



## Perspectives on Diabetes

The first in a series of three bicentennial lectures scheduled this year in honor of the School of Medicine's 200th anniversary was held February 26 at the Hippodrome Theatre. Titled "Perspectives on Diabetes: The Historian, The Physician, The Patient," the evening was a public service forum sponsored by the University of Maryland Medical Center, the University of Maryland Medical System and the Joslin Diabetes Center, with additional support from the Dr. Charles Getz Memorial Lecture Fund—Medicine.

The majority of the audience either had diabetes or had a family member living with the disease, so they were anxious to hear about the latest innovations in treatment. E. Albert Reece, MD, PhD, MBA, dean of the School of Medicine and an expert in diabetes during pregnancy, spoke of ways to lower the risks of birth defects in children born to diabetic women. Alan Shuldiner, MD, professor and head of the Division of Endocrinology, Diabetes and Nutrition in the Department of Medicine, detailed his work with the Old World Amish, who, due to their homogeneous genetic pool, provide important information about the genetic causes of diabetes. Stephen Bartlett, MD, professor and chair of the Department of Surgery, gave insight into pancreatic transplants and other surgical options for diabetes treatment. He was followed by his former student, James Shapiro, MD, now at the University of Alberta in Canada, who heads a groundbreaking trial involving islet-cell transplantation.

Television news correspondent Dr. Bob Arnot hosted the forum and educated and entertained the audience with vignettes about the history of diabetes and the discovery of insulin as well as the history of the School of Medicine and the important contributions its faculty have made to medicine over the last 200 years.

The evening ended with an appearance by Patti LaBelle, who gave an open and honest presentation on living with diabetes. Calling herself a "diva-betic," the singer charmed the audience with her down-to-earth discussion about how diabetes has affected her life and career. Mixing humorous anecdotes about the pitfalls of taking insulin shots with serious stories about how diabetes took the lives of those she loved, including her mother and close friend Luther Vandross, Ms. LaBelle offered insight into living a healthy life, despite the disease.

Although she knew the worst diabetes could do, Ms. LaBelle admitted she was in denial when she was first diagnosed. "I still fried up the chicken and ate the macaroni and cheese with the eight different kinds of cheese," she confessed. Finally, though, "I decided I wanted to live," she said, "so I made the lifestyle changes that help me control my diabetes rather than it controlling me."

Lastly, she encouraged audience members to get themselves, or their family and friends, checked for the disease, and to make the lifestyle changes necessary to improve their health if they find they are diabetic or pre-diabetic.

For more information about the bicentennial and its upcoming events, call 6.2007 or visit the Web site at <http://www.sombicentennial.umaryland.edu>.



Patti LaBelle greets audience members before she begins her talk on living with diabetes.



Former Senator Paul Sarbanes and School of Medicine Board of Visitor Christine Sarbanes are among the nearly 1,000 people who attended the diabetes lecture.

### April Bicentennial Event

## "The Enduring Power of Leadership"

Thursday, April 26, 2007, at 7:00 P.M.

Baseball Hall of Famer Cal Ripken, Jr., international broadcast journalist Dr. Bob Arnot, and political scientist Dr. Judith Hicks Stiehm discuss the enduring impact of individuals on local and global communities. Ripken will talk about his involvement with children; Arnot will highlight his activities in war zones in Africa and Eastern Europe; and Stiehm, professor of political science at Florida International University, will tell the



Cal Ripken, Jr.



Bob Arnot, MD



Judith Hicks Stiehm, PhD

stories of the 12 women recipients of the Nobel Peace Prize. The event is free, but tickets are required. For information and tickets, contact the bicentennial office at [2007@som.umaryland.edu](mailto:2007@som.umaryland.edu). There is a two-ticket limit per person.

This is the second of three events in the Bicentennial Lecture Series at the Hippodrome Theatre.

