



NORTHWESTERN  
UNIVERSITY

# FSM Research Newsletter

FEINBERG SCHOOL *of* MEDICINE - Office for Research

## Northwestern Medicine Enterprise Data Warehouse (EDW) Now Available for Campus-wide Use

The Northwestern Medicine Enterprise Data Warehouse (EDW), under the leadership of Andrew Winter, is a campus-wide initiative focused on providing clinical data (electronic medical records) to researchers. Funded by Northwestern Memorial Hospital (NMH), Northwestern Medical Faculty Foundation (NMFF), and the Feinberg School of Medicine (FSM), the EDW project started development in January 2007. Its mission is to make available data from all relevant clinical and research systems on campus to facilitate research and operational reporting. It has been in the pilot phase for the last year and is now open for broad research use and access.

The EDW contains copies of the NMH medical record system PowerChart, the NMH billing and registration system PRIMES, the NMFF medical record system Epic, and the NMFF billing, registration, and scheduling system IDX, in addition to a handful of smaller, ancillary systems. These copies are updated nightly and comprise the vast majority of the clinical data on campus including clinical and billing diagnoses, lab results, medication orders and administrations, plus many other types of data.

In its pilot phase, the EDW provided data to more than 50 research projects ranging from obstetrics to cerebral hemorrhage. The EDW has a growing set of tools to assist investigators in getting access to data, but the primary

tool in this process is called My Cohorts. My Cohorts provides the ability for an investigator to download standard or customized datasets for a particular cohort of patients that has been submitted to the EDW. For instance, an investigator could request all chemistry panel results for a set of patients on a clinical trial. Each time the report is downloaded, it would be updated with the most current data from the EDW.

Using the EDW for clinical trial participant recruitment has also been piloted with a few studies. Investigators have provided a set of basic criteria used to identify potential participants. The EDW team created a report in My Cohorts that provides an on-demand list of which patients meet those criteria and when they are scheduled to come into a particular clinic.

The EDW is the only such project in existence to have successfully loaded and validated such a complete set of data from a Cerner Millennium system and make it available for analytics. In particular, FSM is the only known Millennium client to have extracted all text reports and indexed them. Such technology allows an investigator to ask questions like, "Show me all the discharge summaries with pneumonia found in them." The EDW team has also integrated technology recently made available by MIT that automatically de-identifies text reports, allowing for new options in performing research on de-

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April 2009

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## Meet Dr. Stephen D. Miller: 2009 Tripartite Legacy Faculty Award Winner



Stephen Miller, PhD  
Judy Gugenheim Research Professor of  
Microbiology-Immunology

### *What are your research interests?*

My research interests are in therapy of immune-mediated diseases, predominantly autoimmune diseases. The lab uses animal models of both multiple sclerosis, an autoimmune disease which affects the central nervous system, and type 1 diabetes, which targets the pancreatic beta cells that produce insulin. The major focus of the lab is to understand the immune-mediated process leading to destruction of either myelin or pancreatic beta cells, depending on the disease. More importantly, we focus on how to intervene in those diseases, using immunotherapy to shut them off. The ultimate goal of the lab is to develop new immunotherapies that can be translated to

the clinic for treatment of patients with MS or type 1 diabetes.

Our particular interest is in using what immunologists call immunologic tolerance, which specifically tries to inactivate the function of the auto-reactive T cells that target the tissues in both of those diseases. Most auto-immune diseases are treated by what we call collectively immunosuppressive therapies. These therapies dampen down the immune system's ability to either respond to the self-antigen, or target the lymphocytes mediating the damage, by trying to prevent their entry into the tissue in which the damage is being directed at. These types of therapies are called immunosuppressive because they are not specific to only the autoreactive cells involved in the disease. They actually have side-effects on immune responses that we all require to deal with every day infections, and to fight tumor cells that might arise as the result of mutations, or other types of insults that lead to cell transformation. If immunosuppression is using a sledge hammer, immunologic tolerance is using a scalpel that only targets the autoreactive T cells.

