinberg Cardiovascular Research Institute (FCVRI), sees Lake Shore Drive as an artery of innovation.

“We’re going to really grow the partnerships across the Chicago and Evanston campuses to support some of the great research already taking place,” said Quaggin, chief of nephrology and Charles Horace Mayo Professor of Medicine. “By broadening the scope of investigation, we will explore the basic mechanisms of vascular development and maintenance that are critical for function—not only of the heart, but of the eye, kidney, and lung vessels—and how they interact with one another.”

A pioneering physician-scientist, Quaggin’s goals for the FCVRI remain lofty. She hopes to explore the “real possibility” of growing an artificial kidney, and to that end she’s already put together a working group inclusive of faculty in regenerative medicine, transplant surgery, and biomedical engineering.

“The idea of creating human organs relies heavily on developing a healthy vasculature required to nourish the tissue, which is certainly a limiting factor right now,” she said.

On April 22, Northwestern University, the Institute for Biotechnology in Medicine, and Cellular Dynamics International co-sponsored an international symposium on “Building a Kidney: From Stem Cells to Organ,” establishing an international network of scientists and outlining the needed steps to grow bio-artificial organs with functional blood vessels.

Continued on pg. 2
Quaggin, continued from pg. 1

Together with their collaborators, the investigators who comprise the FCVRI are charged with translating the understanding of fundamental cardiovascular disease mechanisms into new treatment options for patients. That bench-to-bedside approach has been a hallmark of Quaggin's career.

“As a first year intern, I realized you could either practice textbook medicine, or you can ask questions at the bedside that require answers not found in published literature,” she said. “In nephrology at the time, there were very limited treatment options available, and in order to develop new therapies and new ways to diagnose patients, it became absolutely essential that we improve our understanding of fundamental mechanisms of renal disease. Research is the key driver to progress in medicine.”

Seminal Discovery

A graduate from the Faculty of Medicine at the University of Toronto, Quaggin received her specialty degree in internal medicine in 1992. She completed subspecialty training in nephrology at the University of Toronto and did a post-doctoral fellowship at Yale University, where she studied the genetic basis of kidney development. In 1997, she returned to Toronto for a second post-doctoral fellowship in complex mouse genetics.

It was at that time that Quaggin discovered a gene vital for the development of healthy hearts, kidneys, and lungs.

“Kidney disease due to diabetes is the most common cause of kidney failure in North America and is increasing exponentially in the developing world. However, we currently have no specific therapies, other than managing blood pressure and blood glucose, to treat it,” Quaggin said. “Our lab has focused on understanding the molecules and pathways required for development and maintenance of renal glomeruli, tiny filters made up of capillaries and the site where blood is filtered to form urine.”

Glomeruli are the primary target of injury in diabetic kidney disease. Recently, Quaggin’s lab uncovered a novel mechanism and pathway needed to keep glomeruli healthy. Published in *Cell*, the findings provide new insights into why glomeruli become damaged, in diseases such as diabetes.

The findings uncovered new information about sFLT1, a key protein that binds vascular endothelial growth factor (VEGF)—a protein that triggers blood vessel growth. The binding protein, sFLT1, also binds to the surface of specialized glomerular cells known as podocytes, triggering a cell shape change required for normal urine filtration.

Although many of the molecules that are important in kidney filters are found hidden inside cells, making them difficult targets for drug design, Quaggin’s recent research provides a new target that works from outside the cell, offering an opportunity to design drug therapies for patients with a variety of kidney diseases. Though the work is focused largely on the kidney, the same pathway appears to be critical for other vascular beds in the eye and other organs.

New Opportunities

The most common cause of death related to kidney disease, cardiovascular issues kill nearly 20 million people around the world each year. Quaggin intends to change that.

With a passion for bringing people together to grow the institute, Quaggin is excited by the prospects of working alongside individuals like Northwestern’s [Samuel Stupp, PhD](https://www.northwestern.edu/), and [Neil Kelleher, PhD](https://www.northwestern.edu/), while continuing ongoing projects with scientists like [Douglas Vaughan, MD](https://www.northwestern.edu/), chair of medicine, and [Jonathan Licht, MD](https://www.northwestern.edu/), chief of medicine-hematology/oncology.

