New Department Will Expand Scope of Outcomes Research

This spring, Feinberg School of Medicine announced the creation of the Department of Medical Social Sciences, which will focus on outcomes science, health measurement, quality of life issues, and the development of statistical tools to use in related research. The new department is led by David Cella, PhD, professor of Psychiatry and Behavioral Sciences at Feinberg and in the Institute for Healthcare Studies and the Robert H. Lurie Comprehensive Cancer Center. Dr. Cella previously served as the executive director for the Center on Outcomes Research and Education at NorthShore University HealthSystem, formerly known as Evanston Northwestern Healthcare.

The new department enhances Feinberg’s stature as a leader in outcomes research, which is playing an increasing role in finding the best, most effective ways to understand, diagnose and treat illness. “This area of research is helping us evaluate how various treatment strategies affect results that are important to patients, including quality of life,” Dr. Cella says. He explains that establishing this department provides Feinberg with new and different opportunities to expand the scope of outcomes research. “In addition to supporting the efforts of clinical research studies, we will generate and participate in large-scale epidemiological studies that look at outcomes in relation to genetic factors, for example.”

A noted expert in patient-reported outcomes research, Dr. Cella will continue in his role as coordinator of the Patient-Reported Outcomes Measurement Information System (PROMIS), which aims to transform the way patient-reported outcome tools are selected and used in clinical research and practice evaluation. PROMIS, which is funded under the NIH Roadmap for

(Continued on page 2)
Medical Research Initiative, is a cooperative network that includes Northwestern, Stanford University, University of Washington, University of Pittsburgh, and University of North Carolina at Chapel Hill, Duke University and Stony Brook Medical Center. “The goal of PROMIS is to create a common, publicly available instrument to measure patient-reported outcomes across conditions,” Dr. Cella says. “PROMIS is developing ways to measure patient-reported symptoms such as pain and fatigue, as well as aspects of health-related quality of life, across a spectrum of diseases and conditions.” He adds that PROMIS includes development of a tool which, with a minimal number of measurements, will allow physicians to track and evaluate symptoms with greater immediacy so that any needed interventions, such as a change in medication or dosage, can be implemented expeditiously.

Dr. Cella’s current projects also include an effort similar to PROMIS in neurologic clinical research, referred to as “Neuro-QOL.” Funded by the National Institute of Neurological Diseases and Stroke, Neuro-QOL is aimed at standardizing a method for collecting patient-reported outcomes in patients with a range of neurologic diseases including stroke, Parkinson’s disease, epilepsy, ALS, multiple sclerosis and muscular dystrophy.

Clearly, patient-reported outcomes will be a strong focus of the Department of Medical Social Sciences. “One of our priorities will be creation of an infrastructure that will allow us to explore if and how patient-reported outcomes are an expression of genetic differences,” Dr. Cella explains. “For example, we may explore how medication side effects differ in some patients, and whether those differences might be tied to a specific phenotype of the disease itself. We could then consider whether the mechanism that caused the side effect might in fact be related to the mechanism of the disease itself. This kind of information could potentially have far-reaching implications on the way we provide care.”

Dr. Cella says that creation of this new department at Feinberg reflects the medical community’s increasing focus on the importance of social science issues such as quality of life, health literacy and cross-cultural considerations. He attributes much of this evolution to three factors: the advent of consumerism in health care, the increase in systems to support collection of information, and cost factors.

He notes, too, that the new Department of Medical Social Sciences, though less than 6 months old, is already robust, with 14 faculty members and 30 staff. “Establishing a department focused on social science issues, especially since it is housed within the medical school, speaks volumes about Feinberg’s commitment to translational research,” he says. “We are excited about our work because it will support the efforts of researchers at Feinberg and beyond in their ultimate goal, which is to improve patient care.”

(Continued from page 1)

Student Receives Howard Hughes Medical Institute Research Training Fellowship

Aron Eifler, a third year medical student at Feinberg, was recently awarded the Howard Hughes Medical Institute Research Training Fellowship. One of the most prestigious research awards for medical students, the fellowship enables a student to take one year off from medical school to conduct research full-time for twelve consecutive months.

