Immersed in Translation

Applying scientific findings to improvements in human health translates into a win-win for everyone involved. Learn how the medical school is working to more quickly move results from “bench to bedside.” 18
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Facing
First-year student Mariel Rosati enjoyed both purple (flowers) and white (coat) at the Founders’ Day reception held at the beginning of the academic year. Turn to page 4 for full coverage of the annual event.
Dean’s Message

The importance of translational research—moving basic research into clinical studies and, ultimately, clinical practice—continues to motivate our research endeavors and to elevate our stature among research-intensive medical schools around the country. We have talked much about why we must become leaders in this exciting area but just how have we gone about achieving our goals? Most importantly, by putting the right people, programs, and infrastructure in place to create a dynamic framework for translational research at Northwestern.

In our first feature, we highlight the vision of Dr. Rex Chisholm, a dynamic and articulate leader with a bold vision. Rex formerly served as the founding director of the Center for Genetic Medicine and now serves as dean of research for the medical school. He and many others have been instrumental in marshalling the resources of One Northwestern via interdisciplinary entities such as the NIH-funded Northwestern University Clinical and Translational Sciences (NUCATS) Institute. Learn more about how NUCATS is working to accelerate laboratory results into real-world therapies in our second feature.

We hope that the work we do every day at the medical school is not only productive but also personally and professionally rewarding. In our final feature, we profile three members of the Northwestern community whose personal connections to their work have served to enhance their lives and those of others.

Best regards,

J. Larry Jameson, MD, PhD

Vice President for Medical Affairs and
Lewis Landsberg Dean
New PA program to meet demand

The medical school will soon help ease the demand for primary care providers and meet a growing need for physician assistants (PAs) by offering a new Physician Assistant Program. Academically housed in the Department of Family and Community Medicine, the program will welcome its first class of 30 students in June 2010, pending a successful provisional accreditation visit in December 2009 and positive review by the Accreditation Review Commission in March 2010.

According to the American Academy of Physician Assistants, PAs “are health professionals who practice medicine as members of a team with their supervising physicians. As part of their comprehensive responsibilities, they conduct physical exams, diagnose and treat illnesses, order and interpret tests, counsel on preventive health care, assist in surgery, and prescribe medications.”

As resident physician work hours face potential reductions and health care costs continue to rise, hospitals and physician practices have turned to physician assistants for additional support. Only the fifth program in Illinois, Northwestern will offer a two-year master’s degree program, which will include one year of classroom instruction and one year of clinical rotations. The program will utilize problem-based and team-based learning in the curriculum, which is structured in the medical model and designed to complement physician training. Students will have the option of three clinical tracks: primary care, hospital medicine, and surgery.

The program’s prerequisites include a bachelor’s degree, completion of the GRE, 1,000 hours of previous clinical experience, and coursework similar to that required for medical school. The program is being developed with support from Northwestern Memorial Hospital (NMH) and Northwestern University Feinberg School of Medicine. Says Russell G. Robertson, MD, chair and professor of family and community medicine at the medical school as well as chair of family medicine at NMH, “Our PA students will have the advantage of learning in two institutions committed to the highest standards of patient care and education.”

James A. Van Rhee, associate professor of family and community medicine, will serve as the new program director. He comes to Northwestern from Wake Forest University, where he headed the Department of Physician Assistant Studies and was the PA Program director since 2006. Van Rhee also serves on the Accreditation Review Commission on Education for the Physician Assistant. Van Rhee is currently pursuing his doctorate in educational leadership at the University of Nebraska.

“My 12 years of experience in PA education will help Northwestern become a leader in PA education,” says Van Rhee, “as we develop a program with a focus on primary care, a number of specialty residencies for PAs, and the possibility of combined degrees with other programs within the Northwestern system.”

### Practicing under the supervision of doctors, physician assistants help provide high-quality and cost-efficient health care services in a variety of clinical settings. The first three PAs graduated from Duke University in 1967; there were 73,893 in clinical practice as of 2008, according to the American Academy of Physician Assistants.
Annual Founders’ Day opens during year of health reform

As if celebrating the official opening of the academic year at the Founders’ Day Convocation on August 28 were not exciting enough, members of the Class of 2013 were given a taste of what they might expect as future physicians. With health care reform currently a hot button topic, Northwestern fittingly invited Stephen L. Ondra, MD, to give the 2009 Founders’ Day address. In May President Obama appointed Dr. Ondra to the position of senior policy advisor for health affairs in the Department of Veterans Affairs.

Until very recently, Dr. Ondra was professor of neurological surgery at Northwestern, where he served as vice chair and residency program director for his department during his more than decade-long tenure, according to Dean Larry Jameson. “Dr. Ondra is now engaged in one of the most important health care policymaking endeavors in this country’s history,” said Dr. Jameson in his introduction of the keynote speaker. “While we miss him here and his expertise in neurosurgery, we are proud to have one of our own play a role in this effort.”

Offering his perspective on how health care reform will affect the profession of medicine, Dr. Ondra first let the “numbers” speak for the need for change. “While our health care system has served us well for many years . . . it is also widely recognized that this system is in trouble economically. It’s unsustainable. Our country spends over 17 percent of its gross domestic product on health care. That’s over $2 trillion a year and almost 50 percent more than any other developed nation. It is estimated that by the year 2015—before you, the Class of 2013, end your residency training—costs will rise to $4 trillion a year.”

While the cost of health care is cause for concern, the real issue comes down not to “dollars and cents” but to the care of real people, according to Dr. Ondra. Proud of the accomplishments of his profession, Dr. Ondra also acknowledged that despite our country’s leadership in health care, especially in highly technical and medical specialty programs, the United States lags behind in serving its people. “For all of the money we spend, our system doesn’t provide us with a healthier population or with longer lives than many other nations.”

With reform seemingly an inevitable consequence of the current health care system’s shortcomings, Dr. Ondra stressed the need to embrace change with creativity and innovation. He pointed to the use of information technology to improve patient record keeping as one successful avenue for enhancing safety, effectiveness, and, ultimately, patient care. “What it means to be a physician will not change,” he said. “Your commitment to maintaining the health of your patients will not change. Your desire to care for and about your patients will not change. Your obligation to heal the afflicted—not just in body but in mind and spirit—will not change.

“What will change will be the process in which care is delivered and the system in which [those] values are practiced.”

He concluded by encouraging the medical school’s newest students to have the courage to be leaders in health reform. “This is your time, Class of 2013, to rise to [the] occasion and be part of the transformation that will bring this country the health system it needs and deserves.”

Class of 1980 alumna Dr. Carol Rosenberg congratulates her son and first-year student, Benjamin Derman, as he enters the Northwestern fold. Dr. Rosenberg’s brother, Michael, graduated with the Class of 1977 and his son, Jon, now is a third-year student at the medical school.
CLOCKWISE FROM TOP: Northwestern’s newest students (from left) Christine O’Connor, Praneet Korrapati, Nisha Mehta, Nikhil Bassi, Nikhil Seth, Nitasha Gupta, Vivian Lee, and second-year student Matthew Coppola enjoy a group huddle. Shields Callahan (right) was among the second-year medical students who helped newcomers such as Chinwe Uwalaka don their new white coats at the end of the convocation. Dr. Stephen Ondra encouraged the entering class to be leaders in reforming health care during his keynote address.

Dr. Schapiro congratulated the members of the Class of 2013 on achieving yet another step in their dreams to becoming physicians. “This is a tremendous opportunity; enjoy yourselves,” he said. “[Medical school] is not something you have to get through or another obstacle or burden. So enjoy every memory. Enjoy the camaraderie. Enjoy the mentorship. This is the first day of your path to becoming doctors. It begins today. Enjoy it!”

Several outstanding teachers selected by the school’s leadership as well as by medical student votes were acknowledged at the convocation. The Dean’s Award for Teaching Excellence went to Irwin Benuck, MD ’79, PhD, professor of clinical pediatrics; Gregory E. Brisson, MD, GME ’94, assistant professor of clinical medicine; Tod S. Chambers, PhD, associate professor of medical humanities and bioethics; George R. Flouret, PhD, professor of physiology; Joshua M. Hauser, MD, GME ’07, assistant professor of medicine; Amy V. Kontrick, MD, assistant professor of emergency medicine; and James H. Sipkins, MD, GME ’82, assistant professor of clinical medicine.

The George H. Joost Outstanding Teacher Awards went to Andrea Baumgartner, MD, assistant professor of clinical medicine; Thomas C. Corbridge, MD, professor of medicine; Robert F. Kushner, MD, GME ’82, professor of medicine; and Randolph P. Perkins, PhD, assistant professor emeritus of physical therapy and human movement sciences. Brian C. Boholst, MD ’99, instructor in clinical medicine, received the Michael M. Ravitch Outstanding Teacher Award. Medical students Robin Skory and Sarah Rodriguez presented the 2009 American Medical Women’s Association/Gender Equity Award to Teresa K. Woodruff, PhD, professor of obstetrics and gynecology.

Darren Boyd, president of the Medical Student Senate and a member of the Class of 2011, presented M2 Student Senate Service Awards to Gathi Abraham, Anna Banc, Ryan Brown, Sebastian Lara, and Monica Tang. Boyd then led the white coat ceremony. He advised the Class of 2013 to use their new white coats as a “license to learn” and invited them—with the assistance of their second-year student buddies—to don the first symbol of their entrance into the profession of medicine.  

Cheryl SooHoo
Supporting our students

Our medical students face tremendous pressures. That’s why we are putting so much energy into the area we used to simply call “student affairs.” This fall, we continue our enhancement of these services as we welcome Sandra M. Sanguino, MD ’93, GME ’96, MPH, as associate dean for student programs and career development.

Dr. Sanguino is a Northwestern “lifer.” She received both her undergraduate (1989) and MD (Alpha Omega Alpha, 1993) degrees from Northwestern. She then completed a pediatric residency and served an additional year as chief resident at Children’s Memorial Hospital. She joined the medical school faculty after finishing a fellowship in general academic pediatrics and receiving a master’s degree in public health at the University of Illinois at Chicago.

Currently an assistant professor of pediatrics, Dr. Sanguino has served as director of the pediatrics clerkship since 1999 and has chaired the medical school’s Curriculum Committee for the past two years. She has been involved in pediatric education at the national level through the Ambulatory Pediatric Association and serves on the executive committee of the Council on Medical Student Education in Pediatrics. Dr. Sanguino is a Pediatric Academic Society Educational Scholar. In 2006 she received the Dean’s Award for Teaching Excellence at the medical school.

