



Murphy Named to New Leadership Position

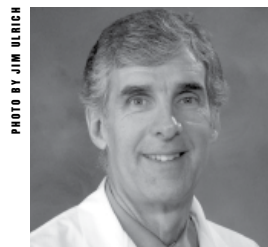


PHOTO BY JIM BLINCH

Murphy

TIMOTHY F. MURPHY, MD, UB Distinguished Professor of Medicine and chief of the Division of Infectious Diseases, has been named the inaugural senior

associate dean for clinical and translational research in the School of Medicine and Biomedical Sciences.

"Dr. Murphy possesses the administrative, scientific, leadership and visionary skills needed to work with clinical and basic science researchers to enhance the discipline of clinical and translational science and to address the growing barriers that have arisen due to the ever-increasing complexities involved in conducting clinical research," said Michael E. Cain, MD, dean of the school, at the time he made the announcement in June.

"Through discussions with UB 2020 leadership, recom-

mendations from outside agencies, and meetings with the research community, Dr. Murphy will oversee the development and implementation of a strategy to catalyze the development of clinical and translational science within our university," Cain further explained. "It is our goal through the new Clinical and Translational Research Center and a Clinical and Translational Science Award to create innovative research tools and infrastructure, mentored research training pathways, and information technologies that will synergize multidisciplinary and interdisciplinary clinical and translational research. It is our desire to create an environment that takes the application of new knowledge and techniques to clinical practice at the front lines of patient care."

Murphy, who also holds a secondary appointment in the Department of Microbiology and Immunology, is an inter-

nationally recognized expert and leader in respiratory tract bacterial infections. His translational and clinical research is focused on delineating the role of bacterial infection in chronic obstructive lung disease, with special emphasis on the molecular mechanisms of pathogenesis of *Haemophilus influenzae* and *Moraxella catarrhalis* infections. A second goal of his research program is vaccine development to prevent infections by these bacterial pathogens. His research programs are supported by grants from the National Institutes of Health (NIH) and the Department of Veterans Affairs. His work has been continuously funded by the NIH since 1983, and his vaccine development program has led to 11 U.S. patents.

Concomitant with his new appointment, Murphy has relocated his laboratory to UB's New York Center of Excellence in Bioinformatics and Life Sciences.

—S. A. UNGER

Cartwright Named Interim Chair

Leads new Department of Biomedical Engineering



Cartwright

ALEXANDER CARTWRIGHT, PHD, has been named inaugural chair of the Department of Biomedical Engineering for an initial two-year period and will also serve as chair of the Department of Electrical Engineering.

The announcement was made in March by Michael E. Cain, MD, dean of the School of

Medicine and Biomedical Sciences, and Harvey Stenger, PhD, dean of the School of Engineering and Applied Sciences.

"We are most fortunate to have Professor Cartwright as the inaugural chair of the biomedical engineering department," says Cain. "Alex epitomizes the excellence and commitment required to successfully lead the initial critical years of a new department that reports to two UB schools and to inspire collaboration between gifted faculty with diverse backgrounds but a common interest in achievement of excellence in application of biomedical engineering to the betterment of science and of the public health."

In accepting these new responsibilities, Cartwright steps down from his role as vice provost for strategic initiatives in the Office of the Provost.

Cartwright earned a PhD from the University of Iowa and joined UB's Electrical Engineering Department in 1995. In addition to serving as professor in this department, he is an adjunct in the Department of Physics of the College of Arts and Sciences; director of the Institute for Lasers, Photonics and Biophotonics; and codirector of the Electronics Packaging Laboratory.

Cartwright is an affiliated faculty member of the Center for Unified Biometrics and Sensors, and the UB 2020

Academic and Strategic Strength, Integrated Nanostructured Systems.

His distinctions include a SUNY Chancellor's Award for Excellence in Teaching, a Department of Defense Office of Naval Research Young Investigator Award and a National Science Foundation CAREER Award. He has received significant funding from multiple federal funding agencies, as well as from New York State, private companies and foundations. To date, technologies that he has developed have been licensed by three different companies.

—S. A. UNGER

Honored Speaker Daniel Levy, MD

School of Medicine Commencement

The honored speaker at the 163rd commencement for the School of Medicine on May 1 was Daniel Levy, MD, a scientific director with the National Heart, Lung, and Blood Institute, where he serves as director of the Center for Population Studies and director of the Framingham Heart Study.

Levy, who also is a professor of medicine at Boston University School of Medicine, has published more than 300 articles in leading medical journals and authored *A Change of Heart*, a book about the revolution in understanding of heart disease. In addition, he has edited *50 Years of Discovery*, a book on the

Framingham Heart Study.

Levy joined the Framingham Heart Study in 1984, becoming its fourth director 10 years later. Prior to that, he was a fellow in medical ethics at Harvard Medical School.

