Feinberg Home to a New Wave of Women’s Health Research

While more than 20 years have passed since the National Institutes of Health established its Office of Research on Women’s Health, data still indicates that sex bias remains prevalent in basic science and clinical medicine. The Institute for Women’s Health Research (IWHR) at Northwestern University Feinberg School of Medicine partners with researchers across campuses to run programs and studies aimed at raising awareness for women’s health issues and breaks down barriers to the inclusion of females — both human and animal — in clinical studies.

Sharon Green, MHA, executive director of the IWHR, and her team promote awareness and education through a monthly speaker series, a Women’s Health Science Program, a blog, and more. Green works diligently to make connections with investigators — finding niches within the community where sex-based research exists or looking for opportunities to expand women-oriented research. As a result, Northwestern is widening its women’s health footprint and leading the way in areas like maternity care, cardiovascular health, and women’s oncology.

Since launching in 2007, the institute has funded 12 research projects and built the Illinois Women’s Health Registry, a tool that offers researchers access to more than 6,000 women — a resource (now available in Spanish) helpful for study-participant recruitment.

Continued on pg. 2
Specialized Care for Women with Epilepsy

Elizabeth “Zoe” Gerard, MD, assistant professor in the Ken and Ruth Davee Department of Neurology and member of the Comprehensive Epilepsy Center, has an interest and expertise in providing personalized care for patients with epilepsy, particularly women, who have pre-partum questions about the safety of pregnancy and breast feeding due to the medications taken to control their neurologic condition.

“Generally the best drug for pregnancy is the drug that best controls seizures at the lowest possible dose, although there are some drugs which should be avoided, when possible,” Gerard says. “Also, contrary to popular belief, new literature says that breast feeding while on anti-seizure medications does not expose an infant to significant risk.”

Gerard, who also focuses a great deal of attention on contraceptive counseling for this population, partners with Catherine Stika, MD, associate professor of obstetrics and gynecology, to provide collaborative consultations within the Division of Family Planning’s Complex Contraception Clinic. The team meets with epilepsy patients who are considering drug-to-drug interactions between their anti-epileptic medications and hormonal contraception.

“These conversations are so important, as many common drugs taken for epilepsy can make a patient’s birth control ineffective,” Gerard says.

Gerard and her colleagues recently completed a study evaluating the level of awareness women have regarding pregnancy and birth control in relation to their neurological condition, as well as the education provided by their neurologists and gynecologists. The data showed that women were not adequately counseled on the relationship between their reproductive health and condition. Gerard hopes to perform further research to determine the barriers to patient counseling and how best to improve health education.

“My dream is to meet the needs of our female epilepsy patients by building a women’s neuroscience center where their issues can be expertly addressed,” says Gerard.

Obesity and Cognitive Health in Women

Diana Kerwin, MD, GME ’00, assistant professor in the Division of Geriatric Medicine and affiliated faculty of the Cognitive Neurology and Alzheimer’s Disease Center, focuses her research on the effects of body weight and obesity on cognitive aging and dementia risk.

“Women are at greater risk for Alzheimer’s disease and dementia and are typically the caregivers of those suffering from these cognitive disorders, so they take a double hit,” says Kerwin, who recently published results of the first ever U.S. study linking body fat distribution to poorer brain function in elderly women.

Her research found that the more an older woman weighs, the worse her memory. The effect proved more pronounced in women who carry excess weight around their hips, known as pear shapes, than women who carry it around their waists, called apple shapes. This is likely due to the type of fat deposited around the hips versus the waist. The findings offer guidance to physicians with overweight, older female patients.

“If physicians know from their female patient’s waist-to-hip ratio that she’s carrying excess fat on her hips, they may be more aggressive with weight loss,” Kerwin says.

Kerwin recently became a co-investigator on the LIFE Study and shows interest in the effects of exercise on memory and cognitive function. The study, led by Mary McDermott, MD, professor of medicine and preventive medicine, explores whether physical activity prevents mobility loss in older, frail men and women.

“My future projects will look at genetic risk factors such as the obesity gene and its relationship with cognition, as well as exercise and its role in cognitive function,” Kerwin says. “Our mission is to develop stronger preventive treatments for decreased cognition. Through research, we hope to better educate our patients about reducing their risk.”

For more information about women’s health research, contact Sharon Green: sharon-green@northwestern.edu or (312) 503-1759.