# Combination Therapy Shows Promise for Treating Advanced Esophageal Cancer

Combining radiation and chemotherapy with Erbitux, a cancer-targeting agent that attacks specific receptors on the surface of tumor cells, shows promising results in treating patients with advanced esophageal cancer. In a Phase II clinical study conducted at the University of Maryland Marlene and Stewart Greenebaum Cancer Center and the Brown University Oncology Group, 75 percent of the patients treated with this therapy had no evidence of cancer after treatment. Seventy percent of the patients were still alive after one year.

The 18-month study, which began in April 2005, is one of the first to look at the use of radiation, chemotherapy and a “biologic agent” such as Erbitux to treat esophageal cancer. Erbitux (cetuximab) is approved by the U.S. Food and Drug Administration for treating head and neck cancer and colon cancer.



Mohan Suntharalingam, MD

The National Cancer Institute is considering initiating a national Phase III clinical trial to compare this therapy with standard chemotherapy and radiation, which are used, along with surgery, to treat esophageal cancer.

“We are excited about how well patients responded to this treatment. The response rate is significantly higher than what we typically see with esophageal cancer patients who are treated with chemotherapy and radiation alone,” says Mohan Suntharalingam, MD, co-principal investigator and professor and vice chair of the Department of Radiation Oncology. He notes that only 40 percent of patients who receive standard chemotherapy and radiation are tumor-free after treatment.

Dr. Suntharalingam adds that researchers have only one-year survival data for the new treatment and want to see how well patients do over the next few years.

Esophageal cancer is often difficult to diagnose and treat, and about 20 percent to 25 percent of patients are still alive five years after treatment. The incidence of esophageal cancer, especially a form called esophageal adenocarcinoma in the lower part of the esophagus, is on the rise. The American Cancer Society estimates that more than 14,000 new cases of esophageal cancer will be diagnosed this year, with an equal number of people dying of the disease.

Sixty patients participated in the clinical trial, 32 of them at the University of Maryland Greenebaum Cancer Center and 28 at the Miriam Hospital, which is affiliated with the Brown University Oncology Group.

The patients were treated for six weeks with two chemotherapy drugs (paclitaxel and carboplatin), Erbitux (cetuximab) and radiation. Doctors then evaluated them to determine if they were candidates for surgery.

Erbitux is what is known as a monoclonal antibody, a genetically engineered version of a mouse antibody that targets a natural protein on the surface of cancer cells called epidermal growth factor receptor. Antibodies are produced by the body’s immune system to fight foreign substances. Erbitux was approved in 2004 for use in treating colon cancer and this year for head and neck cancer. Monoclonal antibodies are used to treat a variety of cancers.

Dr. Suntha says that patients in the esophageal cancer study experienced few side effects. “They were able to tolerate this therapy better than they historically have tolerated chemotherapy and radiation approaches,” he says.

# New Program Offers Guidance for Junior Faculty Seeking Independent Research Funding

The National Institutes of Health (NIH) is the primary source of grant funding for the majority of investigators at the School of Medicine. In fact, the School of Medicine ranks 12th among all public medical schools in the United States with more than \$164 million in funding from the NIH. But that pool of NIH money has been shrinking for the past several years, while the numbers of researchers submitting grants has climbed. New and junior investigators feel this funding crunch the most because it’s hard for them to compete against more established researchers.

Wendy Sanders joined the Office of Faculty Affairs and Professional Development in August 2006 with a goal of assisting junior faculty to obtain research funding from the NIH and other granting agencies. Since that time, more than 300 young investigators have participated in workshops, symposiums and one-on-one counseling sessions.

“A new investigator is someone who has not yet successfully competed for peer-reviewed funding on a major grant,” says Sanders, assistant dean for Professional Development. Her programs range from in-depth sessions on grant writing, revising grants and writing research papers for peer-reviewed publications to giving a research talk. Large multi-day symposiums on grant writing have attracted dozens of junior faculty.

One of the more popular courses Sanders developed is a small-group intensive grant writing class. It typically runs eleven sessions with about ten junior faculty. “Participants learn the essential elements in a competitive grant,” she says. “Each session, we discuss a specific piece of a grant, then students work on that section and the following session we discuss their work. But more importantly, each participant is assigned as a primary or secondary reviewer on



Wendy Sanders



Stacie Small

another person’s grant. That way everyone leaves with solid feedback from multiples sources.”