We have developed fairly effective methods of tolerance induction that have proven true in the animal models for only affecting the cells involved in the autoimmune response. We have shown in the animal models that we can not only use tolerance to prevent disease, but more

importantly, we can initiate the disease and use tolerance to turn off the disease once it has already ensued. That makes the tolerance method much more amenable to translation into the clinic.

### *What projects are currently under way?*

Based on the work we have done in the laboratory over the years, we now have two clinical trials in the making. The first trial, starting in several months, will be conducted at the University of Hamburg in Germany in collaboration with Dr. Roland Martin. This trial will focus on trying to induce tolerance to myelin proteins in newly diagnosed relapsing/remitting MS patients. The second clinical trial, currently in planning stages, will employ a similar model for inducing tolerance to insulin proteins in newly diagnosed type 1 diabetic patients.

### *Why did you choose to join Northwestern?*

I came to Northwestern in 1981 because I wanted to be a part of an academic institution where I could interact with graduate students and postdoctoral trainees, and collaborate with colleagues with similar research interests. Since that time I have worked with a multitude of collaborators in varying diseases. Currently, I have a number of collaborations with others in the institution. I work closely with Dr. Xunrong Luo in nephrology using tolerance to treat type 1 diabetes, in addition to using tolerance to try to regulate graft rejection. One of the

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identified datasets.

Data requests from the EDW can be fulfilled in two main ways: directly by the core EDW team or using a data analyst to whom an investigator may have access. The EDW is designed to support a hub-and-spoke model, with data analysts funded directly by research activities having access to the data they need, provided the IRB approvals are in

place and the analysts comply with the campus policies for EDW use. The EDW provides regular meetings for different classes of data (inpatient, outpatient, research) where all analysts can meet with the EDW core team and discuss questions, problems, and approaches. These meetings are intended to train data analysts on using the EDW; however, it is expected that all such users already have moderate SQL skills.

Investigators needing data from the EDW should place a request at <http://edw.northwestern.edu>, describing the nature of the request. Data analysts interested in the self-service model can place a request at the same address. A member of the EDW team will follow up shortly after the request has been placed into the queue.

proposed therapies for patients with long standing type I diabetes is to do islet transplantation. In patients that have destroyed their own pancreatic beta cells as a result of autoimmunity, we try to replace these cells by collecting and transplanting islets from another individual or even species. Furthermore, the same tolerance model that has been very effective for inducing tolerance to autoantigens in the autoimmune disease models has also turned out to be very effective for alloantigens, antigens on tissues gathered from one mouse strain and put into another mouse strain. We are working very closely with Dr. Luo on a number of projects funded by the Juvenile Diabetes Research Association. Through these studies, we are trying to understand how we can control rejection of transplanted islet cells using specific tolerance immunotherapy, rather than using immunosuppressive drugs.

In another collaboration, Dr. Jayme Borensztajn in pathology and I recently submitted a grant to NIH for a mouse model of atherosclerosis. It has been elucidated in recent years that the disease actually has an autoimmune component as well. We are proposing to induce tolerance to antigens that are thought to be important in that pathologic process to see if we can prevent onset in animal models, and more importantly to determine if tolerance can reverse pre-existing atherosclerosis. Lastly, I work Dr. Paul Bryce in the Division of Allergy-Immunology in the Department of Medicine. Paul studies animal models of allergic asthma, an immune-mediated disease directed against environmental antigens that one breathes into the lungs. We have used our tolerance protocol successfully in preliminary experiments, showing that if we tolerize animals to an allergen, we can prevent induction of allergic asthma in a mouse model. We used this preliminary data to get a grant recently, which will ask if we can use tolerance to treat food allergies in an animal model.

