The field of solid organ and cell transplantation is changing. In an effort to advance the field in a major way, Northwestern launched the Comprehensive Transplant Center (CTC), a partnership between Northwestern University Feinberg School of Medicine and Kovler Organ Transplantation Center at Northwestern Memorial Hospital (NMH).

“We are victims of our own success,” says Michael Abecassis, MD, CTC director. “The demand for transplants is increasing, but the number of available organs remains constant.”

Abecassis and his colleague Dixon Kaufman, MD, PhD, vice chair of research in the Feinberg Department of Surgery and deputy director of the transplant center, have both been at Northwestern for more than 15 years and have worked together to build the transplant program to its current standing as one of the strongest in the Midwest.

While the program evolves, Abecassis and Kaufman recognize that to make the high-impact discoveries required for future progress, a team of experts from multiple disciplines must work together to solve complex scientific problems.

“We’re taking on large projects that call for elevated levels of interactive, team science,” Kaufman says. “These projects involve numerous investigators who must work together in order to make large breakthroughs.”

To help facilitate collaborations among researchers from departments across Northwestern and around the globe, the CTC has developed core competencies — specialized groups lead by one investigator that may also benefit other researchers. These cores, including microsurgery, biostatistical support, clinical research support, bio-imaging, education and curriculum development, and immune monitoring, can be expanded or

(Continued on page 2)
changed, and new ones can be added based on need. The center hopes these cores will help achieve economies of scale for researchers working toward similar goals.

“We will measure the achievements of the transplant center based on how broad and successful the cores are,” says Luke Preczewski, division administrator for the Feinberg Division of Organ Transplantation Surgery and administrative director of the transplant center. “After all, these collaborations will help us to help the maximum number of people possible.”

Abecassis says that it’s these broad-based collaborations that make Northwestern’s transplant center unique. He emphasizes that you do not have to be a transplant expert to use one of the cores.

“The cores foster interdependent, multidisciplinary study and encourage the initial alignment of these researchers,” Abecassis says. “The innovations and impact on patient care will, no doubt, be accomplished as a result of these partnerships.”

In addition to the cores, three major research collaboration grants — NU CTOT, A2ALL and CIT — study various aspects of transplantation and are at the foundation of the center. Northwestern is the principal investigator for each of these NIH-funded consortia that include transplant programs across the nation. Another important, NIH-funded grant, the T32 training grant, brings scientists to Northwestern to assist in transplant research. Here’s a closer look at each of those grants:

**NU CTOT**
In collaboration with the Scripps Research Institute and pharmaceutical industry, and sponsored by the National Institute of Allergy and Infectious Diseases (NIAID), with co-funding from the National Heart, Lung and Blood Institute, and the National Institute of Diabetes and Digestive and Kidney Diseases, the Northwestern University Clinical Trials in Organ Transplantation (NU CTOT) consortium focuses on genomic and proteomic markers of acute rejection and chronic renal injury for kidney, liver, and heart transplant patients. Researchers from five clinical sites and three mechanistic sites will investigate what is common and unique in the biomarker signatures and mechanisms of immunity, drug toxicity, and the related medical risk factors that drive renal failure post-transplant.

**A2ALL**
The overarching goals of the Adult to Adult Living Liver (A2ALL) consortium are to improve understanding of the long-term health and wellbeing of living donors and the efficacy of living donor liver transplantation (LDLT). These are important objectives, as the long-term outcomes of living donation remain undefined, especially the impact of donation on the living donors.

By advancing the knowledge of safety, informed consent and quality of life, researchers, like Abecassis, hope to expand the pool of living liver donors and prove that life after a transplant is an improvement from a life on dialysis.

For that reason, the CTC has decided to make patient reported outcomes a key focus, as the concentration has previously been on one-year patient and graft survival. Working with David Cella, PhD, chair of the Feinberg Department of Medical Social Sciences, and Jane Holl, MD, MPH, interim director of the Institute for Healthcare Studies, the A2All study will gather all of the measures needed to develop comprehensive risk predictor models specific to the outcomes of both the donor and the LDLT recipient.