Thrilled with this opportunity, Dr. Sanguino intends to intensify our support services to students, helping them anticipate their needs and put solutions in place before problems arise. The Student Programs staff will guide students’ choices as they prepare for careers in medicine; help them attend to their own health in order to take better care of others; teach them how to manage the debt they are going to assume; help with housing, financial aid, and personal issues; and support them as they navigate the match.

While it may not take a Northwestern alum to empathize with all that goes into graduating from the medical school today, it certainly makes Dr. Sanguino proud to be serving her alma mater in this new role. She says, “Privileged to be a student and train here, I now have a chance to give back. What a fabulous job: helping students become whatever they want to be.”

Indeed, that is our primary goal as an academic institution. We look forward to Dr. Sanguino’s contributions. Welcome Dr. Sanguino!

Raymond H. Curry, MD, GME ’85
Dean, Education

Celebrity Bonnie Hunt hosts fundraiser

You know her as an actress and talk show host, but Bonnie Hunt was once an oncology nurse in Chicago. Lending her celebrity support, Hunt hosted the September 29 event launching the Northwestern Brain Tumor Institute—a groundbreaking collaboration among Northwestern Memorial Hospital, the Feinberg School of Medicine, and the Robert H. Lurie Comprehensive Cancer Center of Northwestern University. More than 600 patients, physicians, families, donors, and friends attended the event that raised more than $800,000 to help advance brain and spinal tumor care and research at Northwestern.

Hunt shared her own family’s recent history with a brain tumor diagnosis. Commenting on the fear and confusion that accompany the simple sentence, “You have cancer,” she shared how necessary it was for anyone diagnosed to hear the next sentence, “And there is something we can do about it.”

“Events that support the amazing work of this institute and cancer researchers and physicians at Northwestern are what make that second statement possible,” she said.

Before the event drew to a close, attendees watched a moving documentary highlighting the challenges and triumphs of patients, caregivers, and physicians intimately involved with the institute. Visit WardRoundsOnline.com for more information about the Northwestern Brain Tumor Institute and Bonnie Hunt’s commitment.
What do an Eagle Scout, a professional soccer player, a cake decorator, and a ballerina have in common? They all started medical school this year at Northwestern. A multi-talented group, the Class of 2013 brings a wealth of experience to the medical school that complements and enhances their academic credentials.

Similar to last year, approximately one of every five applicants to U.S. medical schools for the 2009–10 academic year applied to Northwestern. The 164 members of the entering class include 90 men and 74 women. Students list 64 undergraduate majors—from biology and biomedical engineering to psychology, chemistry, and economics. Collectively, our newest students speak 27 different languages, including Spanish, Japanese, and Gujarati.

Self-describing their racial and ethnic groups, our students include 13 (8 percent) African and African American; 57 (35 percent) Asian; 11 (7 percent) Hispanic; 2 (1 percent) Native American or Native Hawaiian/Pacific Islander; and 74 (45 percent) white. Seven individuals chose not to self-describe.

Thirty-three nontraditional students—those who have taken off two or more years between their undergraduate studies and medical school—make up 20 percent of the entering class. Together with the traditional students, the M1 class members range from 20 to 44 years of age, claim 60 institutions as their undergraduate alma maters, and hail from 29 states and nine foreign countries.

Eleven students entered the Medical Scientist Training Program and will receive both MD and PhD degrees when they complete their studies. Thirty students entered through the Honors Program in Medical Education (HPME) and five through the Northwestern Undergraduate Premedical Scholars Program (NUPSP).

Six members of the 2013 class have earned advanced degrees, including one Doctor of Philosophy, one Juris Doctor, one Master of Science, one Master of Humanities, and two Masters of Public Health.

Entering class members have extensive research experience: 94 percent engaged in research on the undergraduate or graduate level. Thirty-eight percent are authors on a research publication or presentation. Students have been awarded prestigious research awards from the Howard Hughes Medical Institute, National Merit Scholarship Corporation, National Institutes of Health, along with others. Among the Class of 2013, 93 percent have been awarded academic honors.

Their volunteer experience includes service with the Red Cross, Habitat for Humanity, Relay for Life, and Special Olympics. In addition, our students have participated in medical missions all over the world, in countries like Guatemala, Honduras, France, and India.

Katie Costello

Members of the Class of 2013 possess a wide range of academic and personal achievements that will certainly serve them well during their medical school years. New student Diana Sidelko follows the lead of second-year student Monika Tang.
Medical school wins its share of ARRA awards

When President Obama signed the American Recovery and Reinvestment Act (ARRA) of 2009, also known as the stimulus package, he envisioned the allocation of billions of dollars for research as a strategic—and significant—investment in our country’s future. According to Recovery.gov, the official government ARRA web site: “By modernizing our health care, improving our schools, modernizing our infrastructure, and investing in the clean energy technologies of the future, the Act will lay the foundation for a robust and sustainable 21st century economy.”

The University has stepped up to participate in this historic effort. The Office for Research has been overwhelmed with faculty research proposals submitted to federal funding agencies for new and ongoing research in areas that will have enormous societal impact. In fact, the number of proposals submitted in the month of April 2009 was nearly quadruple the number submitted a year ago, jumping from 149 to 592, due to the influx of submissions to the National Institutes of Health for ARRA funding.

Pleased by the increase of research awards in general at the Northwestern University Feinberg School of Medicine, Dean J. Larry Jameson shared some impressive statistics with faculty and staff in early October. “By any number of metrics, Northwestern University Feinberg School of Medicine continues to build its research enterprise,” says the vice president for medical affairs and Lewis Landsberg Dean. “Total grant awards increased by 10 percent this year, reaching nearly $300 million, about 62 percent of all research funding at Northwestern. We’ve received 94 ARRA awards as of October 9, 2009, amounting to nearly $40 million.

“The ARRA funds are great news, and I was pleased to see the aggressive application response by our faculty. The not-so-good news is that these funds are relatively short-lived, and we will all need to advocate for continued funding for biomedical research. Why is our research growing so quickly? The answer is a combination of new faculty recruitment, greater faculty productivity, and collaborations leading to larger awards. Bottom line: we continue to make remarkable strides in research, in terms of scale, reputation, and impact.”

Northwestern’s ARRA research awards began to be announced in early summer 2009. A special web site was developed by the University’s Office for Research to keep taxpayers informed about the potential return on their investment in a stronger future economy and to provide information about the researchers who will be conducting this transformative research. More about the ARRA grants can be found at www.research.northwestern.edu/stimulus/opportunities.html.

Celebrating a quarter of a century of service

More than 50 years after the first organ transplant (kidney) in Boston, the medical profession is still grappling with the same challenges—namely, organ rejection and the lack of availability, according to Anthony Atala, MD, during the Frances Feinberg Memorial Lecture, “Regenerative Medicine, Tissue Engineering and Stem Cells: New Approaches to Health Care.” A pediatric urology surgeon, Dr. Atala, founding director of the Wake Forest Institute for Regenerative Medicine and chair of the Department of Urology at Wake Forest University School of Medicine, is all too familiar with these challenges.

“The number of people on transplant lists has doubled. With our aging population, organs tend to fail more, while the number of donors has stayed the same,” said Dr. Atala during his presentation on September 8 at Northwestern Memorial Hospital’s Feinberg Pavilion. “We started investigating making organs ‘to order,’ growing the patient’s own cells outside the body, so no rejection occurs.”

Dr. Atala continued, “When you look at engineering tissue to replace failing organs, there are limited options. A lot of what I do is reconstructive surgery. When we started working on this issue two decades ago for people with bladder cancer, the best choice was to replace the bladder with a piece of intestine. This was fine for patients in their 60s or 70s who had a relatively short life expectancy but for babies with end-stage bladder disease, it was not a good option. We began asking ourselves, ‘Could we create an organ out of a patient’s own tissue as a starting point?’”

In 1981, skin was the first tissue to be engineered for a burn victim using a patient’s own cells. Years later, taking a cell sample less than half the size of a postage stamp, Dr. Atala and his group were able to engineer the first functioning organ—a bladder—for a patient with end-stage bladder failure. Using collagen molds to shape the organ structure, which was determined by X-rays, patient cells were teased apart, expanded outside the body, and then placed in three-layer molds.

“We ‘painted’ the outside of the collagen mold with muscle cells and the inside with lining cells,” he explained, “placed it in an incubator, which has the same conditions as the human body, and expanded those cells before implanting it in the patient. It’s much like baking a layer cake. As the cells form tissue, the mold dissolves, and a few months later there is a functioning organ.”

Phase 1 clinical trials were completed, and the study was published in Nature Biotechnology in 1999. Meanwhile, the work still progresses as Dr. Atala’s team tackles the challenges of expanding the technology to larger numbers. At this stage, he is about to start Phase 3 clinical trials.

Much of Dr. Atala’s work dates back 20 years, when he began examining how to get cells to grow outside of the body. He and his team discovered what they called progenitor cells.

“These are cells found in every single tissue in our body that are ready to replicate at the time of injury,” he explained. “We isolated the mechanisms to harness that power to get cells to grow in large quantities. However, even in 2009, there are many primary cells that we cannot grow and that’s where stem cells became such an important issue.”

At Wake Forest University, they have been able to grow more than 22 tissue types, with the exception of nerve, liver, pancreas, and heart tissue. Dr. Atala hastened to add, “The heart is a real challenge, although, there are some exciting advances being made right here at Northwestern’s Cardiovascular Research Institute under the direction of Dr. Doug Losordo.”

According to Dr. Atala, the field of regenerative medicine, which aims to recreate tissues and organs using a patient’s own cells, began in the 1920s. In 1938, the first book, The Culture of Organs, was published on the subject. If this work began so long ago, it begs the question why more progress has not been made.

Explained Dr. Atala, “There were very few clinical advances for many years because of the inherent challenges in how to grow and expand cells outside the body, how to deliver cells to the patient, and how to get the cells to survive once they were planted in the patient’s body.”

Unlocking these doors has enabled Dr. Atala and others to make advances, which include using porous scaffolds that look like fabric, which allow cells to lay down and form sheets of tissue that enable porosity, promoting new vessel formation. In addition, Dr. Atala and his team have used bioreactors with biofeedback mechanisms that sense temperature, pH, and oxygen levels to create solid organs when total replacement is necessary. At six months, these engineered organs have the same characteristics of a normal organ, including adequate blood supply and functioning nerves.

