Several years ago, Melina Kibbe, MD, Edward G. Elcock Professor of Surgical Research and associate professor in vascular surgery, Northwestern University Feinberg School of Medicine, sat in her office with Guillermo Ameer, ScD, a professor of biomedical engineering at Northwestern University McCormick School of Engineering, discussing problems with stenting arteries. Kibbe stressed that stents don’t last forever and explained that scar tissue can develop, causing the artery to block off again.

Ameer then asked the simple question, “Why do you put metal in an artery?”

That query touched off a discussion in which ideas bounced around and finally landed on an innovative idea: a liquid stent.

“It completely changed the concept of how you would stent an artery,” Kibbe said. “Using a liquid stent eliminates many of the issues with metal.”

**Concept, Design, and Preliminary Studies**

Kibbe and Ameer decided to collaborate on this multidisciplinary, translational research project. To test the idea, they gathered a team to work on the project on an unofficial basis. To improve the design of the stent, they chose a flexible material and changed the structure for better drug delivery. The team then designed a specialized catheter and developed a biodegradable, liquid polymer.

“The material we are using is elastomeric, which is very good for arteries, which bend and twist,” Kibbe said. “When you have plaque,
it looks like there are hills and valleys all over the place; the polymer will fill the nooks and crannies, protecting that surface of the artery."

Ameer created the polymer from materials invented in his laboratory. These materials are compatible with living tissues and have the ability to be tailored, so they meet the needs of a variety of biomedical applications.

“The polymer was developed to address this specific challenge associated with this application,” said Ameer. “For example, it had to have a defined consistency to allow injection, it had to cure into a solid within a specified time period, and the cured material must meet mechanical properties that are needed for stenting the blood vessel.”

After developing the polymer, the team conducted preliminary studies using materials they had on hand, including synthetic arteries and later, pig arteries. These studies showed that the liquid stent worked.

With data to support the viability of a liquid stent, the team started applying for grants. In 2009, they received a National Institutes of Health Challenge Grant and the Northwestern Memorial Foundation Dixon Grant Mechanism.

“We have come a long way with a lot of support from Northwestern Memorial Foundation and NIH. This is a project where perseverance totally paid off,” Kibbe said.

Today, the team is in the final phases of incorporating a contrast agent into the liquid primer so they can see the stent under fluoroscopy. Within the next month or two they plan to start using the stent in animal models.

“If successful with our animal testing, we will have a lot of fine tuning to do and have a lot of things to evaluate. After that, then we will be ready to look into applying for clinical trials,” said Kibbe. “It typically takes seven to ten years for something like this to come to the market.”

Interest in Vascular Biology
Kibbe remembers the moment she decided to specialize in vascular surgery. During her first year in medical school at the University of Chicago, she sat in a lecture about atherosclerosis.

“At the end of the lecture, the vascular surgeon showed a video of a carotid endarterectomy, which is a procedure where you expose the carotid artery, open the artery, and peel out the plaque—years and years of steak and eggs, and hamburgers and fries. Then you seal the artery back up,” she said.

Kibbe recalls being fascinated about the theory of how atherosclerosis develops.

“When I saw the video, I was blown away, and it stuck with me all through medical school and residency. That is why I am a vascular surgeon, and I do vascular surgery to this day,” she said.

She attended Northwestern McGaw for her vascular surgery fellowship, and then stayed on as faculty at Feinberg. Along the way, Kibbe has had mentors such as Bill Pearce, MD, Violet R. and Charles A. Baldwin Professor of Vascular Surgery.

“I wanted to work here at Northwestern because I wanted Dr. Pearce to be my mentor,” she said. “I knew he would be an amazing mentor. I am entering my tenth year of faculty and I couldn’t have asked for a better one.”

Kibbe’s lab focuses on developing better therapies for patients with vascular disease, specifically looking at uses of nitric oxide. Nitric oxide, a chemical released by endothelial cells, has an important role in the regulation of blood flow. This drug will also be a part of Kibbe’s liquid stent project, being delivered through the stent to the arteries.

Some of Kibbe’s other projects include developing targeted drug therapies and measuring the effects of these therapies on the walls of the artery on a cellular and molecular level. For many of these projects, she collaborates with researchers at the Institute for BioNanotechnology in Medicine (IBNAM).

