William E. Pelham Jr., PhD, inaugural recipient of the Presidential Award for Faculty Excellence at UB. Pelham has been recognized for his contributions to education, research, and service.
Federico Gonzalez-Fernandez, MD, PhD, has been awarded a $1.6 million grant from the National Institutes of Health to support their research into a human eye protein found to be essential to vision. The protein does this while protecting vitamin A from oxidation damage and chemical isomerization. The vitamin does this while somehow targeting the exchange of different chemical forms of vitamin A between the photoreceptors, pigmented epithelium and Muller cell glia in the complex biochemical pathway known as the "visual cycle." The importance of IRBP in the visual cycle is underlined by the finding that mutation of a highly conserved residue within the vitamin A binding pocket causes a form of autosomal recessive retinitis pigmentosa, a degeneration of the photoreceptors that leads to blindness. To uncover the role of IRBP in the visual cycle, Gonzalez-Fernandez and Ghosh plan to combine X-ray crystallographic and biochemical methods with cellular and transgenic approaches. The latter utilize the African clawed toad, Xenopus laevis, whose large rods and cones are particularly suited for functional studies. Our recent combined structural and cellular studies to address the structure and function of this interesting protein in health and disease," says Gonzalez-Fernandez. "Our recent success with the NIH, I think, is due to the potential to really break open this field through a synergy of diverse approaches."
Newly Unified Health System Named

Great Lakes Health

On October 17, 2008, the governing board that was established to unify Kaleida Health and the Erie County Medical Center (ECMCC) announced its new name: the Great Lakes Health System of Western New York. The new not-for-profit corporation comprises board membership from Kaleida Health, ECMCC, the University at Buffalo and members of the community.

"Today, we take another step forward in building a new era for health care," said Robert Gioia, chair of the University at Buffalo and Biomedical Sciences. As senior associate dean for development and alumni relations and will lead the reorganized Office of Medical Development and Alumni Affairs.

Gronostajski Selected for Leadership Program

RICHARD M. GRONOSTAJSKI, PhD, professor of biochemistry in the School of Medicine and Biomedical Sciences, is one of two faculty members selected to join the 2008–09 UB Faculty in Leadership Program. The program, which was established in 2005, gives interested faculty an opportunity to explore ways to augment research and scholarly activities with administrative responsibilities.

"This would include modifying the public benefit corporation law to allow ECMCC to be subordinate to Great Lakes Health. As these necessary steps are undertaken, Kaleida Health and ECMCC will continue to operate as separate organizations with no immediate changes relative to their respective employers, services or programs. This includes each organization retaining its respective name."

Kaskie said the work since the signing of the binding agreement between Kaleida Health and ECMCC in June 2008 has been ongoing and positive. The Professional Steering Committee is now staffed and is focusing on four areas: intensive care, transplant, psychiatry and orthopedics.

"Both organizations are working very well together and have begun to build a very productive relationship," said Jody Lomoe, interim CEO of ECMCC and the vice chair of the Great Lakes Health Board of Directors. "This is about building, not taking away. We all have one goal in mind—that all of our patients receive the very best care possible. If we keep that in mind, the other issues will work themselves out."

While not a full asset merger, unified governance is the first step of a commitment to get Erie County taxpayers out of the health-care business.

Great Lakes health will develop a clinical services and tactical plan for integration and growth. Key to this will be solving issues with ECMCC labor, resolving its complicated financial relationship with Erie County and ensuring the long-term financial stability of the hospital.

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Unified governance creates a process that will create an integrated health system with a vibrant ECMCC campus, along with the five Kaleida Health campuses. It also optimizes and integrates physicians through private practices and the University at Buffalo partnership.

"Through the Great Lakes Health name and brand, we are confirming our mission of creating the preeminent health-care delivery system for Western New York and beyond," said James R. Kaskie, president and CEO of Great Lakes Health and Kaleida Health.

"We have taken competitive energy and turned it into collaboration with a shared common goal of taking what we have today and making it better for the patients we serve."
Approximately 200,000 of the 38 million people in the U.S. who take statins to treat high cholesterol may develop life-threatening muscle disease.

Currently there is no comprehensive way to identify those who may be at risk for this debilitating condition, but new research by UB scientists may correct that situation.

The combined NIH-funded research projects will contribute to developing a better understanding of the risk factors associated with statin myopathy and its prevalence in the general population, associated with statin myopathy and its prevalence in the general population, and by a grant from the John R. Oishei Foundation.

The NIH grants to Vladutiu and Isackson were made possible through the support of an Interdisciplinary Research and Creative Activities Award from the UB Office of the Vice President for Research, and by a grant from the John R. Oishei Foundation.

The first is to determine the prevalence of mutations known to cause metabolic muscle diseases in patients taking statins who developed serious muscle symptoms triggered by environmental stressors, such as those described.

The second aim is to identify clinically relevant associations between statin myopathies and common genetic variations in the human genome known as single nucleotide polymorphisms or SNPs.

