Progress on Hearing Loss, Sinusitis

One of the smallest research groups at Northwestern University Feinberg School of Medicine is making a big impact. The Department of Otolaryngology, recently ranked in the National Institutes of Health (NIH) top 20 for funding, has one of the largest clinical cochlear implant programs in the country.

The implant program has grown under the direction of Alan Micco, MD, associate professor in otolaryngology-head and neck surgery and neurological surgery, and Nancy Young, MD, professor in otolaryngology-head and neck surgery.

Robert Kern, MD, chair of otolaryngology-head and neck surgery, says the department will further expand to cover all aspects of hearing.

"By understanding how people lose hearing, we can learn how to prevent this loss and how to rehabilitate patients through implants or stem cells," says Kern.

In addition to studying hearing loss, scientists in the department are also working with the Department of Medicine’s Allergy-Immunology Division in an effort to better understand sinusitis. An overview of otolaryngology research at the medical school follows.

New Cochlear Implant Technology

Principal investigator of the Auditory Research Laboratory Claus-Peter Richter, MD, PhD, applies optical radiation technology—using light to stimulate neurons—to cochlear implants for patients with hearing loss.

A team of scientists at Northwestern, including Richter and Joseph "Jay" Walsh, PhD, vice president for research, Northwestern University,

Continued on pg. 2
and professor of biomedical engineering, McCormick School of Engineering, adopted the idea to use light to stimulate neurons from scientists at Vanderbilt working to revive the sciatic nerve. Richter built an implant with the goal to provide better sound quality than current models, which use electricity.

“Sometimes ideas come from other fields,” says Richter, associate professor of otolaryngology. “As a scientist, your job is to find ideas, apply them to your own research, and take the risk of things not turning out the way you might think.”

Since building and testing the first device, Richter has honed in on the parameters of the laser to optimally stimulate the neurons. By the year’s end, he expects to have an implant that will fit into a human cochlea, and by 2016 to have a prototype ready for testing on patients. Their feedback will determine the future of the device.

**Regenerating Neurons in the Inner Ear**

Akihiro J. Matsuoka, MD, assistant professor in otolaryngology investigates how to regenerate spiral ganglion neurons with stem cells. This group of neurons sends representation of sound from the cochlea to the brain.

“Patients not only lose hearing because of dying hair cells; many have lost neurons,” he says. “Even if you use a (current generation) high electrical current in an implant, if the nerve is dead, the signal will not be transmitted to the brain.”

During the past 10 years as Matsuoka has investigated regenerating neurons, the stem cells have had a less than one percent survival rate. To solve this problem, he has begun collaborating with Richter, Richard Miller, PhD, Alfred Newton Richards Professor of Pharmacology, Samuel Stupp, PhD, director of the Institute for BioNanotechnology in Medicine, and John Kessler, MD, Ken and Ruth Davee Professor of Stem Cell Biology.

Matsuoka will test a bioactive nanofiber gel to promote neurite outgrowth and differentiation of neural progenitor cells into neurons. He hopes the gel will provide an ideal environment for transplanted stem cells to survive and proliferate in the cochlea.

**Sense of Smell and Sinusitis**

In a collaborative effort, Kern, Robert Schleimer, PhD, chief of the Division of Medicine-Allergy-Immunology, Bruce Tan, MD, assistant professor of otolaryngology-head and neck surgery, and Atsushi Kato, PhD, assistant professor in allergy-immunology hold a $9.5 million grant from the NIH to study chronic rhinosinusitis (CRS) as a prototype disease that will explain other problems, such as why people get allergies or asthma.

The only program project grant recipient in the United States studying this common but poorly understood disease includes Northwestern, University of Chicago, the Geisinger Health System, and the Johns Hopkins Bloomberg School of Public Health. The study examines the genetic, environmental, molecular, and immunologic underpinnings of CRS to discover new treatments of this disorder. Rakesh Chandra, MD, David Conley, MD, and Stephanie Shintani Smith, MD, associate professors in otolaryngology- head and neck surgery, support this program.

While Tan has collaborated on planning epidemiological studies for the grant, his interests lie in the molecular and immunologic changes found in CRS and their impact on clinical outcomes. He focuses on understanding antibody responses within the nasal passages of patients demonstrating a subtype of CRS associated with nasal polyps.

Tan has further interests in how the sense of smell is affected in polyp patients. His team focuses on the mechanisms by which smell loss occurs. His findings show the presence of eosinophils, a type of white blood cell, is a strong predictor of smell loss in patients with CRS.