“I think that IBNAM is a fabulous place. It allows for the medical school to interact with on a daily basis with investigators from other schools. My lab members and I can talk to material scientists, biomedical engineers, chemists, and create fascinating projects.”

Opportunities for collaboration at Feinberg are the reason why the liquid stent project is unique to Northwestern, says Kibbe. “Our collaboration blossomed from it. It was from being open to collaboration and realizing a common interest. I think this is why we are successful.”
On November 1, after six hours of discussion, the Chicago Commission on Landmarks voted not to landmark the former Prentice Women’s Hospital on Northwestern University’s Chicago campus. Eugene Sunshine, Northwestern University senior vice president for business and finance, issued the following statement in response to the ruling:

“Northwestern University is pleased that the Chicago Commission on Landmarks voted not to give final landmark status to the former Prentice Women’s Hospital, which is now owned by the University. We appreciate very much the thoughtful consideration that the commissioners and staff of the Chicago Commission on Landmarks, Mayor Rahm Emanuel and Alderman Brendan Reilly have given to this issue.

Northwestern will now move forward with its plans to build a new, state-of-the-art biomedical research facility on that site. Doing so will create approximately 2,500 construction jobs and 2,000 full-time jobs, have an annual economic impact of nearly $400 million on the area and make Chicago a global leader in medical science.

The new building on the Prentice site will be connected on a floor-by-floor basis with the existing University research building just to the west of the site. Doing so will bring researchers together and thereby enhance the chances of finding breakthroughs in cardiovascular disease, cancer, diabetes and neurodegenerative disorders, among others. The site is the linchpin for what will be a major new medical research hub.

Northwestern will conduct a design competition, starting in 2013, for the new biomedical research facility. The University will invite many of the world’s best architectural firms, including Chicago firms, with substantial accomplishments in designing biomedical research or similar buildings to submit expressions of interest and statements of qualifications.

The University also will maintain its partnerships with the city and the Streeterville community on ways that Northwestern can continue to benefit both the neighborhood and the University’s students, faculty and staff on our Chicago campus.”

NU Site Gets Green Light for New Building

The Northwestern University Feinberg School of Medicine Research Office recently unveiled a redesigned web site. The new site was created with numerous groups in mind, including researchers, administrators, prospective students, and, importantly, research volunteers.

The site’s top-level navigation continues to feature its “Clinical Trials” section—a popular destination for site visitors that houses a list of department trial pages—frequently asked questions, and links to various registries. In addition, the site now displays a new listing of “trials by condition,” with nearly 100 links to diseases and conditions.

The majority of these links take visitors directly to www.clinicaltrials.gov. Additionally, where noted, some “by condition” links take visitors to pages within Feinberg departments, institutes, and centers.

The Office of Communications is seeking input from investigators to ensure the public-facing list is up-to-date and inclusive of the wide variety of clinical research taking place at the University. Investigators with studies that do not appear in the results for the designated disease or condition should contact Nicole Mladic, communications director, at n-mladic@northwestern.edu. Units that maintain pages dedicated to clinical trials that are not included in the departmental listing should also contact Mladic.
Faculty Profile: Bonnie Spring, PhD
Professor in Preventive Medicine, Psychiatry and Behavioral Sciences, and Weinberg College of Arts and Sciences

Bonnie Spring, PhD, professor in preventive medicine, psychiatry and behavioral sciences, and Weinberg College of Arts and Sciences, uses cutting-edge handheld technologies such as smartphones and online learning tools to research behavioral risk factors. Some of these risk factors include obesity, poor quality diet, physical inactivity, and tobacco use. The technologies her lab develops support self-regulation and healthy behavior change.

Spring received her bachelor’s degree in psychology from Bucknell University, Penn., in 1971 and graduate degree in psychology from Harvard University in 1977.

Q&A
What are your research interests?
My research interests focus on the promotion of healthy lifestyle behaviors. My collaborators and I study the influences that initiate and maintain behavioral risk factors for chronic disease (such as obesity, poor quality diet, physical inactivity, tobacco use, treatment non-adherence). We translate that knowledge base to develop cutting-edge interventions and technologies to support self-regulation and healthful behavior change.