- Written by Katie Costello, Feinberg Communications
Research Day Encourages Investigators to Take Uncharted Paths, Find New Collaborations

“To move science forward, you can’t just accept what you’re reading in your textbook at face value,” Alyson A. Fiorillo, a graduate student in pathology at Northwestern University Feinberg School of Medicine said. “You have to ask, ‘What else is happening? What else is going on?’”

Fiorillo, whose research focuses on the role of a hormone receptor potentially linked to breast cancer, was among more than 200 researchers who participated in the Seventh Annual Lewis Landsberg Research Day organized by the Feinberg Research Office.

The event highlighted an array of scientific research frontiers undertaken by faculty. Fiorillo and her colleagues found that once the prolactin hormone binds to its receptor in the body, the receptor doesn’t merely sit at the cell’s membrane and signal as expected.

They found the receptor actually goes into the cell’s nucleus, directly affects gene expression, and is more active in malignant breast tissue than in normal breast tissue.

What Fiorillo’s lab is demonstrating goes against the grain of accepted science.

“We’re going against the model of what cell surface receptors do,” Fiorillo said. “Because this model is new, it’s shifting the dogma and it’s taking a while for people to actually start accepting the model.”

Such innovative investigation is not only accepted at Feinberg, but encouraged.

“The most exciting observations are when something doesn’t fit the mold,” said Rex L. Chisholm, vice dean for scientific affairs and graduate education at Feinberg. “If you prove your hypothesis, that means what you thought was right. But it gets really exciting when what you thought is right, isn’t.”

The importance of pursuing uncharted research paths was a notable theme of the research event, which was held at the Robert H. Lurie Medical Research Center.

Philip Greenland, MD, senior associate dean for clinical and translational research, who received the 2011 Tripartite Legacy Faculty Prize at the event, has made a career out of debunking myths about cardiovascular diseases through his research.

“From a distance it looks like doctors know everything, but if you get underneath that you find there’s a lot of things that there aren’t good answers for,” said Greenland. “Once you make that recognition, I don’t see how you could not be interested in asking the questions and getting the answers.”

Based on record turnout at this year’s Research Day, more faculty and graduate student researchers are eager to participate in the process Greenland described as vital to the expansion of any scientific field.

For the first time in seven years, a second atrium was needed to accommodate a higher number of participants displaying posters summarizing their work in basic science and clinical research.

“We talked about putting a limit [on the number of participants] this year, but said no,” Chisholm said. “People are so engaged. There’s a lot of excitement among researchers about sharing their work with their colleagues. What could be better than that?”

- Written by Priscilla Kunamalla, Medill News Service
2011 Research Day in Pictures

Clinical research poster session participants in the Method Atrium, a new location for 2011.

Basic science poster session participants in the Ryan Family Atrium.

The NUCATS Institute participated in Research Day, as did a record number of research cores.

Clinical research poster presenters in the Ryan Family Atrium, inside the Lurie Building.

(From L) A. Greenland, P. Greenland, MD, 2011 Tripartite Prize winner, J. Glassroth, MD, interim dean, and M. McDermott, MD, professor of medicine and preventive medicine.

Research Day enables poster session participants to share their ideas and exciting research with colleagues and to find new collaborators.
Faculty Profile: Mark Mandel, PhD
Assistant Professor of Microbiology-Immunology

Mark Mandel, PhD, assistant professor in the Department of Microbiology-Immunology, grew up outside of Buffalo, New York. He studied biology at Cornell University in Ithaca, New York, and conducted his PhD training in Thomas Silhavy’s lab at Princeton University, where he focused on starvation signal transduction in Escherichia coli. In 2005, he moved to Madison, Wisconsin, to begin his postdoctoral fellowship with Ned Ruby at the University of Wisconsin. He joined Feinberg in 2010 as an assistant professor.

In his free time, Mandel enjoys spending time with his wife and two-year-old daughter visiting many Chicago-area museums. Some of their current favorites include the Shedd Aquarium, the Field Museum, and the Museum of Science and industry. Mandel also enjoys golfing and music at Millennium Park.

What brought you to Feinberg?

Strong commitments to quality science and graduate student training within the microbiology-immunology department were very important factors. There is a wide range of expertise and experience within the department and an environment that emphasizes mentorship. As a new faculty member, it was especially appealing to join a group in which faculty are taking risks to make more significant scientific contributions. As I begin my research program, the advice and assistance that my lab is receiving from our neighbors is allowing us to quickly get set up and address important questions.

What are your research interests?