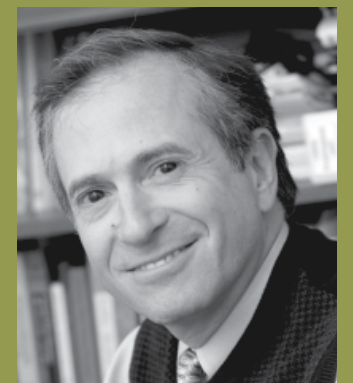
He is editor-in-chief of the *Journal of Cardiovascular Risk*, a fellow of the American College of Cardiology, an active member of the American Heart Association's Council on Epidemiology and a member of the board of directors of the American Society of Hypertension.

In addition to his research and administrative responsibilities, Levy has been actively involved as a policy maker. He served with

the National High Blood Pressure Education Program and the National Cholesterol Education Program in the formulation of national hypertension and cholesterol guidelines.

Levy has received many awards, including the National Institutes of Health Director's Award given for his research achievements at the Framingham Heart Study. His main areas of research interest include the epidemiology and genetics of hypertension, heart disease and heart failure.

Levy received his undergraduate degree from the University of Pennsylvania in 1976 and his medical degree from Boston University



Levy

School of Medicine in 1980. He completed a residency in internal medicine at University Hospital in Boston and a research fellowship in cardiology at Boston's Brigham and Women's Hospital and Harvard School of Public Health.

2009 FACULTY STAFF AWARDS

PHOTOS
BY
JENNY LUK

Stockton Kimball Award

THE STOCKTON KIMBALL AWARD HONORS A FACULTY MEMBER WHOSE ACADEMIC ACCOMPLISHMENTS AT UB HAVE GARNERED HIM OR HER WORLDWIDE RECOGNITION AS A RESEARCHER. STOCKTON KIMBALL, MD '29, WAS THE DEAN OF THE UB SCHOOL OF MEDICINE FROM 1946 TO 1958, AND HIS CONTRIBUTIONS TO THE TRAINING OF PHYSICIANS IN BUFFALO SPANNED MORE THAN A QUARTER OF A CENTURY.

This year's recipient of the award is Daniel J. Kosman, PhD, UB Distinguished Professor in the Department of Biochemistry.

"Dan served for several years as the department of biochemistry's associate chair and acting chair," said Suzanne Laychock, PhD, senior associate dean for research and biomedical education, who announced the award. "He earned his undergraduate degree in chemistry at Oberlin College and completed graduate work in physical organic chemistry at the University of Chicago. Following postdoctoral training at the University of Hawaii and Cambridge University, he was hired as an assistant professor at UB in 1970."

One of UB's most productive scientists, Kosman has published over 100 papers and book chapters, and his research is consistently funded by grants from the National Institutes of Health.

"Dan's research interest is learning about the general principles that organisms use to acquire and metabolize iron and copper, intrinsically toxic metals required in cellular respiration, oxygen transport in blood and muscle, and the synthesis of the elastic materials

in blood vessels and connective material in joint ligaments," explained Laychock. "Copper enzymes are needed to correctly utilize or transport iron across membranes; for instance, in facilitating iron in our intestines to reach the blood stream."

Genetic disorders in copper and iron metabolism result in a variety of human diseases. People who lack the copper enzyme hephaestin are iron-starved because dietary iron cannot enter the blood. One of Kosman's areas of study is Fet copper enzyme biochemistry in yeast, which share characteristics of the metabolism of these metals with humans and other



Kosman

organisms.

"A goal of Dan's research on iron trafficking is to use these proteins in the development of new antifungal agents useful in the treatment

of infections due to human pathogens like *Candida albicans* and *Cryptococcus neoformans*," Laychock further explained. "His research also extends to one of the enzymes involved in iron metabolism: ferroxidase (ceruloplasmin), which is integral to neuronal function in the central nervous system and is associated with disorders such as aceruloplasminemia and Wilson's disease. His goal is to determine the structure-function characteristics of the ceruloplasmin

proteins found in patients with aceruloplasminemia and to develop therapeutic paradigms for ceruloplasmin and related proteins in humans to reduce the mismanagement of ferrous and cuprous ions and the generation of reactive oxygen species that lead to cell death in the central nervous system."

In addition to his research, Kosman has been active in service to the university. He has served on more than 25 committees, including numerous search committees and program development committees, and as director of graduate affairs. He has also served on numerous study sections for granting agencies, and as a reviewer for several journals.

Kosman, who is known for passing his knowledge and investigative skills on to his many graduate students and postdoctoral fellows, is currently writing a book on protein structure and function that will be used by undergraduates and first-year graduate students.