Supported by an annual stipend, research allowance, and funds for health insurance, the fellow pursues research under the direction of an investigator.

Aaron will be conducting research under the mentorship of Dr. Reed Omary and Dr. Shad Thaxton, for the project titled “Image-Guided Localized Delivery of Functionalized Nanoparticles for Treatment of Pancreatic Cancer.” The aims of the project are to compare localized versus systemic delivery of nanoparticles in pancreatic tumors, and to monitor uptake of nanoparticles into the tumors in comparison with the non-neoplastic pancreatic tissue.

This project will combine the technique of intra-arterial catheterization and TRIP-MRI monitoring with nanoparticle therapy. After performing vascular catheterization to locally target the pancreatic tumor, a TRIP-MRI will be taken to confirm targeting, and the nanoparticle agent will be injected through the catheter into the tumor. These therapeutic nanoparticle conjugates, developed by co-mentor Dr. Shad Thaxton, will specifically target aberrant intracellular molecular pathways central to development of pancreatic cancer.
What are your research interests?
As a practicing interventional radiologist, my clinical and research interests are focused within interventional oncology, specifically the treatment of liver and pancreatic tumors using minimally invasive image-guided therapies. The field of interventional oncology represents the fourth arm of oncology, with the others being medical, surgical, and radiation oncology. Interventional oncologists use imaging guidance to treat tumors as locally as possible, thereby reducing the toxicities associated with systemic chemotherapies.

In conjunction with my superb collaborator, Andrew Larson, PhD, Assistant Professor of Radiology at Northwestern, our team has developed a new method to monitor the injection of therapeutic agents into the blood supply of tumors. Without surgery, using only a 2mm skin nick at the groin, we are able to place a catheter into the arteries that supply blood flow to the tumors. We then use magnetic resonance imaging (MRI) to monitor the delivery and effect of such therapy. This approach allows us to verify that the tumors will be successfully targeted, while sparing as much uninvolved tissue as possible. In this way, we can maximize therapeutic benefit and minimize toxicity. We can also use this technique to help predict the outcomes of our therapies.

What research projects are you currently pursuing?
I am currently pursuing a translational research program to develop catheter-directed therapies for liver and pancreatic tumors. For instance, our research team employs a rabbit model of liver cancer to refine our MRI monitoring techniques. We then translate these improvements to patients with liver cancer who undergo chemoembolization at NMH. Through separate grant mechanisms, NIH is actively funding both the pre-clinical and the clinical portions of this research.

In the field of interventional radiology, we are in an optimal position to bring advances from the laboratory to the hospital. Using imaging guidance, we have the ability to place catheters or needles anywhere in the body. We can then use these devices to deliver novel therapeutics to patients. However, as I am a strong believer that the greatest advances in medicine occur at the interface between disciplines, I have actively sought collaborations with investigators outside of my field of expertise. I am especially optimistic about ongoing collaborations with a number of world-renowned nanoscientists at Northwestern, including Tom Meade, Chad Mirkin, C. Shad Thaxton, and Gayle Woloschack. We already have several funded projects for image-guided delivery of novel nanotherapeutics. I am hopeful that these collaborations will lead to some early clinical trials. The terrific support of Dr. Steve Rosen and the Cancer Center has positioned Northwestern as the premiere site to test these innovative approaches.

What are some of the challenges you face?
At work, my biggest challenge is balancing time between clinical, research, and administrative responsibilities. I also have to find a balance between work and home life. This past year, I was thrilled to become a father. I have learned to schedule my evenings around my son, so I am able to spend time with my wife and him. Once he goes to bed, however, it’s often back to work!

Why did you join Northwestern?
I have been affiliated with Northwestern University since 1985, when I joined as an undergraduate in the six year HPME program. Following graduation from the Feinberg School of Medicine, I went away for my residency, then returned to Northwestern for my fellowship. My interest in interventional radiology was fostered by my medical school advisor, Dr. Bob Vogelzang. I feel privileged to have been supported by Dr. Vogelzang since my time as a student, and now I have the good fortune of working with him as one of my partners in interventional radiology at Northwestern. I believe that having a great mentor is instrumental to succeed in medical school and to develop a path as a future medical researcher or physician.
no one has seen before. Pancreatic cancer has an unfortunately dismal prognosis and it doesn’t seem like the incremental advancements in its therapy have offered the outcome improvements that researchers and clinicians had hoped for. This project has the potential to offer a completely novel treatment, and hopefully along with that will come more than an incremental improvement in outcomes for a disease that so desperately needs it. I think this novel approach is a product of the project’s collaborative nature. It’s a truly multidisciplinary effort that incorporates advancements from not only both campuses, but from the entire spectrum of basic to clinical science. It’s very exciting to be part of this collaboration as well.