What is the ultimate goal of your research?
The aim of my research is to learn enough about biobehavioral determinants of health to develop highly effective and efficient health promotion intervention systems. As a clinical health psychologist, I was trained to offer intensive interventions that help individuals make large positive changes in behavior. Now, with expert collaborators like Luis Amaral, Noshir Contractor, and Sanjay Mehrotra in engineering, and Donald Lloyd-Jones in epidemiology, I am studying how to reconfigure the effective components of behavioral interventions to reach a greater proportion of the population more efficiently. Ultimately, the goal of this research is to learn how to prevent as well as treat unhealthy habits.

How did you become interested in this area?
Earlier in my career, I studied psychopharmacological treatments for smoking cessation and weight management. Often, my collaborators and I observed that the behavioral improvements patients achieved while on medications either diminished or reversed when we discontinued drug treatment. I began to study behavioral treatments either alone or in combination with medications in order to reduce the odds of relapse.

How is your research funded?
Currently, my research is funded almost entirely by several different institutes at the National Institutes of Health: National Heart Lung and Blood Institute, National Institute of Diabetes and Digestive and Kidney Diseases, Office of Behavioral and Social Sciences Research, and National Institute on Drug Abuse.

Who makes up your research team and what role does each individual play?
My research team at Northwestern includes several talented junior faculty and postdoctoral fellows who contribute expertise in behavior change and exercise physiology. These doctoral-level individuals supervise the lab’s coaching staff who, in turn, deliver our telephone and mHealth interventions. Two technologists develop and maintain the mobile sensors and communication technologies used in our work. Finally, our data manager, biostatisticians, and lab manager keep our data and our deliverables in order.

Who inspires you?
Courageous, humane, and intellectual leaders. I am inspired by colleagues who have the courage to explore the unknown, the commitment to apply insights to advance the public good, and the generosity to help a colleague or mentee.
Where is your hometown?
I’m from Dayton, Ohio.

What is your educational background?
I received my bachelor of science degree in mathematics and a bachelor of arts degree in chemistry from Indiana University. Now I am pursuing my doctorate degree in neuroscience here at Northwestern University.

What are your research interests?
Parkinson’s disease, the role of voltage-gated ion channels in health and disease, neurodegeneration, and drug discovery for neurodegenerative diseases.

What exciting projects are you working on?
Currently, I am working on the possible discovery of a preventive measure in Parkinson’s disease. Working in the labs of D. James Surmeier, PhD, chair of Feinberg’s Department of Physiology and Nathan Smith Davis Professor of Physiology, and Richard B. Silverman, PhD, John Evans Professor of Chemistry and professor of molecular biosciences, we are pursuing the discovery of a small brain permeant organic molecule that selectively inhibits a relatively rarely expressed voltage-gated calcium channel that we have shown to be an important player in the vulnerability of the dopamine neurons. The loss of these dopamine neurons are most responsible for the cardinal motor symptoms in Parkinson’s disease.

It has been shown that antagonizing this calcium channel protects these dopamine neurons in toxin models of Parkinson’s disease. In addition, several epidemiological studies show a reduced risk of onset of Parkinson’s disease if strong antagonist to this channel are administered. However, the drug of choice to date has been non-selective antagonist to these calcium channels. And chronic administration of neuroprotective dose of this non-selectively antagonist might produce consequential cardiac side effects.

We have developed the first selective compound to this calcium channel and are evaluating its potential as a neuroprotective agent in Parkinson’s disease etiology.

What attracted you to the NUIN program?
The NUIN program offered, and continues in this manner, two major factors that made it the program I was most interested in joining to obtain my PhD. First, in coming to Northwestern I knew that I was interested in brain research, but had little preference for the technical approach and/or type of question. Therefore, I needed to join a program that fostered collaboration and multidisciplinary approaches to solving problems. Second, I wanted to join a program that had a sizable faculty representation with varied expertise and approach. Both are true of NUIN. Many of my colleagues work in multiple labs, on both campuses, to tackle questions whose answers have evaded neuroscientists to date. That’s what is extremely exciting about NUIN. If you join two labs, as in my case, or have two mentors, or construct other arrangements that benefit the student and help address the project, NUIN promotes this and helps organize.

What has been your best experience at Feinberg?
I think some of the classes that I have been a part of have been very important to shaping my scientific understanding and current interests. Also, it has given me interaction with students in different programs and labs.