“We are working with psychometricians — experts who measure psychological wellbeing — to identify the subtleties of what makes our patients happy as opposed to miserable post-transplant,” Abecassis says. “This is true comparative effectiveness research that takes into account quality, not just quantity, of life for both recipients and, importantly, donors.”

A2ALL also seeks to measure and assess the impact of health care mediators and moderators of outcome, including patient safety, healthcare literacy and informed consent.

**CIT**
The Clinical Islet Transplant (CIT) consortium, supported by the NIH, National Institute of Diabetes and Digestive and Kidney Diseases, NIAID, and the

(Continued on page 6)
Committee on Animal Resources Advocates to Advance Progress, Plans January Town Hall for Researchers

Caring for the more than 20,000 research animals at Northwestern University requires constant attention to standards of care, efficient census tracking and space planning, steady communication with investigators, and management of complex facilities on two campuses. Enter the Committee on Animal Resources (CAR), a standing committee of 17 faculty members who serve as a liaison between faculty, central University administration, and the Center for Comparative Medicine (CCM) on all aspects of animal care and use.

“CAR advocates for Northwestern University researchers,” says Jeff Weiss, PhD, director for Research Core Planning at Feinberg. “The purpose of the committee is to identify issues faced by faculty and work with University administrators, particularly the office of the Vice President for Research to solve them.”

Led by chair Lee Miller, PhD, CAR has been active in recent years, yet many animal users are unaware of the committee’s efforts. “We’ve developed a strong organization that is essential to provide care to these animals. We’ve reached the point where we can project animal housing and service needs two to three years in advance of our situation today,” he says. Given the long timeframe for bringing new facilities online or even renovating existing ones, this ability is critical.

Owing in large part to CAR’s involvement, the University has seen recent improvements in animal space management, census data collection and tracking, and quality of service. “The committee was instrumental in opening new rodent facilities in Evanston and Chicago in 2004 and 2006, respectively,” says Miller. “We also worked closely with the University in renovating and re-equipping the Searle large animal surgical facility in 2008 to meet the medical school’s needs, which was a $100,000 investment.”

In 2006, CAR began monitoring the census of all animal facilities to ensure space needs are met now and in the future. This review was timely, and Miller says that 2010 will be a critical year for planning. “The University is approaching a point where animal needs will exceed the capacity of current facilities. The time to discuss expansion and fundraising is now, before Northwestern reaches that point.”

Along with planning and management, CAR works closely with researchers, administrators and CCM on quality initiatives. According to Weiss, “this is the one place where everyone involved in animal care and research come together to discuss their concerns.” The committee also works with the Office for Research Integrity to address animal welfare issues and maintains a hotline for researchers to anonymously submit concerns regarding the treatment of any animal on campus by calling (847) 467-2282.

Town Hall Announced
To update the Northwestern community on additional initiatives and progress, CAR is planning a Town Hall meeting that will be held in Chicago on January 19 at 9:30 a.m. (location TBD). The meeting will be teleconferenced to an Evanston location. Speakers will include:

- Jay Walsh, vice president for research, Northwestern University
- Jim Hurley, associate vice president for budget, Northwestern University
- Jeff Miller, vice dean and chief operating officer, Feinberg School of Medicine
- Phillipe Baneaux, executive director, CCM
- Steve Knable, director of business operations, CCM

CAR will send an announcement to the Northwestern community once location details are finalized.

“Everyone who deals with animals at Northwestern is strongly encouraged to attend,” says Miller. “This will be an opportunity to bring everyone up to speed on housing, services and finance, while publicly sharing issues and concerns with senior University administration.”

To learn more about CAR, visit the committee’s home page. The committee meets on the second Thursday of every month at 3:30 p.m. on the Chicago campus and teleconferences sessions on Evanston campus. Meetings are open to the Feinberg community.
Meet Jules Dewald, PT, PhD, Associate Professor and Chair of the Department of Physical Therapy and Human Movement Sciences

Jules Dewald, PT, PhD, associate professor and chair in the Feinberg School of Medicine Department of Physical Therapy and Human Movement Sciences (PTHMS), held numerous research positions before taking a position as a senior clinical research scientist at the Rehabilitation Institute of Chicago (RIC). In 2006, after several years at Northwestern, Dewald became chair and associate professor of PTHMS and associate professor in the departments of Biomedical Engineering and Physical Medicine and Rehabilitation. Dewald is also the director of the neuroimaging and motor control laboratories.