Dr. Atala is quick to pay tribute to the many people across different disciplines who have been involved in making progress in this complex area.

“The work that I’ve shown you today was performed by more than 700 researchers across a 20-year span,” he said. “This requires a multi-disciplinary approach between materials scientists, molecular biologists, and molecular geneticists all working together to bring these technologies from the ‘bench to the bedside.’ We’ve had to go slowly and carefully to make sure the work we are doing is safe for our patients. The question we ask is, ‘Would you place this organ in your own loved ones?’”

Michele Weber
Filmmaker Hughes leaves rich legacy

The 255-seat Hughes Auditorium has served as the home base for hundreds of Northwestern medical students since it was unveiled with the opening of the Robert H. Lurie Medical Research Center of Northwestern University in 2005. Little did many know that the aesthetically pleasing, state-of-the-art lecture hall came courtesy of the generosity of prolific filmmaker John Wilden Hughes Jr., and his wife, Nancy. On August 6, Hughes died suddenly of a heart attack, leaving behind an enduring legacy that included the medical school.

“His legacy goes far beyond his writing and movies that have delighted a generation,” reflects James L. Schroeder, MD, GME ’88, KSM ’87, family friend and physician. “Without fanfare he also gave millions to medical research and education, to relieve suffering and conquer disease. He enjoyed learning about the work of physician researchers, approaching it with the fresh, open curiosity of one who, though not a scientist, had great intuitive insight into people and their passions.”

Best known as the writer, director, and/or producer of such 1980s comedies as National Lampoon’s Vacation, The Breakfast Club, Ferris Bueller’s Day Off, and the Home Alone series produced in the early ’90s, Hughes left the entertainment world behind at a relatively early stage in his life and chose instead to spend his time in the Chicagoland area. It was important for Hughes to give something back to the Windy City—the setting for many of his films—and his philanthropy allowed him to do just that. He understood the importance of providing future physicians with the best education possible and supporting research conducted on the medical school campus to advance patient care.

In 2006, Northwestern established the John and Nancy Hughes Distinguished Professorship in Rheumatology from a generous gift of endowment provided by the Hughes family. John Varga, MD, professor of medicine in the Division of Rheumatology, is the inaugural holder of this esteemed academic position.

“The endowed professorship has made it possible to establish at Northwestern a rheumatic disease center of excellence focusing on scleroderma,” explains Dr. Varga. “The research supported by the Hughes endowment is developing novel therapies for incurable rheumatic conditions.”

While the late John Hughes will be best remembered for his filmmaking, Northwestern will never forget the generosity of the Hughes family in supporting research and education at the medical school. Among the largest auditoria on the medical school campus, the Hughes Auditorium can accommodate an entire medical school class.
Tuwanda C. Williamson, MD, instructor in clinical family and community medicine, was selected from among a group of physicians across the country to receive the 2009 Pfizer Teacher Development Award from the American Academy of Family Physicians Foundation.

In June, J. Larry Jameson, MD, PhD, vice president for medical affairs and Lewis Landsberg Dean of the Feinberg School, received the Fred Conrad Koch Award, the highest honor bestowed by The Endocrine Society in recognition of exceptional contributions to the field. In bestowing the honor, the society noted Dr. Jameson’s accomplishments: he described the first mutations in several key regulators of reproduction, including LH, FSH, and SF1; he established the role of DAX1 in sex determination; and he helped unravel how mutant thyroid hormone receptors cause thyroid hormone resistance.

Nathanial J. Soper, MD, Loyal and Edith Davis Professor and chair of surgery, served as local arrangements chair for the Society for Surgery of the Alimentary Tract this spring.

Named co-chair of the American Heart Association’s Interdisciplinary Council on Peripheral Vascular Disease on July 1, Mary McGrae McDermott, MD, professor of medicine, received in September the PAD Coalition’s 2009 Best Research Award (category: vascular medicine) at its annual meeting in Washington.

The American Medical Society for Sports Medicine honored Cynthia R. LaBella, MD, assistant professor of pediatrics, with its award for best overall research abstract at the society’s annual conference in Tampa, Florida, in late April.

Jamie Hayden Von Roenn, MD, professor of medicine, received the 2009 American Society of Clinical Oncology Statesman Award for 20 years of volunteer service to the society at its annual meeting in Orlando, Florida, this spring.

Kudos comes from near and far for faculty
Early Fitness Key to Healthy Future

Young adults (18 to 30 years old) with low aerobic fitness levels—as measured by a treadmill test—are two to three times more likely to develop diabetes in 20 years than those who are fit, according to a study published in the July issue of *Diabetes Care*.

“These young adults are setting the stage for chronic disease in middle age by not being physically active and fit,” said Mercedes Carnethon, PhD, lead author and assistant professor of preventive medicine. “People who have low fitness in their late teens and 20s tend to stay the same later in life or even get worse. Not many climb out of that category.”

The study also showed that young women and young African Americans are less aerobically fit than men and white adults in the same age group, placing a larger number of these population subgroups at risk for diabetes.

In the study, Body Mass Index (BMI), a measure of the body’s fat content, was an important predictor for the development of diabetes. “The overwhelming importance of a high BMI was somewhat unexpected and leads us to think that activity levels need to be adequate not only to raise aerobic fitness, but also to maintain a healthy body weight,” remarked Dr. Carnethon. “If two people have a similar level of fitness, the person with the higher BMI is more likely to develop diabetes.”

Data from the study came from the Coronary Artery Risk Development in Young Adults (CARDIA) study, which began in January 1984 and ended in December 2001. The fitness study included 3,989 participants at baseline and 2,231 at the 20-year testing. The black and white men and women were 18 to 30 at the time of enrollment. Fasting blood sugar levels were measured at the beginning of the study and multiple times over 20 years.

Shape-Shifting Pathogen Avoids Detection

Northwestern researchers have identified an alternative DNA structure existing within the bacterium *Neisseria gonorrhoeae* that enables the pathogen to change its shape to avoid detection by the immune system.

Appearing in the August 7 issue of *Science*, the research was conducted by Hank Seifert, PhD, professor of microbiology–immunology, and graduate student Laty Cahoon, 29, a PhD candidate in the Integrated Graduate Program in Life Sciences. *N. gonorrhoeae* is the causative agent of the sexually transmitted disease gonorrhea and has served as the basis for Dr. Seifert’s investigative research for 25 years. No documented natural immunity to gonococcal infection, which occurs solely in humans, exists. This is partly due to the enormous potential *N. gonorrhoeae* has for antigenic variation of surface proteins.

“Gonorrhea is a significant health problem in the U.S. and throughout the world,” said Dr. Seifert. “About 360,000 cases were reported in 2006, and we estimate at least twice that number is infected each year.”

Dr. Seifert’s goal is to discover new mechanisms important for the continued existence of this microbe in the human population to further the team’s understanding of how infectious agents have evolved genetically.

Remarked Dr. Seifert, “Gonorrhea affects 16 to 24 year olds, with no immune dys-function. This age group is arguably the healthiest on the planet.” Further understanding of the mechanisms used by *N. gonorrhoeae* to outsmart the immune system could have implications for future infectious disease research and prevention.
Clearing the Air about Smoking Helps Mentally Ill Kick the Habit

Doctors fear asking people with mental illnesses such as depression and anxiety to quit smoking, assuming that if their patients try to kick the habit, their mental disorders will worsen. However, they need not hesitate, according to Brian L. Hitsman, PhD, a tobacco addiction specialist and assistant professor of preventive medicine. "The lack of translation for prescription medication instructions is a major problem," said lead author Stacy Cooper Bailey and colleagues surveyed 764 pharmacies in the United States translate prescription medication instructions into Spanish, making it difficult for patients to understand how to take their medications properly, according to a new study conducted by Northwestern investigators.

The first multi-state study looking at the ability of pharmacies to translate prescription labels found more than half of the pharmacies could not translate any labels or could do only a limited number of translations. Published in the June issue of Medical Care, the study looked at pharmacies in states with a large existing Latino population (Texas and Colorado) and in states with a rapid growth in Latino population (Georgia and North Carolina).

"The lack of translation for prescription medication instructions is a major problem," said lead author Stacy Cooper Bailey, clinical research associate and director of the Health Literacy and Learning Program at Northwestern. "If you don’t know how to take your medications correctly, it is going to be difficult for you to manage your medical condition.”

Surprisingly few pharmacies in the United States translate prescription medication instructions into Spanish, making it difficult for patients who speak only Spanish to understand how to take their medications properly, according to a new study conducted by Northwestern investigators. The first multi-state study looking at the ability of pharmacies to translate prescription labels found more than half of the pharmacies could not translate any labels or could do only a limited number of translations. Published in the June issue of Medical Care, the study looked at pharmacies in states with a large existing Latino population (Texas and Colorado) and in states with a rapid growth in Latino population (Georgia and North Carolina).

"The lack of translation for prescription medication instructions is a major problem," said lead author Stacy Cooper Bailey, clinical research associate and director of the Health Literacy and Learning Program at Northwestern. "If you don’t know how to take your medications correctly, it is going to be difficult for you to manage your medical condition.”

Between 40 to 80 percent of people with mental illness are daily smokers, depending on the disorder, compared to less than 20 percent of people who don’t have problems with mental illness, according to research. The mentally ill have a disproportionately high rate of tobacco-related disease and mortality, such as cardiovascular disease or cancer, with a correspondingly high financial burden to the health care system. Yet they receive tobacco treatment on only 12 percent of their visits to a psychiatrist and 38 percent of their visits to a primary care physician, according to Dr. Hitsman. Doctors erroneously believe mental disorders will worsen if they take away a person’s tobacco. "Not a single study shows that symptoms get worse," Dr. Hitsman said. He examined 13 randomized clinical trials that measured psychiatric symptoms during smoking cessation treatment. Seven studies showed that psychiatric symptoms actually improved during smoking cessation treatment, and six showed no changes.

Prescription Labels Lost in Translation

The nearly mature follicles grown for 30 days in the laboratory had been plucked from the ovarian tissue of cancer patients before they began chemotherapy and radiation treatments that would destroy their fertility. "By being able to take an immature ovarian follicle and grow it to produce a good quality egg, we’re closer to that holy grail, which is to get an egg directly from ovarian tissue that can be fertilized for a cancer patient," said Teresa K. Woodruff, chief of fertility preservation at the medical school and a member of the Robert H. Lurie Comprehensive Cancer Center of Northwestern University.