How would you describe faculty at Northwestern?
The faculty at Northwestern have been very engaging and helpful in my development as a scientist. I find that the faculty who routinely are present at department seminars, outings, gatherings, retreats, and poster sessions are extremely encouraging to my progress as a PhD student, but also aid in my scientific thought process. They have provided useful feedback on experiments that I conduct as a part of

Continued on pg. 6
Welcome New Faculty

David Gius, MD, PhD, joins as professor in radiation-oncology.

He was previously professor and clinical chief of thoracic radiation oncology service in the Departments of Cancer Biology, Pediatrics, and Radiation Oncology at Vanderbilt-Ingram Cancer Center, Vanderbilt University School of Medicine, Nashville, Tenn.

Prior, he was associate program director of the National Institutes of Health (NIH) Oxford/Cambridge Scholars and the Trans-NIH MD/PhD Partnership Program, as well as chief of the National Cancer Institute’s Molecular Radiation Oncology Section. He was also residency director of NCC Radiation Oncology Residency and clinical director of gynecology services in the Center for Cancer Research and a researcher with the National Cancer Institute in Bethesda, Md.

Gius earned his medical degree from Loyola University Stritch School of Medicine, Chicago, in 1992, and his doctorate degree in molecular genetics from the University of Chicago in 1989. He completed his transitional internship at Chicago’s Weiss Memorial Hospital in 1993, his residency in radiation oncology at University of Michigan Hospital in 1994, and his fellowship in radiation oncology at University of Washington Medical Center in 1997.

Gius’ research interests are how tumor cells use pro-survival signaling pathways to evade the damaging effects of anti-cancer agents like chemotherapy drugs or ionizing radiation. He serves as PI on six active research grants, and has published more than 80 papers in peer-reviewed journals, including publications in Nature, Cancer Cell, Molecular Cell, and Science.

Staff Profile: Elisha Hamilton, Feinberg Research Office

Elisha Hamilton was born and raised on the south side of Chicago, Ill.

She is currently seeking her bachelor’s degree in journalism at DePaul University, Chicago, through the School for New Learning program.

Hamilton serves as the executive assistant to Rex Chisholm, PhD, Adam and Richard T. Lind Professor of Medical Genetics, vice dean for scientific affairs and graduate studies at Feinberg, and associate vice president for research at Northwestern University, and to Robert Rosa, MD, professor of medicine, vice dean for regulatory affairs, and chief compliance and privacy officer at Feinberg.

She has more than twelve years of experience within the administrative field, and she believes this experience has assisted in crafting and honing her skills and abilities.

Several years ago, Hamilton realized that she had a true passion for the art of writing. She felt that writing was a gift, and desired to share it with others. In addition to her Feinberg responsibilities, she currently serves as an editor for her church newsletter, volunteers in skill-building workshops by assisting others with the development of resumes and cover letters, and is currently in the process of creating her own blog.

Student profile, continued from pg. 5

my thesis project that have led to novel approaches to our Parkinson’s disease drug discovery effort.

What do you do in your free time?

In my free time, I like to play basketball in the winter and fall, and golf during the spring and summer. I am also very interested in American politics, so I waste time and watch and read an enormous amount of political dialogue past and current.

What are your plans for after graduation?

My plans after graduation are still a bit uncertain, but my next step could include science management in industrial settings or academic post-doctoral opportunities that allow for a continued interest in neurodegeneration and drug discovery.

Connect with Garry on LinkedIn.
Sponsored Research

Michael Markl, PhD
Associate Professor in Radiology
and
Cynthia Rigsby, MD
Professor in Radiology and Pediatrics

Project title: Functional Cardiovascular 4D MRI in Congenital Heart Disease

Sponsor: National Heart, Lung, and Blood Institute

Congenital heart disease (CHD) represents the most common birth defect and affects approximately 1.2 percent of all live births. It is the leading cause of birth defect-related deaths.

CHD patients require frequent diagnostic testing in order to plan surgical repair, assess preoperative risk, and/or survey for important long-term complications.

Bicuspid aortic valve (BAV), one of the most common forms of CHD, and single ventricle physiology (SVP), one of the most severe, are two patient cohorts which will require such longitudinal surveillance.