“Smell is a sense that people ignore; I’m trying to further our understanding of the broader implications of smell loss on well-being,” he says.

**Prevention and Drug Development**

Jing Zheng, PhD, associate professor in otolaryngology - head and neck surgery, investigates genes that play important roles in human hearing to develop better strategies to prevent and treat hearing loss. Donna Whitlon, PhD, research associate professor in otolaryngology- head and neck surgery, is developing drugs that can be applied directly to the ear to prevent and repair injuries to the cochlea and resulting hearing impairment from those injuries.
As her classmates were learning to compute mathematical equations in their heads, Emily Rogalski, PhD ’07, associate professor at the Cognitive Neurology and Alzheimer’s Disease Center (CNADC), was as intrigued by the neurons as the numbers. “My interest in the brain began in grade school,” she said. “My mother has taught students with learning disabilities for more than 40 years, and I was inspired by their unique individual talents and wanted to better understand how the brain could be responsible for different learning styles.”

Rogalski always thought she would end up working with children, but something “just clicked” during a research rotation at the CNADC, and a career focused on research in aging and dementia resulted.

Since arriving at Feinberg in 2008, Rogalski has continued to add to the scientific knowledge of how humans age. Wondering what goes right in the brains of those people who have terrific memories at old age, Rogalski published a groundbreaking report on “cognitive SuperAgers,” identifying for the first time an elite group of people aged older than 80 whose memories are as sharp as people 20 to 30 years their junior. Her recent work includes a publication in Neurology investigating the use of famous faces to identify early dementia in individuals 40 to 65 years old.

What are your research interests?
I am a cognitive neuroscientist whose research falls under the broad umbrella of aging and dementia. I use a multimodal approach to investigate two aging perspectives: primary progressive aphasia (PPA), in which brain disease invades the language network, and SuperAging, in which individuals are seemingly resistant to the deleterious changes in memory associated with “normal” or more typical cognitive aging.

While structural neuroimaging is my primary method of investigation I also explore the role of genetic, developmental and acquired factors in aging and dementia, which demonstrates my interest in integrating multidisciplinary data. Another important aspect of my work is in assisting with the development of educational programs, support groups, and therapies to improve quality of life for patients with dementia and their caregivers.

How did you become interested in this area of research?
While there is a lot of focus on Alzheimer’s dementia, rare forms of dementia such as PPA, are often overlooked. The CNADC is one of the largest research centers for individuals with PPA and provides great opportunity for discovery and change. I was fortunate that M. Marsel Mesulam, MD, CNADC director, and Sandra Weintraub, PhD, professor in psychiatry and behavioral sciences and neurology, were willing to mentor me and eventually integrate me into their team. I love that each day at work is a little different and requires some juggling to keep things on track.

What types of collaborations are you engaged in?
I work at a unique center where I am able to collaborate with social workers, neuropathologists, neuropsychologists, neurologists, and students. It is rare to have so many specialists on the same floor who are eager to collaborate. I thrive in this multidisciplinary team setting and enjoy being a part of the scientific activities from clinical care down to the technical aspects of research.

Where have you recently published papers?
A mixture of clinical and cognitive science journals: Neurology, Journal of Neuroscience Neuropsychologia,
Grant Writing Resources for Junior Faculty

Grant writers groups provide support for junior faculty writing their first NIH grant proposal as an adjunct to other mentoring services they receive.

Rick McGee, Jr., PhD, associate dean for faculty recruitment and professional development, leads this two- to three-month process in which five to 10 faculty develop and revise their proposals with input and guidance from the groups.

The groups meet every one to two weeks for 90-minute sessions. When there is sufficient interest to justify multiple groups, faculty will be divided along clinical and laboratory research lines; but previous experience has shown this is not necessary for the process to be effective.

Junior faculty interested in joining the grant writers group can contact McGee at r-mcgee@northwestern.edu.

Additionally, the Collaborative Learning and Integrated Mentoring in the Biosciences (CLIMB) website houses a series of video tools to help with writing of NIH-style research proposals, including:

- NIH Grant and Dissertation Proposals
- 5 Principles for Writing Readable Sentences
- Tables-Best Practices in Designing
- Keys to Writing Successful NIH Research and Career Development Grant Applications

A number of related videos and power point presentations are available. These resources were developed to improve investigators' writing skills and are based in science. The entire video collection is available on the CLIMB website.

Welcome New Faculty

William Funk, PhD, joins as assistant professor in preventive medicine. In addition to his primary appointment, he is also a faculty associate at the Institute for Policy Research and an associate member of the Robert H. Lurie Comprehensive Cancer Center.