FSM Researcher recently caught up with Dewald to learn about his research and current projects.

What are your research interests?
My main research interest is the study of the mechanisms underlying the loss of independent joint control in the paretic upper limb following brain injury (hemiparetic stroke and more recently spastic cerebral palsy) using neurophysiological and biomedical engineering techniques.

More specifically, my team is interested in the expression of abnormal joint torque coupling in the paretic limbs of individuals with brain injury. Studies in my lab have shown that brain injury subjects tend to couple shoulder abduction with elbow flexion and shoulder adduction with elbow extension. We have developed numerous measurement protocols to study the expression of these abnormal shoulder/elbow torque patterns in the paretic upper limb following stroke, including six degrees of freedom isometric strength and, more recently, dynamic robotic measurements at times combined with brain imaging techniques.

Our findings show that as we increase the weight for the paretic the ability for subjects to reach becomes progressively limited. Understanding the underlying mechanisms of these disabling behaviors as well as devising new, high-tech robotic rehabilitation interventions to combat the expression of abnormal joint torque patterns in stroke survivors are important goals in our laboratory.

What research projects are you currently pursuing?
Our research is currently largely funded by four NIH R01 grants, a NIDRR field-initiated grant and a NIH-STTR device development grant. The four main lines of NIH inquiry happening in the lab consist of a first line of research that seeks to further identify abnormal muscle force and torque patterns or synergies as a function of shoulder abduction loading using robotics as a tool to characterize reaching movements in 3-D space. As part of this line of research, we have also been studying the effect of spasticity versus synergies on reaching and the link of neck reflexes on the expression of the synergies during movement using transcranial magnetic stimulation and head rotation as part of reaching protocols.

A second line of research seeks to clarify the role of brainstem pathways in the expression of the synergies. We have been applying pharmacological manipulations of monoaminergic brain-stem pathways and quantifying the effects on weakness, spasticity and the presence of abnormal torque and EMG patterns in the paretic limb. A randomized, double blind, crossover design is being utilized to study the effects of the two drugs and a placebo depending on their site of activation.

The third line of research consists of studying the link between motor cortical activity and the expression of abnormal muscle and torque patterns in the paretic upper limb using high density EEG (160 channels), and fMRI to quantify motor cortical activity during the execution of motor tasks. This work has demonstrated an increase in cortical overlap while implementing selective elbow or shoulder tasks in stroke compared to able-bodied subjects. With the help of a pre-doctoral AHA grant we have also been studying the effect of increasing shoulder loading on reaching in hemiparetic stroke survivors and have been able to determine an increase in the activation of the non-lesioned hemisphere as a function of shoulder abduction activity.

The fourth line of research in the laboratory is the study of the presence of the loss of independent joint control or abnormal synergies in children with Spastic Hemiparetic Cerebral Palsy (SH-CP). Synergies are being studied under isometric and dynamic conditions, and diffusion tensor images of the brains of children with SH-CP are being evaluated to determine the correlation between the loss of corticofugal pathways and the presence of abnormal synergies in this population.

Finally, my team and I are exploring the application of selective functional electrical stimulation (FES) interventions, combined with the least invasive forms of brain computer interface (BCI), aimed at reducing the effect of abnormal torque coupling between the shoulder, elbow, wrist, and hand in an

(continued on page 9)
Student Profile: Michael Lenaeus, Medical Scientist Training Program (MSTP)

Where is your hometown?
Battleground, Wash., just north of Portland, Ore.

Where did you complete your undergraduate degree?
Gonzaga University in Spokane, Wash.

What are your research interests?
Structural biology and translational research. I recently returned to medical school; my post doctoral degree work was in the laboratory of Dr. Adrian Gross, where I focused on solving the structure of the KcsA potassium channel with a number of blockers.