Dr. Woodruff was senior author of a paper on the findings published in the July 14 issue of Human Reproduction. The next step will be for Northwestern researchers to try to induce the egg’s final division, called meiosis, so it sheds half of its DNA in order to be fertilized. The ultimate goal is for scientists to be able to freeze the immature follicles, then thaw and mature them in a culture to the point where they are ready to be fertilized.

Improving Fertility for Female Cancer Patients

The tiny translucent egg nestled in the special laboratory gel was a mere 30 days old, but its four-week birthday caused researchers to celebrate. This was the first time anyone had successfully grown a woman’s immature egg cells, contained in a tiny sac called a follicle, to a healthy and nearly mature egg in the laboratory setting.

Medical school researchers have completed the first critical step in the development of a new technique, which, if successful in the next steps, may eventually provide a new fertility option for women whose cancer treatments destroy their ability to reproduce. The nearly mature follicles grown for 30 days in the laboratory had been plucked from the ovarian tissue of cancer patients before they began chemotherapy and radiation treatments that would destroy their fertility. “By being able to take an immature ovarian follicle and grow it to produce a good quality egg, we’re closer to that holy grail, which is to get an egg directly from ovarian tissue that can be fertilized for a cancer patient,” said Teresa K. Woodruff, chief of fertility preservation at the medical school and a member of the Robert H. Lurie Comprehensive Cancer Center of Northwestern University.

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Planting Seeds

Research dean provides fertile environment for the achievement of scientific goals

BY ED FINKEL
Rex L. Chisholm, PhD, has spent most of his quarter-century at Northwestern as a cell and molecular biology investigator, seeking and finding answers to provocative research questions. As dean for research for the medical school, he now spends most of his time paving the way for his colleagues to more easily pursue their scientific visions.

“My role is to minimize the regulatory burden and other barriers, while maintaining compliance to create an environment of enthusiasm about discovery,” he says. “I attempt to provide quality space, state-of-the-art technology and instrumentation, and access to expertise so that we can foster curiosity. We want to understand how things work and we get jazzed by doing it.

“Every day I ask myself, ‘What can I do to make it possible for every investigator at the medical school to become the best discoverer of new knowledge he or she can be?’ ”

Philip Greenland, MD, senior associate dean for clinical and translational research at the medical school, appreciates Dr. Chisholm’s progress during his two years in the post. “Our big picture focuses on accelerating the pace of our research accomplishments,” he says. “How are we going to do that? Partly by recruiting the right investigators and partly by having the right services, resources, and procedures—mundane kinds of things, business practices and contracting, for example, that investigators find annoying and unnecessary. We’ve got to make it easier for them. The other part of this is to make sure that everybody has the same level of commitment.”

Up until 2005, Dr. Chisholm focused on uncovering new knowledge about the role of molecular motors in cell migration as a professor in the Department of Cell and Molecular Biology. Important for forming tissue, healing wounds, and beating back infections, these “motor molecules” power everything from the contraction of muscles to maintenance of a proper heartbeat.

“I started as somebody interested in genetics and cell biology,” he says. “We investigated fundamental questions, like: ‘How do cells move?’ ”

As the world of genomics and genetic sequences evolved, Dr. Chisholm began asking questions about how this new knowledge could help in the understanding of issues like disease susceptibility and cures or treatments. He wondered what role computers could play. This curiosity dovetailed with his 2000 appointment as founding director of Northwestern’s Center for Genetic Medicine, an umbrella group that draws from the work of 140 faculty members in 18 departments across four schools at NU. Dr. Chisholm’s research interests began to focus on bioinformatics, and he became principal investigator of the NUGene project, which contains electronic health records of more than 8,000 patients at the medical school’s clinical affiliates. (For more details on this project, see NUCATS feature story on page 18.) Remarks Dr. Chisholm, “I became interested in using the computer to identify human subjects appropriate for studying genetic variation.”

Although consumed mostly with his role as dean of research, Dr. Chisholm continues two strains of his own research with help from PhD students. He’s using infor-
In his role, Dr. Chisholm tries to minimize the regulatory burden and other barriers to conducting research to create an environment of excitement and enthusiasm for discovery.

Taking dollars that are supplied by the medical school and enhancing their use across multiple users. Rex just helped us establish a core facility for human embryonic stem cells. We determined it would be a good idea to make that service generally available. Rex helped us organize it in such a way that it’s available to everybody.”

Dr. Chisholm has worked to build on what existed in the past. “We strive to do research that has the potential to transform health care,” he explains. “Our goal is to move us ever further in the direction of doing research that’s not just a curiosity but improves human health.”

To that end, Dr. Chisholm has emphasized clinical and translational research by supporting the creation of the Northwestern University Clinical and Translational Sciences (NUCATS) Institute. The institute has brought additional visibility and energy with the goal of significantly increasing the participation of research subjects in clinical trials, with help from centralized software systems like the clinical enterprise data warehouse. NUCATS’ central goal is to prevent reinventing the wheel, time and time again, according to Dr. Chisholm.

“Rex is one of those investigators who easily crosses the boundaries from basic science to clinical research,” says Dr. Greenland, director of NUCATS. “That ability might not be a necessary prerequisite for his role but it certainly facilitates getting the job done. He understands what basic scientists need to do to contribute to the medical school. Rex also understands what clinicians need.”

Adds David W. Baker, MD, MPH, chief of the division of general internal medicine, “This broad view of using our electronic health records and all of our data for research has been something that Rex has been strongly behind. We now routinely use that data to understand issues of quality of care and to design interventions to improve care.”

Dr. Chisholm also has sought to bring increased focus to interdisciplinary research. “A lot of the important opportunities that exist right now are at the interface of traditional disciplines, or between a discipline and a new technology, or a new way of thinking,” he explains. “We want to foster an environment that’s collaborative, so work at these interfaces has a high priority—all the while not to take anything away from the work that goes on in traditional disciplines.”

For example, he says, “How can we use all the resources of the University to bring together biomedical engineers with vascular surgeons to find new ways of treating cardiovascular disease? How can we bring together material scientists with neurologists to better treat spinal cord injuries? How can we bring together statisticians, social scientists, and medical informaticists to bring about better quality outcomes in the patient treatment process?”

Building on the foundation of what came before

Since his appointment as dean for research in 2007, Dr. Chisholm has overseen and facilitated more than $300 million of research activity in more than 500,000 square feet of space. The medical school maintains core facilities that focus on bioinformatics, biostatistics, cell imaging, flow cytometry, genomics, monoclonal antibodies, high throughput analysis, transgenic-targeted mutagenesis, and behavioral phenotyping as well as the NUgene project.

Dr. Chisholm has both reorganized and improved the quality of those core facilities in ways that have benefited researchers throughout the medical school and probably beyond, according to John A. Kessler, MD, Ken and Ruth Davee Professor of Stem Cell Biology, and chair of neurology. “If we are going to rely on services, you can never be better than the elements that go into your work,” he says. “No one [department] can pay for all of it. It’s a way of taking dollars that are supplied by the medical school and enhancing their use across multiple users. Rex just helped us establish a core facility for human embryonic stem cells. We determined it would be a good idea to make that service generally available. Rex helped us organize it in such a way that it’s available to everybody.”

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In his role, Dr. Chisholm tries to minimize the regulatory burden and other barriers to conducting research to create an environment of excitement and enthusiasm for discovery.
From spinal cord injuries to Parkinson’s disease

Dr. Kessler has been working with materials scientist Samuel I. Stupp, PhD, who has appointments in three schools at Northwestern, including Feinberg, and directs the University-wide Institute for BioNanotechnology in Medicine (IBNAM). The institute includes researchers from the Weinberg College of Arts and Sciences in addition to Feinberg and McCormick. Drs. Kessler and Stupp have collaborated to build an artificial matrix of extracellular material that, when injected into damaged tissue, can regenerate axons to at least partially heal spinal cord injuries. The duo has worked together for more than five years and has seen improvements in animals that have received the therapy in the lab.

“This treatment could improve the outcome after spinal cord injuries,” says Dr. Stupp. “That doesn’t mean you would be problem-free. But you might be able to retain some limited motion—a lot more function—after a spinal-cord injury than has been possible up until now. However, we don’t know what that will look like in humans, in terms of the functional state of the patient.”

The project fits into Dr. Chisholm’s interdisciplinary vision, according to Dr. Kessler. “Rex embraces the concept of collaborative research,” he says. “To be on the real cutting edge of science, no one person and no one technology can do everything. We’ve all realized that if we utilize the expertise of other people around us, who do entirely different things, it will be a case of 1 and 1 equals 3. Rex has done everything he can to facilitate those kinds of interactions. That’s exactly the direction our science has to go.”

Tanya Simuni, MD, director of the multidisciplinary Parkinson’s Disease and Movement Disorders Center, and her colleagues have been working to regenerate the central nervous system when it suffers from the devastation of Parkinson’s. James Surmeier, PhD, professor of physiology, has tested an FDA-approved hypertension drug, irasipine, on animal models and found that it works as a neuroprotective agent during the early stages.

“If his work is proven in human clinical trials that will be a breakthrough in understanding the genesis of the disease,” explains Dr. Simuni, associate professor of neurology. “We need to figure out how to move from pre-clinical to clinical investigation as quickly as possible to ultimately make the drug available.”

The multi-center study going forward at 17 sites has received a $2.1 million grant from the Michael J. Fox Foundation. “At the end of it, we will have data on tolerability and dose selection, though a definitive study still will be necessary to evaluate efficacy in Parkinson’s,” says Dr. Simuni. “How does that relate to the overall mission of the institution? This study is a true example of translational work—pre-clinical data carried from the lab to the clinic. All of us want to see the results yesterday but this is a fairly rapid process of translating pre-clinical to clinical work.”

This progressive research hopefully will improve the medical school’s national reputation and ranking when it comes to federal funding, which Dr. Greenland describes as “roughly a surrogate for research intensity.” Northwestern has gone from being ranked “50-something” 25 years ago, to about 30 now, and “we want to be in the top 20,” he says. “That’s been a repeatedly stated goal.”