"Besides being an eminent scientist, Dan is also a first-rate teacher who is innovative and well liked by his students," Laychock concluded. **BP**

Naughton Recognized for Service



John P. Naughton, MD, professor of medicine, physiology, social and preventive medicine, and rehabilitation medicine was honored at this year's Faculty Staff Recognition Awards Ceremony for his service as interim chair of the Department of Rehabilitation Medicine since 2003. Naughton, who is retiring this year, formerly served as dean of the School of Medicine and Biomedical Sciences from 1975 to 1997. He is a nationally recognized leader in exercise physiology, exercise testing and rehabilitation of myocardial infarction patients. **BP**

—S. A. UNGER



Saltzman, left, and Hartrich

Berkson Award

The Robert S. Berkson, MD, Award in the Art of Medicine is presented annually to honor the values and ideals epitomized by Dr. Berkson, an esteemed family physician in Buffalo. Patient care was his forte; competence, compassion, patience and dedication to teaching were his virtues. His special expertise in the "art of medicine" is meant to be perpetuated in this award, given annually to a volunteer faculty member who demonstrates the commitment to resident and student education exhibited by Berkson.

The recipient of this year's award is William Hartrich, MD, co-founder of a successful medical-pediatrics practice in Williamsville, New York. He and his practice partners have been instrumental in the ambulatory experience and training of UB's medical-pediatrics residents for many years, noted Alan Saltzman, MD, chair of the UB Department of Medicine, who presented the award.

Hartrich graduated from Upstate Medical Center and completed his residency in the combined internal medicine-pediatrics program at UB.

—NICOLE PERADOTTO



Unger

John P. Naughton Award

The Naughton Award was established in 1999 by John P. Naughton, MD, who served as dean of the School of Medicine and Biomedical Sciences for 23 years. The award recognizes outstanding staff members and volunteers who are often among our "unsung heroes"—individuals who contribute significantly to the advancement of the school and to the fulfillment of its mission.

This year's recipient is Stephanie Unger, who has served the school for 12 years as editor of *Buffalo Physician* magazine, quietly working behind the scenes to promote the school and its faculty, students and alumni and, in the process, to secure top awards from the Association of American Medical Colleges, the Council for the Advancement and Support of Education, the SUNY Council for University Advancement, and the Society of Illustrators.

Unger recently assumed additional responsibilities as the school's director of print and web communications.

—KATHLEEN WIATER



Pierce, left, and Myers

Dean's Award

The Dean's Award is given in special recognition of extraordinary service to the School of Medicine and Biomedical Sciences.

This year's recipients are David L. Pierce, MD, assistant professor of clinical emergency medicine, and Jeffrey Myers, associate EMS system medical director. Pierce and Myers have been instrumental in developing the simulation center at the medical school, a resource for student education and professional training that will be used by all five health science schools.

As planned, the simulation center will be located on the fourth floor of Farber Hall, which is currently being renovated for this purpose, and a pilot simulation program is expected to be launched in the winter or spring of 2010.

Ralph Behling, MD '43, has donated \$3 million to support the program (see article about Behling on page 37).

To help move the center forward, Pierce and Myers last year attended Harvard Medical School's Macy Institute Program for Leading Innovations in Health Care and Education, a six-day course designed to guide health-care leaders responsible for introducing or managing significant organizational change or innovation in their institutions. The proposal Pierce wrote for launching the simulation center was one of only a handful the Macy Institute accepted of the some 500 applications it received. This year Pierce accepted an invitation to help teach the course at Harvard as an adjunct faculty member.

—NICOLE PERADOTTO



Archana Mishra Honored by AMSA



ARCHANA MISHRA, MD, clinical assistant professor and associate clerkship director in the Department of Medicine, is one of six women physicians nationwide selected to receive the 2009 *Raising Our Voices: Recognizing Women Leaders in Medicine* Award from the American Medical Student Association (AMSA).

The selection was based on nominations submitted by medical and premedical students across the country who provided information on women physicians whom they felt demonstrated exemplary leadership and commitment to medicine and medical education.

The five other recipients of this year's award were Rita Charon, MD, PhD, professor of clinical medicine and director of the Program in Narrative Medicine at Columbia University College of Physicians and Surgeons; Vanessa Northington Gamble, MD, PhD, professor of medical humanities at George Washington University and former director of the Association of American Medical Colleges' Division of Community and Minority Programs; Julie Gerberding, MD, MPH, immediate past director of the U. S. Centers for Disease Control and Prevention; Jennifer Giroux, MD, Indian Health Service, CDC Division of Epidemiology and Disease Prevention; and Beth Jordan, MD, medical director of the Association of Reproductive Health Professionals.

Each recipient was featured in an exhibit at the AMSA's 59th Annual Convention held in Washington, DC, in March.

The exhibit is currently traveling to AMSA chapters across the country in an effort to bring further recognition to women leaders in medicine, as well as to spark medical students' participation in mentoring and outreach programs for underserved women and girls. **BP**

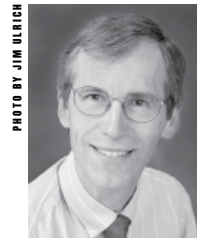
—S. A. UNGER

Louis A. and Ruth Siegel Awards for Excellence in Teaching

The Louis A. and Ruth Siegel Awards for Excellence in Teaching are the foremost means for recognizing extraordinary teachers in the School of Medicine and Biomedical Sciences.

A student award committee composed of representatives from each medical class reviews nominations provided by students and selects awardees in four categories. Considerations for this prestigious annual award include instructional skill, ability to stimulate thinking and develop understanding, demonstration of sensitivity toward the human condition, and serving as a role model for students.