What exciting projects did you work on?
My experiments were primarily x-ray crystallography on a KcsA-Fab complex and resulted in several publications and a number of presentations at national meetings.

What attracted you to the MSTP program?
The wide variety of engaging mentors attracted me.

How often do you travel between the Evanston and Chicago campuses?
Rarely; my lab and classes are nearly all on the Chicago campus.

How would you describe the faculty at Feinberg?
Intellectually curious, supportive and dedicated.

What has been your best experience at Feinberg so far?
The single best experience has been getting the chance to travel around the country and present my work at a number of conferences.

That said, my time in the IGP program was a wonderful experience and I’ve very much enjoyed life in the city of Chicago.

What is life like outside of your studies? I got married three years ago to my college sweetheart and we live with two cats, Clara and Walter.

What do you like to do for fun?
Eating — I love all the food in the city. I also enjoy traveling and watching baseball.

What are your plans for after graduation?
I’m currently applying for an internal medicine residency and hope to find career in one of its subspecialties as a physician-scientist.

Researchers in the Harris Laboratory Study Signals in a Well-Hidden Gene

In a study published online November 6 in the Proceedings of the National Academy of Sciences of the United States of America, the laboratory of Ann Harris has found that the cystic fibrosis (CF) transmembrane conductance regulator gene adopts a specific three-dimensional conformation in cells that express the gene and thus are affected by the disease. In cell types where the gene is silent this conformation does not exist.

The genetic elements that coordinate this conformation lie at large distances from each other, and so the discovery and characterization of these elements and the proteins that interact with them will likely have important implications for CF therapeutics that aim to boost expression of the gene in specific cell types, either by gene therapy or by pharmacological methods. Moreover, this study offers a framework for the discovery of distal genetic elements that regulate the expression of other disease-causing genes.

First author Christopher Ott is a graduate student in the Harris Laboratory and a member of the Integrated Graduate Program in the Life Sciences (IGP) at Northwestern University Feinberg School of Medicine.
Staff Profile: Bryan Breau, Administrator, Center for Bioethics, Science and Society

How long have you been at Northwestern?
I started in June of 2008, so a year and a half.

Where are you from?
I was born and raised in Virginia originally. I attended high school in Manassas Park, a far southwest suburb of Washington, D.C.

What’s your educational background?
I double majored in theatre arts and English at Virginia Tech University and graduated in 2006.

What is your role in the department?
Administrator/Coordinator in charge of scheduling, event planning, assisting with grant writing, manuscript/journal editing and proofreading, etc. I am a jack of all trades whenever possible.

What’s a typical day like for you?
Quite a bit of e-mail correspondence, searching for new grant funding, fielding media requests, coordinating any of the director’s travel. Aspects of my job vary greatly from day to day depending on our project needs.

Why did you choose to work here?
I was working on a play with a current employee. He talked up the university a great deal, as well as all the benefits that come with working in academia. I liked the environment, the varied subject matter, and of course the university’s reputation. I wanted to be a part of that.

What do you like/dislike about your job?
The Center for Bioethics, Science and Society does a wonderful job branching out into multiple areas of the university. That allows me to learn a lot more about each project we work on (nanotechnology, oncofertility, social justice, etc.).

What are your favorite hobbies, books or movies?
I’m a pretty big nerd when it comes to hobbies and my spare time. Apart from acting, I love pretty much all movies and pride myself on my movie quoting abilities. My favorite authors (for strictly pleasure reading) include Clive Barker, Stephen King, and Anne Rice. I enjoy college football but really just prefer to watch the Hokies play.

Is there anything else you’d like to add?
Thanks for taking the time to check us out here at the Center for Bioethics, Science and Society.

Comprehensive Transplant Center
(Continued from page 2)

Juvenile Diabetes Research Foundation, is fostering the development of islet transplantation as a cure for type 1 diabetes. Kaufman leads the CIT study at Northwestern, one of five principal investigator sites in the U.S.

This research in cellular transplantation focuses on improving methods of isolating islets — clusters of cells in the pancreas that make insulin — and techniques for the administering of those transplanted islets.