Funk received his doctorate degree in environmental sciences and engineering from the University of North Carolina, Chapel Hill. He also completed a post-doctoral fellowship there in the Departments of Environmental Sciences and Engineering, and Epidemiology. Prior to joining Preventive Medicine, he was a research assistant professor in anthropology at Northwestern.

His research focuses on the development and application of novel biomarker strategies for exploring environmental contributions to disease etiologies. He currently serves as PI, investigator, or prime contractor on four grants.

Ankit Bharat, MD, joins as assistant professor in thoracic surgery at Northwestern University Feinberg School of Medicine and surgical director of lung transplant at Northwestern Memorial Hospital.

Bharat received his medical degree in India, at Christian Medical College in Vellore. He then completed a post-doctoral fellowship, internship, general surgery residency, and cardiothoracic surgery residency at Washington University in St. Louis, Mo. Additionally, he completed clinical fellowships in thoracic surgery at the University of Texas MD Anderson Cancer Center in Houston, Memorial Sloan Kettering Cancer Center in New York, and Barcelona University in Spain.

His present research is focused on the mechanism of lung graft dysfunction following transplant.

Rogalski profile, continued from pg. 3

Journal of the International Neuropsychological Society, and more.

What would you consider your defining characteristics outside of medicine?

I am active, adventurous, and determined. I ran my first 5K road race around age six with my dad and older brother, and wanted to try anything my big brother was doing for most of my childhood (football, soccer, basketball, music etc.). Since I am not extraordinarily tall, soccer turned out to be the best long-term fit as a sport. I enjoyed playing in college and found that it was a great way to meet people when I first moved to Chicago more than 10 years ago. I still enjoy running and have run the Chicago Marathon and two half-marathons with my husband on the Great Wall of China and in South Africa. We hope to run an adventure marathon on each continent. For now, I get most of my exercise chasing my two-year-old.

Who has been the biggest influence on your life?

I am fortunate to have several great mentors in my life: my mom who fostered creativity and spontaneity; my father who instilled a strong work ethic; my friends who provide support; my husband who is an amazing teammate and provides a great sounding board for ideas; and my professional mentors and work colleagues who continue to challenge and inspire me.
Staff Profile: Randy Janzen
Lead Application Support Specialist, NUCATS

Where are you originally from?
I am from the northwest suburbs of Chicago.

What is your educational background?
I received a Bachelor of Science degree in business computer systems from Bradley University in Peoria, Ill.

Tell us about your professional background.
I came to Northwestern after running an IT consultancy focused on delivering electronic health record solutions and helping small clinics attest meaningful use (as defined by Centers for Medicare & Medicaid Services). The bulk of my experience has been around owning or operating small businesses including technology consulting, retail, and real estate.

Why did you choose to work at Northwestern?
After 10 years in small business, I decided it was time for a change, and to experience the large enterprise. The volume and diversity of research at Northwestern offered the opportunity to be involved in an endless string of engaging projects.

What is your role at the medical school?
At Northwestern University Clinical and Translational Sciences Institute (NUCATS), I was hired to build out support capabilities including: software testing, training, documentation, and application support functions to a growing group of biomedical informatics professionals and the Northwestern medical community at large.

How do you personally help investigators at Feinberg?
As the “Customer Service” department for Northwestern University Biomedical Informatics Center (NUBIC), I help investigators access data in our Enterprise Data Warehouse and collect data with software tools such as REDCap. I also support software, which assists in research compliance such as eNOTIS and NOTIS. As a NUCATS Navigator, I am a point of contact for the research community helping them align technology with their research objectives.

What professional activities do you take part in?
I am always networking with other groups on campus looking for ways we can learn and work together. I attend local meetups on health technology including Chicago Health Tech 2.0 and events at Chicago tech hubs such as 1871 and TechNexus.

What is your favorite part of the job?
I love learning from the brilliant people that I get to work with everyday. The mission of medical research is a noble one and it feels good to be a part of it. Folks around here also value a balance of work and life.

What do you like to do in your spare time?
Anything outdoors including: biking, running, hiking, and kayaking. When forced indoors I enjoy cooking and history.

Anything else we should know about you?
I love making technology easy to use and accessible so don’t be afraid to reach out and let NUCATS help achieve your research goals!

NIH News

The White House Office of Science and Technology Policy in May convened an expert panel to discuss how the U.S. can optimize commercial output from federally-funded research to benefit public health and well-being, create jobs and increase economic value. The National Health, Lung, and Blood Institute co-sponsored the initiative.