What attracted you to the HHMI Research Training Fellowship?
I had a great summer research experience between M1 and M2 years working on the beginnings of this project and knew pretty early on that I might want to continue working on it. I thought that going through the HHMI Medical Fellows program would give me the best opportunity to do that and I was fortunate enough to be awarded a fellowship.

How often do you have to travel between the EV and CHI campus?
I’ve had the chance to get up to the lab in Evanston a few times now, but between finishing the rest of second year and studying for boards, it’s been a little while since I was there last. As soon as I start full time in July, I’m sure I’ll be back and forth quite a bit.

What has been the best (or worst) experience so far?
Best: being awarded the fellowship after working on the application for so long.

Worst: one of the first times riding the shuttle to Evanston, I tried getting off at an intersection that I thought was my stop. The doors wouldn’t open so I struggled with them and made a scene in front of the shuttle full of people. A girl next to the door politely told me that the stop was at the next intersection. I had mixed up the streets and the worst part is that I lived in Evanston for four years as an undergrad…

How would you describe the faculty at FSM?
Supportive. Since day one, I’ve had incredible support from both campuses, the entire IR department and especially my mentors. They all make it as easy as possible to learn a lot and get things done.

What do you like to do for fun?
I’m a big Cubs fan, so I like to get to games as much as I can, but I’m not sure if that actually counts as fun or punishment… Besides that, going out in Chicago with friends is always a great time.

What are your plans for after graduation?
I probably have a different idea about this every week so it’s tough to say. I’ve really enjoyed the research I’ve done so far as well as the limited exposure we’ve had to patients, so I think it would be great if I could do both in the future. Some HHMI fellows have gone on to get PhDs so I suppose that could be an option too. Ask me again in a year…

NOTICE: Installing New Equipment
So you just got a shiny new -80 freezer for your irreplaceable samples, and you think all you need to do to get it started is plug it in, right? WRONG! Just because there is an outlet nearby, doesn’t mean that it can handle the power requirements of the new equipment. Like your electrical circuits at home, circuits in the lab can only handle so much, usually 20 amps. It may not always be clear how many plugs are connected to a single circuit. In recent renovations, Facilities has been placing numbers on all plugs to indicate which circuit that plug is connected to. However, you can’t always find or see all the nearby plugs, and you may not know how much power other things connected to it will draw.

Your best bet for new equipment is to contact Facilities Management to verify how much power the new equipment requires, and whether there is a nearby outlet it can be safely connected to. If not, they can install a new circuit, as necessary. They would much rather assist you up front than have to help you clean up the mess after something goes wrong. You should do this for new freezers, centrifuges, or any other equipment that requires substantial power.

For assistance with installing new equipment, the preferred method is to use FAMIS self-service (http://www.northwestern.edu/fm/). Alternatively, you can call 3-8000.
Staff Profile: Todd Leasia, Director, Office of Research Safety

How long have you been at NU?
Since September, 1978. My first job was health physicist, followed by a series of promotions to radiation safety supervisor, assistant radiation safety officer, interim radiation safety officer, and manager of the Chicago office. In 1989 I became director of ORS and Radiation Safety Officer (until 2004). I also served as interim associate vice president for research integrity in 2003 and 2004, and I am the Responsible Official for select agent compliance.

Where are you from?
My family roots are in Minnesota but I’ve always called Colorado home. When we moved there in the late ’50s the air was still clean and Denver smelled like a cow town. We owned horses and I learned how to ski.