The endgame is not simply reputation and ranking, however. “The better reason is the humanistic goal,” says Dr. Greenland. “We exist to provide a better state of care today and to improve the care that’s delivered tomorrow. We do that by not only teaching our students and giving them the best possible skills, but we also accomplish it alongside our research mission to make the practice of medicine better. That’s enough to get me up in the morning.”

Concludes Dr. Chisholm, “Two years ago, when I was asked to take on this role, I had ideas on how to make people the best scientists they can be. I’m trying to see if those ideas help.”

Clearly, some of his ideas have already allowed investigators to focus on what they do best: seeking new knowledge that can only expand upon and accelerate Northwestern’s research mission and support the enhancement of patient care near and far.
Philip Greenland, MD, professor of preventive medicine, notes that the public expects a return in the form of disease prevention and cures for the billions of federal dollars spent on medical research every year. Dr. Greenland, senior associate dean for clinical and translational research at the medical school and director of the Northwestern University Clinical and Translational Sciences (NUCATS) Institute, cites a "New York Times" report published in April on the nearly 40-year "War on Cancer."
President Richard Nixon in 1971 declared the war, with the goal of curing the disease in 1976, in time for the nation’s Bicentennial. It seemed reasonable in a country that had just accomplished an unimaginable feat: landing men on the moon. But a recent New York Times/CBS News poll found that only 26 percent of older Americans believe that major inroads have been made to cure cancer.

Dr. Greenland, a cardiologist, says the public has other gripes about research in general: new knowledge is not quickly applied to patient care; researchers focus on complex issues while overlooking everyday problems; and communities don’t trust researchers because the academics don’t ask the public what they think should be studied and don’t share the results.

To address these issues, the NUCATS Institute—which includes the medical school, other Northwestern University schools and medical affiliates—and consortia around the country have gone down a new path: “translational research” to find ways to speed discovery and move results from “bench to bedside.”

NUCATS involves Northwestern University, Children’s Memorial Medical Center, Northwestern Medical Faculty Foundation, and the Rehabilitation Institute of Chicago. Six schools are involved in the NUCATS Institute: the Feinberg School of Medicine, Kellogg School of Management, McCormick School of Engineering and Applied Science, School of Communication, School of Education and Social Policy, and Weinberg College of Arts and Sciences.

The National Institutes of Health (NIH), after consulting with deans at academic health centers and the research community, re-engineered its approach to research. In 2006 it established a Clinical and Translational Science Awards (CTSA) consortium. CTSA currently includes 46 member institutions and plans to expand the network to 60 centers nationwide in 2012. Under CTSA, NUCATS received a five-year, $30 million grant when the program was launched in 2006.

“We are interested in figuring out ways that we can accelerate the translation or the application of research discoveries into improvements in human health,” remarks Dr. Greenland. “The grant is being used to fund pilot research, to build resources, including an electronic data warehouse, and to increase our capacity for research in the community.”

In November 2006, Melina R. Kibbe, MD, GME ’03, associate professor of surgery, Division of Vascular Surgery, was a co-recipient of a $200,000 grant—one of the first Drew Senyei, MD [Class of 1979], Translational Research Awards. Dr. Kibbe and her colleagues, Guillermo Ameer, ScD, associate professor of biomedical engineering at McCormick, and David A. Dean, PhD, associate professor of medicine, are working to develop better prosthetic grafts to treat patients with peripheral arterial disease.

According to Dr. Kibbe, the team is developing a graft from artificial materials designed to work as effectively as vein grafts. Five years after a procedure, 70 percent of vein grafts successfully stay open. In contrast, after two years, 70 percent of grafts made from polytetrafluoroethylene [Gore-Tex®] fail. The success of vein grafts is attributed to their ability to produce nitric oxide (NO), which, among other things, inhibits the growth of vascular smooth muscle cells that can clot and cause new blockages. Dr. Kibbe and her colleagues have developed a prosthetic graft designed to inhibit growth of the troublesome smooth muscle cells by releasing NO.

The new grafts are being tested in pigs. “We are still tweaking to develop the best graft possible,” notes Dr. Kibbe. “We are at least a few years away from human trials.” She says without the NUCATS grant, she could never have gotten the research off the ground.

“Funding is a struggle these days, for experienced researchers as well as young investigators,” she remarks. “NUCATS funding was critical. It allowed us to get the project up and running and develop preliminary data to obtain subsequent funding.”

As a brand-new entity with ambitious goals, the NUCATS Institute couldn’t have found a better project to support in its early days. Says Dr. Greenland, “Dr. Kibbe’s research is the kind of project that we’re interested in identifying early and funding.” Typical of those seeded by NUCATS, this project involves interdisciplinary research and nurtures young investigators.

Dr. Kibbe’s work, partially supported by funding from NUCATS, resulted in the vascular surgeon being named recipient of the Presidential Early Career Award for Scientists and Engineers this year.

Another promising early success at NUCATS is the creation of the Northwestern University Biomedical Informatics Center (NUBIC), where researchers and IT staff have developed new ways to merge data from multiple electronic health records systems and mine data from these proprietary systems that previously didn’t talk to one another. NUBIC connects biomedical informatics researchers and clinical informatics leaders from Northwestern University, Children’s Memorial Medical Center, Northwestern Medical Faculty Foundation, and Northwestern Memorial Hospital.

Rex L. Chisholm (see profile on page 14), PhD, NUBIC director and dean for research at the medical school, coordinates biomedical informatics and chairs the Biomedical Informatics Steering Committee. “An important part of translational research is marryng clinical studies and patient-oriented studies with new technolo-
gies,” he says. “One of the nice things the enterprise data warehouse does is blend information technology tools with information mined from electronic health records.

“The key idea here is that if you combine all of the thousands of bits of data in everyone’s health record in a way that is mineable in one place, you can use all of the tools of information technology to discover whole new kinds of knowledge that will be useful for improving diagnosis, therapy, and outcomes.”

NUBIC has broken new ground by integrating data from two widely used electronic health records systems, EPIC and Cerner Millennium, which previously couldn’t communicate with each other. “It was the same sort of problem that used to exist between PCs and Macs,” he notes. “But we cracked EPIC and Cerner and put data together into a new repository.”

The new database includes a wealth of information from 35 million patient encounters over the past decade. The availability of enterprise-wide data makes it possible to track patients as they move through the interconnecting system of Northwestern and the McGaw Medical Center and its affiliates. “If a patient were seen in the faculty foundation in an outpatient setting, the information is captured only in the context of that patient encounter,” notes Dr. Chisholm. “But that person may have also been in the hospital for some treatment and the hospital only captures that information. By aggregating that information our electronic data warehouse can say, ‘Oh, this patient was seen in this clinic for this problem in our faculty foundation and ended up having surgery in the hospital to resolve it.’”

The researchers interested in asthma, for example, could ask for information on all the patients with this condition, determine which ones responded well or not to therapy, and then use the list to enroll patients in a study. Other investigators could combine these findings with the NUgene project, which collects and stores DNA samples and health information, to determine if genetics are playing a role in outcomes and, ultimately, find new ways to diagnose diseases and develop personalized therapy.

“You might find, for example, some people whose cholesterol levels dropped dramatically in response to statin treatment and another group of people whose cholesterol levels didn’t,” says Dr. Chisholm. “We could look for the genetic mechanism for this difference, as well as other potential mechanisms.”

He adds, “Previously, we asked patients: Are they taking their drugs? Are we doing everything we can to provide them with state-of-the-art care? Having this data available helps us to repurpose all that information to make sure people are really getting the best care.”

Researchers with a project idea can query the database to find the number, gender, and age of patients with a certain condition. Access to the data warehouse allows them to consider the viability of new research ideas by, for example, finding out if there are enough subjects meeting criteria to consider developing a clinical trial.

“You can do all that without looking at the individual. Just the aggregated data is valuable,” explains Dr. Chisholm. “That’s the beauty of the warehouse. It’s just a matter of going to the database and asking whatever question you want.”

More than 30 researchers already have availed themselves of data in the NUBIC enterprise database. In a satisfaction survey, many of them indicated that it is making possible research that may not have seen the light of day without it.

Since NUBIC has found a way for the databases to communicate, NU researchers can collaborate with researchers based at other consortia and medical centers in Chicago and around the country. NUCATS has already worked with another translational research program at Vanderbilt University in Nashville, Tennessee, to pool data to enable a study of genetic variations and Type II diabetes in African Americans.

Convergence of databases for research could spread to and among other translational research centers. The NIH has awarded about $1 million in American Recovery and Reinvestment Act stimulus package funds to NUBIC to expand its software development to create a broad clinical
NUCATS receives more than $2 million in stimulus funds. Check out the story at WardRoundsOnline.com.

Community-engaged research ensures investigators and community members work together toward common goals through open communication and collaboration. Daysi Funes (left), executive director of Centro Romero, an organization that serves the refugee immigrant population on the northeast side of Chicago, meets with Jen Kauper-Brown (center) and Susan LeBailly of NUCATS’ Community-Engaged Research Center to discuss a possible research collaboration relating to diabetes prevention.

trials support system. It will link to the data warehouse and be “open-source,” so it will be available to other translational research programs. This aspect of NUBIC has also become a jobs-creation program, resulting in hiring programmers to work on the project. Remarks Dr. Chisholm, “We definitely are having a positive impact on the economy in the short term and improving the ability to do clinical and translational research in the long run.”

While NUCATS breaks down barriers between data silos, the academic “ivory tower” itself can be viewed as a silo separate from communities that researchers are supposed to serve. One goal of translational research is to create links between communities and researchers. Says Dr. Greenland, “Translational research aims to take the research out of the medical center and integrate it into the community.”

Enter NUCATS’ Community-Engaged Research Center (CERC), led by Katherine Kaufer Christoffel, MD, MPH. According to Dr. Christoffel, CERC is addressing the “helicopter research” issue.

“From the community’s point of view, investigators ‘helicopter’ in from nowhere. They have compiled questions and formulated a protocol without asking anybody in the community. They expect people will sign up for blood tests and EKGs. Then, they say, ‘Thank you very much. Good-bye.’ They take the data back to the university, and they publish in journals that nobody in the community has ever heard of or will ever read,” she says. “People feel like guinea pigs that are being used.”

CERC features two components: the Alliance for Research in Chicagoland Communities (ARCC) and the Practice-Based Research Program. ARCC creates partnerships between communities and Northwestern on research, leading to measurable improvement in community health. A steering committee, composed of representatives from the community and NUCATS faculty and staff, determines research project objectives. The Practice-Based Research Program coordinates research between community practitioners and academics.