The expert panel's recommendations have been posted online.

NIH has created a test environment so applicants can try out the new multi-project electronic submission system, ASSIST.

To get familiar with a multi-project funding opportunity announcement (FOA), users can download a mock FOA, and then follow instructions to learn how to “play” in the ASSIST sandbox.
Student Q&A: Alia Danielle Zander
Driskill Graduate Program

Where is your hometown?
I’m from Edwardsburg, Mich.

What is your educational background?
I graduated from the University of Michigan in 2011 with a bachelor of science in biomedical engineering with a biochemical concentration.

What are your research interests?
Because of my engineering background, I tend to be drawn to quantifiable, systematic approaches to research. More specifically, I am interested in signaling pathways because of their complexity, their widespread applications, and the many ways of modeling these pathways using experimental and computational methodologies.

What exciting projects are you working on?
In the lab of Jing Liu, PhD, we focus on inflammation and different diseases caused by prolonged inflammation in the lungs, such as acute lung injury. Currently, I am working on a project to further elucidate the mechanisms involved with a complex transcriptional regulatory circuit responsible for the activation and inhibition of cytokine production. We have been collaborating with the lab of my co-advisor, Joshua Leonard, PhD, in Evanston to create a computational model of our system. This model will enable us to make novel predictions about why the circuit was designed to function its particular manner.

What attracted you to the Driskill Graduate Program (DGP)?
The interdisciplinary and collaborative nature of DGP was what I found most appealing when researching graduate programs. Having the freedom to work in labs all across Northwestern and to take classes relevant to my particular interests was a huge advantage. Also, the beautiful location in a culturally diverse city and the proximity to my family made Northwestern an easy choice for me.

What has been your best experience at Feinberg?
I was recently accepted into an National Science Foundation GK-12 fellowship program called Reach for the Stars. Through this program, graduate students are partnered with teachers from around the area. The goal is for graduate students to further develop as researchers by improving their communication and teaching skills. In turn, the students that the graduate fellows teach will benefit from lessons in computational thinking and computational modeling tools that will be incorporated into their existing curriculum. Additionally, graduate fellows will highlight the importance of the research strategy and help implement question-based teaching methods into the classroom.

During training for this program I was matched with a high school chemistry teacher. Together, we started planning lessons designed to expose students to computational thinking and to demonstrate that they already possess the skills necessary for computational modeling and only need to improve and practice to become experts. This experience has already been fun and educational and I cannot wait to begin working with high school students on a regular basis.

How would you describe the faculty at Feinberg?
The faculty at Feinberg is full of wonderful researchers and mentors. When I first started graduate school, each lab rotation brought a new challenge. I was fortunate to have patient and highly educated mentors that guided me through the learning process for each new project I was working on.

What do you do in your free time?
In my free time I love to be around my friends and family. I really enjoy playing tennis, baking, reading, and watching movies and sports.

What are your plans for after graduation?
After graduation I plan to teach at a university and hopefully start my own research lab.

Did you know?
Faculty Connect is a service that brings non-federal funding opportunities to clinical and translational investigators and presents opportunities to faculty whose research aligns well with the award criteria. How? Using a finely-tuned algorithm, it analyzes and matches keywords from Feinberg faculty profiles against funding awards.
Sponsored Research

William L. Lowe, Jr., MD
Vice Dean Academic Affairs,
Professor in Medicine- Endocrinology

Project title: Genetics and Evolution of Fetal Human Fat Accretion During Development

Sponsor: National Institute of Diabetes, Digestive and Kidney Diseases

Significant subcutaneous fat at birth is unique to humans among primates and mammals more generally, suggesting that a recently-evolved genetic component accounts for this difference.

Body fat accumulated during intrauterine development in humans is thought to serve as an energy source to support growth of the large human newborn brain in the early neonatal period. As such, subcutaneous fat provides adaptive advantages and is thought to be under positive selection.

Although it provides an adaptive advantage, high or low body fat at birth is associated with increased morbidity in the first year of life, as well as an increased susceptibility to poor metabolic and/or cardiovascular health later in life. Maternal fuels such as glucose and triglycerides are well known to impact fetal fat accretion and, thus, long-term health risks.

We have now determined that genetic factors also influence newborn human fat mass. Our genome wide association study (GWAS) performed in a cohort of newborns whose mothers underwent glucose testing during gestation identified a locus on chromosome 3 which exhibits strong association across multiple ancestry groups with measures of newborn adiposity.