Although many animals form reproducible relationships with microbes, they are often born sterile and have to harvest their resident microbes (“microbiota”) from the environment. The manner by which animal-microbe communication leads to specificity during partner choice is not understood. I am interested in how this process occurs on a fundamental level: How does the host recognize its cognate microbe(s)?

How does the microbe enter the host properly? How does the host know to accept the mutualist and not reject it as a pathogen? How is a long-term, chronic, beneficial association maintained? How does the daily signaling between host and microbe facilitate the beneficial interaction? How does the specificity between host and microbe thwart non-specific cheaters?

To answer these questions, we focus on a model symbiosis between the luminous marine Gram-negative bacterium Vibrio fischeri and its host Euprymna scolopes, the Hawaiian bobtail squid. V. fischeri is the only symbiont in the squid’s light organ. The light produced by the bacteria camouflages the shadow generated by the near-shore swimming squid, thereby protecting the host from predation. We collect adult squid from Hawaii twice each year. They lay thousands of eggs in the lab and the juvenile squid that hatch lack symbionts that can be colonized with culture-grown bacteria (GFP-labeled, mutants, mutant libraries, etc.). By isolating a system in which there is one symbiont and one host, and by studying the association in the intact animal—including the full innate immune system of the host—we are identifying conserved principles underlying host association by microbes.

With this model, we are using forward genetics and genome-scale approaches to identify and characterize relevant bacterial factors that mediate host interaction and specificity.

How did you become interested in this?

As an undergraduate, I was in a laboratory in which each member studied a different natural system. As a result, I came to appreciate the benefits of conducting molecular biology that was closely tied to nature. As a graduate student, I realized how the power of bacterial genetics facilitated detailed mechanistic studies. I enjoyed both ends of the spectrum and the prospect of determining detailed mechanisms that could then be related back to ecology and evolution.

I was also convinced that by conducting experiments on natural isolates we could determine biology that would not be possible in more laboratory-adapted systems. For my long-term research on the symbiosis between squid and V. fischeri, I looked for a system in which these two interests could be merged, and in that sense it has worked out very well. When we identified a gene that was sufficient to alter the host range of the bacterium, we were able to immediately relate the functional data in the laboratory to changes in patterns of host colonization observed in nature.

Continued on page 6
What papers have you recently published and where?


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

We are part of a six-laboratory team that is building and characterizing a mutant library collection of *V. fischeri* strain ES114, the best-studied squid symbiont, which is organized by Cheryl Whistler at the University of New Hampshire.

For our genomics work (both genome sequencing and functional screening involving mutant populations), we have active collaborations with David Rasko at the Institute for Genome Sciences at the University of Maryland, and with Andrew Goodman at Yale University.

How does your research advance medical science and knowledge?

In the last five to 10 years, there has been an increased awareness that the human microbiota play important roles in immune development and homeostasis, epithelial development, and nutritional homeostasis.

Humans are born sterile and must acquire the correct microbes for normal development. Altered microbiota have been associated with diseases such as inflammatory bowel disease, diabetes, obesity, and cancer.

Work in human subjects is defining the patterns of microbial colonization in humans at the phylum and species level. However, we do not understand the fundamental principles that govern how animals form specific relationships with the correct cognate microbes. To understand these processes, we turn to a model system that facilitates dissection of the animal-bacterial communication. This system allows for high-resolution bacterial genetics, imaging of the live infection and genomic approaches in the host and symbiont.

NIH News

The NIH Fiscal Policy for Grant Awards for Fiscal Year 2011 has been posted online. Continuations (both modular and non-modular research grants) from all Institute and Center (IC), with the notable exception of NCI, will be reduced to 1 percent below the FY 2010 award level.

Inflationary adjustments for awards that have already been made in FY 2011 may be revised. For NCI, continuations will be reduced to 3 percent below the FY 2010 award level. Inflationary adjustments for recurring costs on non-competing research grants in FY 2012 and beyond will be set at the two percent level, calculated based on the adjusted FY 2011 level. Each NIH IC will manage its competing portfolio using funds that have not been committed for non-competing awards. It is estimated this will allow ICs to support the NIH investigator pool with approximately 9,050 new and competing research project grants. Consistent with the policy for non-competing awards, future inflationary adjustments for recurring costs on competing research grants will be provided at 2 percent.

Awards that have already been made in FY 2011 that are affected by this policy may be revised. Some awards are exempt from the policy, so a careful review of the notice is advised.

In a two-to-one decision issued by a Federal Appeals Court, the preliminary injunction blocking federal funding of human embryonic stem cell research was lifted, allowing NIH funding for such research to continue.