Another focus of the CIT study is to develop approaches to minimize the toxic effects of immunosuppressive drugs required for transplantation.

In other related pre-clinical studies, the laboratory is investigating how biomaterials can improve islet transplant outcomes and the development of magnetic resonance imaging contrast agents to tag and label the islets so that their fate may be traced after being placed in the body. This research is being accomplished with the collaboration of investigators from various disciplines, including chemistry, nanotechnology, and bioengineering.

T32 Training Grant
The Transplant Scientist Training Program (TSTP) grant welcomes graduate students, residents, and fellows who want to gain additional training. The scientists study both basic science and clinical outcomes research and assist in forming collaborations among transplant surgery and colleagues in other disciplines.

The program strives to be a desirable training site for people interested in the study of transplantation and offers two trainee positions, one in transplant related immunology and another in outcomes and health services.

“This grant is truly a mark of quality in research and training,” Kaufman says.

The leaders of the transplant center anticipate that the ideas being studied through these large grants and core competencies will drive the advancement of transplant research. In order to do so, researchers from all disciplines must take advantage of all of the assets provided by the CTC.

To contact the center with an idea for a project, e-mail Luke Preczewski: lpreczew@nmh.org.
ANIMAL RESEARCH CORNER

NORTHWESTERN UNIVERSITY’S

COMMITEE ON ANIMAL RESOURCES

ANNUAL

TOWN HALL

FOR THE FEINBERG SCHOOL OF MEDICINE

— JANUARY 19, 2010 —

9:30 A.M.

(Location to be announced*)

Speakers include:

- Jay Walsh, Vice President for Research, Northwestern University
- James Hurley, Associate Vice President for Budget, Northwestern University
- Jeff Miller, Vice Dean and Chief Operating Officer, Feinberg School of Medicine
- Phillipe Baneaux, Executive Director, CCM
- Steve Knable, Director of Business Operations, CCM

The Committee on Animal Resources (CAR) meets monthly, and over the last year several key issues have been recurring themes at each meeting. Because of the recurrence and potential impact on research, the CAR has decided to hold a town hall meeting in January 2010. Issues to be discussed include space allocation, services provided by the Center for Comparative Medicine (CCM), and costs associated with using animals in research. To hear what the Committee has been discussing, and for a chance to voice your opinion, keep an eye out for information on the location of the CAR Town Hall Meeting. For more information on CAR or the Town Hall Meeting, please visit our web site at http://www.research.northwestern.edu/committees/car/index.html.

*The Town Hall will take place in Chicago, and will be teleconferenced onto the Evanston campus. Location details are forthcoming.

CORE FACT

Did you know that the Biostatistics Collaboration Center (BCC) provides an initial consultation for free? Statistical input for grant applications is also provided at no charge. Email bcc@northwestern.edu for more information.
Maureen Smith, MS, CGC, has been awarded the 2009 Natalie Weissberger Paul National Achievement Award, the most distinguished honor within the National Society of Genetic Counselors (NSGC). The annual award honors “one outstanding member who has served NSGC with exemplary national achievement and volunteer activities on behalf of NSGC and the profession.”

Smith, described by her colleagues as strategic, articulate, intelligent, and focused, has been on the cutting edge of advances in genetic counseling throughout her career. She was a founding member of the Online Teratogen Information Service, she was one of the first cancer genetic counselors, and chair of the first cancer genetics short course. She was one of the first genetic counselors to promote high-quality genetic information on the Internet in her position as clinical director of GeneSage and currently serves as clinical director of The NUGene Project at Feinberg.

Smith’s CV boasts a long list of publications and invited presentations, and she has won numerous research grants and contracts for her efforts.

Lauded for her role in expanding opportunities for genetic counselors nationwide, Smith has served as an American Board of Genetic Counseling site visitor since 2003. Within NSGC, she has dedicated time to the Education Committee, various education programs, a presidential rotation and numerous other committees and task forces. At Northwestern, she is an active mentor to students, colleagues, and other professionals.