Through DNA sequence analysis, we will now identify all genetic variation within the chromosome 3 locus in a multi-ancestry group of newborns whose mothers participated in the Hyperglycemia and Adverse Pregnancy Outcomes (HAPO) Study. This will allow us to address the hypothesis that genetic variants within the locus on chromosome 3 affect gene expression and, more specifically, the expression of long non-coding RNAs present in the locus. Given the unique human attribute of having significant subcutaneous fat at birth, we will also use comparative genomic approaches to define the underlying genetic architecture and function of the chromosome 3 locus in humans compared to other non-human primates.

Additional studies will confirm the association of functional variants with newborn fat mass in a large multi-ancestry cohort of newborns.

C. Shad Thaxton, MD, PhD
Assistant Professor in Urology

Project title: Biomimetic Lipid Nanoparticles: Bio-Sensing and Bio-Functional Applications

Sponsor: Air Force Office of Scientific Research

A tremendous number of molecules are toxic to humans because of their ability to integrate into the fatty membranes of human cells. In many cases, no effective ways exist to detect them or treat individuals who have been exposed to them. An excellent example is endotoxin.

Endotoxin, also known as lipopolysaccharide (LPS), is a highly toxic component of some bacterial cell membranes. The presence of LPS in the bloodstream can lead to septic shock which carries a high mortality. The objective of this project is to synthesize, characterize, and understand how a unique class of nanomaterials, called biomimetic lipid nanoparticles (BLNs) whose synthesis and applications are being pioneered by the Thaxton Group, interact with toxins like LPS and other known ones. Novel strategies based upon the unique properties of gold nanoparticles, that often form the core of BLNs, will be used in order to develop biosensors that identify and quantify toxins in complex solutions, such as blood. In addition, BLNs will be studied in relevant biosystems to demonstrate that they can be used to rapidly sequester toxins to inhibit devastating cell responses to toxin exposure.

One unique advantage to the synthetic strategies used to make BLNs is that the surface chemical properties of BLNs can be systematically manipulated in order to tune and optimize binding of certain toxins and inflammatory mediators, like LPS. This provides the opportunity to develop panels of sensors to identify toxin(s) in complex samples and then directly deploy the selected sensor probe as a toxin-specific antidote to inhibit any untoward biological consequences.

Ultimately, this research will provide critical bio-nanomaterials with known structure-function relationships that can be leveraged to develop next generation sensors and toxin-specific antidotes.
High Impact Factor Research: July 2013


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."
Research in the News

UPI, August 26
A home treadmill helps those with peripheral artery disease
Mary McDermott’s research was featured.

The Washington Post, August 26
Oncofertility offers new options for young women with cancer
Teresa Woodruff’s research was featured.

CBS Evening News, August 22
How do seniors have the minds of those decades younger?
Emily Rogalski’s research on SuperAger was featured.

► This study was also featured in USA Today, Yahoo! News, Associated Press, and more.

CBS News Chicago, August 22
Woman benefits from less invasive melanoma treatment
Jeffrey Wayne and Karl Bilimoria were interviewed.

The New York Times, August 21
How exercise can help us sleep better
Kelly Glazer Baron’s research was featured.

► This study was also featured on NPR (national), in USA Today, Chicago Tribune, Boston Globe, the Washington Post, MSN, US News & World Report, and more.

WBEZ-FM (NPR Chicago), August 21
Why do we ignore skin cancer?
Murad Alam and June Robinson were interviewed.

USA Today, August 13
People with early dementia don’t know some famous people
Emily Rogalski’s research on memory was featured.

► This study was also featured on CNN, NPR, CBS News (national), WebMD, FOXnews.com, MSN, BBC, Huffington Post, in Los Angeles Times, New York Daily News, UK Telegraph, and more.

More headlines

New Class of PhD Students on Campus

This fall, new PhD students are arriving on the Chicago campus to join the Driskill Graduate Program in the Life Sciences (DGP), Northwestern University Interdepartmental Neuroscience Program (NUIN), Medical Scientist Training Program (MSTP), Clinical Psychiatry PhD program, Doctor of Physical Therapy/PhD program, and Health Sciences Integrated PhD (HSIP) program.

DGP welcomes 28 new PhD students. This group includes individuals with undergraduate degrees from schools as close as the Midwest, and as far as Mexico, India, and China. They will complete courses and lab rotations during the first year, which allows them to explore several types of research before selecting a dissertation lab and project.