“My research has always been driven by the patients” she said. “Rounding in the dialysis unit and talking with patients is why I spend so much time in the lab, searching for new insights. It’s exciting to be here and it is a great opportunity to build something bigger, to be able to support outstanding investigators, attract new scientists, mentor talented trainees, and move vascular and renal research to the next level. This is a transformative time for Northwestern. As the medical school continues to invest in research, there is no doubt that it’s going to drive new discoveries.”
Feinberg, RIC Announce Expanded Collaboration

A new agreement between the Department of Physical Therapy and Human Movement Sciences (PTHMS) and the Rehabilitation Institute of Chicago (RIC) leverages the strengths of both organizations to promote innovation.

Going forward, the two organizations will more closely collaborate across research, clinical, and academic endeavors to advance the fields of physical therapy, physical medicine, and rehabilitation.

Under the agreement, PTHMS and RIC researchers will have greater access to clinicians, de-identified data, and potential trial participants, allowing them to better pursue investigative questions and develop innovative science-based devices, technologies, and treatments.

“Partnerships like this continue to advance our standing as an exceptional institution, one where academic excellence and intellectual diversity augment the future of medicine,” said Eric G. Neilson, MD, Feinberg’s vice president for medical affairs and Lewis Landsberg Dean. “By expanding access for our students, and by extending to clinical and research endeavors, this agreement ensures our efforts to advance the fields of physical therapy, physical medicine, and rehabilitation for many years to come.”

For RIC patients, the joint commitment will result in even more leading-edge research being translated into evidence-based clinical care.

“RIC’s legacy as a thought leader in physical medicine and rehabilitation results from bringing the finest minds in science and patient care together,” said Joanne Smith, MD, RIC president and CEO. “Northwestern’s faculty members in PT and human movement sciences are critical partners as we push the envelope on what’s possible for the most complex and debilitating injuries and diseases worldwide. For many years, the joint research and collaborative educational programs between us have produced innovations, so it is gratifying to see our historic relationship leveraged to create even more success.”

Affiliated with the McGaw Medical Center, the agreement will make RIC and PTHMS the only residency partners with RIC for physical therapy specialties, provide an opportunity for more Feinberg students to learn at the nation’s top-ranked physical medicine and rehabilitation hospital, and offer faculty appointments to RIC therapists training PTHMS students and physical therapy residents.

Renovations Transform Lab Space

Feinberg is undergoing a three-year, $55-million dollar renovation of 100,000 sq. ft. of lab space in the Ward, Morton, Searle, and Tarry buildings. Many of these labs were last updated in the 1960’s.

To see a pictures of the project’s progress, visit the medical school’s Flickr slideshow.

Above: The first phase of construction is underway in the Tarry building. Above: A newly completed lab on Searle 10. The new space will support new recruits and current investigators.
Richard T. D’Aquilla, MD, has worked on improving therapy for human immunodeficiency virus (HIV) infection for more than 25 years. Director of the Northwestern HIV Translational Research Center and The Howard Taylor Ricketts Professor of Medicine, D’Aquilla now works to cure the infection.

“Despite many advances in anti-retroviral medications, they still must be taken for life because HIV persists as a latent provirus throughout therapy and its transcription returns to high levels in the blood within weeks of stopping the medications,” he said. “Recently, one patient was able to stop medications for many years without virus rebounding from its long-lived ‘latent reservoir’ in blood resting memory T lymphocytes. This ‘functional cure’ followed heroic interventions and proved that cures are possible.”

D’Aquilla received his medical degree from Albert Einstein College and completed his residency in internal medicine at the University of Pennsylvania Hospitals. He completed a fellowship in infectious disease and postdoctoral fellowship in molecular virology at Yale University School of Medicine.

What is the ultimate goal of your research?

Ending the HIV epidemic. I would like to contribute to curing more than one infected person—ideally all 35 million infected now—with a less-than-lifelong therapy. I would also like to help develop a practical, universally-available biomedical intervention that prevents new infections.

Tell us about your current research.