The 2009 Siegel Award recipients are:



Full-Time Teaching in the Basic Sciences

Christopher Cohan, PhD, Anatomical Sciences

Full-Time Teaching in the Clinical Sciences

Diana Wilkins, MD '04, Family Medicine

Volunteer Physician

Evan Evans, MD, Surgery

Resident Teaching

Kristen Smyers, MD, Obstetrics/Gynecology

Medical School Alumni Honored

Ralph T. Behling, MD '43, and John J. Bodkin II, MD '76

The University at Buffalo Alumni Association honored 20 individuals with achievement awards at a gala held on March 20, in the Adam's Mark Hotel in downtown Buffalo.

The awards are presented each spring to alumni and friends of UB for bringing distinction to themselves and the university through outstanding professional and personal achievement, loyal service to UB, and exemplary service to their communities.

This year two alumni of the School of Medicine and Biomedical Sciences were honored: Ralph T. Behling, MD '43, of San Mateo, California, and John J. Bodkin II, MD '76, of East Amherst, New York.

Behling received the Dr. Philip B. Wels Award, which recognizes achievements that have greatly enhanced the quality of life of the entire UB community.

Bodkin received a Volunteer Recognition Medal in appreciation of his outstanding volunteer contributions to the university.



RALPH T. BEHLING, MD '43, is a retired dermatologist whose medical career spanned 40 years.

After earning his pharmacy and medical degrees at UB, Behling completed his residency at E.J. Meyer Memorial Hospital (now Erie County Medical Center), where he treated patients in the hospital's varicose vein, syphilis and outpatient dermatology clinic and taught dermatol-

ogy to UB seniors. He was the first physician in the Buffalo area to use injected penicillin to fight infection,

After completing his residency, Behling worked for the U.S. Public Health Service and was awarded a \$1 million to help standardize cancer treatment nationwide. In this capacity, he created tumor clinics in major hospitals, and is credited with introducing the Pap smear to doctors west of the Mississippi, allowing for improved detection and early diagnosis of cervical and uterine cancers.

In 1950, Behling moved to California, where he entered private practice.

He also taught at the University of California—San Francisco School of Medicine, and operated the

San Mateo County venereal disease clinic.

A generous benefactor of the School of Medicine and Biomedical Sciences and the School of Nursing, Behling also chaired the 2003 medical school reunion. He recently committed \$3 million for the creation of a human simulation center, a necessary tool in educating the next generation of physicians and health science professionals, which will be used in all five of UB's health science schools.

He also endowed the \$1.5 million Rita M. and Ralph T. Behling, MD, Chair in Dermatology at the medical school in memory of his wife, who died in 1998. This gift provides for research to benefit dermatology patients. **BP**

JOHN J. BODKIN II, MD '76, is a family practitioner who has volunteered on behalf of the medical school more than a decade.

In 1997 he became a member of the Medical Alumni Association (MAA) Governing Board and successfully led student programs such as the Mentoring Program and Community Physician luncheons. He also served as treasurer and vice president of the MAA and assumed the role of president from 2000 to 2002. He remains on the board as a member emeritus offering valuable experience and leadership to younger alumni.

For the last four years, Bodkin has spearheaded the school's Practice Giving scholarship campaign, a multi-year effort to raise \$1.25 million for the MAA Endowed Scholarship Fund. His leadership has resulted in a significant increase in both contributions and donors to the fund. Bodkin also regularly meets with class reunion chairs to develop fundraising goals and has served as a reunion chair himself.

Bodkin has served as chair of the editorial board of *Buffalo Physician* since 1999 and as member of the Dean's Advisory Council since 2002. In 2004, he was named one of "WNY Best Docs" by *Buffalo Spree* magazine. —BARBARA BYERS



BY
LOIS
BAKER

Global Health Research

Hakansson receives \$100,000 grant from Gates Foundation



ANDERS HAKANSSON, PHD, ASSISTANT PROFESSOR OF MICROBIOLOGY AND IMMUNOLOGY IN THE SCHOOL OF MEDICINE AND BIOMEDICAL SCIENCES, HAS RECEIVED A \$100,000 GRAND CHALLENGES EXPLORATIONS GRANT FROM THE BILL AND MELINDA GATES FOUNDATION.

molecule prevents pneumococcal colonization in laboratory animals, tells us that understanding its death-inducing mechanism has enormous potential for developing anti-bacterial therapy that is less likely to develop resistance.”

THE GRANT WILL SUPPORT HIS innovative global health research project, titled “HAMLET, a non-resistance-inducing bactericidal human milk protein.”

Hakansson’s project is one of 81 grants announced by the Gates Foundation in the second funding round of Grand Challenges Explorations, an initiative to help scientists around the world explore bold and largely unproven ways to improve health in developing countries. The grants were provided to scientists in 17 countries on six continents.