The majority said, “we conclude the plaintiffs are unlikely to prevail because Dickey-Wicker is ambiguous and the NIH seems reasonably to have concluded that, although Dickey-Wicker bars funding for the destructive act of deriving an ESC from an embryo, it does not prohibit funding a research project in which an ESC will be used. We therefore vacate the preliminary injunction.”

A trial on the merits of the case is still possible, as are further appeals by opponents of human embryonic stem cell research. The opinion is available online.
Sponsored Research

Liang Zhou, MD, PhD
Assistant Professor of Pathology/Microbiology-Immunology

Project title: “The Role of the Aryl Hydrocarbon Receptor in Intestinal Immunity”

Sponsor: National Institute of Allergy and Infectious Diseases

The human immune system must remain in constant balance to be healthy. Elevated immune responses are needed to fight harmful microorganisms, yet those same responses have to be kept from overreacting and attacking the body’s normal tissues.

A complex mix of immune cells is known to influence this balance. Among them, Th17 cells, a newly defined T cell subset (a group of white blood cells), are important to clear certain bacterial or fungal infections, whereas dysregulated Th17 responses can cause many human autoimmune diseases, such as inflammatory bowel disease (IBD). Regulatory T cells (Treg) have been discovered to control the detrimental effects of effector T cells including Th17 cells.

The balance between Th17 and Treg cells influenced by interplay among transcription factors is most readily visible in the intestinal environment and is crucial for maintenance of gut immune stability. The aryl hydrocarbon receptor (AhR), best known for mediating the effects of environmental toxins, is one of the most upregulated transcription factors in Th17 cells. AhR promotes Th17 cell differentiation, and is also likely involved in Treg differentiation, thus modulating the Th17-Treg balance. AhR can be activated by environmental toxins and by natural compounds generated by bacteria normally living in the intestines. Therefore, identification of a role for AhR in Th17 biology provides a fascinating link among environmental factors, gut microbiota, and human immunological diseases, but the precise role of AhR in infection and inflammation remains to be determined.

My long-term research goal is dedicated to identifying the molecular means to modulate the balance of inflammatory and anti-inflammatory cells, thereby combating infection and preventing autoimmunity. In this proposal, we will test a new hypothesis that AhR plays a crucial role in gut immunity by influencing Th17 and Treg cell differentiation, and the differential impact on individual Th17 cytokine expression by AhR may influence IBD pathogenesis. The study proposed here will take the first steps toward gaining novel insights into the molecular action of AhR in intestinal immune equilibrium.

A better understanding of the role of AhR in the immune system may eventually provide novel means for treating human infectious diseases, autoimmune diseases, and cancer.

Michael Wolf, PhD, MPH
Associate Professor of Medicine-General Internal Medicine and Institute for Healthcare Studies

Project title: “LitCog II: Health Literacy and Cognitive Function”

Sponsor: National Institute on Aging (NIA)

Wolf began the NIA LitCog study in 2007, creating a cohort of older patients and investigating health literacy, cognitive function, and individuals’ ability to perform common health tasks. This is the largest study to date investigating health literacy and cognitive skills. The recent NIA continuation award will extend the LitCog investigation to evaluate the association between literacy skills, cognitive function, and health outcomes over time.

The primary study hypothesis is that the phenomenon of health literacy can be greatly explained by cognition, and that decline in health literacy — the ability to perform routine tasks necessary for self-care — is the result of decline in cognitive abilities.

Cardiologist Receives Weil Foundation Grant

Stephen Devries, MD, associate professor in medicine - cardiology, received a Weil Foundation grant for the advancement of integrative medicine. The grant will fund an educational initiative aimed at developing a curriculum for educating cardiology fellows and internal medicine residents in integrative approaches for prevention of heart disease. This curriculum will emphasize the role of nutrition, lifestyle, non-pharmacologic therapy, and mind-body interventions for the prevention of heart disease.

Devries has a unique preventive cardiology practice with an integrative approach that combines alternative treatments with conventional prevention strategies.
Where is your hometown?

My family is from New Jersey. However, I was born in Norristown, Pennsylvania, spent my childhood in a suburb of Tampa, Florida, and then spent my teenage and college years in Richmond and Charlottesville, Virginia. Each of these places has meaning to me, however, I now consider Chicago/Evanston my hometown because it is here that I feel the most comfortable and “at home.”

What is your educational background?