My research aims to leverage newly recognized host defenses, called ‘intrinsic immune’ factors, against HIV for a feasible and scalable approach to a cure, as well as more effective biomedical prevention.

These cellular defensive proteins were identified as a result of studying several HIV gene products that are essential for virus replication. This revealed that HIV encodes proteins that degrade or neutralize these cellular intrinsic immune factors. In the absence of viral proteins that antagonize the cellular factors, HIV cannot replicate. The growing number of intrinsic immune defenses are distinct from innate and adaptive immunity—although important interactions between the systems that enhance protection from pathogens are emerging.

The family of APOBEC3 proteins is studied in our laboratory. They block reverse transcription and integration, and have other anti-HIV mechanisms that operate both in virions and in target cells.

Early after HIV infects a cell, HIV-1’s virion infectivity factor (Vif) is highly expressed and recruits the cell’s APOBEC3s to a cullin-RING ubiquitin ligase complex that poly-ubiquinates them, leading to their degradation in the proteosome.

Our work has shown that HIV reactivated from resting memory cells can be rendered non-infectious by boosting APOBEC3 levels in primary cells. The goal is to add to prior efforts to enhance adaptive immunity by using these intrinsic and innate defenses to render non-infectious all reactivated virions purged from the latent reservoir by future ‘latency reversing agents’ now entering clinical trials.

Several projects are underway to: (a) prove the concept that APOBEC3 proteins can be boosted enough to retain antiviral activity despite Vif by testing currently available biologicals in early phase clinical trials; (b) screen for, and rationally design, small molecules that stabilize and boost APOBEC3 levels in the cell and/or interfere with Vif-mediated degradation; (c) test the hypothesis that improving APOBEC3 activity (and/or avoiding its degradation by HIV Vif) during the first hours to weeks after HIV exposure will either prevent infection or render the infection non-pathogenic.

How does your research advance medical science and knowledge?

Earlier in my career, I was privileged to contribute to moving the key concept of combinations of antiretrovirals from the laboratory into the clinic, improving antiretroviral medications through clinical trials, and advancing antiretroviral resistance testing into standard of care that personalizes therapy. My current research is not only aimed at contributing to the “end-game” against HIV, but will improve understanding of the biology of other infections and malignancies.

How did you become interested in HIV/AIDS research?

AIDS was first identified during my senior residency. By the time I had gained molecular virology skills from fellowship training, the viral etiology, now called HIV, was identified. At a time when clinical care of AIDS patients could only prepare the patient and family for an eventual, often rapid death, I was fortunate to be involved in

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Where is your hometown?
I grew up in Clark, N.J.

What is your educational background?
I graduated from the University of Pennsylvania (UPenn) in 2008 with a major in bioengineering and a minor in chemistry. At UPenn, I worked in a lab studying signaling pathways involved in the development of pulmonary hypertension. One of my lab mentors was an MD/PhD student who first introduced me to the concept of a dual career in science and medicine. My strong interest in the clinical applicability of this research led me to pursue dual-degree programs after graduation.

What are your research interests?
Broadly speaking, I’m interested in research that focuses on mechanisms of disease development, which matches well with research conducted in the lab of Kathleen Green, PhD. In the Green lab, we study ways in which the misregulation of desmosomes, which are cell-cell junctions with structural and signaling roles, contributes to the development of diseases in tissues such as the skin and heart.

What exciting projects are you working on?
I am really interested in investigating how mutations in desmosome proteins lead to the development of a specific cardiac disease called ARVC (arrhythmogenic right ventricular cardiomyopathy), which has been dubbed a “disease of the desmosome.” While we know that there are a few different types of cell-cell junctions that hold cardiac cells together, it is fascinating that mutations in desmosome proteins and not proteins in other junctions are associated with ARVC development.

My work so far suggests that a specific desmosome protein, called desmoplakin, has novel roles in regulating the assembly and stability of gap junctions, which are vital to the electrical conductivity and contraction of heart muscle. I hope to show that single disease-associated mutations in desmoplakin are sufficient to interfere with the function of gap junctions, which would contribute to our understanding of how desmosome mutations produce arrhythmias seen in ARVC.