So far CERC has awarded $300,000 in seed grants to build faculty-community relations while looking at such topics as understanding stomach pains in children, screening for colorectal cancer in Japanese Americans, and using patient records to promote better care of overweight and obese children.

For example, Juana Ballesteros, executive director of the Greater Humboldt Park Community of Wellness in Chicago, and Ruchi S. Gupta, MD, MPH, assistant professor of pediatrics, received a grant to survey parents on asthma prevalence and control in schools, to determine the role of pollution and access to care, and to understand the ability of schools to manage asthma. The study is providing data to design proposals and secure funding for further research to reduce asthma in Humboldt Park.

“We expect to change how people do clinical research at Northwestern so that it becomes routine to involve experts from a range of disciplines throughout the process—from identifying new funding opportunities and partners to designing and conducting studies that produce highly successful outcomes,” says Dr. Greenland. “This will improve science. In the long run, we’ll learn better how to bring findings into the real world.”
Life-Enhancing Work

Personal experience compels three members of the academic medical center to help keep hope alive through their efforts at Northwestern

by Cheryl SooHoo
A Different Direction

Proteins in the nucleus of cells, nuclear lamins play a significant role in both the regulation of DNA replication and gene transcription—hot topics in the field of cell and molecular biology today. Within the past decade, Northwestern researchers in the laboratory of faculty member Robert D. Goldman, PhD, have discovered that structural changes in these proteins can affect the nuclear function of cells. These changes, as well as mutations in the genes encoding the lamins, may hold the key to unraveling the mysteries of many human diseases, ranging from various forms of muscular dystrophy to progeria.

In 1994, Dr. Tim Spann came to the Goldman laboratory as a research associate. Three years later, he joined the medical school as a research associate professor of cell and molecular biology. His research focusing on the structure and function of nuclear lamins resulted in several important publications. “Tim discovered that nuclear lamins regulate the transcriptional activity of genes,” explains Dr. Goldman, Stephen Walter Ranson Professor of Cell Biology and chair of cell and molecular biology.

“Tim’s research continues to provide the basis for any work we do in terms of regulation of gene control by these proteins, which are relevant to any and, in fact, almost all diseases.”

While basic science remained his first love, relocating to pursue upward mobility on the academic track didn’t appeal to Dr. Spann or his family. So in 2006, he earned a law degree from Chicago-Kent College of Law and joined the intellectual property firm of Cook Alex in Chicago as a patent attorney. Life seemed to be going according to plan, until a bad cold in February 2008 left him, literally, speechless. He explains, “I lost my voice and it never really came back.”

After seeing several specialists—one of them Puneet Opal, MD, PhD, assistant professor of neurology, and a former colleague who coincidentally worked with Dr. Spann in Dr. Goldman’s lab in the mid-1990s—Dr. Spann received the diagnosis he had been dreading. He had ALS, commonly known as Lou Gehrig’s disease. A progressive condition that destroys motor neurons in the brain and spinal cord, ALS currently has no cure. Patients receive only palliative treatments that in the best case may provide minor extensions of their lives.

Fortunately, Dr. Spann is being treated at Northwestern Memorial Hospital through the Les Turner ALS Foundation. In addition to funding the basic research of two Northwestern laboratories seeking the causes of ALS, the foundation provides integrated patient care with a team of specialists that covers all the clinical needs of patients from neurology and pulmonology to nutrition, speech aids, and physical therapy.

By last November, Dr. Spann could no longer speak well enough to be clearly understood by many clients and coworkers, and he began losing manual dexterity. “A lawyer who speaks poorly and types slowly is not much use in an environment that bills by the hour,” explains Dr. Spann, who, although he now communicates by writing on a portable white board, hasn’t lost his sense of humor. “No one will pay!”

Earlier this year he returned to Northwestern, where he helps review papers and grant applications. “I never quit thinking about science and now have a new scientific interest in ALS. I am using the medical school library to learn as much as I can about this field and am looking for ways to contribute,” he writes. “Interestingly, when I was working with nuclear lamins, we found that if we disrupted their structure, we also disrupted their function. We did this with mutant proteins that disrupted the normal protein organization to form aggregates.

“Here’s the interesting part: ALS and many other neurodegenerative diseases have aggregates of mutant protein that appear to block the normal function of neurons.”

Like many people, Dr. Spann admits he didn’t know much about ALS until he received his diagnosis. He hopes to improve upon that knowledge base for the some 35,000 Americans estimated to have the disease at any given time. He remarks, “Maybe if I can use my background to under-
In April, Dr. Tim Spann traveled to Illinois’ state capitol with the Les Turner ALS Foundation in Chicago to share his personal story and raise awareness about this devastating disease.

To stand ALS better than neurology textbooks, I can translate research findings to help patients understand what is going on with them and the disease.”

Wasting No Time
Serving as the “alarm” model can be a dubious honor but if that’s what it takes to quickly move forward effective treatments for malignant brain cancer, then 24-year-old PJ Lukac will gladly do whatever needs to be done. A little less than a year ago while home for the holidays in St. Charles, Illinois, this second-year medical student at Columbia University in New York discovered that the mild seizures he had been experiencing were due to glioblastoma—the same rare cancer that the late Senator Ted Kennedy battled. This spring, Lukac took a research position at the medical school, where he works in the laboratory of Markus Bredel, MD, PhD, director of the Brain Tumor Institute’s research program and assistant professor of neurological surgery.

“Being here keeps me busy and in tune with what’s going on in brain cancer research. I can then make informed decisions,” says Lukac. “It’s great for the researchers, too. I put a face to their work and keep them on their toes.”

Dr. Bredel couldn’t agree more. “PJ reminds us on a daily basis why we are doing what we are doing,” he remarks. “It is not for fantastic awards or other merits. We are doing research to translate our findings into the clinic and, ultimately, help patients manage this disease.”

To that end, Dr. Bredel’s research focuses on mapping the genetic landscape that allows glioblastomas to grow to the size of an apple in as little as a few months’ time and understanding how these genes work together to advance the disease process. Although these malignant tumors involve mutations in thousands of genes, Dr. Bredel’s team has identified 31 of them—a feat accomplished by examining tissue samples from 501 patients with gliomas. Results from this study appeared in the July 15 issue of the Journal of the American Medical Association (JAMA).

“Malignant gliomas are essentially a genetic disease,” explains Dr. Bredel. “Of the 20,000 to 25,000 genes in the human genome, 50 percent of them can be changed as a result of the glioblastoma disease process.”

Separating key players from mere bystanders instrumental to the mutated gene interaction, Dr. Bredel and his colleagues also detailed in the same issue of JAMA the modus operandi of two of the 31 genes most frequently affected by genetic alterations. They discovered a new gene, Annexin A7, whose job is to halt tumor growth. Levels of Annexin A7 in a tumor help to predict how long a patient will survive. The molecular environment favorable to glioblastomas, however, reduces Annexin A7 by destroying its home base on chromosome 10. This destruction occurs in about 75 percent of the tumors. Additionally, the investigators found that the loss of Annexin A7 contributes to the aberrant activation of the EGFR (epidermal growth factor receptor) oncoprotein in glioblastomas; Dr. Bredel and his colleagues showed that when ANXA7 protein levels drop, EGFR levels rise and the tumor-generating potential of glioblastoma cells increases.

Lukac has contributed to Dr. Bredel’s research by working with targeted nanoparticles that carry small interfering RNA (siRNA) to knock down genetic mutations—specifically EGFRVIII—in gliomas. “Tumor growth with EGFRVIII tends to occur more quickly than other muta-

PJ Lukac’s “Team Peej” was the top fundraiser for a 5K run/walk event held earlier this year for the Illinois-based American Brain Tumor Association, which coincidentally supports the research of investigators like Dr. Bredel.

In April, Dr. Tim Spann traveled to Illinois’ state capitol with the Les Turner ALS Foundation in Chicago to share his personal story and raise awareness about this devastating disease.
tions,” explains Lukac, whose young age makes his rare cancer even more unique. While they can occur at any time, glioblastomas often appear in adults over 50. “Fortunately, my tumor is negative for it.”

Nanoparticles offer a delivery system that may yield safer and more effective brain tumor therapies that target specific genes. “Cells take up the nanoparticles well,” says Lukac, “and they spread diffusely in the brain.”

Lukac plans to return to Columbia in January and looks forward to soon seeing tangible results from his work at Northwestern and sharing them with others. “My medical school mentors tell me that the best doctors are the ones who have personally experienced a serious illness,” he says. “Someday when I treat patients, I’ll be able to better understand what they are going through as I have walked in their shoes.”

“Both Sides of the Scalpel”

After 30 years of nursing experience, with 18 of them spent as a member of Northwestern’s transplant team educating patients and professionals, Doug Penrod intimately knows that organ donation can change lives. So when a dear friend with kidney failure needed a new organ two years ago, Penrod eagerly volunteered to become a live donor. Then, just two weeks before the surgeries, a previously undetected medical problem of the recipient prohibited him from ever receiving a transplant.

“We were devastated,” recalls Penrod, who works at Northwestern Memorial as well as at three satellite clinics in Illinois and Indiana as an outreach liaison. “But as soon as my friend left the hospital, I went to my transplant nephrologist and said, ‘Find me someone to donate my kidney to.’ I had come so far, and I personally knew a couple hundred patients on the waiting list who could use my kidney. In the end, though, it didn’t really matter to me who received it.”

Of course, Penrod’s doctor, John J. Friedewald, MD, assistant professor of medicine, greatly appreciated his offer, not only because it was a selfless act of kindness but also for its timing. For several months, the transplant team had been trying to set up a paired kidney exchange involving multiple donor-recipient pairs. Three transplant candidates each had one willing donor but none of the pairs were compatible after testing. “I was the perfect tie breaker,” shares Penrod. “I was blood group O and could donate to anybody.”

On April 3, 2008, Northwestern’s transplant team completed a rare four-way domino paired kidney exchange—the largest in the nation at that time. The four recipients involved in the exchange received kidneys from unfamiliar donors, who until they all appeared for a taping of ABC’s Good Morning America the day after the surgery, had not even met each other. In fact, Penrod did not know in advance of the surgery who would receive his kidney or that he would be part of a historic paired exchange.