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**Sponsored Awards**

**Wendy Wolf, PhD**
Assistant Professor, Director and Co-investigator, The NUGene Project, Center for Genetic Medicine

**Maureen Smith, MS, CGC**
Assistant Professor, NUCATS Institute, Clinical Director and Co-investigator, The NUGene Project, Center for Genetic Medicine

**Project Title:** The Impact of Data Access Policies on Biobank Participation

**Sponsor:** National Human Genome Research Institute

Our research addresses some of the opportunities and challenges raised by NIH data access policy for genetic research. NIH released a final data access and sharing policy for genome-wide association studies (GWAS) in August, 2007. The policy requires specific phenotypic and genetic data from GWAS be deposited into an NIH controlled, limited access database. The goal of this study is to examine how NIH data access policies will impact participation in large-scale genetic research.

In parallel with the emergence of GWAS, medical centers and research institutions worldwide are developing biobanks that house large numbers of participant DNA samples and data. Large scale participant recruitment initiatives are required to sustain and grow these resources that will increasingly be “tapped” to support GWAS. Investigators establishing these and similar collections face challenges such as: assessing the best way to educate potential participants about genetic research and the data sharing policy, how to inform them about known and potential risks, and how to do this in an efficient and scalable manner.

Through this study, we will ascertain novel educational strategies to help a population consisting of patients from Northwestern affiliates to clearly understand the data access policy for genetic research, the role of the government, the privacy protections included in the policy and the known and potential privacy risks.

Our research involves conducting semi-structured interviews on a random sample of patients ascertained from the Northwestern Medical Center. Interview results will inform development of a survey to test educational messages on data sharing and to address patients' interest in participating in genetic research based on a presentation of the two consent models. The results of the study will provide a basis for recommendations of educational messages and consent models for participants involved in studies in which data will be shared. We have enlisted co-investigators Dr. Elisa Gordon, with expertise in bioethics and qualitative research methodology, and Dr. Kenzie Cameron, with expertise in health education and communication.

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**Researcher Wins Prestigious National Achievement Award**

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**November 2009 High-Impact Factor Journal Articles***


*Based on 2008 JCR impact factors

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**Jules DeWald, continued from page 4**

...effort to increase the effective workspace of the impaired limb in moderate to severely impaired subjects. This study is supported by NIDRR and NUCATS, with support from Jun Yao, PhD, an assistant professor working on my team who heads the BCI portion of the research.

**What brought you to the Feinberg School of Medicine?**

I joined Northwestern University because of its reputation as being on the forefront of systems neuroscience as it relates to movement and rehabilitation sciences. Investigators in physical therapy and human movement sciences, biomedical engineering, physical medicine and rehabilitation, and physiology at Northwestern are at the very top of this field in the U.S. This makes Feinberg the place to be to perform high-level quantitative research in the areas of movement and rehabilitation sciences.

**What are some of the challenges you face?**

The main challenge I face is finding the time to combine being the chair of the department and the head of a large and growing research laboratory. My department has a stellar record in education for Doctor of Physical Therapy students, and we are now working to increase its reputation in the field of research as well. The combination of being a chair and a principal investigator allows me to lead by example.

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**FSM Research in the News**

**Los Angeles Times** November 17
*Women in 40’s advised against routine annual mammograms*
Dr. William Gradishar was quoted.

**Wired Science** November 18
*Mummy scans show heart disease was rampant*
Dr. Robert Bonow’s research was featured.

**Chicago Tribune** November 18
*Heart therapy with stem cells shows progress*
Dr. Douglas L. Losordo’s research was featured.

**New York Times** November 21
*From the lab, a new weapon against cholesterol*
Dr. C. Shad Thaxton’s research was featured.

**American Medical News** November 23
*Digital divide emerges at hospitals serving poor patients*
Dr. Romana Hasnain-Wynia was quoted.

**UPI** November 23
*Women can quit smoking, lose weight*
Dr. Bonnie Spring’s research was featured.

**Wall Street Journal This Morning** November 25
*Radio program*
Dr. Mercedes Carnethon was interviewed about workplace wellness.