To receive funding, Hakansson showed in a two-page application how his idea falls outside current scientific paradigms and might lead to significant advances in global health. The initiative is highly competitive, receiving more than 3,000 proposals in this round.

Hakansson has identified a protein molecule in breast milk that kills respiratory tract bacteria, which could make it a potential therapy to treat a variety of infections. He will use the grant to continue his research while competing for a \$1 million five-year grant from the Gates Foundation.

The protein, known by the acronym HAMLET (“human alpha-lactalbumin made lethal to tumor cells”) exhibits its highest activity against *Streptococcus pneumoniae*, or pneumococcus, a major cause of morbidity and mortality worldwide.

“The pneumococcus is the main cause of ear infections in children, pneumonia in the elderly, and sometimes causes invasive disease and meningitis,” Hakansson says. “Despite the use of antibiotics and vaccines, we see millions of pneumococcal infections in

the U.S. every year. Worldwide, approximately one million children die annually from pneumococcal disease. My laboratory is trying to better understand how these bacteria cause infection, so we can develop more effective preventive and therapeutic strategies.”

To date, Hakansson’s research group has shown that HAMLET kills antibiotic-resistant strains of pneumococci, indicating its mechanism is distinct from common antibiotics.

“In addition,” says Hakansson, “we’ve shown in laboratory experiments that this bacterium does not develop resistance to HAMLET, suggesting that the anti-bacterial mechanism used by HAMLET can’t be inactivated by spontaneous or adaptive mutations.

“These properties, combined with promising preliminary data indicating that this

In addition to studying the molecule’s mechanism of action and if it can be used to treat pneumonia, the researchers are developing model systems to study how the bacteria interact with human airway cells and what factors these cells use to defend themselves against bacterial assault.

“The winners of these grants are doing truly exciting and innovative work,” says Tachi Yamada, MD, president of the Gates Foundation’s Global Health Program. “I’m optimistic that some of these exploratory projects will lead to life-saving breakthroughs for people in the world’s poorest countries.” **BP**

To learn more about the Grand Challenges Explorations, go to www.grandchallenges.org/explorations/Pages/Introduction.aspx.



PHOTO BY JIM DUBICH

HARVEY ARBESMAN, MD, clinical assistant professor of dermatology and social and preventive medicine, has won a \$50,000 Prize4Life ALS Biomarker Challenge Discovery Prize for developing a promising biomarker that can be used to assess disease progression of amyotrophic lateral sclerosis, or ALS, also known as Lou Gehrig’s disease.

Arbesman, working with colleagues from Columbia University Medical School and the Eleanor and Lou Gehrig MDA/ALS Research Center, adapted a technology commonly used in the cosmetic industry, the Cutometer, to noninvasively measure skin elasticity.

In a pilot study, he and his colleagues were able to show that changes in skin elasticity correlated with disease progression in ALS patients.

“When we looked at ALS patients, even at baseline, there was a very significant difference in skin elasticity compared to age-matched controls,” says Arbesman. “As patients got sicker, the elasticity of the skin decreased. We think the skin is reflecting in some manner what is going on in the nervous system.

“We think this biomarker has a lot of potential as a way to monitor progression of the disease, which will be helpful in developing new medications, and possibly as an aid in diagnosis. It may also help us to better understand the underlying disease process itself.”

Arbesman presented his findings on April 30 at the American Association of Neurology meeting in Seattle, Washington.

The \$50,000 prize is one of only two awarded in this “breakthrough competition” sponsored by Prize4Life, a nonprofit organization founded to accelerate research in Lou Gehrig’s disease. Arbesman

will use the funds to continue research on the biomarker and to compete for the \$1 million ALS Biomarker Challenge, sponsored by Prize4Life.

ALS, a progressive neurodegenerative disease that affects nerve cells in the brain and the spinal cord, is a fatal condition that for decades has stymied those searching for a treatment or cure.

Arbesman, who previously had never conducted ALS-related research, was one of five winners in the first track of the competition, which called for theoretical papers describing how entrants would develop an ALS biomarker. Those winners were announced in spring 2007.

When Prize4Life called for the actual identification and validation of an ALS biomarker, Arbesman recruited a team that shared his interest in the connection between the nervous system and skin. The team entered patients into a pilot study to test the theoretical biomarker, using the Cutometer, which can detect minute changes in the elasticity of the skin.

Arbesman and his team were able to precisely measure

skin elasticity in these patients, showing that skin elasticity decreases as the disease progresses.

Arbesman maintains an active dermatology practice, and is founder and vice president of ArbesIdeas, a health-care-related research and development company. One of the company’s goals is to promote creative thinking in developing medical hypotheses.

“You need new hypotheses to account for different anomalies to existing theories,” Arbesman notes. “Or sometimes you need a new theory to generate a new therapy or simply to understand disease in general. Such hypotheses are what really create leaps in our understanding of critical problems.”