What’s your education background?
A combination of formal education and school of hard knocks. I got my bachelors degree in biological sciences at Colorado State University, then I enlisted in the Army. Some important education took place at Ft. Lewis, Washington, military posts in Texas, and Vietnam. While in Vietnam I was a medic in a small detachment at Bearcat, which was base camp for the Royal Thai Army. I had lots of, well, interesting adventures there. After I got out of the army I drove a truck, travelled, and audited a lot of courses, finally ending up back at Colorado State in the graduate school. They had a top program in environmental radionuclide kinetics and the nuclear power industry was in full swing. For a year I milked cows, scythed alfalfa, fished, shoveled silage, and tried to avoid farm dogs while doing environmental sampling and analysis for the Fort St. Vrain nuclear generating station. After graduate school I interviewed with Los Alamos National Laboratory, Babcock and Wilcox (a nuclear fuel fabricator), and Northwestern. Northwestern clearly offered the most potential.

What is your role at the department?
In addition to dealing with all the usual stuff of every department head’s life, I “own” some of the centralized functions such as compliance with the Chemical Facility Anti-Terrorism Standards and the select agents regulations. I currently am a member of the 4 central safety committees.

What’s a typical day like for you?
There is no such thing as a typical day. ORS provides services to 440 PIs and 2,900 workers in 1,200 laboratories plus dozens of non-laboratory workplaces. We are the interface with a dozen federal, state, and local regulatory agencies, and we are subject to inspection by 8 of them. There is always a new regulation, a new deadline, another service to provide, a new management challenge. Our program managers and employees are split evenly between campuses, meaning I take lots of trips on the intercampus shuttle.

What do you like/dislike about your job? The continually evolving variety and challenges have a way of just propelling me forward. We have a real team approach in ORS and sometimes I’m a leader and sometimes I’m just a team member. At one time or another I have performed just about every one of our jobs. The constant challenges related to safety, compliance, and management require creative and critical thinking and interpersonal skills, and it is very satisfying to find solutions that work for our customers. ORS employees are a terrific group and ORS is a congenial workplace; a lot of people want to come and work for us.

What are your hobbies or favorite books/movies?
Close to home, my wife, Melissa, and I complement one another’s kitchen skills. I continue to develop the urban shade garden that our backyard has become. We love taking to the woods and fields with our two English Setters, Tucker (age 12) and Skipper (age 6). Birdwatching is a family tradition and last time I looked I had about 170 birds on my very casual list. I fly fish and we’ve had great camping trips to Colorado and Montana. We have a summer place on a beautiful lake in far northern Wisconsin where we fish, swim, explore the woods, and practice north woods arts and crafts.

My reading and musical tastes are eclectic. I’m currently reading The Street of Crocodiles by Bruno Schulz. I have modest “Victorian naturalist” collections of rocks and minerals, ancient pottery and artifacts, fossils, and other curiosities. Then there are bicycling, physical fitness, photography, archery, shooting, astronomy…clearly there isn’t enough time for it all.
One of the major principals in the animal research world is the use of the 3R’s; Replace, Refine, Reduce. This principal arose in 1959 from the works of two British scientists, W.M.S. Russell and R.L. Burch, who advocated that this principle should always be applied to animal research. The principle is defined as follows:

- Replace the use of live animals by using cell or tissue culture or mathematical models where possible
- Refine the procedures to minimize stress and pain to animals when possible
- Reduce the numbers of animals used to the minimum number of animals that will provide statistically significant data and produce scientific benefit

In an effort to uphold the 3R’s, the Center for Comparative Medicine (CCM) has started a mouse donation center. Mice that are not needed (e.g. not the desired phenotype/genotype) or are slated for euthanasia, may be donated to CCM. CCM will only accept weaned healthy non-pregnant animals separated by sex (i.e. no breeding pairs unless in separate boxes) that are housed in Barrier areas. The mice will be used for educational purposes.