**Oprah.com** December 2
*The prescription for depression? Oops. Nevermind!*
Dr. Eva Redei’s research was featured.

**New York Times** December 5
*Proof is in the whiskers. Rats are sensitive, too*
Feinberg was featured in an article about the Dean’s Grand Challenges Lecture Series in Medicine and Engineering.

**US News & World Report** December 11
*New drugs, new combinations fight breast cancer*
Dr. William Gradishar’s research was featured.

For more headlines, visit: [www.feinberg.northwestern.edu/news/](http://www.feinberg.northwestern.edu/news/)
Funding Opportunities

**Progeria Research Foundation Medical Research Grants**
http://www.progeriaresearch.org/grant_application.html
Submission deadline: February 8, 2010

**Amount:** $2,000,000

**Synopsis:** The foundation awards grants to applicants who seek to conduct research to find the cause, treatment, or cure for Hutchinson-Gilford Progeria Syndrome (HGPS). This is the only organization in the world dedicated to discovering the cure and effective treatment for Progeria and its aging-related disorders through medical research, outreach and education. Progeria is a rare, fatal, "premature aging" disease that affects children, who die of heart disease at an average age of 13 years. Scientific studies have linked the Progeria disease process to the same heart disease that afflicts millions and the aging that affects everyone.

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**Medications Development for Polydrug Addiction Treatment (R01)**
Submission deadline: February 5, 2010

**Amount:** $2,500,000

**Synopsis:** The NIDA is seeking medication discovery and development research grant applications focused on the treatment of patients who are simultaneously addicted to multiple substances, including alcohol, tobacco, illicit drugs, and prescription drugs. Novel proposals for clinical or preclinical testing of potential medications, as well as relevant animal model development and medicinal chemistry efforts, are encouraged.

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To view 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 welcome.

Feinberg School of Medicine Office for Research
E-mail: kristin-jacobsen@northwestern.edu or n-mladic@northwestern.edu
Phone: 312-503-3129 Fax: 312-503-2790
www.feinberg.northwestern.edu/research/

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Featured Upcoming Events

**Cell and Molecular Biology Seminar Series:**
Paul S. Maddox, PhD

The Department of Cell and Molecular Biology is pleased to welcome Paul S. Maddox, PhD, assistant professor, Department of Pathology and Cell Biology, University of Montreal, and principal investigator, Laboratory of Mitotic Mechanisms and Chromosome Dynamics, Institute for Research in Immunology and Cancer. You are invited to join us for his presentation.

**Date:** Thursday, January 14
**Time:** 4 to 5 p.m.
**Location:** Ward Building, CMB Conference Room 4-075
303 E. Chicago (Chicago campus)
**Contact:** Barbara Jaron (312) 503-4215

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**Motor Control Training Grant Day Keynote Speech:**
“Dopamine: Motivation, Salience and Learning — A Genetic Perspective”
Richard Palmiter, PhD

The General Motor Control Mechanisms and Disease Training Program presents Dr. Richard Palmiter, PhD, HHMI investigator and professor, Department of Biochemistry, University of Washington — Seattle.

Richard Palmiter’s lab uses genetic techniques to alter neurotransmitter synthesis or neurotransmitter receptors in specific circuits. This talk will concentrate on how dopamine and glutamate signaling in the limbic system influence mouse behavior. Dopamine-deficient mice are unmotivated and will not engage in goal-directed behaviors; however, aspects of their behavior can be rescued pharmacologically, or more interestingly, by restoring dopamine signaling to specific circuits. Dopamine neurons and post-synaptic medium spiny neurons depend on NMDA receptors for normal activity. Behavioral consequences of disrupting NMDA receptor signaling in these cells are being examined. The role of dopamine for learning to respond to either appetitive or aversive situations will be discussed.

**Date:** Friday, January 15
**Time:** 4 to 5 p.m.
**Location:** Baldwin Auditorium, Lurie Medical Research Center
303 E. Superior St. (Chicago campus)
**Contact:** Sharon Stade (312) 503-4300

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For more events, visit:
www.feinberg.northwestern.edu/research/calendar/

Event organizers are encouraged to submit calendar items on Plan-it Purple.