For the first aim, the investigators will use a customized genotyping technology that will allow them to expand their genetic screening studies from seven common mutations causing three disorders, to more than 380 mutations causing at least 10 disorders.

The combined NIH-funded research projects will contribute to developing a better understanding of the risk factors associated with statin myopathy and its prevalence in the general population, and by a grant from the John R. Oishei Foundation.

The Small Business Technology Transfer grant requires partnering between an academic research laboratory and a small business with common interests—in this case, JK Autoimmunity, Inc, in Oklahoma City, Oklahoma. The goal of this project, "says Vladutiu, who applied for the grant and serves as the local principal investigator, "is to develop comprehensive genetic-based testing for metabolic muscle diseases triggered by environmental exposures that are increasingly prevalent in the U.S. and Canada. Additionally, Paul J. Isackson, PhD, who leads the firm, is principal investigator.

The second aim is to develop a novel gene associated with statin myopathy.

The third grant, for $110,000 from the NHLBI, funds a Phase I Small Business Technology Transfer project that will explore the technological feasibility of commercializing a customized genotype technology (chip development) for variants implicated in muscle disease. Vladutiu expects the results of this project to lead to launching a business that will use the chip technology to screen for individuals at high risk of developing metabolic muscle disease if exposed to one or more triggers.

These triggers include environmental stressors, such as extreme exertion, extreme temperatures, anesthesia, viral infection, fasting, sleep deprivation and taking statins and other medications. Groups who could benefit from such screening include armed forces professionals, such as firefighters, police officers and professional athletes. The chip also could identify individuals who carry risks for as-yet-unidentified muscle myopathies.

Vladutiu’s five-year statin myopathy project has dual aims.

"The goal of this project," says Vladutiu, who applied for the grant and serves as the local principal investigator, "is to develop comprehensive genetic-based testing for metabolic muscle diseases triggered by environmental exposures that are increasingly prevalent in the U.S. and Canada. We have identified at least seven high-risk groups that will benefit from genetic risk assessment. The proposed technology also will be very useful for the diagnosis of muscle disease in individuals referred to our clinical laboratory."
The Right Combination

UB pharmacists receive $7.6 million grant for global HIV/AIDS program

A seven-year, $7.6 million contract has been awarded to the UB School of Pharmacy and Pharmaceutical Sciences to train laboratory specialists in countries around the world where HIV/AIDS infection rates are highest, to test their proficiency and to conduct quality-control analysis of HIV/AIDS clinical trials.

Funded by the National Institute of Allergy and Infectious Diseases, the award establishes a Clinical Pharmacology Quality Assurance (PQA) program and laboratory in the UB Pharmacotherapy Research Center on UB’s North Campus and at the Translational Pharmacology Research Core in the New York State Center of Excellence in Bioinformatics and Life Sciences in downtown Buffalo. The UB PQA program and laboratory, the only one of its type in the world, will assure that AIDS researchers in developing countries conduct the highest quality clinical trials. An estimated 33 million adults and children are living with HIV worldwide, according to the World Health Organization. The UB program and lab will be integrated with global research networks to target some of the regions where HIV/AIDS infection rates are highest, to test their proficiency and to conduct quality-control analysis of HIV/AIDS clinical trials.

Conducting research in developing countries can be challenging because of a lack of clinical scientists, insufficient laboratory facilities to conduct HIV research and the lack of clinics to provide care to HIV-infected patients, notes Morse. "These difficulties are often compounded by problems such as HIV co-infection with TB and malaria, variable nutritional status among patients, extensive use of traditional and herbal medicines producing unknown drug interactions and counterfeit drugs," he says. “Building on our extensive experience, our group has been selected to conduct HIV research in the close collaboration between the CoE and the School of Pharmacy. Dr. Morse's program offers great opportunity for further expansion of our viral disease efforts at UB.”

HIV/AIDS global efforts currently are focused on increasing antiretroviral access to countries with few resources and conducting clinical trials of new antiretrovirals and combination treatments within their borders. Antiretroviral drugs inhibit the replication of HIV. When antiretroviral drugs are given in combination, HIV replication and immune deterioration can be delayed, and survival and quality of life improved.

Clinical trials of approved and potential new therapies to fight the global AIDS epidemic need to be conducted where the infection rate is highest, but most of those regions are in countries where clinical pharmacology facilities and trained specialists are scarce. The UB PQA will establish a reference laboratory for antiretroviral bioanalysis that will coordinate key aspects of clinical pharmacology research, including assay development and transfer, global proficiency testing for antiretroviral assays, testing method validation reporting, analytical powder procurement and inter-laboratory quality control.

PQA program personnel will provide clinical pharmacology training for clinical research site personnel who conduct clinical and translational studies to assess a drug’s effectiveness and its interactions with other HIV medications.

In addition, PQA personnel will conduct on-site audits, disseminate data across HIV/AIDS research networks and establish a centralized website that will integrate the components of the PQA program and provide global information access.