What attracted you to the MSTP program?
Northwestern is a great name in both research and medicine, so I knew that I would be well-trained in both of these areas. More importantly, I wanted to be in a large city so that I could work with a diverse population during medical training and through community outreach.

Who makes up your research team?
The laboratory team is new and growing. It now includes Chisu Song, PhD, and Harry Taylor, PhD, both research assistant professors at Feinberg. Chisu studies the molecular virology of APOBEC3 and other intrinsic immune factors, specializing in characterizing proteins and nucleic acids in virions. Harry is a cell biologist focused on characterizing virus-cell interactions, especially those that contribute to premature senescence in HIV-infected persons despite antiretroviral therapy. I have extensive and growing collaborations with molecular virologists, clinical HIV researchers, structural biologists, and high throughput screening laboratories in Chicago and across the globe.

What do you enjoy about teaching and mentoring young scientists in the lab?
My best days are those when I can spend a couple of hours brainstorming with young laboratory or clinical scientists about new ideas that spark new projects. This can involve mentoring committee meetings, laboratory group meetings, or frequent one-on-one meetings (often arising spontaneously over a coffee break). If both laboratory and clinical scientists interact to learn from each other and help each other to design a new ‘translational’ project, that’s a very special day. I also cherish when someone in the group (not always me) introduces a concept from a different field that provides a fresh perspective and sparks new insights into old problems.
Staff Profile: Robin Morrissey  
Program Assistant, Medical Social Sciences

Where are you originally from?
I am originally from Chicago, Ill. I was born in Grant Hospital, which is now Lincoln Park Hospital.

What is your educational background?
I have a bachelor of arts degree in modern literary studies from the University of California—Santa Cruz, and a master of fine arts degree in creative writing, poetry, from the University of Michigan—Ann Arbor.

What is your role at the medical school?
I have coordinated faculty searches for a relatively new department, the Department of Medical Social Sciences, for the past two-and-a-half years.

Tell us about your professional background.
In addition to Northwestern University, I’ve worked at Columbia College Chicago, where I taught composition and literature courses in the English department and interdisciplinary courses in the first year seminar program. I am currently enrolled in the Master of Arts in Literature program here at Northwestern University.

What is your favorite part of the job at Northwestern?
I have had the incredible experience of participating in the major expansion of a department that bridges social and quantitative sciences within the medical school. One of the most valuable aspects of the experience has been observing the process in which vision takes shape from ideas and conversations to reality.

What are your favorite events, activities, or groups on campus and why?
I enjoy the lectures and talks given by guests who have impacted change across broad areas. A few weeks ago I had the opportunity to attend the plenary speech given by Leymah Gbowee for the GlobeMed Global Health Summit. Listening to her talk about experiences of suffering and struggle with compassion, warmth and humor, and learning about the work she’s done and continues to do in Liberia, and how she uses her experience to help people in other parts of the world experiencing similar problems, was truly awe-inspiring. These are my favorite type of events on campus.

What has been your best experience at Feinberg?
The MSTP recently teamed up with the NUCATS Institute to start the PRISM (PRomoting Inner-city youth In Science and Medicine) mentoring program, through which we send Feinberg mentors to work with high school students at the Robert R. McCormick Boys & Girls Club in Uptown. These high school students are self-selected and enthusiastic to work with us and learn more about careers in science and medicine. It’s extremely rewarding to be able to provide them with opportunities to pursue these goals.

We teach the students how to interview patients and then use hands-on experiments to study a particular question related to the patient case. To emphasize the importance of higher education and career planning, we work with the students on college and scholarship applications, and also bring in a variety of healthcare professionals to speak with the students about their career choices. My involvement with the development of PRISM has been challenging, but it has taught me a great deal about ways to contribute to our community and has been my best experience at Feinberg.

What do you do in your free time?
Like so many other people in this city, I love when Chicago is warm enough to walk around and explore new areas of different neighborhoods. I’m a big fan of finding local restaurants with authentic, unique food.