### *What challenges do you face?*

As a PhD, one faces many obstacles when trying to focus on translational research. To bring our work in the lab to clinical trial, we must pair with an MD working in the particular disease area that we want to target, using our methodology to induce tolerance. The other major challenge is simply the success rate of taking what one finds in an animal model of disease and bringing that to clinic. The odds are very slim, probably less than 1% of the time can one do this. There is a real challenge in getting FDA approval to do clinical trials, and after approval, to then find funding for the trials. It's a very long, involved process. To illustrate, the paper I published as a postdoc, which lays the basis of the therapeutic model we are using to induce tolerance in all diseases discussed, came out in 1979. I have persisted in studying this model for thirty years, and am finally bringing my research to clinical trial. It's quite exciting, especially as a PhD, to be close enough to determine whether the model you have spent your whole scientific career studying might translate into something useful for mankind.

## FSM in the News

### **NU scientists' new oral vaccine might be cure for needles' sting**

*Chicago Sun-Times—March 28th*

<http://www.suntimes.com/lifestyles/health/1500493,CST-NWS-vaccine29.article>

Not a big fan of needles? A new type of oral vaccine is being developed by Northwestern University scientists to take the sting out of getting immunized.

The vaccine, which might one day be administered in the form of a pill or drink, is made with the healthy bacteria known as probiotics that are found in yogurt and other dairy products.

### **Stem Cell Injections Seem to Reduce Angina Pain**

*Forbes - March 29th*

<http://www.forbes.com/feeds/hscout/2009/03/30/hscout625568.html>

In people with severe angina, injecting their own stem cells into the heart muscle appears to reduce pain and improve their ability to exercise, say U.S. researchers.

"The results from this study provide the first evidence that a patient's own stem cells could actually be used as a treatment for heart disease," Dr. Douglas Losordo, director of the Feinberg Cardiovascular Research Institute at Northwestern University's Feinberg School of Medicine in Chicago, said in a university news release...

### **Surprisingly High Rate Of Patients Readmitted To Hospital Within A Month**

*Science Daily—April 2nd*

<http://www.sciencedaily.com/releases/2009/04/090401181232.htm>

When a patient is discharged from the hospital, just about the last thing he or she wants is to be back in again within the next month. But a new national study has found that's exactly what happens to one out of five Medicare patients, costing billions in health care and suffering for patients.

The study, coauthored by a researcher from the Northwestern University Feinberg School of Medicine, also found that more than half the patients rehospitalized within 30 days appear not to have seen a physician as an outpatient since they were released from the hospital.

### **Transplants help Type 1 diabetics skip insulin**

*Reuters—April 14th*

<http://www.newsweek.com/id/183842>

People with type 1 diabetes who got stem cell transplants were able to go as long as four years without needing insulin treatments, U.S. researchers said on Tuesday.

Dr. Richard Burt of Northwestern University's Feinberg School of Medicine in Chicago and colleagues first reported on the short-term success of the procedure, known as autologous non-myeloablative hematopoietic stem-cell transplantation, in 2007 but have since looked at how long it persisted.

## Student Profile: Eric Brown



Eric Brown: IGP Program, Woloschak Lab

### *Where is your hometown?*

I was born in Chicago and raised in Palatine, Illinois by my parents (Michael and Susan) alongside my brother (Matthew), sister (Jennie), and dog (Comet). Currently, I live in Wheaton, Illinois with my lovely wife (Georgia), and we are expecting our first child this summer.

### *Where did you go for your undergraduate degree?*

I attended North Park University in Chicago where I double majored in biology and psychology. While at North Park, I was also very involved in education outreach within the university's service program, Urban Outreach. Whether it was tutoring at-risk elementary students or working with homeless teenagers, these volunteer experiences were very rewarding. The faculty at North Park were tremendous mentors, and my ecology research focused on development of novel water monitoring protocols in collaboration with Friends of the Chicago River. After graduation, I obtained my MS in biology from Loyola University where my research evaluated the effect of human-induced global climate change on aquatic ecosystems.