To donate mice, please visit the CCM website at www.research.northwestern.edu/ccm and print the Animal Transfer Form. Complete sections 1, 3 and 4 and either email the form to Mike Ostrowskyj at m-ostrowskyj@northwestern.edu or drop the form off on the 13th floor of the Searle building. You may be contacted for clarification or more information. We do have limited space available for housing so not all donations will be accepted. Once the transfer has been accepted and submitted, it will take approximately 2-3 business days for the animals to be transferred from your protocol. We ask you to help us implement and apply the 3R’s of research here at Northwestern.
Sponsored Awards

Harris Perlman, PhD
Associate Professor, Division of Rheumatology, Department of Medicine

Project Title: Role of BH3-Domain Proteins in the Effector Phase of RA
Sponsor: National Institute of Arthritis and Musculoskeletal and Skin

My laboratory focuses on rheumatoid arthritis (RA), an inflammatory and destructive arthropathy of unknown etiology. Macrophages are one of the central cells in this disease and their numbers directly correlate with a worse prognosis. To this end, we developed a hypothesis that the apoptotic rheostat in macrophages from RA patients is screwed towards survival. Thus, in our two proposals we will use a pharmacological, a whole animal, and a cell-specific approach to identify how deficiency in pro-apoptotic proteins specifically in macrophages exacerbates inflammatory arthritis. We believe that the data gleaned from these proposals will have therapeutic potential for RA patients.

Paul Bryce, PhD
Assistant Professor, Allergy-Immunology

Project Title: Rapid Induction of Tolerance to Food Allergens
Sponsor: Food Allergy Initiative

Food allergy is an increasingly prevalent condition that can have life-threatening consequences. Immunotherapy is a useful approach for many other allergic diseases but is seen as too dangerous for food allergy. This is mainly due to the risk of severe reactions with small amounts of food allergen exposure. This proposal is a collaboration between Dr. Paul Bryce, in the Department of Medicine, and Dr. Steve Miller, in the Department of Microbiology & Immunology. It aims to test ECDI-cell coupled tolerance induction, which Dr. Miller has shown to be effective in the treatment and prevention of autoimmune disease, for food allergy therapy. Dr. Miller has already demonstrated in EAE models that this method of inducing immune tolerance does not cause anaphylaxis, which occurs with more traditional methods. We hypothesize that this novel method of inducing tolerance will be useful for food allergy since it is free from anaphylactic responses. The work will test the safety and effectiveness of ECDI-cell coupled tolerance to peanut and egg proteins using animal models of food allergy.

WSMC in the News

Pregnant snorers risk diabetes
Chicago Sun Times—June 11th
http://www.chicagobusiness.com/cgi-bin/article.pl?articleId=31760

Women who snore frequently during pregnancy could be at greater risk for developing gestational diabetes, a Northwestern University study has found.

The study, being presented today at the SLEEP 2009 conference of the Associated Professional Sleep Societies, was based on interviews with 188 healthy, pregnant women.

Heart Smarts
Men’s Fitness—June 17th
http://www.mensfitness.com/fitness/502

The "big five" risk factors—smoking, family history, elevated cholesterol, diabetes, and high blood pressure—all raise your risk for heart attacks, says Marla Mendelson, M.D., a professor of medicine at Northwestern University Feinberg School of Medicine. To reduce your risk, she suggests you:...

Neighborhood may affect asthma rates
United Press International—June 17th

Neighborhoods with restaurants, entertainment and diversity had lower rates of asthma than neighborhoods with churches or non-profits, U.S. researchers said.

Dr. Ruchi Gupta of Children's Memorial Hospital and Northwestern University Feinberg School of Medicine in Chicago focused on 287 Chicago neighborhoods where nearly 50,000 children grades K-8 were screened for asthma. Chicago has twice the national average asthma mortality rate.

Young women are encouraged to be cardiologists
Chicago Tribune—June 24th

Estela Mendez has become well-versed in the language of cardiology over the last few years, acting as a translator between her Spanish-speaking mother and the doctors treating her mother's heart problems.

It was no surprise then that the teen was eager to apply for a summer program at Northwestern Memorial Hospital that offered a weeklong crash course on the intricacies of the heart and professions available in the field of cardiology.

The cardiology program is one of four science academies held by the Women's Health Science Program at Northwestern University's Feinberg School of Medicine.