Prize4Life was founded by a group of Harvard Business School students when one of them was diagnosed with ALS at the age of 29. The first disease-oriented organization to utilize the incentive prize model to address neurodegenerative disease, Prize4Life focuses specifically on finding treatments and cures for ALS. **BP**

Arbesman Receives Prize for ALS Research

Developed promising biomarker to assess the progression

BY
LOIS
BAKER

BY
LOIS
BAKER

UB to Receive Stem Cell Research

New York State provides \$4.9 million in funding

THE UNIVERSITY AT BUFFALO WILL RECEIVE \$4.9 MILLION IN FUNDING TO CONDUCT RESEARCH ON STEM CELLS, PART OF A NEW INVESTMENT IN STEM CELL RESEARCH ANNOUNCED IN MARCH BY NEW YORK STATE GOVERNOR DAVID A. PATERSON.

"I AM EXTREMELY PLEASED that so many of our faculty successfully competed for these awards," said Kenneth M. Tramposch, PhD, associate vice president for research at UB at the time of the announcement. "It demonstrates that leading-edge research is being proposed by UB scientists."

Tramposch noted that the successful UB proposals were reviewed and recommended to the New York State Stem Cell Science board by experts from outside of New York State.

He also pointed out that the awards demonstrate the value of UB's formation last spring of a new initiative in biomed-

ical engineering that joins the strengths of researchers in the School of Engineering and Applied Sciences and in the School of Medicine and Biomedicine Sciences (see related announcement on page 33 about Alexander Cartwright, PhD, being named inaugural chair of the Department of Biomedical Engineering for an initial two-year period).

The principal investigators of the new stem cell grants are:

Stelios Andreadis, PhD, professor of chemical and biological engineering, who was funded on two grants, will develop a high throughput technology to monitor changes

in gene expression in real-time as living stem cells undergo differentiation. He also will study hair follicle stem cells as a source of functional smooth muscle cells for use in cardiovascular therapies.

Jian Feng, PhD, associate professor of physiology and biophysics and director of the Neurodegenerative Disease Group in UB's Center of Excellence, whose work will focus on generating stem cells from patients with Parkinson's disease who have parkin mutations.

Sriram Neelamegham, PhD, professor of chemical and biological engineering, who will study changes in the

activities of specific enzymes that are involved in the formation of carbohydrate/sugar structures on stem cells.

Gen Suzuki, MD, PhD, assistant professor of medicine, who will study how cardiac stem cells can affect cardiac repair in ischemic cardiomyopathy and how statins might play a beneficial role.

E. S. (Manolis) Tzanakakis, PhD, assistant professor of chemical and biological engineering, who will develop strategies for generating from stem cells insulin-producing cells useful for diabetes therapies. **EP**

Medical Student Honored by the AMA

Stephanie Andrus Receives 2009 Leadership Award

STEPHANIE LYN ANDRUS, MD '09, MBA, was named a recipient of the American Medical Association (AMA) Foundation's 2009 Leadership Award. The award provides medical students, residents/fellows and early-career physicians from around the country with special training to develop their skills as future leaders in organized medicine and

community affairs.

The AMA Foundation honored 30 individuals with the award at its annual Excellence in Medicine Awards ceremony on March 9, in Washington, D.C. Presented in association with Pfizer, recipients of the award are recognized for demonstrating outstanding nonclinical leadership skills in advocacy, community service and education.

Andrus earned her medical degree and MBA from UB in

2009 and has begun her residency in pediatrics at North Shore, Long Island Jewish Health System in Manhasset, New York. She has been a leader in her community, serving as the student coordinator for a free medical clinic in downtown Buffalo and for developing a program to educate children about healthy living. Her advocacy efforts focused on topics from reducing childhood obesity to improving the quality of and access to medical education.

EP —S. A. UNGER



From left Nancy H. Nielsen, MD '76, PhD, president of the American Medical Association; Stephanie Lyn Andrus, MD '09; Jack Watters, MD, vice president of external medical affairs for Pfizer.

BY
ELLEN
GOLDBAUM

Migration to E-Charts

Efforts boosted by \$800,000 grant from an anonymous donor

THE OBAMA ADMINISTRATION'S PUSH TO MOVE HEALTH CARE FROM HANDWRITTEN CHARTS AND PRESCRIPTIONS INTO THE ELECTRONIC AGE IS GETTING A BOOST IN WESTERN NEW YORK WITH NEW FUNDING TO ESTABLISH A MEDICATION MANAGEMENT RESEARCH NETWORK IN THE UB'S NEW YORK STATE CENTER OF EXCELLENCE IN BIOINFORMATICS AND LIFE SCIENCES.

THE MEDICATION MANAGEMENT Research Network (MMRN) is funded by an \$880,000 grant from an anonymous donor to UB and AHRM, a local company based in the UB Center of Excellence.

AHRM (formerly the contract research organization component of PharmIdeas USA) relocated to Buffalo from North Carolina in 2007 to develop new medical technologies in partnership with UB Center of Excellence researchers. Since then, the company has grown from two to 15 employees. As a result of the new grant, several more employees will be hired by AHRM and UB's Center of Excellence.