### *What are your research interests and what exciting projects are you working on?*

My research interests include using nanotechnology in diverse biological applications. Specifically, I am developing biologically modified nanoparticles (nanoconjugates) as a tool to be used for detection and elimination of deleterious genes. Nanotechnology may provide more sensitive methods of imaging and treatment that will benefit patients with cancer or viral infections. Currently, I am evaluating the DNA hybridization capabilities of peptide nucleic acid (PNA)-titanium dioxide (TiO<sub>2</sub>) nanoconjugates that are coated with photosensitive dyes and determining their capacities to induce DNA damage as a gene targeting agent.

### *What attracted you to the IGP program?*

When searching for a PhD program, I was impressed with Northwestern's stellar academic reputation and the emphasis that the IGP program places on interdisciplinary research. The research was cutting edge, and the access to first-class facilities at both the Chicago and Evanston campuses was very attractive. The fact that IGP has a full-time associate director (Dr. Steven Anderson) played a large role in my decision. Having a strong student advocate to ask advice of and guidance from has proved to be invaluable.

### *How often do you have to travel between the two campuses?*

Although our laboratory is located on the Chicago campus, I have traveled to the Evanston campus fairly frequently to use the nanotechnology-related equipment at the NUANCE facility. It has been great to take advantage of all Northwestern has to offer.

### *What has been the best (or worst) experience so far?*

The best experience has been working with dedicated, world-class faculty and students. The most challenging part was making the transition from ecology research to biomedical research during my first year in the IGP program.

### *How would you describe the faculty at FSM?*

The faculty are very approachable and supportive. I am particularly grateful to my advisor (Dr. Gayle Woloschak), committee members (Drs. Teng-Leong Chew, David Dean, Yoshio Fukui, and Jorg Maser), and mentor (Dr. Tatjana Paunesku) for helping me develop as a scientist.

### *What do you like to do for fun?*

During my free time, I enjoy spending quality time with my wife and hanging out with family and friends. I also like lifting weights, running, playing chess, and reading.

### *What are your plans for after graduation?*

I have enthusiastically accepted an assistant professor of biology faculty position at the University of Wisconsin-Whitewater, beginning this August. I am eager to work with UWW students both in the classroom and the laboratory. The research in my laboratory at UWW will focus on developing biologically modified nanoparticles in novel manners to benefit disease detection and treatment.

### **Core Fact:**

#### **Small Animal Imaging**

*Did you know that the Cell Imaging facility has instruments for small animal imaging? An Olympus OV-100 provides non-invasive macro viewing of fluorophores within small animals. An Olympus IV-100 uses microprobe lenses the size of 16-gauge needles for intravital imaging at single cell resolution through a small surgical incision. This instrument is one of only three available in the U.S.*

## Staff Profile: Francine Blazowski



Francine Blazowski, MSW: Special Assistant to the President & Scientific Director of the Children's Memorial Research Center

### *How long have you been at NU?*

January 2009 marked the beginning of my sixth year working with Dr. Mary Hendrix in the Office of the President & Scientific Director of the Children's Memorial Research Center – one of Northwestern's Centers of Excellence. During my graduate school days I supported the chair of psychiatry at Northwestern, Dr. Sheldon Miller, and had the privilege of completing an internship in the hospital's Emergency Housing Program — a psychiatric facility providing supportive services to dual diagnosis patients transitioning from hospitalization.

### *Where are you from?*

Prior to the Children's Memorial Research Center, my career focus was on employee development and operations analysis matters, working on projects at for-profit enterprises throughout the United States. For a number of years I simultaneously directed a grass-roots volunteer project I had developed while providing supportive social services in Chicago's Uptown neighborhood. This volunteer initiative comprised seamstresses — the young, the young-at-heart, and the disabled — who contributed the fabric and notions, then designed and sewed the clothing and toys for children in our own communities who

lacked the basic means necessary for a decent standard of living. My historical roots lie in the coal mines of southwestern Pennsylvania, rural upstate New York, and Maryland. I grew up in metropolitan Chicago and spent many childhood summer vacations within the Washington, D.C. – Baltimore corridor.