Sanders designed the program to help researchers find additional sources of grant funding to supplement NIH funding. Stacie Small, academic coordinator in the Office of Faculty Affairs and Professional Development, keeps track of grant opportunities offered by foundations, organizations and private and state agencies. “I work individually with researchers to find a grant opportunity that is applicable to their work,” she says. “Many of them never knew about the wealth of resources available beyond the NIH, and we see people apply to funding sources they never would have applied to before.”

*“Participants learn the essential elements in a competitive grant...”*

Sanders plans to expand her program to include more sessions on revising a grant proposal and research mentoring. She will soon work with clinical departments to develop research infrastructures and educational materials to help them become more active in the research arena.

“Funding is very difficult at the NIH right now and the competitive climate can be frustrating for new investigators entering the research field,” Sanders says. “We hope to provide as much support for our junior faculty as we possibly can and help them make a successful transition from being a mentored researcher to an independent investigator.”

# “What Do We Do?” VETERINARY RESOURCES

The use of laboratory animals is essential to the success of basic science research at the School of Medicine and other academic research institutions around the world.

Veterinary Resources at the School of Medicine oversees the care, use and acquisition of all research animals on campus, ensuring their health and safety and the school’s compliance with federal regulations.

“Our primary mission is to provide humane and scientifically appropriate care for research animals because healthy animals mean good research,” says Lou DeTolla, VMD, PhD, associate professor, Departments of Pathology and Medicine, and chief of Veterinary Medicine. “Our program began about 50 years ago when individual investigators kept animals in their labs for research. Since that time, the care of animals has been centralized in our department to more reliably give a certain quality standard of care to all research animals.”

Dr. DeTolla oversees a 120,000 square foot operation and a staff of 50 veterinarians, veterinary technicians and administrative staff who work around-the-clock to feed, water and monitor the health of all the animals, ranging from rodents to primates. The program is accredited by the Association for Assessment and Accreditation of

Laboratory Animal Care International and provides veterinary care for the Dental School, the School of Pharmacy, the VA Maryland Healthcare System on campus, the University of Maryland, Baltimore County, and Towson University, in addition to the School of Medicine.

“We have the best and most modern equipment in the country,” says Dr. DeTolla. “The rack system we use to house rodents is state-of-the-art; the air in the animal rooms runs through specially-designed filters. We feed the animals a diet designed for them that is free of microbes and viruses and contains a complete mixture of vitamins and minerals. The water we give the animals is delivered through disposable pouches and filtered and treated beforehand to decrease the possibility of bacteria and other contaminants being introduced.”

Veterinary Resources provides a host of services to researchers at the School of Medicine. They hold animals sent to the School of Medicine by a new faculty member in quarantine to assure that the animals are free of illness before they are introduced to the larger animal colony. “Quarantine allows us to protect the investigator’s research, the health of other animals and the health of the people working with the animals,” says Steven Shipley, DVM, assistant professor, Department of Pathology, who oversees medicine and post-operative care in Veterinary Resources.

The department also collects tissue samples and blood for researchers, provides breeding services and training for investigators in proper animal handling techniques and procedures. Veterinarians are present during surgical procedures to monitor the health of the animals and give annual physical exams. They also provide consultations on study designs to help investigators determine the proper species of animal to use in a research project.

Veterinary Resources and its counterpart, the Program in Comparative Medicine, receive the majority of their funding from extramural sources such as the National Institutes of Health. That means that it not only must follow guidelines and standards of care established by the United States Department of Agriculture (USDA) but those set by its funding sources. “The USDA makes surprise inspections at least once a year to review our entire program, so we have to be prepared at all times,” says Dr. DeTolla.

For more information on Veterinary Resources, visit <http://medschool.umaryland.edu/vetmedicine/vetresources.asp>.