The digitization of medical records, prescriptions and other health information will, for the first time, make it possible to ask critical research questions that go to the heart of how to provide the best care for patients, explains Gene D. Morse, PharmD, principal investigator on the MMRN, professor and associate dean for clinical and translational research in the UB School of Pharmacy and Pharmaceutical Sciences.

"The MMRN will allow us to conduct valuable research on how specific health-care decisions impact patient outcomes and health-care costs, including ways to significantly reduce dangerous and costly medication errors that cause illness, injury or death to an estimated 1.5 million Americans each year," says Morse.

"With this funding, researchers at UB and AHRM are taking a lead role in moving health care in Western New York closer to the federal government's goal of improving efficiency and cutting costs by making the transition to electronic medical records," says Bruce A. Holm, PhD, senior vice provost and executive director of UB's New York State Center of Bioinformatics and Life Sciences.

"At the same time, it allows the UB Center of Excellence to draw on its strengths, its powerful and diverse research capabilities in pharmaceutical safety, medication management, data mining and outcomes analysis, and tie them much more closely to the immediate medical needs of this community," he adds.

In its economic recovery package, the Obama adminis-

tration intends to spend \$19 billion to accelerate the use of computerized medical records in physicians' offices and hospitals.

The Medication Management Research Network was developed during the past two years by the UB Center of Excellence and the School of Pharmacy and Pharmaceutical Sciences in partnership with AHRM with the goal of establishing a statewide infrastructure for conducting research in medication management.

Morse adds that the MMRN will use information technology to link scientific and medical literature to the clinical level, expediting the

personalized medicine through pharmacogenomics, in which medicines are prescribed based on a patient's genetic profile.

"The MMRN will provide small biotechnology companies with an infrastructure in which they can conduct the clinical trials necessary for demonstrating the clinical and economic outcomes data that will determine the approval and eventual reimbursement for pharmacogenomic testing," Morse says.

A major goal of the initiative is to harness some of the most powerful technological tools available at UB's Center for Computational Research to make groundbreaking advances in medication management.

"With this funding, researchers at UB and AHRM are taking a lead role in moving health care in Western New York closer to the federal government's goal of improving efficiency and cutting costs by making the transition to electronic medical records,"

—Bruce A. Holm, PhD

application of new drug research findings to patients.

In addition, he says that it will accelerate the transition to

To learn more about who is collaborating on this project, visit the UB NewsCenter website at www.buffalo.edu/news and search "MMRN." **EP**

BY
SUZANNE
LAYCHOCK,
PHD

Ronald M. Evans, PhD, Honored Speaker

Biomedical sciences commencement



A DISTINCT HIGHLIGHT OF the 2009 biomedical sciences commencement was the participation of the honored speaker, Ronald M. Evans, PhD. Evans is a truly distinguished world-class scientist who honored us with not only his thoughtful and inspiring message at commencement on May 7, but also his distinguished scientist seminar in the School of Medicine and Biomedical Sciences earlier in the day.

The opening statement made by Evans to the commencement audience conveys the spirit—and humor—of this remarkable man. “I have two areas of expertise,” he said. “Science and I forget the other.

“People always ask me: is it really worth it to work for endless hours, day and night, secluded from the world, buried deep in thought, sacrificing time with loved ones, vastly underpaid and running on minimal sleep?” he continued. “My answer is yes. The

reward can be to lay eyes on something never before seen by anyone, to learn something new about life or the disease of a loved one, to be first to win one precious fact from Mother Nature. For that one beautiful moment of discovery, yes, it is all worth it. And as often as not, that moment is really a portal into a whole new world that defines a career and provides meaning to the odyssey that is science.”

Evans’ published studies are among the most frequently cited by the scientific community worldwide. His work unveiled the common mechanism by which a diverse group of hormones and vitamins—steroid hormones, thyroid hormones, and fat-soluble molecules, such as vitamins A and D—target the nucleus of the cell and control the body’s metabolism, development and reproduction.

In 1985, Evans discovered the mechanism of action of cortisol, a steroid hormone that interacts with cellular receptors

that travel to a cell’s nucleus to bind to chromosomes to regulate the activation of genes. The discovery of the receptor for cortisol opened the door to the discovery of nearly 50 nuclear receptors that function as on/off switches for genes, leading to the development of new, more effective and safer drugs for cancer, diabetes and heart disease.

Evans’ research is currently focused on a new class of experimental drugs that can be used as exercise mimetics. The results show that animals treated with certain drugs have enhanced endurance compared to normal animals in treadmill tests. He has dubbed this phenomenon “synthetic physiology,” which is likely heralding in a new field of pharmacology—or perhaps “pharmacophysiology.”

Evans is one of our country’s most honored scientists. He was elected to the National Academy of Science, Institute of Medicine and the American

Academy of Arts and Sciences. He is recipient of the California Scientist of the Year Award, the General Motors Sloan Award for Cancer Research, the March of Dimes Prize in Developmental Biology, the Bristol-Myers Squibb Award for Distinguished Achievement in Metabolic Research and the Keio Prize in Medicine. In 2004, he received the Lasker Award for Basic Medical Research and, in 2005, the Grande Médaille d’Or, France’s highest scientific honor. In 2006, he was awarded Canada’s most prestigious Gairdner Award, which recognizes medical scientists “whose seminal discoveries and major scientific contributions constitute tangible and significant achievement in biomedical sciences.”