NUIN’s 22 new students hail from Colombia, Turkey, China, India, and the U.S. They will complete coursework and research rotations in at least three different laboratories before committing to a single lab to conduct thesis research.

The MSTP welcomes 12 new students who earn both their MD and PhD degree at Northwestern. They will complete two years of medical school before starting their doctoral program in a lab. Once they earn their PhD, they will return to medical school to complete their MD degree. This year’s class represents a group of American undergraduate institutions that includes Harvard University, the University of Chicago, Dartmouth College, Washington University, Columbia University, and more.

Eight new students are beginning the Clinical Psychology PhD program. They will spend six years at Feinberg to train in the clinical practice and science of psychology, along with specific training needed for careers as clinical psychologists. Students in this year’s class come from U.S.-based institutions ranging geographically from Maryland to California.

The Doctor of Physical Therapy-PhD program welcomes three new students from institutions in New York, Pennsylvania, and Massachusetts for a seven-year term. Students will spend their first year doing three laboratory rotations and required engineering graduate course work.

Finally, three new students join the HSIP program to become its second entering class. Founded in 2012 and unique to Northwestern, HSIP trains students in processes and methodologies in clinical and population sciences through the Institute of Public Health and Medicine at Feinberg. The class of 2013 comes from New York, Michigan, and Indiana, and all have previously earned master’s degrees.
Funding Opportunities

**Research to Action: Assessing and Addressing Community Exposures to Environmental Contaminants (R01)**

More information

**Sponsors:** Department of Health and Human Services and National Institutes of Health

**Submission Deadline:** October 5

**Upper Amount:** $2.5 million

**Synopsis:** This opportunity encourages applications using community-engaged research methods to investigate the potential health risks of environmental exposures of concern to the community and to implement an environmental public health action plan based on research findings. The overall goal is to support changes to prevent or reduce exposure to harmful environmental exposures and improve the health of a community.

**FY14 NIDA Avant-Garde Award Program for HIV/AIDS Research (DP1)**

More information

**Sponsor:** United States Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse

**Submission Deadline:** November 6

**Upper Amount:** $2.5 million

**Synopsis:** The NIDA Avant-Garde Award Program for HIV/AIDS Research supports individual scientists of exceptional creativity who propose high-impact research that will open new areas of HIV/AIDS research or lead to new avenues for prevention and treatment of HIV/AIDS among drug abusers. The term "avant-garde" is used to describe highly innovative approaches that have the potential to be transformative.

The proposed research should reflect approaches and ideas that are substantially different from those already being pursued by the investigator or others. In keeping with the priorities described in the FY14 Trans-NIH Research Budget Justification, the NIDA Avant-Garde award supports innovative, basic research that may lead to improved preventive interventions or therapies; creative, new strategies to prevent disease transmission; novel approaches to improve disease outcomes, and creative approaches to eradicating HIV or improving the lives of those living with HIV.

View more funding opportunities

Featured Events

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

"Targeting Androgen Receptor with ASC-J9 to Suppress Castration-resistant Prostate Cancer After Developed Resistance of Chemotherapy or Enzalutamide," presented by Chawnshang Chang, PhD, University of Rochester, New York.

**Date:** Thursday, September 19, 1 to 2 p.m.

**Location:** Lurie Research Center — Searle

303 E. Superior St. (Chicago campus)

**Contact:** cancer@northwestern.edu

More information

**9.26 Feinberg Cardiovascular Research Institute Seminar Series**

Presented by Elizabeth McNally, MD, PhD, University of Chicago.

**Date:** Thursday, September 26, 10 a.m. to Noon

**Location:** Lurie Research Center — Baldwin

303 E. Superior St. (Chicago campus)

**Contact:** k-lebeau@northwestern.edu

More information

**9.30 2013 Frances Feinberg Memorial Lecture**

“Seven Transmembrane Receptors,” presented by Robert J. Lefkowitz, MD, Duke University, Howard Hughes Medical Institute investigator, and winner of the 2012 Nobel Prize in Chemistry.

**Date:** Monday, September 30

Lecture 4 p.m., Reception 5 p.m.

**Location:** Lurie Research Center — Hughes

303 E. Superior St. (Chicago campus)

**Contact:** dlr635@northwestern.edu

More information

**10.3 Alzheimer's Disease Seminar Series**

Presented by Maria Carrillo, PhD, Alzheimer's Association

**Date:** Thursday, October 3, Noon to 1 p.m.

**Location:** Lurie Research Center — Searle

303 E. Superior St. (Chicago campus)

**Contact:** k-zachrich@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.