### *What is your education background?*

I graduated valedictorian with a master's degree in psychiatric social work and a bachelor's degree cum laude in political science — both from Loyola University Chicago. Minor studies included business, anthropology, classical studies, and theology.

### *What is your role in the Department?*

The special assistant to the president & scientific director of the Children's Memorial Research Center is involved in supporting the center's mission of scientific research; advancing strategic planning and policy development; advocating for biomedical research initiatives and funding; supporting philanthropic initiatives to fund the various scientific programs within the research center; fostering intra- and extramural collaborations; and ensuring that the day-to-day operations of the president's office run smoothly and efficiently.

### *What is a typical day like for you?*

Each day presents unique opportunities to advance the mission of the research center and to promote biomedical research. One day may be devoted to sharing information about the center's programs with philanthropists that culminates with a glamorous night at the ball, while another day would be focused on Dr. Hendrix's testimony before the Congressional Appropriations Subcommittee on behalf of increased funding for the National Institutes of Health. Still another day may find me chasing after an elusive courier delivery or replacement toner cartridge.

### *Why did you choose to work here?*

The dynamic and thoughtful nature of the projects emanating from this office and the stimulating environment keep me highly engaged. I enjoy partnering with my colleagues at the Feinberg School of Medicine on institution-wide initiatives and attending the annual Business Staff Retreat. The retreat provides an opportunity for sharing new ideas and gaining a greater understanding of the research center's role in the vision of One Northwestern and the Great Academic Medical Center.

### *What do you like/dislike about your job?*

I am satisfied knowing that every matter addressed in this office may have a positive impact on the health and well-being of someone, and that my actions can contribute to improving lives. Unfortunately the limited funding resources during periods of economic contraction make it impossible to support many of the very solid grant proposals that just miss the pay line, but the American Recovery and Reinvestment Act holds promise.

### *What are your hobbies or favorite books/movies?*

My hobbies include ballroom dancing; rock and roll music; discovering neighborhoods, towns, and the great outdoors; historical novels and movies; economic trends; and cooking.

### *What do you like to do in your free time?*

I enjoy Chicago White Sox baseball, and long-distance train travel on Amtrak to satisfy my curiosity as to what lies beyond the horizon.

### *Is there anything else you would like to add?*

A heartfelt thank you to the scientists and generous donors who embody hope for discoveries, treatments and cures for disease, and another heartfelt thank you for this opportunity to provide insight into the Children's Memorial Research Center.

## Sponsored Awards



**Alan Hauser, PhD**  
Associate Professor,  
Department of Microbiology-Immunology

**Project Title:** *Pseudomonas Aeruginosa*  
Genomic Islands and Virulence  
**Sponsor:** National Institute of Allergy and  
Infectious Diseases

*Pseudomonas aeruginosa* is an opportunistic bacterial pathogen that causes a number of infections in humans. We previously showed that isolates of this organism differ markedly in their intrinsic virulence and that some isolates have enhanced virulence because they have acquired additional genetic material in the form of genomic islands. In the current project, we will identify genomic islands that confer a hypervirulent phenotype on *P. aeruginosa*. We will characterize the genes within these islands responsible for the enhanced levels of virulence, thus increasing our knowledge of the mechanisms by which *P. aeruginosa* causes severe disease.



**Charles J. Heckman, PhD**  
Professor, Department of Physiology

**Project Title:** Effects of Monamines on  
Motoneuron Discharge Patterns  
**Sponsor:** National Institute of Neurological  
Disorders and Stroke

Motor neurons are the output of the CNS for all movements. Motor neuron excitability relies on neuromodulatory input from the brainstem, especially from axons releasing serotonin and norepinephrine. Yet these neuromodulatory effects also induce distortion in motor neuron processing, and in the proposed studies we investigate whether inhibition coupled to excitation in a push-

pull fashion can correct for these distortions and restore accurate motor output. It is possible that loss of voluntary control of inhibition in hemiparetic stroke patients is a primary mechanism of spasticity.