Evans is professor and March of Dimes chair in molecular and developmental neurobiology at the Salk Institute for Biological Studies, and is also a Howard Hughes Medical Institute investigator. He earned his bachelor’s degree in bacteriology and his doctorate in microbiology and immunology from the University of California, Los Angeles. **BP**

SUZANNE LAYCHOCK, PHD, IS SENIOR ASSOCIATE DEAN FOR RESEARCH AND BIOMEDICAL EDUCATION IN THE UB SCHOOL OF MEDICINE AND BIOMEDICAL SCIENCES.

“...TO LEARN SOMETHING NEW ABOUT LIFE OR THE DISEASE OF A LOVED ONE, TO BE FIRST TO WIN ONE PRECIOUS FACT FROM MOTHER NATURE. FOR THAT ONE BEAUTIFUL MOMENT OF DISCOVERY, YES, IT IS ALL WORTH IT...”

RONALD M. EVANS, PHD

Gadgil Wins Fulbright Award

Will participate in research in Dhaka, Bangladesh

MEGHANA GADGIL, a third-year student in the School of Medicine and Biomedical Sciences, has been awarded a year-long Fulbright Research Grant to study the impact of handwashing interventions on the control of diarrheal disease in Dhaka, Bangladesh. She will be working with Steve Luby, MD, at the International Center for Diarrheal Disease Research, Bangladesh (ICDDRDB), starting this fall.

Gadgil, with ICDDRDB, will be studying the effects of handwashing, sanitation and water-quality interventions on health outcomes. Diarrheal disease exacts an enormous toll in morbidity and mortality in Bangladesh. Gadgil says she will be also conducting extensive

interviews to help delineate sociocultural influences on handwashing, with an emphasis on understanding the role of gender and socioeconomic status on health in Bangladeshi communities.

Estimates suggest handwashing interventions alone would cost just one-fifth of combined public works projects, alleviating some pressure on health budgets in developing countries.

“Handwashing is not a resource-intensive intervention so it can attain high coverage even in the poorest communities,” says Gadgil. “It’s a relatively minor behavior change that is in line with established cultural norms. Also, its prophylactic effects are

not restricted to diarrheal disease. If the household’s adults wash their hands, they reduce their own disease risk and protect other family members, especially children.”

ICDDRDB is an international research organization focused on health problems facing impoverished communities in Bangladesh. The Fulbright Program is an international educational exchange program sponsored by the United States government.

Gadgil will take a year off from medical school for her research in Bangladesh, as well as study of Bengali language



and Bangladeshi culture.

Recently, Gadgil was selected to the Gold Humanism National Honor Society. Last year, she was named a Global Health

Scholar by the American Medical Student Association for her demonstrated interest in global health issues, particularly pediatric health. In the summer of 2007, she was awarded a fellowship by the American Pediatric Society to research women’s health issues in Quito, Ecuador. In 2004–2005, she spent eight months serving indigenous populations in a remote clinic in central India. **BP**

—PATRICK KLINCK

Vora Receives Endocrine Society Award

MEHUL VORA, MD, a fellow in the Division of Endocrinology, Department of Medicine, received the 2009 Solvay Clinical Research Award from the Endocrine Society. The award provides \$45,000 in funding for one year for a fellow to perform clinical research related to hypogonadism and/or testosterone replacement.

Vora’s grant proposes to examine the effects of low testosterone in men with type 2 diabetes on insulin sensitivity, fat and

muscle mass at specific areas of the body, the expression of mediators of inflammation in the blood, and semen quality.

The study will compare young diabetic men with or without low testosterone and evaluate the effect of treating low testosterone with clomiphene, an oral drug that increases its levels and stimulates sperm production.

Hypogonadism is known to be associated with decreased muscle mass and increased

fat mass as well as inflammation, which contributes to the development of cardiovascular disease. Since type 2 diabetes is itself associated with obesity, inflammation and cardiovascular disease, diabetic subjects with low testosterone may have an enhanced risk of developing these complications.

Vora received his medical degree from Mahatma Gandhi Mission’s Medical College in Mumbai, India. Upon completing his residency in internal medicine at UB, he began his fellowship with Paresh Dandona, MD, in 2008 at the Diabetes-Endocrine Center

of Western New York located in Millard Fillmore Gates Hospital. Their research group was the first to report that one-third of middle-aged men with type 2 diabetes have hypogonadism. They have shown that type 2 diabetic men with low testosterone have anemia, increased fat mass, low bone and muscle mass, and high C-reactive protein, an inflammatory protein linked to high cardiovascular risk. In 2008, they published a study finding that one-third to one-half of type 2 diabetic men between the ages of 18 and 35 have hypogonadism. **BP**