What are your plans after graduation?
After finishing my thesis research, I’ll be going back to medical school to complete clinical rotations and apply for residency. It’s difficult to figure out what I want to specialize in without completing these rotations, but I’m leaning towards a career in cardiology or pediatrics, with some time for clinical or translational research. There’s an abundance of fields to choose from, but hopefully I’ll figure it out before leaving Northwestern!
Sponsored Research

**Geoffrey Swanson, PhD**
Associate Professor in Molecular Pharmacology and Biological Chemistry

**Project title:** Galectin Modulation of Glutamate Receptors and Neuronal Function

**Sponsor:** National Institute of Neurological Disorders and Stroke

The purpose of this sponsored project is to understand the role of a family of animal-derived lectins in nervous system activity.

Investigation into the neurological relevance of galectins, mammalian soluble galactoside-binding proteins, thus far has focused primarily on how they impact neurogenesis or act as metastatic factors for brain cancer cells. However, galectins also are known to be secreted by glia and neurons in the mature nervous system.

Our preliminary results support this hypothesis, and the project will therefore follow up on recent observations that galectins impact neuronal signaling, structure, and viability, and therefore are likely to have a physiological role in brain function. Galectins initiate these changes through activation of intracellular enzymatic cascades subsequent to binding of integral membrane signaling molecules containing the glycan N-acetyllactosamine, a common disaccharide constituent of complex oligosaccharides and a key target for galectin binding.

Because galectins are secreted by cancer cells, including gliomas, we propose that they could alter neuronal function in peritumoral areas in the central nervous system, which would be consistent with the known network hyperexcitability and propensity to act as seizure foci. In summary, these studies will yield insight into the as-yet unexplored relevance of galectins to neuronal function, which will also be relevant to understanding their importance to glioma-induced alterations in neural activity and neurodegeneration.

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**Steven H. DeVries, MD, PhD**
David E. Shoch Associate Professor of Ophthalmology and Physiology

**Project title:** Signal Processing in the Inner Retina

**Sponsor:** National Eye Institute

Unraveling the complex wiring of the innerplexiform (IPL), or synaptic layer of the retina, is a daunting task that is currently beyond our reach. But obtaining a wiring diagram is an essential step toward understanding how the retina processes images.

The eye's optics focus an image onto the light sensitive rod and cone photoreceptors, which convert the rate of photon capture into an analog electrical signal. Once an electrical signal is created in cones, the retina begins the task of “compressing” the image and isolating the parts that are most relevant for our ability to navigate in the visual world. The need for compression and isolation is easy to understand: the human retina contains four to six million cone and 90 million rod photoreceptors, yet signals leave the eye over only one million nerve fibers originating in retinal ganglion cells. Circuits in the IPL are thought to play a key role in processing and condensing visual information.

The general features of processing in the IPL are as follows: The signals in a cone photoreceptor are transmitted to 12 to 13 types of bipolar cells at synapses in the outer retina. The signals are acted on differently by each bipolar cell type to highlight different spatial, temporal, or chromatic features in the input, resulting in up to 12 to 13 unique, parallel representations of the visual scene. The bipolar cell types terminate in different strata (i.e., sublayers) of the IPL, much like teams of students rappelling down a wall in gym class, where each team stops and holds at a different level. The retinal ganglion cells comprise 15 to 20 different types, each tuned to respond best to different features in the visual scene. Each ganglion cell type sends its dendrites up to terminate in a different stratum of the IPL, but not necessarily in register with the bipolar cell terminals.

One of the ideas that we will test in this proposal is that the unique signaling properties of the ganglion cell types result, in part, from selectively sampling and combining the outputs of the bipolar cell types.

The situation is further complicated by the presence of amacrine cells, of which

*Continued on pg. 8*
there may be 50 to 75 types. Amacrine cells mediate signaling between the strata of the IPL and facilitate comparisons between the signals in neighboring pathways.

Within the complicated network of the IPL, how does one identify which amacrine and bipolar cells provide inputs to a specific ganglion cell? To address this question, Yongling Zhu, PhD, research assistant professor in ophthalmology, and DeVries proposed to exploit three novel strategies involving the use of 1) rabies virus as a neuronal tracer, 2) specific cre mouse lines to enable amacrine and ganglion cell targeting, and 3) light-activated channels such as channelrhodopsin to probe functional connectivity. Rabies virus has a natural propensity to travel along a chain of neurons, crossing synapses in the retrograde direction (ie, from axon to soma to dendrites).