Standard diagnostic tools, however, often involve invasive catheter-based procedures, ionizing radiation, and/or lengthy 60 to 90 minute Magnetic Resonance Imaging (MRI) exams, necessitating sedation or general anesthesia in pediatric patients. Recent studies suggest that general anesthesia could adversely affect neurologic, cognitive, and social development of neonates and young children. In addition, common outcome measures for CHD diseases such as BAV or SVP are coarse and rely on simplified parameters, such as the diameter of the aortic root or the post-operative clinical status, which do not reflect the underlying mechanisms of disease progression.

Further knowledge of which BAV and SVP patients are at risk for aortopathy or failing Fontan physiology would improve patient management and therapy planning by defining regular follow-up intervals and generating precise criteria for referral to surgical correction.

Markl and Rigby’s goal is to develop a new comprehensive 20-minute cardiovascular functional 4D MR exam that can replace the long standard MR imaging protocol and reduce or eliminate exposure to general anesthesia. Patient-specific post-hoc analysis will allow retrospective quantification of cardiac function and flow without limitation to predefined 2D scan planes. In addition, new hemodynamic biomarkers will be derived and evaluated for their potential as prognostic markers for improved outcome prediction in patients with BAV and SVP.

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Several cancers and a few preinvasive lesions respond to ω-3 fatty acids, which serve to promote apoptosis while blocking cellular proliferation. A similar response has been demonstrated in pancreatic cancer, although the suppressive nature of ω-3 fatty acids in normal and/or neoplastic cells of the pancreas remains speculative.

The goal of this study is to determine the mechanism of action of which ω-3 fatty acids prevent pancreatic cancer. Studies are proposed in both in vivo and in vitro models to determine if and how ω-3 fatty acids function to decrease pAkt, which is associated with the subsequent increase in cell death and reduced cell division.

The study of pancreatic cancer prevention is highly significant given the dismal prognosis of patients with the disease. With the advent of modalities for earlier detection of pancreatic cancer, earlier diagnosis will soon be a reality. Hence, novel approaches to fighting these precancerous conditions must evolve, including chemoprevention, where dietary intake of fats and inhibition of key signaling pathways may reduce production of early cancer before it spreads.

To examine this possibility, human pancreatic ductal epithelial (HPDE) cells with and without expression of activated Kras and mice with normal pancreas, and those that develop mutant Kras-induced pancreatic precancer, will be exposed to high levels of polyunsaturated fatty acids (PUFAs), ω-3, and ω-6. Observing cellular changes, cell proliferation, and apoptosis in normal tissue and during disease progression, along with specific molecular events (activation of Akt, effects of PGE3-bound EP2 on Akt activation, PIP2 conversion to PIP3, phosphorylation of various proteins like Akt, Foxo, and Bad), will provide evidence as to the predominant mechanism of action for ω-3 fatty acids in these modeling systems.

The premise of this work is that ω-3 fatty acids will function in a Cox-2-dependent and independent manner, including generation of increased levels of EP2-bound PGE3 and increased PIP2/decreased PIP3, respectively. Subsequent downstream events will include dephosphorylation of Foxo3a and Bad, promoting an increase in cell death and reduced cell division.

Part of these evaluations will include employing ω-6 fatty acids as controls but will also elucidate their potential mechanisms as tumor promoters in these modeling systems. In vitro approaches will be employed to suppress or enhance various signals in a stepwise manner through this pathway in order to better understand how ω-3 and ω-6 fatty acids work. These findings will be confirmed in vivo using mutant Kras-expressing mice with various gene knockouts (EP2, PI3K, Cox-2, Akt, Foxo, or Bad). In this manner, a systematic and stepwise analysis can be done at each step in the pathway to demonstrate a direct and critical link between ω-3 fatty acids, the Akt pathway, and downstream effects altering cell proliferation and inducing apoptosis in normal and precancerous cells of the pancreas in both humans and mice.

Understanding these processes in human cultured and mouse pancreas cells will illuminate similar dietary effects on human pancreatic precancer and cancer development while potentially providing a more effective means of inhibiting early disease processes in the human population.

The results from this project will provide the rationale for employing ω-3 fatty acids (commonly found in fish oils) as an anticancer or chemopreventive measure. The main goal of this study is to establish the predominant means by which ω-3 fatty acids oppose the development of cancer through suppression of cell growth/survival and promotion of cell death. All of this work will employ either human pancreatic cells in culture or living mice that develop features of human pancreatic precancer. In addition, by identifying the predominant mechanism of action of ω-3 fatty acids, certain factors that respond to increased ω-3 fatty acids may serve as targets for drug intervention, where the cellular effects of ω-3 fatty acids can be mimicked and amplified.