I majored in neuroscience and psychology at the University of Virginia. I then went directly into the NUIN PhD program at Northwestern.

What are your research interests?

Primarily, I am interested in circadian rhythms, in particular the 24-hour sleep/wake and feeding/fasting cycles. I examine how circadian rhythms can influence metabolism at the behavioral, environmental, and genetic level. While my studies are in rodents, this research has important implications for humans, like night-shift workers who are often awake, eating, and alert at the wrong circadian time and habitual breakfast-skippers who, by skipping breakfast, shift their feeding toward the later part of the circadian day. Interestingly, both these populations are at greater risk for weight gain and obesity and it may be due to the underlying influence of meal timing and circadian rhythms.

What exciting projects are you working on?

Recently, our laboratory presented the first causal evidence that simply eating during the wrong time of day can lead to weight gain in mice [Arble, D. M., Bass, J., Laposky, A. D., Vitaterna, M. H. and Turek, F. W. 2009. Circadian Timing of Food Intake Contributes to Weight Gain. Obesity (Silver Spring) 17(11), 2100-2102. PubMedID#19730426]. This received a huge amount of press from around the world. Some of my favorite interviews were for the BBC and an Australian radio program. Alas, my voice reached Australia before I had a chance to visit myself! I’m following up on this result now in Fred Turek’s laboratory in Evanston, where I aim to determine what mechanisms are leading to this weight gain in hopes of discovering therapeutic strategies to alleviate obesity.

What are your plans for after graduation?

I’m going to celebrate. After I’ve recovered, I plan to spend a month in Santiago de Compostela in Galiza, Spain, where I’ll be taking a course on the Galician language and culture. Afterward, I will get married to my fiancé and fellow neuroscientist, Ignacio. Then, with my vacation over, I will happily return to research and begin my post-doctoral training in the fall of 2011. I haven’t yet decided where my post-doctoral training will occur, but I’ve just received an offer from Harvard which I am considering. My long-term goal for post-graduation is to become a tenure-track professor at a primary research institution.

Get the full interview. Read more about Deanna on the Research Office website.
Research in the News

Wall Street Journal  April 26
‘Use Only As Directed’ isn’t easy
Dr. Michael Wolf was quoted.

Information Week  April 25
Stem cell transplants may treat aggressive MS
Dr. Abel Kho was quoted and his research was featured.

US News & World Report  April 22
To get Americans healthier, US targets the heart
Dr. Donald Lloyd-Jones was quoted.

Bloomberg BusinessWeek  April 22

Los Angeles Times  April 21
Genetic counselors help people who may be at risk for diseases
Cathy Wicklund was quoted.

UPI  April 20
Electronic records can speed genetic study
Dr. Abel Kho’s research was featured.

US News & World Report  April 18
Health.com  April 18
Hospitalization may cause temporary memory problems for seniors
Dr. Lee Lindquist was quoted.

Los Angeles Times  April 17
Scar remedies’ effectiveness not so clear
Dr. Thomas Mustoe was quoted.

Chicago Tribune  April 16
Science Connections: Beating Alzheimer’s brick by brick
Dr. John Kessler was quoted.

UPI  April 7
Test detects aggressive prostate cancer
Dr. William Catalona’s research was featured.

Wall Street Journal  April 5
More options before bypass surgery, study finds
Dr. Clyde Yancy was quoted.

More headlines

Core Fact

The Center for Advanced Molecular Imaging announces the addition of IVIS Spectrum, a new bioluminescence/fluorescence imaging system. This whole-body optical imaging system features high-sensitivity in vivo imaging of fluorescence and bioluminescence. Up to five mice can be imaged simultaneously with a 23cm field of view.

More information can be found in this white paper. Please contact Keith MacRenaris, manager of optical imaging, for more information at keithmacrenaris@northwestern.edu.

Welcome New Faculty

Michael Markl, PhD, joins as associate professor in radiology and also has a joint appointment at Northwestern University McCormick School of Engineering.

Markl most recently was the director of cardiovascular MRI and deputy research director in the Department of Radiology, Medical Physics, at University Hospital Freiburg, Germany. Prior to that, he completed a post-doctoral research fellowship and served as a research associate in the Department of Radiology, Lucas MRI Center at Stanford University. He received his post-doctoral degree in physics from the University of Freiberg in Germany.