We inject rabies centrally at a site where retinal ganglion cell axons terminate. Rabies is then transported back to the soma where viral replication occurs, and then is released at the ganglion cell dendrites, where it can be taken up by presynaptic amacrine and bipolar cells. We use a rabies virus developed by other labs that is modified to cross only on synapse and stop. We also modify the virus to express either GFP or the light sensitive channel, channelrhodopsin, so that we can either identify presynaptic neurons or identify and stimulate those neurons. The mouse cre lines give us the ability to limit rabies infection and movement to specific retinal cell types. With these tools, we hope to establish and then manipulate the IPL circuits that create the unique light responses in each ganglion cell type.

Above. An example of transynaptic rabies labeling. A. Rabies virus was injected into the superior colliculus and was transported back to a ganglion cell soma. This version of the virus contains a gene for the fluorescent protein GFP (green). Higher magnification views (red arrows) show four labeled bipolar cell terminals. These terminals costratify with and appear to contact the dendrites of the labeled ganglion cell. B. View of the four bipolar cells in a different plane of focus corresponding to the level at which the cells contact cones (not visible).

**High Impact Factor Research: March 2013**


**Research in the News**

**UPI April 28**
Genetics may help eliminate some prostate cancer biopsies
Brian Helfand's research was featured.

**Wall Street Journal April 23**
Spring flowers bring itchy eyes, runny noses to millions of Americans
Anju Peters was quoted.

**NPR Chicago (WBEZ) April 18**
Report links Chicagoans' distance from trauma centers to higher mortality rate
Marie Chandall's research was featured.

**Wall Street Journal April 17**
Boston Marathon amputees face new reality
Steven Gard was quoted.

**US News &World Report April 16**
Colic may be linked to childhood migraine, study says
Phyllis Zee's research was featured.

**NPR National April 15**
Inside the brains of people over 80 with exceptional memory
Emily Rogalski's research was featured.

**NBCNews.com April 14**
Paralyzed monkey controls arm via brain
Lee Miller was quoted.

**Healthcare IT News April 4**
HIT unprepared for 'omics' onslaught
Justin Starren was quoted.

**Huffington Post April 3**
Heart failure risk similar in both White and Black Races: study
Mark Huffman's research was featured.

**Washington Post April 1**
Antidepressant use by mothers doesn't seem to affect babies' size
Katherine Wisner's research was featured.

**More headlines**

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**Welcome New Faculty**

**Tara Breslin, MD, MS,** joins as associate professor in surgery- surgical oncology and director of the breast care program at Northwestern Lake Forest Hospital.

Breslin received her Doctor of Medicine degree from Baylor College of Medicine in Houston, where she also completed a general surgery residency and surgical oncology fellowship. She also completed a molecular biology in clinical oncology workshop with the American Cancer Association, and received her master of science degree in population health sciences from the University of Wisconsin—Madison (UW).

She most recently worked as an assistant professor of surgical oncology at the University of Michigan—Ann Arbor and served as co-director of the Michigan Breast Oncology Quality Initiative. Prior, she was an associate professor in the Department of Surgery at UW.

Breslin's research focuses on measuring, analyzing, and improving quality in breast care programs to improve overall health outcomes in communities. She has been the principal investigator or co-investigator for seven grants from the National Institute of Health and the Susan G. Komen Breast Cancer Foundation, among others, and has been published more than 30 times in peer-reviewed journals.

**Mitesh Rao, MD, MHS,** joins as instructor in the Department of Medical Social Sciences, the Buehler Center on Aging, Health & Society of the Institute for Public Health and Medicine, and in emergency medicine.

Rao earned his Doctor of Medicine degree from Jefferson Medical College in Philadelphia, Penn, and his master's degree in health sciences at Yale School of Medicine, where he served as a Robert Wood Johnson Clinical Scholar. He completed residencies in general surgery at State University of New York Upstate Medical Center and in emergency medicine at Yale School of Medicine.

Rao's primary research interest is patient safety and quality, with a particular focus around physician and leadership engagement. He has served as principal investigator on three grants, as author or co-author on three peer-reviewed articles, and as a consultant to the World Health Organization.