**Wyndham W. Lathem, PhD**  
Research Assistant Professor,  
Department of Microbiology-Immunology

**Project Title:** Global and Temporal Effects of  
Virulence Gene Expression During Pneumonic  
Plague  
**Sponsor:** National Institute of Allergy and  
Infectious Diseases

Pneumonic plague is the deadliest manifestation of disease caused by *Yersinia pestis*, a "select agent" bacterium responsible for multiple worldwide pandemics, including the Black Death. A necessary component of *Yersinia* virulence during infection is a Type III secretion system that delivers six effector proteins directly into the cytosol of host cells. This system affects phagocytosis, inflammation, and activation of effective immunity, but there is little information on the specific roles the Yops play in the development of primary pneumonic plague. Therefore, the goals of our study are to determine how each of the Yops contribute to the virulence of *Y. pestis* and alter the host inflammatory state during primary pneumonic plague, and to examine how the timing of bacterial gene expression affects the ability of *Y. pestis* to modulate the inflammatory response in the lung. With this work, we anticipate developing a better understanding of how *Y. pestis* is able to successfully infect the lungs and cause disease, which will facilitate the identification of targets for vaccine development and treatment for this public health threat.

## ANIMAL RESEARCH CORNER

Compliance with approved animal study protocols is a regulatory requirement that can be accomplished in a variety of different ways. At Northwestern, we have chosen to have an official Post-Approval Monitoring Program (PAM). The PAM Program helps ensure program and document integrity, compliance, and adherence to protocols. The program reviews active protocols to ensure that labs are doing what is actually written in the protocol and if they are not, barring any major deficiencies, to adjust their protocols to reflect what is actually being performed. The goal of the PAM Program is not to get anyone into trouble but to catch any issues that may arise before they are at a point where they become a compliance issue. The program is also a great way to facilitate information exchange between the involved parties and to provide training assistance if needed.

Here at Northwestern, because of the size of the program and the number of protocols involved, our goal is to visit each protocol with

a PAM every three years. To date, 62 PAM visits have occurred that involved 59 investigators and 72 protocols. Most of the notations that have been made on protocols have been minor and were easily correctable.

If you are a principal investigator (PI) on an animal study protocol you, at some point, will be contacted by Sue Kallay, the PAM Program administrator, to schedule a visit. If you have any questions about the program, please feel free to contact Sue via e-mail at [s-kallay@northwestern.edu](mailto:s-kallay@northwestern.edu) or by phone at 312-503-1560.

You may also visit the CCM website at [www.research.northwestern.edu/ccm](http://www.research.northwestern.edu/ccm) for more information including a summary of the program and the associated documents.



*Look for weekly event announcements and funding opportunities in your e-mail!*

## Upcoming Events

### Second Annual ANSER Solar Energy Symposium

Keynote Address: "Powering the Planet with Solar Fuel"

**Speaker:** Harry B. Gray, Cal Tech

**Day 1:** May 5, 2009

**Time:** 6:30-7:30p.m..

**Location:** Northwestern University, Evanston Campus, Coon Auditorium

**Day 2:** May 6, 2009

**Time:** 8a.m.-5p.m.

**Location:** Northwestern University, Evanston Campus, McCormick Tribune Forum

**Contact:** Jane Wuellner (847) 467-1972

### Fifteenth Annual Alzheimer Day

Keynote Address: "Alzheimer Disease Treatment Development: Opportunities and Challenges"

**Speaker:** Jeffrey Cummings, MD

**Date:** Friday, May 8, 2009

**Time:** 11:30a.m.-4p.m.

**Location:** Northwestern Memorial Hospital, Feinberg Pavillion, 251 E. Huron Street, Third-Floor Conference Center

**Contact:** Darby Morhardt (312) 908-9023

### H Foundation Annual Basic Science Symposium: Epithelial to Mesenchymal Transition (EMT)

The symposium...will discuss topics of relevance to tumor biology and cancer. The symposium will feature work that uses state-of-the-art imaging techniques to study tumor cell dynamics and EMT.