Many of the new drugs developed for HIV have complex pharmacology. "When patients take the FDA-approved antiretrovirals in fixed doses, they often have variation in individual characteristics such as age, body size, genetic makeup and diet, as well as the occurrence of many drug interactions," explains Morse. "When patients take similar doses of these antiretroviral drugs, we see great variation in drug exposure from patient to patient. Consequently, clinical pharmacokinetics is a common component of early clinical drug development and later in comparative clinical trials." Clinical pharmacokinetics involves measuring drug concentrations in patients’ blood samples (and other body fluids) to determine the extent of drug exposure and then correlating drug exposure with drug effects (pharmacodynamics) and genetic variation (pharmacogenomics).

"Because measuring clinical drug concentrations in patients who participate in clinical trials is an important aspect of HIV/AIDS drug development and translational research, having pharmacology laboratories that conduct high-quality analysis is essential," says Morse. "Establishing these laboratories requires extensive training. Personnel need to develop research skills, learn how to conduct critical review of drug assays, do external auditing of laboratory activities, conduct proficiency testing, do quality assessments of the reagents used in the assays and disseminate appropriate information to ensure that the 'best quality research will be conducted.'"

Specialists will train through an online tutorial. Two hundred clinical researchers are expected to complete the tutorial annually, notes Morse. UB personnel will conduct antiretroviral proficiency testing twice a year at 10 laboratories the first year, and have options to add one new site each year for the duration of the contract.

Buffalo-based Frontier Science Technology Research Foundation will be responsible for data management and statistical analysis. Morse says he sees the potential for long-term growth in this area. "In the future, the PQA lab may conduct pharmacology quality assurance for cancer, diabetes and other trials, and could attract companies involved in IT and analytical technology."
PESTICIDE EXPOSURE, PARTICULARLY IN CHILDREN, IS A SERIOUS HEALTH PROBLEM IN MANY PARTS OF THE WORLD, INCLUDING THE U.S. James Olson, PhD, professor of pharmacology and toxicology, is leading research studies on exposure to pesticides, the potential for adverse effects associated with exposures in certain populations and genetic susceptibility to the pesticides.

“Together, these results will provide better estimates of what levels of exposure to a pesticide may be ‘safe’ and what would be harmful,” says Olson. “Levels of pesticide metabolites reported in human urine will be used along with these data to better estimate exposures and the resulting effects of OPs.”

The researchers will use an approach called “back-modeling” to better estimate what type of exposures and the resulting effects of OPs.

“Having markers will help identify people at risk and make it easier to test the usefulness of interventions and treatments.”

“This information is important because OPs are used widely throughout the world, and they are potential chemical agents of terrorism.”

Matthew Bonner, PhD, from the UB School of Public Health and Health Professions’ Department of Social and Preventive Medicine, and James Knaak, PhD, from the UB Department of Pharmacology and Toxicology, are coinvestigators on the UB portion of both grants.

James Olson, PhD

IN MÉMOIRAN

Allan Oseroff, MD, PhD
Professor and Chair of Dermatology

Oseroff was an internationally recognized expert in the use of lasers and light-activated molecules—known as photodynamic therapy—for the treatment of various forms of cancer. He specialized in the treatment of skin and other cancers that were unsucessful to standard therapy. The protocols he developed have been adopted by practitioners throughout the world. He played an instrumental role in obtaining FDA approval for photodynamic therapy as a treatment for skin cancer and was a leader in setting the national standards for non-melanoma skin cancer as a participant on the National Comprehensive Cancer Network Guidelines Panel for skin cancer.

Oseroff was widely respected as a compassionate physician and brilliant scientist who was a supportive mentor, collaborator and friend. He authored or coauthored over 200 publications and held over 20 major research grants, including the highly coveted nanotechnology platform grant from the National Cancer Institute. His name routinely appeared on lists of the nation’s top doctors, and he was the “go-to” expert for the national media on all topics relating to skin cancer.

Survivors include his wife, Stephanie Pincus, MD; his son, Benjamin; and two stepchildren, Matthew and Tamara Pincus.

—Deborah Pettitone

James F. Mohn, MD ’44
Longtime professor of microbiology

An expert in blood group research, Mohn was a cofounder of the International Society of Hematology and received several prestigious awards for his work in hematology and blood transfusion. He helped develop the first cold-washing centrifugal and was appointed by the governor of New York State as an advisor to AIDS education. A 47-year volunteer director in the American Red Cross, he was a recipient of the Greater Buffalo Chapter’s Clara Barton Volunteer of the Year Award, and in 1995 received the Charles R. Drew Award from the national American Red Cross.

Mohn is survived by his wife of 63 years, Marjorie Jane, of Orchard Park; four children: Barbara Photographos, Susan Goodman, Deborah Barszczynski, and Philip Mohn; and by his brother, Wallace Mohn, and his sister, Norma Brase.