The employees of Veterinary Resources

# Hospital for Children Receives Certificate of Distinction

The University of Maryland Hospital for Children is the first pediatric hospital on the East Coast to receive a certificate of distinction from the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) for its treatment of children with asthma. The designation shows that the Hospital for Children's pediatric asthma program meets rigorous standards for excellent care.

"Asthma continues to be a major health problem in children throughout the United States," says Steven Czinn, MD, professor and chair of the Department of Pediatrics, and director of the Hospital for Children. "Children with asthma require consistent, ongoing expert care and education to manage their disease. The JCAHO Disease Specific Certification obtained by the pediatric asthma program is evidence of our commitment to provide the highest quality patient care to our children."

The pediatric asthma program at the Hospital for Children is a unique multidisciplinary initiative that provides a comprehensive approach to pediatric asthma care,

in the hospital and emergency room as well as the outpatient setting. The program is led by a team of pediatric specialists and applies an evidence-based approach to asthma management.

To receive disease-specific care certification, the Hospital for Children, part of the University of Maryland Medical Center, went through a rigorous application process and submitted data on pediatric asthma admissions, treatment plans and outcomes. A JCAHO representative visited the Hospital for Children and conducted interviews with staff and patients. Only ten other hospitals and organizations in the United States have JCAHO certification for their pediatric and adult asthma programs.

A unique feature of the Hospital for Children's program is the use of metered dose inhalers (MDIs) to deliver inhaled medications for the treatment of acute asthma. These inhalers have been shown to minimize medication side

effects such as jitteriness, rapid heart rates and vomiting. The use of MDIs also results in lower hospitalization rates.

Another unique feature of the program is the Breathmobile, a mobile clinic that provides free specialty preventive asthma care at schools in Baltimore City and Prince George's County.

The pediatric asthma program also places a strong emphasis on standardized patient education and promoting self-management with the use of asthma action plans. "We are committed to providing care that helps children beyond their inpatient hospital stay," says Keyvan Rafei, MD, assistant professor in the Department of Pediatrics and director of the Hospital for Children's Asthma Steering Committee. "The hope is to prevent further hospitalizations and emergency room visits by providing the education and tools that families need to prevent asthma exacerbations."

"Patient education and self-management are closely integrated with the medical care children receive throughout their stay at the Hospital for Children. We provide asthma education through our own educational booklet, which emphasizes the importance of identifying and avoiding asthma triggers and the need for controller medications in patients with persistent chronic asthma," says Dr. Rafei.

Asthma, which affects about 20 million people in the United States and up to 20 percent of school children in Baltimore City, is the third leading cause of hospitalization in children. Children with asthma are three times more likely to miss school as children without asthma. 



## Curbing the Spread of Antibiotic-resistant Bacteria in Health Care

Researchers from the School of Medicine received an \$800,000 grant from the Centers for Disease Control and Prevention (CDC) to evaluate measures by hospitals and long-term care facilities to prevent the spread of antibiotic-resistant bacteria. The researchers will study the cost-effectiveness of new infection control interventions designed to rapidly identify patients colonized with a particular strain of Staph infection, known as *methicillin-resistant Staphylococcus aureus* (MRSA), an antibiotic-resistant organism that is increasing in community settings. They also will examine ways that these pathogens are most commonly transmitted.

"Healthcare-associated infections like MRSA account for about 90,000 deaths in the United States and \$4.5 billion in excess health care costs each year," says Anthony Harris, MD, MPH, associate professor in the Department of Epidemiology & Preventive Medicine and a co-principal investigator on the study. "The prevalence of antimicrobial resistance is increasing in the community, and hospitals have seen a rise in patients admitted to their facilities with these bugs. It's a concern especially because some of these organisms have developed resistance to the standard antibiotics used to fight them."

The researchers will study a comprehensive infection control program at the University of Maryland Medical Center (UMMC) to identify, isolate and effectively treat any patients who come to the hospital with MRSA. UMMC recently expanded its active MRSA surveillance program that has been in place for many years.

Today, patients admitted to the hospital's nine intensive care units (ICU) are screened for MRSA using a nasal swab test that gives results within a few hours. Those ICU patients are screened weekly after admission and at discharge. The screening program also applies to patients admitted to any non-ICU bed in the medical center if they have been in another health care facility within the last year or have a skin or soft tissue infection, two risk factors for the presence of MRSA.