Markl’s research interests focus on functional cardio- and neurovascular Magnetic Resonance Imaging (MRI) and include in-vivo vascular anatomy, morphology and hemodynamics; 4D MR-velocity mapping; cardiac imaging, myocardial motion, ventricular function; balanced SSFP imaging; and contrast enhanced MR-angiography. He has authored or contributed to more than 130 published articles, holds five patents, and has served as PI or co-PI on 15 grants.

Michael K. Fritsch, MD, PhD, joins as associate professor in pathology.

Fritsch was previously associate professor at the University of Wisconsin – Madison in the Department of Pathology and Laboratory Medicine, where he received his Doctor of Medicine degree and doctoral degree in biochemistry, and also completed a post-doctoral research fellowship in human oncology. He completed a pediatric internship at the University of Washington – Seattle, a post-doctoral research fellowship and pathology residency at the National Institutes of Health, and a pediatric pathology fellowship at Johns Hopkins in Baltimore.

He has authored or co-authored more than 30 published articles and has worked on or served as the principal investigator on several grants. Fritsch’s research seeks to understand the molecular processes regulating early embryonic stem cell differentiation.
Funding Opportunities

Research on Teen Dating Violence (R01)
More information
Sponsor: United States Department of Health and Human Services, National Institutes of Health
Submission Deadline: June 5, 2011
Upper Amount: $2.5 million
Synopsis: This funding opportunity announcement encourages investigator-initiated research grant applications from institutions and organizations that propose to conduct behavioral or biomedical research aimed at better understanding the etiologies and precursors for, reducing risk for, and incidence of, teen dating violence. Research is also sought that examines the linkages and gaps among perceptions of appropriate responses to teen dating violence from service providers, the criminal justice system, teens themselves, victims, perpetrators, and bystanders.

Nanoscience and Nanotechnology in Biology and Medicine (R21)
More information
Sponsor: United States Department of Health and Human Services, National Institutes of Health
Submission Deadline: June 16, 2011
Upper Amount: $275,000
Synopsis: This initiative, issued by the National Institutes of Health, encourages applications from institutions or organizations that apply nanoscience and nanotechnology approaches to address problems in biology and medicine. The purpose of this opportunity is to provide support for cutting-edge nanoscience and nanotechnology research that can lead to biomedical breakthroughs and new investigations into the diagnosis, treatment, and management of an array of diseases and traumatic injuries. Nanoscience and nanotechnology have the capacity to drive a new wave of medical innovation through the engineering of bioactive nanoscale structures, processes and systems based on the advancement of our understanding of biology at the nanoscale. Therefore, this initiative will also support research projects that develop new or improved nanotechnology and nanoscience-based tools, methods, concepts, and devices that lead to a better understanding of basic biology in addition to conducting translational biomedical studies.

Featured Events

Innovation Day 2011
The third annual event, hosted by NUCATS
Date: Wednesday, May 18, 8:30 a.m. to Noon
Location: Lurie Medical Research Center — Hughes 303 E. Superior St. (Chicago campus)
Contact: NUCATS (312) 503-1709
More information

2011 George Assimos Lectureship
“Targeting Oncogenic Pathways in Lymphoma”
Presented by Anas Younas, MD, director, clinical and translational research, Department of Lymphoma and Myeloma, University of Texas
Date: Thursday, May 19, 1 to 2 p.m.
Location: Lurie Medical Research Center — Baldwin 303 E. Superior St. (Chicago campus)
Contact: a-clower@northwestern.edu
More information

Lurie Cancer Center 2011 H Foundation Basic Science Symposium
Focusing on cell signaling and cancer topics
Date: Wednesday, May 25, 9 a.m. to 4 p.m.
Location: Lurie Medical Research Center — Hughes 303 E. Superior St. (Chicago campus)
Contact: megan-mitchell@northwestern.edu
More information

“Novel Roles for GRKs in the Failing Heart”
Presented by Walter Koch, PhD, W.W. Smith Professor of Medicine, director, Center for Translational Medicine, and vice chairman for Research, Jefferson Medical College
Date: Thursday, June 2, 8 to 9 a.m.
Location: Lurie Medical Research Center — Baldwin 303 E. Superior St. (Chicago campus)
Contact: dlr635@northwestern.edu
More information

“Distributed Plasticity in the Neural Circuitry Underlying Associative Motor Learning”
Presented by John Freeman, PhD, professor of psychology and neuroscience, University of Iowa
Date: Friday, June 3, Noon to 1 p.m.
Location: Ward Building, Room 5-230 303 E. Chicago Ave. (Chicago campus)
Contact: kirsten-byers@northwestern.edu
More information

View more funding opportunities

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