WELCOME NEW FACULTY

Tsutomu Kuma joins as associate professor of cardiology. He received his PhD in molecular and cell biology from the Institute of Molecular and Cellular Biosciences at the University of Tokyo. Prior to joining FSM, he worked as assistant professor in the division of cardiovascular medicine at Vanderbilt University Medical School.
Upcoming Events

**Laboratory Safety and Personal Protective Equipment (PPE) Training**
This course covers OSHA's Laboratory Standard, general personal protective equipment, and reading Material Safety Data Sheets (MSDSs). It will provide general laboratory safety information specific to University employees.

**Date:** Thursday, July 2, 2009  
**Time:** 10—11:30 a.m.  
**Location:** Ward Building, Room B132  
**Contact:** Steven Karlman 312.503.8300

**CRC Basic Training**
CRC Basic Training: A Practical Introduction to the Clinical Research Coordinator Role. This intensive course is designed for new coordinators or others who need a fast, thorough introduction to clinical research trial conduct, Good Clinical Practices (GCPs), and the federal regulations governing research. Class size is limited to ensure individualized instruction. Participants will receive 22.0 hours of CE credit through the Illinois Nurses Association.

**Day:** Monday, July 13, 2009  
**Time:** 8:30 a.m.—5 p.m.  
**Location:** Rubloff Building Lakeview Conference Room 750 N. Lake Shore Drive, 11th Floor  
**Contact:** NUCATS Institute 312.503.7952  
http://www.nucats.northwestern.edu/education/CRPT/CRC%20Basic%20Live/index.html

**NURAP Membership Drive**
NURAP, the Northwestern University Research Administration Professionals is a new professional organization open to NU staff involved in any aspect of research administration. We are hosting a morning coffee break for those interested in joining or learning about the group. NURAP aims to foster professional excellence among its members by providing and educational forum to discuss current policies, exchange best practices, and network.

**Date:** Wednesday, July 22, 2009  
**Time:** 10—11 a.m.  
**Location:** Robert H. Lurie Medical Research Center - Atrium  
**Contact:** Dan Rademacher 312.695.1310  
http://www.research.northwestern.edu/nurap/

Funding Opportunities

**Transmission and Pathogenesis of HIV in Women (P01)**

**Submission Deadline:** 7/31/2009

**Amount:** This FOA will utilize the NIH Program Project (P01) grant mechanism. Applicants may request direct costs of up to $1.5 million per year and a project period of up to five years.

**Synopsis:** The purpose of this Funding Opportunity Announcement (FOA) is to support research that will enhance knowledge of transmission and pathogenesis of HIV infection in women through investigations of biologic mechanisms that impact HIV transmission, disease acquisition, progression, and manifestations in women. Applications are sought that address sex/gender-dependent differences in HIV-infected or at-risk women at every age and all stages of the reproductive cycle.

**Exploring Linkages between Health Outcomes and Environmental Hazards, Exposures, and Interventions for Public Health Tracking and Risk Management**
http://fundingopps.cos.com/cgi-bin/fo2/getRec?id=118817&if=search

**Submission Deadline:** 8/5/2009

**Amount:** It is anticipated that a total of approximately $3 million will be awarded under this announcement, depending on the availability of funds and quality of applications received. The EPA anticipates funding approximately five regular awards under this RFA for $500,000 or less. The EPA also anticipates funding approximately two early career projects for $250,000 or less.

**Synopsis:** The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is seeking applications to develop new or improved environmental public health indicators (EPHIs) to build linkages between environmental hazards, human exposures, and public health outcomes. The aim of the research is to develop indicators that can be used for long-term tracking and surveillance of environmental public health, making better informed decisions, and assessing the actual impacts of environmental risk management decisions. A growing number of emerging contaminants are suspected of contributing to adverse health outcomes, but further evaluation of exposure-outcome relationships is needed. Environmental contaminants of interest include, but are not limited to, disinfection byproducts, endocrine disruptors, flame retardants, plasticizers, polyfluoroalkyl chemicals, parabens, phthalates, antimicrobials, pesticides, ultrafine particulates, toxic air pollutants, nanomaterials, water-borne pathogens, pharmaceuticals, and personal care products.

For more funding opportunities, visit:
www.feinberg.northwestern.edu/research/funding-opportunities/

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We want to hear from you!  
Your feedback and suggestions are always welcomed!  
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