If MRSA is identified in a patient, the hospital uses contact precautions such as gowns and gloves to prevent the possible transmission of the organism to other patients. The rapid screening test enables doctors to prescribe the appropriate targeted antibiotics.

According to Harold Standiford, MD, professor in the Department of Medicine and medical director of infection control at UMMC, "These measures are necessary because of a significant growth of MRSA in the community, which means that more people are coming to hospitals with MRSA. This nasal swab test identifies individuals so that proper precautions can be taken immediately to prevent transmission to others. Also, it enables us to treat patients with the right medications much sooner. The older culture-based tests took as long as 48 hours for results."

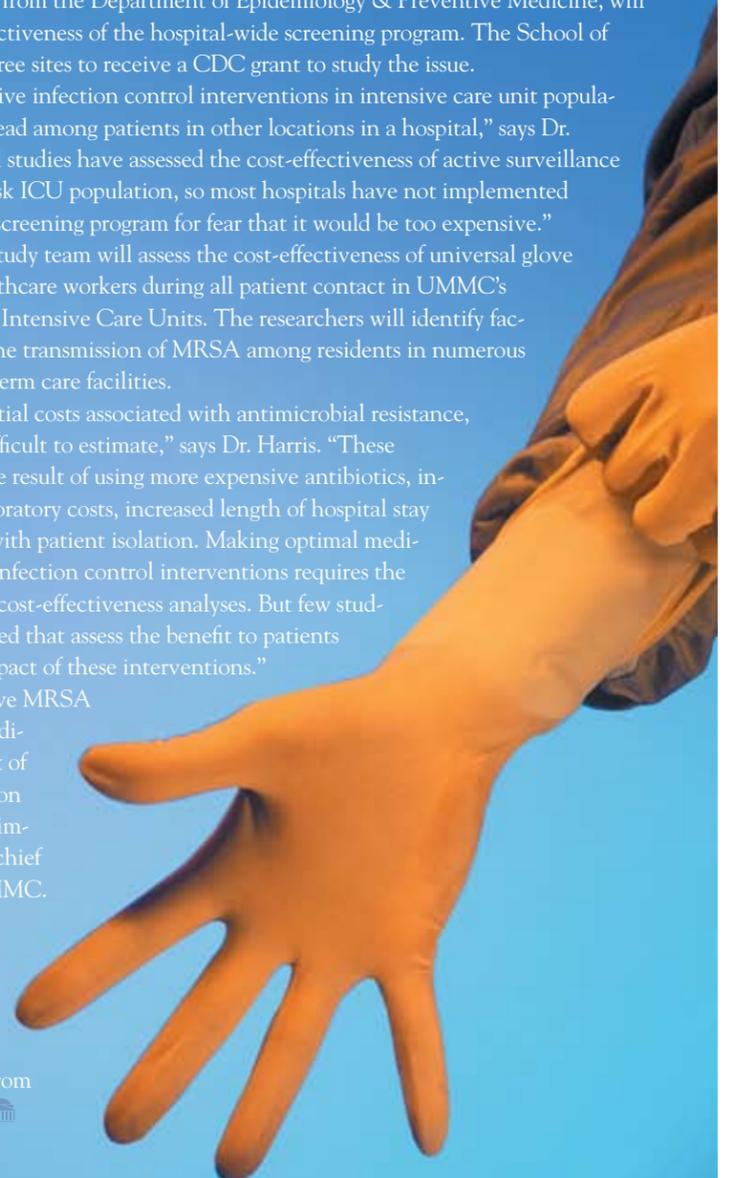
Dr. Harris and the research team, including Mary-Claire Roghmann, MD, MS, associate professor, Eli Perencevich, MD, MS, associate professor, and Jon Furuno, PhD, assistant professor, all from the Department of Epidemiology & Preventive Medicine, will evaluate the cost-effectiveness of the hospital-wide screening program. The School of Medicine is one of three sites to receive a CDC grant to study the issue.