This type of strategy, along with restoration of a balanced ω-3:ω-6 fatty acid ratio in the diet, may be an effective means of managing individuals at higher risk for, or with, pancreatic cancer.

NIH News

NIH Director Francis Collins, MD, PhD, has started a blog, “to highlight new discoveries in biology and medicine that I think are game changers, noteworthy, or just plain cool, he says” Read the blog at http://directorsblog.nih.gov.

NIH recently issued a notice about how it will operate under the Continuing Resolution (CR) that was signed by President Obama on September 28. The CR continues government operations through March 27, 2013 at the FY 2012 level plus 0.6 percent. The full notice is available online.
Institute of Public Health and Medicine Celebrates Launch

Standing inside Method Atrium, more than 200 faculty and staff gathered Thursday, October 18, to celebrate one of the medical school’s newest collaborative efforts.

Commemorating the Institute for Public Health and Medicine (IPHAM), which launched this past summer, the event provided Feinberg community members an opportunity to learn more about IPHAM’s nine founding centers, network with faculty, and hear from senior leadership about its vision.

“This is a significant milestone in the growth of the public health enterprise within the medical school,” said Rowland Chang, MD, MPH, director of the new institute and senior associate dean for public health. “Feinberg has continuously attracted researchers and educators interested in public health, especially in the space where medicine and public health interface. IPHAM’s establishment allows us to align these productive entities and add new research centers in behavior and health, community health, and engineering and health.”

The institute builds upon Northwestern University Feinberg School of Medicine’s public health enterprise, which began with the establishment of the Department of Preventive Medicine in the '70s and today includes the Center for Healthcare Studies, the Buehler Center on Aging, Health, and Society, the expansion of the Master of Public Health Program, the Department of Medical Social Sciences, the Center for Global Health, and more.

"We are beginning a new era and with this institute I think we have created a new environment out of many accomplished environments," said Eric G. Neilson, MD, vice president for medical affairs and Lewis Landsberg Dean. “IPHAM will forever be an important part of our research enterprise and generations of trainees and hopefully American medicine will benefit greatly from the discoveries we make.”

The goal of IPHAM is to accelerate innovation at the interface of medicine and public health and achieve measurable improvements in health for patients and populations. The institute's centers focus on issues that span the spectrum from communities to the individual, and from health behaviors to genetic determinants of disease. Each was designed to expand, enhance, and complement existing Northwestern Medicine research programs.

In addition to growing the faculty working in the medicine and public health space, the institute will finance innovative pilot projects with the goal of leading to large National Institutes of Health funded studies. IPHAM will be housed in three buildings, including two newly renovated floors in 633 N. St. Clair.

“The establishment of IPHAM will help Feinberg grow its computational or ‘dry lab’ research enterprise by stimulating more interdisciplinary research eventually involving all clinical departments and by attracting new talent to add to the number of dry lab researchers,” Chang said. “The institute will distinguish Feinberg as one of the few medical schools which has public health as a substantial part of its ongoing research and education activities.”

At the event, Chang thanked Dean Neilson, IPHAM deputy director David Baker, MD, MPH, Rex Chisholm, PhD, vice dean of scientific affairs and graduate education, and the IPHAM executive committee for getting the institute up and running.

“It’s great to be able to be here today and think about what new opportunities this creates for us,” Chisholm said. “One of the things that I have learned in talking with the people instrumental in making this happen is that we are at a pretty interesting place right now. A lot of universities have medical schools and may have public health schools, but even though these two might be right next to each other, they seldom communicate. One of the things that for me is very exciting, is to actually have the opportunity to bring those together.”
Research in the News

Chicago Tribune October 24
Ask the expert: Ruchi Gupta, pediatrician and author of ‘The Food Allergy Experience’
Ruchi Gupta was interviewed.

Chicago Tribune October 24
Juveniles held in detention centers more likely to suffer mental health problems later
Erika Ostrander was quoted.

New Scientist October 24
Scented sleep can wash your fears away
Jay Gottfried and Katrina Hauner were quoted.