**New Look for NUCATS**

The Northwestern University Clinical and Translational Sciences Institute (NUCATS) features a recently redesigned web site, with greater emphasis on investigator resources and success stories.

A new list of Research Navigators has been published to help connect investigators with research assets available on campus and beyond.
Funding Opportunities

Strategic Alliances for Medications Development to Treat Substance Use Disorders (R01)

More information

Sponsors: United States Department of Health and Human Services (HHS), National Institute on Drug Abuse (NIDA)
Submission Deadline: July 17, 2013
Upper Amount: $6 million

Synopsis: The purpose of this opportunity is to help support efforts to develop medications for the treatment of substance use disorders (SUDs) by leveraging the strengths of two or more organizations (private for-profit, not-for-profit, or academic institutions) toward a common goal. It is anticipated that in comparison with traditional grant-funded research, strategic alliances will increase the pace at which medications to treat SUDs move through the drug development process. Term and budget of the grant are consistent with the objective of accelerating the pace of medications development compared to traditional research project grant funding. Project aims can range from the development of a new molecular entity to the expansion of an existing medications' clinical indication(s), but each project should have a defined entry and exit point with the objective of advancement in the approval process. Support for these collaborations will hopefully accelerate the rate of medications development for SUDs.

Methodological Research to Assess the Effectiveness of Obesity Prevention Strategies

More information

Sponsor: United States Department of Agriculture (USDA), United States Department of Health and Human Services (HHS), National Institutes of Health (NIH), Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)
Submission Deadline: June 29
Upper Amount: $2.5 million

Synopsis: Applicants must generate new or adapt existing methodologies for testing the effectiveness of behavioral interventions to prevent obesity in preschool and early elementary school age children (ages two to eight years). Methodologies are expected to measure changes in learning, actions or conditions resulting from obesity prevention interventions. The research should assess the reproducibility and validity of the methods including sensitivity, specificity, cost and expertise required to carry out the methods. High priority will be given to projects involving methodologies that are widely applicable, especially for USDA programs, and those that are capable of measuring behavior change and are relatively simple and inexpensive.

View more funding opportunities

Featured Events

5.13 Featured Seminar
"Systems medicine & P4 medicine: Transforming healthcare" presented by Leroy Hood, MD, PhD, Institute for Systems Biology.
Date: Monday, May 13, Noon to 1 p.m.
Location: Lurie Research Center — Hughes 303 E. Superior St. (Chicago campus)
Contact: e-hamilton@northwestern.edu
More information

5.14 Microbiology-Immunology Seminar Series
“Controlling antigen receptor signaling,” presented by Arthur Weiss, MD, PhD, University of California—San Francisco.
Date: Tuesday, May 14, Noon to 1 p.m.
Location: Lurie Research Center — Hughes 303 E. Superior St. (Chicago campus)
Contact: h-phee@northwestern.edu
More information

5.16 FCVRI Seminar Series
Presented by Kenneth Walsh, PhD, Boston University.
Date: Thursday, May 16, 8:30 to 10 a.m.
Location: Lurie Research Center — Baldwin 303 E. Superior St. (Chicago campus)
Contact: dlr635@northwestern.edu
More information

5.21 Malkin-Kraft Lectureship (RHLCCC)
"Cancer genetic dependencies targeted by small molecules," presented by Stuart L. Schreiber, PhD, the Broad Institute of Harvard and MIT.
Date: Tuesday, May 21, 4 to 5 p.m.
Location: Lurie Research Center — Hughes 303 E. Superior St. (Chicago campus)
Contact: cancer@northwestern.edu
More information

5.31 Third Annual Symposium on ALS & Neurorepair
"Common and unique biology between cancer and neurodegeneration." Multiple presenters. Registration required.
Date: Friday, May 31, 12:45 to 6 p.m.
Location: Lurie Research Center — Baldwin 303 E. Superior St. (Chicago campus)
Contact: ozdinler@northwestern.edu
More information

More events
Event organizers are encouraged to submit calendar items on Plan-It Purple for consideration. Please contact the Research Office with further questions.