**Date:** Friday, May 15, 2009

**Time:** 8a.m.-5p.m.

**Location:** Robert H. Lurie Medical Research Center, 303 E. Superior Street, Hughes Auditorium

**Contact:** Megan Mitchell (312) 695-1391

### Sixth Annual Northwestern University Clinical Research Educational Conference & Poster Session

**Presented by:** NUCATS Institute & ACRP

**Date:** Friday, May 15, 2009

**Time:** 8:30a.m.-3:30p.m.

**Location:** Northwestern Memorial Hospital, 251 E. Huron Street, Mecklenberg Conference Room

**Contact:** NUCATS Institute (312) 503-7952

*Event organizers are encouraged to submit calendar items on [Plan-it Purple](#). For more events, visit [www.feinberg.northwestern.edu/research/calendar/](http://www.feinberg.northwestern.edu/research/calendar/).*

## Funding Opportunities

### Biobehavioral Methods to Improve Outcomes Research (R01)

<http://grants.nih.gov/grants/guide/pa-files/PA-09-125.html>

Proposal Submission Deadline: 6/5/2009

Amount: This FOA will utilize the R01 grant mechanism. An applicant may request a project period of up to five years. Budgets of \$500,000 and over need prior approval. Cost sharing is not required.

Synopsis: This Funding Opportunity Announcement (FOA) solicits Research Project Grant (R01) applications from institutions and organizations that propose to foster biobehavioral research and develop innovative research designs, methods of measurement, and data analysis techniques. Designs and methods that examine the impact of biologic and behavioral variables on individuals' health outcomes and quality of life are encouraged. Scientists are encouraged to increase the interface of biobehavioral research and clinical practice in existing core and exploratory centers and training programs by sharing findings and designing collaborative research projects. Ideally, interdisciplinary researchers should overcome differences in perspectives, incentives, and methods by going beyond usual collaborations to engage others to solve problems creatively and efficiently.

### Promoting Careers in Aging and Health Disparities Research (K01)

<http://grants.nih.gov/grants/guide/pa-files/PAR-09-136.html>

Proposal Submission Deadline: 6/12/2009

Amount: This FOA will utilize the Mentored Research Scientist Development Award (K01) mechanism. An applicant may request a project period of three to five years and a budget for direct costs of up to \$150,000 per year in response to this FOA. Cost sharing is not required.

Synopsis: The purpose of this Funding Opportunity Announcement (FOA), Promoting Careers In Aging and Health Disparities Research (K01), is to provide support and protected time to eligible individuals who have been determined by the grantee institution to be committed to a career in health disparities research related to aging and who are members of or knowledgeable about health disparity population groups. Nationally, health disparity population groups include, but are not limited to, African Americans, Hispanic Americans, American Indians/Alaska Natives, Native Hawaiians, Pacific Islanders, the medically underserved, low socioeconomic populations, and rural populations.

For more funding opportunities, visit:

[www.feinberg.northwestern.edu/research/funding-opportunities/](http://www.feinberg.northwestern.edu/research/funding-opportunities/)

**We want to hear from you!**

**Your feedback and suggestions are always welcomed!**

**Feinberg School of Medicine Office for Research**

**E-mail: [fsm-research@northwestern.edu](mailto:fsm-research@northwestern.edu)**

**Phone: 312-503-1499 Fax: 312-503-2790**

**[www.feinberg.northwestern.edu/research/](http://www.feinberg.northwestern.edu/research/)**