Scientific American October 23
Egg Freezing Enters Clinical Mainstream
Teresa Woodruff was quoted.

ABC 7 Chicago October 18
Neurology center focuses on women’s brain
Yvonne Curran was quoted.

Reuters October 16
Early muscle training linked to lower knee risk for girls
Cynthia LaBella was quoted.

WTTW-TV Chicago October 15
Chicago Tonight: SuperAgers
Emily Rogalski’s research was featured.

US News & World Report October 13
Language barrier blocks epidural use in childbirth: study
Paloma Toledo was quoted.

TIME October 8
Doctors say steroid shots for spine are usually safe
Michael Schafer was quoted.

US News & World Report October 4
Psychiatric disorders often persist in juvenile offenders
Linda Teplin was quoted.

Help Feinberg Track Journals

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.”
Funding Opportunities

**Infrastructure Development Program in Patient-Centered Outcomes Research (PCOR) (R24)**

**More information**

**Sponsors:** United States Department of Health and Human Services (HHS), Agency for Healthcare Research and Quality (AHRQ)

**Submission Deadline:** December 19

**Upper Amount:** $5 million

**Synopsis:** This funding opportunity solicits Resource-Related Research Projects (R24) grant applications from organizations that propose to improve health outcomes by developing and disseminating evidence-based information to patients, clinicians, policy makers, and health care administrators, responding to their expressed needs about which clinical and health system design interventions are most effective for which patients under specific circumstances. Each application must have a thematic research focus around which all research and developmental activities are planned. There must be a common research issue or question that unites proposed infrastructure activities and research projects. This is intended to support novel programs and lines of research.

**Dynamics of Host-Associated Microbial Communities (R01)**

**More information**

**Sponsor:** United States Department of Health and Human Services (HHS), National Institutes of Health (NIH), National Institute of General Medical Sciences (NIGMS)

**Submission Deadline:** December 14

**Upper Amount:** $1.25 million

**Synopsis:** This funding opportunity issued by the National Institute of General Medical Sciences (NIGMS), National Institutes of Health (NIH), solicits applications that propose genetic, physiological, and ecological studies designed to reveal the basic principles and mechanisms that govern the symbiotic systems dynamics of host-associated microbial communities. NIGMS recognizes that most of these questions are complex in nature, and applicants are encouraged to utilize interdisciplinary approaches, including bioinformatic-computational modeling, and/or experimental manipulations to the study of host-associated microbial community ecology.

View more funding opportunities

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Featured Events

**11.9 NUIN Student-Sponsored Seminar Series**

*Presented by Rafael Yuste, MD, PhD, Howard Hughes Medical Institute and Columbia University Department of Biological Sciences*

**Date:** Friday, November 9, Noon to 1 p.m.

**Location:** Lurie Research Center — Baldwin 303 E. Superior St. (Chicago campus)

**Contact:** s-stade@northwestern.edu

**More information**

**11.15 Lurie Cancer Center Tumor Cell Biology Seminar**

*“Uncoupling Stem Cell Differentiation and Bone Tumorigenesis” presented by Chuan Tong He, PhD, University of Chicago*

**Date:** Thursday, November 15, 1 to 2 p.m.

**Location:** Lurie Research Center — Searle 303 E. Superior St. (Chicago campus)

**Contact:** cancer@northwestern.edu

**More information**

**11.27 Microbiology-Immunology Seminars**

*“Single Molecule Views of Antiviral Signaling,” presented by Taekjip Ha, PhD, University of Illinois at Urbana-Champaign*

**Date:** Tuesday, November 27, Noon to 1 p.m.

**Location:** Lurie Research Center — Baldwin 303 E. Superior St. (Chicago campus)

**Contact:** hyewon.phee@northwestern.edu

**More information**

**12.3 First Mondays Faculty Development**

*“NIH Grant Review Processes,” presented by Rick McGee, PhD, and Bill Lowe, MD. Offered to provide support for all postdoctoral fellows and early career junior faculty who have protected time for investigation to focus on developing the key skills young scientists require in order to progress beyond just doing good research.*

**Date:** Monday, December 3, Noon to 1 p.m.

**Location:** Lurie Research Center — Gray Seminar Rm. 303 E. Superior St. (Chicago campus)

**Contact:** nucats-ed@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.