Having been on “both sides of the scalpel” as he describes it, Penrod uses his firsthand experience to give prospective donors the real lowdown on what it is like to donate. “When people have questions, they can get the answers straight from the horse’s mouth, so to speak,” says Dr. Friedewald, who is heading UNOS’ (United Network for Organ Sharing) efforts to develop a national paired kidney system to expand the pool of available organs. “Doug is a wonderful ambassador for our living donor program. He brings a unique perspective to our work.”

Penrod also brought hope to a patient in need and that individual’s family and friends. Hope also drives Dr. Spann and medical student Lukac to use their skills and knowledge, if not to help themselves directly with their diseases, to help others facing the same challenges. In the case of these three members of the Northwestern community, their personal experiences have brought new meaning to the phrase “working to live.”
President’s Message

Innovation occurs every day at Northwestern. The integration of various professional disciplines in the NU-CATS program, for example, reflects the process occurring throughout society but seems to reach its “gee-whiz” status in medicine due to its immediate impact on our lives or the lives of those we cherish. One advancement in a field leads to one or many applications in another but only if the scientific, financial, legal, and cultural environments allow the innovation(s) to flourish.

When I was a medical student in the days after the McGaw Medical Center integration, I worked as an ECG technician to make ends meet (and woo my future bride). My job involved rolling a cart the size of those used by hot dog vendors into each patient room, plugging it into a four-prong telephone outlet, and sending the tracing from the wired patient to another technician operating a mainframe computer in a very large room. Though at the time it was cutting edge, the resultant ECG analysis rarely surpassed my knowledge as a second-year student.

Now jump ahead 15 years, and the whole system is contained in a briefcase. This one concept, miniaturization, has affected all of health care, with scientific and clinical investigators exploring and testing the limits of nanotechnology. Sometimes the simplest of observations can lead to better processes and outcomes if that idea is truly innovative and, ultimately, developed from idea to tangible result.

For those of you who haven’t experienced Ward Rounds online (www.wardroundsonline.com), you are missing extra and exclusive web content of this once “new” medium—an innovation that has certainly changed the way we communicate.

All the best,

F. Douglas Carr, MD ’78, MMM
President, Alumni Association

Ward Rounds welcomes alums to new editorial board

We warmly thank members of the outgoing Ward Rounds editorial board (listed opposite the inside front cover) for graciously providing their counsel and service during the previous three years as they hand off the baton to a new group of alumni. The new editorial board includes graduates from Northwestern University Feinberg School of Medicine who reflect the diversity of the alumni body, including three MDs, one PhD, one physical therapy graduate, the Alumni Board president, and a member of the Student Senate, along with current University staff.

This diverse group will meet twice annually and serve a two-year term, providing input to alumni relations and communications staff on the magazine’s vision and policy decisions. Editorial board members are asked to actively participate in meetings, review issue plans, recommend possible stories or topics, and provide insight and perspective to ensure Ward Rounds meets alumni information needs and appropriately represents the medical school.

The members for this new editorial board are F. Douglas Carr, MD ’78, Alumni Board president; Richard D. Ferkel, MD ’77; Rebecca B. Katzman, PhD ’04; June R. Macchiaverna, PT ’75; Julie A. Melchior, MD ’91; Ukeme I.E. Umana, MD ’85; Darren Boyd, Class of 2011; J. Larry Jameson, MD, PhD, vice president for medical affairs and Lewis Landsberg Dean; Rebecca A. Cooke, senior associate dean for administration; Ginny Darakjian, assistant dean for alumni relations; Katherine E. Kurtz, dean for development; Robert M. Rosa, MD, dean for regulatory affairs and chief compliance officer; Tom Garritano, senior executive director of communications; and Michele Weber, communications director.
ALUMNI PROFILE

Mutual love of medicine works well for Howells

Early during Lydia Pleotis Howell’s first year of medical school at Northwestern, she met Steve Howell, but Lydia “wasn’t so impressed right away.”

Winning her over took Steve a few months. By March of their first year, the two started dating—and have been together ever since. “We had the same interests, we were the right age, and one thing led to another,” Steve says.

Since graduating in 1981, both Drs. Howell have balanced highly successful careers with their family and personal lives. Steve, an orthopaedic surgeon, developed an innovative custom-fit total knee replacement procedure called OtisKnee® that surgeons across the country now use; and Lydia’s curriculum vitae includes positions as associate dean, chair, director, and professor of pathology at the University of California (UC) at Davis.

Their professional paths have taken them in different directions but together the couple has raised two daughters. They have also influenced each other in melding their individual clinical practices with research and education that has advanced both of their fields.

Lydia grew up in Chicago’s suburbs, where her father, Peter Pleotis, MD, volunteered as clinical faculty in obstetrics and gynecology for Northwestern. He taught medical students and residents who rotated at the community hospital where he practiced. Dr. Pleotis encouraged his daughter, who worked in his office in the summer, to “think in that direction.”

Eventually, Lydia did enroll in medical school as a student in Northwestern’s Honors Program in Medical Education. The problem solving associated with diagnosis interested her far more than the procedural steps in treating or managing disease. She became particularly drawn to cytopathology—the subspecialty of pathology that uses minimally invasive techniques to evaluate disease on the cellular level.

Meanwhile, Steve’s route to medical school was more complicated. “I couldn’t get in,” he says of his initial efforts. He had set his sights on becoming a doctor because of a near-death experience. As a child, he liked to go shoeless down to the creek near his family home to catch frogs. One afternoon, Steve stepped on a yellow jacket and went into anaphylactic shock. His mother immediately called the pediatrician, who, Steve says, “drove out in his little VW and gave me a shot. That left a lasting impression of what you can do as a physician to save a person’s life.”

After he was turned down on his first round of medical school applications, Steve waited a year, retook the MCATs, and re-applied with an improved score. On Memorial Day weekend, mere weeks before classes began, he received a letter of acceptance from Northwestern.

His education settled, Steve left his Philadelphia home and boarded a flight to Chicago. Four years later, as they prepared to graduate and leave Chicago for residency training in Philadelphia, Steve and Lydia married. Lydia began a residency in anatomic and clinical pathology at Temple University Hospital. She chose Temple because of a famous cytopathologist there who had worked with George Papanicolaou, MD, PhD, the man who developed the Pap test to screen women for cervical cancer. Says Lydia, “I feel I can trace my cytopathology roots back to the origin of the field.” Steve began his residency in orthopaedic surgery at Thomas Jefferson University.

While both Howells were training in Philadelphia, Lydia gave birth to their first child, daughter Stephanie. A month later, the family moved to California. Steve, who had paid for three years of medical school by promising three years to the Air Force—he ended up serving 13 additional years as a reservist, including active duty in the first Gulf War—had finished his residency and been assigned to Travis Air Force Base.
Of Lydia, Steve responds, “My wife does everything. I do nothing, I pay the bills.” But “nothing” is a relative term. Steve is a full professor of mechanical engineering at UC Davis who trains medical and biomedical engineering students. He also publishes regularly and maintains his clinical surgery and entrepreneurial focuses, which feed off of each other.

“My practice has always been my laboratory,” he says. “The off-shoot is that you need to develop products to make [difficult cases or circumstances] better for patients and surgeons.”

Steve has done exactly that. In addition to developing several devices used to reconstruct sports-related tears of the anterior cruciate ligaments, he expanded his interests to total joint replacement four years ago and developed a custom-fit surgical technique for knee replacements. The procedure starts with an MRI of the knee, which a computer software program uses to create a 3-dimensional image of the knee and suggested implant. The program then produces cutting guidelines for the surgeon based on each individual patient’s knee.

“It’s like what you see on the crime shows. We use software to transform MRI images of the worn-out knee to a ‘normal’ knee that the patient had prior to developing arthritis. We then bring in implants, pick the best size, and position it properly via computer in a virtual environment and machine custom-fit, patient-specific cutting blocks that are used to transfer the implant position from the virtual environment to the patient in the operating room,” explains Steve. He co-founded the company, OtisMed, to offer the procedure to interested surgeons.

Over the years, the Howells have learned to balance their industrious work schedules. They’ve helped along the way but Steve says that stability is the most important aspect of a healthy career.

“You have to have stability in your family life first and then you can work on developing stability in your professional life,” he says. He advises young, dual-physician couples to make sure that one of the people in their relationship is interested in a field with more regular hours—like Lydia, who typically didn’t have to be at work until 8 a.m. and was home for dinner.

Apparently this plan and the couple’s mutual love of medicine has worked well for the Howells—and their desire to achieve balance for themselves and their family. “That’s just the way it’s supposed to be,” says Steve.

“It’s hard to argue with success.”

Katie Scarlett Brandt
Progress Notes: Awards & Honors

Frank B. Cerra, MD ’69, dean of the medical school at the University of Minnesota since 1994 and senior vice president for health sciences since 1998, has now taken on a new role at the university. As of 2009, his responsibilities have been integrated and expanded to include leadership of the schools of dentistry, medicine, nursing, pharmacy, public health, and veterinary medicine, as well as interdisciplinary programs in bioethics, spirituality and healing, cancer, and genomics.

Two alumni were elected to the Illinois State Medical Society Board of Trustees during its annual meeting in April. William E. Kobler, MD ’74, of Rockford, Ill., was re-elected to the board. He previously served the society as chair (2006–08), president (2003–04), president-elect (2002–03), and first vice president (2001–02). Dr. Kobler is an attending physician on the medical staff at OSF St. Anthony Medical Center in Rockford. He is a retired clinical assistant professor of family medicine at the University of Illinois’ College of Medicine in Rockford.

Rodney C. Osborn, MD ’75, of Peoria, Ill., also was elected to the board. An anesthesiologist, he currently practices medicine at St. Francis Medical Center and Proctor Hospital in Peoria, and St. James Medical Center in PONTIAC, Ill. He serves on the clinical faculty at the University of Illinois’ College of Medicine in Peoria.

Gary W. Unzeitig, MD ’78, and wife Jane Cigarroa Unzeitig, MD ’78, of Laredo, Texas, helped accept for the Doctors Hospital of Laredo an American Society of Clinical Oncology’s Clinical Trials Participation Award at the group’s annual meeting in Orlando, Fla., in May. A breast surgeon, Gary serves as principal investigator of clinical trials at Doctors Hospital of Laredo, which received the award in recognition of its active participation in clinical trials in the private practice community and the role it plays in the development and refinement of cancer therapies.

The University of Southern California (USC) has named Preet M. Chaudhary, MD, GME ’94, of Pittsburgh chief of the Jane Anne Nohl Division of Hematology and Center for the Study of Blood Diseases at the USC Norris Comprehensive Cancer Center and Hospital. He will begin his new post January 1, 2010. Dr. Chaudhary is currently a professor of medicine at the University of Pittsburgh.

Alan S. Feiner, MD, GME ’76, of Denver received the Thomas Frist Humanitarian Award at Rose Medical Center in recognition of exemplary service to patients and the health care community as well as a dedicated spirit and genuine concern for the welfare of others. Dr. Feiner is a hematologist/medical oncologist and has been named a top Denver doctor 14 times in the magazine 5280.

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G. Gayle Stephens, MD ’52, of Birmingham, Ala., published in the July–August issue of the journal Family Medicine a review of the reprint edition of The Horse and Buggy Doctor, a book written by Arthur E. Hertzler, MD 1894. Dr. Hertzler wrote about his experiences practicing medicine in rural Kansas and traveling by horse-drawn carriage to make house calls.

Office of Alumni Relations moves to new offices

The medical school’s Office of Alumni Relations has moved to the 9th floor of the Rubloff Building from its previous location at Abbott Hall. While its phone (312/503-8012) and fax (312/503-0146) numbers remain the same, the office’s street address has changed. It is now:

420 East Superior
Rubloff 9th floor
Chicago, Illinois 60611
Progress Notes

Tee time for four former classmates

Playing golf at the La Jolla Country Club in California this fall provided a good time for four Class of 1961 graduates, who lined up for their “shot.” From left are Arthur “Art” Johnson, Walter “Wally” Doren, Phil Griffin, and Kevin Glynn. Dr. Griffin visited his La Jolla-based pals from his home in Billings, Montana.

1950
Jack T. Turpin, MD, of University Place, Wash., retired from family practice and surgery some 20 years ago. He has now returned to college to pursue his musical roots. “I have engaged in numerous avocational hobbies, including boating, traveling, computer music transcription, video editing, and playing the clarinet in numerous bands and orchestras,” he shares. “I have just completed the summer concert series of performances with the Tacoma Concert Band.”

1960
Marshall S. Sparberg, MD, of Chicago has been in the private practice of gastroenterology at Northwestern Memorial Hospital for 42 years. He is looking forward to welcoming his fellow medical school alums to their 50th class reunion in 2010.

1978
Gary W. Unzeitig, MD, and wife Jane Cigarroa Unzeitig, MD, of Laredo, Texas, have been in private practice in Laredo since 1983. The couple has four children. One just graduated from medical school at UT Southwestern in Dallas and will start a surgery residency there and another is a sophomore medical student—also at UT Southwestern. Gary reports, “Another daughter is an economist working in San Francisco, and the youngest son is a junior at Trinity University in San Antonio, Texas.”

1980
Nick M. Spirtos, MD, of Las Vegas, Nev., heads the Women’s Cancer Center in Las Vegas and co-chairs the Department of Obstetrics and Gynecology at UNLV. He was recently featured on 60 Minutes for his group’s work in providing care to oncology patients left unattended when the university stopped outpatient oncology services due to lack of funds. Tanya W. Spirtos, MD, of Redwood City, Calif., currently practices as a gynecologist with the Women’s Care Medical Group. She is involved in organized medicine as past-president of the county medical society, delegation chair to the California Medical Association, and delegate to the AMA. Both Nick and Tanya spend more time in Chicago these days (right on the medical school campus for the Thanksgiving holidays) as their twins, Michael and Alexandra, have just completed their second year at the University of Chicago.

1985
Michael R. Barratt, MD, GME ’89, of League City, Texas, returned to planet Earth on October 11 from the International Space Station where this NASA astronaut spent six months as the flight engineer for Expeditions 19 and 20. Aboard a Soyuz capsule, he and other crew members landed near the town of Arkalyk, Kazakhstan. Edie Zusman Pratt, MD, GME ’87, of Piedmont, Calif., is director of adult neurosurgery at Sutter Neuroscience Institute in Sacramento. She was the first neurosurgeon to serve on the board of the American Association of Neurological Surgeons.

1992
Paul K. Lim, MD, GME ’97, completed a plastic surgery residency at the University of Minnesota in 2005. In 2008 he moved to Addis Ababa, Ethiopia, to help start a new charity hospital for children with disabilities known as the CURE Ethiopia Children’s Hospital. He serves as director of plastic and reconstructive surgery. His wife, Susan H. Lim, MD, is the director of pediatrics. They completed their first operation, a cleft lip repair, in January 2009.
Interventional cardiologist Lee S. Guertier, MD ’84, of Honolulu is a man on the go. He and wife Della Lin have four Jack Russell terriers and a farm in New Zealand where they raise sheep, cattle, and red deer. In Hawaii, he paddle and kite board surfs, races his motorcycle, and works on vintage muscle cars.

Activities galore for this alum

Neysa McDonald, MD/MPH, of Danbury, Conn., announces the birth of her second child, Wesley McDonald, in March. Dr. McDonald currently works in a pediatric practice in Waterbury, Conn.

2006
Jessica L. Keller, MD, is a practicing pediatrician in Tulsa, Okla.

GME PROGRAMS

Urology
Tobias Kühler, MD, GME ’08, of Springfield, Ill., joined the faculty at Southern Illinois University (SIU) School of Medicine as assistant professor of surgery and chief of male infertility. He is director of a sexual dysfunction clinic at SIU and heads the oncofertility program at SIU’s Simmons Cooper Cancer Institute. He is also part of a new fertility clinic at SIU.

In Memoriam
George J. Best, MD ’42, of Peoria Heights, Ill., died July 9, 2009.
E. Richard Blonsky, MD ’59, of Glencoe, Ill., died August 26, 2009. Dr. Blonsky was professor of clinical neurology at Northwestern.
Jack W. Brown, MD ’50, of Seattle died August 9, 2009.
John B. Case II, MD ’39, of San Antonio, Texas, died August 23, 2009.
Progress Notes

Russell B. Clark, MD ’29, of Salem/Payson, Utah, died September 10, 2009.
Ronald E. DeiCas, MD ’89, GME ’90, of Washington, D.C., died June 22, 2009.
Michael A. DiCosola, MD, GME ’47, of Sarasota, Fla., died July 9, 2009.
Harry B. Durham Jr., MD ’45, of Barrington, Ill., died September 30, 2009.
John B. Graham, MD ’52, GME ’57, of Wilmette, Ill., died July 7, 2009.
Dr. Graham was professor emeritus of urology at Northwestern.
Gwilym B. Lewis, MD ’42, GME ’43, of Berkeley, Calif., died September 17, 2009.
Donald J. Logan, MD ’57, GME ’65, of Dallas died August 5, 2009.
Joseph V. Mirenda, MD ’84, of Virginia Beach, Va., died August 25, 2009.
Patricia King Mitchell, PT ’89, of Knoxville, Tenn., died October 7, 2009.
Frederick R. Oyer, MD ’69, GME ’70, of Ontario, Ore., died August 22, 2009.
Paul H. Potter, MD ’51, of Granite Bay, Calif., died August 14, 2009.
R. Dee Robbins, MD ’41, of Santa Rosa, Calif., died July 21, 2009.
Larry A. Smith, MD ’39, of San Antonio, Texas, died June 18, 2009.
James F. Suess, MD ’52, of Crowley, Texas, died June 23, 2009.

Items for Progress Notes may be sent to the Office of Communications, Northwestern University, Feinberg School of Medicine, 420 East Superior Street, Rubloff 12th floor, Chicago, Illinois 60611 or via e-mail to ward-rounds@northwestern.edu. They may also be submitted online at www.wardroundsonline.com. Be sure to include the year the MD degree was received or the GME or Other Program was completed. Photo submissions also are welcomed. Please note: Progress Notes appearing in the print edition of Ward Rounds may be posted on WardRoundsOnline.com and are password-protected.

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Follow news and events in 140 characters or less on Twitter!
http://twitter.com/NUFeinbergMed

See our events and photos on Flickr!
www.flickr.com/photos/42143142@N08
December 4–5
The 5th Annual Heart Failure Holiday Symposium / Northwestern Memorial Hospital, Feinberg Pavilion Conference Center, 251 East Huron Street, Chicago. Course director: William G. Cotts, MD ’52. For more information, call the Office of Continuing Medical Education, Northwestern University Feinberg School of Medicine, 312/503-8533.

December 10
Pediatric Pearls: Fall 2009 / Renaissance Chicago O’Hare Suites Hotel, 8500 West Bryn Mawr Avenue, Chicago. For more information, call Children’s Memorial Hospital, 773/880-6772.

December 10–13

January 20–22
The 46th Annual Year in Internal Medicine / Northwestern Memorial Hospital, Feinberg Pavilion Conference Center, 251 East Huron Street, Chicago. Course directors: Aashish K. Didwania, MD, GME ’06, and Daniel B. Evans, MD ’00, GME ’04. For more information, call the Office of Continuing Medical Education, Northwestern University Feinberg School of Medicine, 312/503-8533.

January 27–28
Coding for the Pediatric Practice 2010 / Wyndham Drake Oak Brook, 2301 York Road, Oak Brook, Illinois. For more information, call Children’s Memorial Hospital, 773/975-8735.

February 24
The 3rd Annual Women’s Cardiovascular Symposium / Prentice Women’s Hospital, 250 East Superior Street, Chicago. Course directors: Marla A. Mendelson, MD, GME ’88; Martha Gulati, MD; and Vera H. Rigolin, MD ’88, GME ’92. For more information, call the Office of Continuing Medical Education, Northwestern University Feinberg School of Medicine, 312/503-8533.

Noontime bioethics lectures
Interested in learning more about hot topics in the area of bioethics? Every Thursday, from noon to 12:45 p.m., the medical school’s Medical Humanities and Bioethics (MH&B) Program offers special-topics lectures that are open to all, inside and outside of the Northwestern community. Led by MH&B faculty members or special guest speakers, the lectures are held in the Searle Seminar Room located in the Robert H. Lurie Medical Research Center of Northwestern University. Feel free to bring a lunch. For more information, visit http://bioethics.northwestern.edu/lectures/.

Additional photography
Jim Ziv, IFC, pp. 4–5, 7–9, 10 (lower photo)
Andrew Campbell, p. 6 (upper photo)
Nathan Mandel, p. 6 (lower photo)
Dale DeBolt, p. 10 (upper photo)