"Even with aggressive infection control interventions in intensive care unit populations, MRSA can spread among patients in other locations in a hospital," says Dr. Harris. "No published studies have assessed the cost-effectiveness of active surveillance outside of the high-risk ICU population, so most hospitals have not implemented such a broad MRSA screening program for fear that it would be too expensive."

Additionally, the study team will assess the cost-effectiveness of universal glove and gown use by healthcare workers during all patient contact in UMMC's Medical and Surgical Intensive Care Units. The researchers will identify factors associated with the transmission of MRSA among residents in numerous Baltimore-area long-term care facilities.

"There are substantial costs associated with antimicrobial resistance, but those costs are difficult to estimate," says Dr. Harris. "These increased costs are the result of using more expensive antibiotics, increased labor and laboratory costs, increased length of hospital stay and costs associated with patient isolation. Making optimal medical decisions around infection control interventions requires the availability of proper cost-effectiveness analyses. But few studies have been published that assess the benefit to patients and the economic impact of these interventions."

"Our comprehensive MRSA identification and eradication program is part of our continuing focus on patient safety," says Timothy Babineau, MD, chief medical officer of UMMC. "We are pleased to partner with leading scientists such as Dr. Harris and his colleagues to help protect our patients from MRSA infections." 



# Graduate Students Study Our Need For Speed

**R**esults of a large-scale study on speeding behaviors conducted by two graduate students in the Department of Epidemiology & Preventive Medicine have been published in the journal *Traffic Injury Prevention*. The students, Saranath Lawpoolsri and Jingyi Li, found that receiving a speeding ticket does not change a driver's likelihood of being stopped again for speeding during the next year. In fact, drivers who received a speeding ticket during the study period had almost twice the risk of receiving a subsequent speeding citation during the follow-up period compared with drivers in a comparison group.

"Speeding is one of the most common and dangerous driving behaviors in the world," says Lawpoolsri, the lead author on the paper. "Inconsistent law enforcement, uncertain legal consequences, weak penalties and tolerant social attitudes are reasons that may explain why speeding is so widespread."



"Speeding tickets are the most commonly used tool to identify and deter speeders, yet the effects of getting a speeding ticket on a driver's future behavior have not been adequately studied," says Li, co-author on the paper. "Previous studies show that people with a documented history of speeding are more likely to be involved in motor vehicle crashes, suggesting that this high-risk behavior continues to occur even after convictions for speeding violations. Understanding the effects of speeding tickets on individual drivers is critical to improving traffic safety."

For the study, Lawpoolsri and Li examined data on more than 3.7 million drivers provided by the Maryland Crash Outcome and Data Evaluation System. The study group consisted of 15,814 licensed Maryland drivers who received a speeding citation in May 2002, while the comparison group consisted of 3,724,137 Maryland drivers who did not receive a speeding citation that month. Drivers were tracked from June 2002 to May 2003 for evidence of subsequent speeding citations. "Virtually every driver licensed in Maryland was included in the population that was studied," says Li. "We excluded only those drivers who had received a speeding ticket in the year before May 2002 in order to avoid spillover effects on behavior from past tickets."

Lawpoolsri and Li found that 11 percent of drivers in the study group who had been cited for speeding received another speeding citation during the follow-up period compared with five percent of those in the comparison group. When looking at the effects of legal penalties on speeding behaviors, the researchers found that the likelihood of receiving another speeding ticket was 12 percent among drivers who had opted to pay fines and received points on their driving records compared to eight percent among those who received probation before judgment (PBJ).

In Maryland, drivers cited for speeding can choose either to appear in traffic court for a trial or pay fines by mail. If an offender pays by mail, the Maryland Motor Vehicle Administration will assess points on the driving record, which may result

in increased insurance premiums. If an offender chooses to appear for trial, judges decide guilt and penalties.

PBJ is a common resolution in many traffic court trials; for speeding violations, a judge who issues PBJ waives the points, puts the defendant on probation for a period of time (usually six to 12 months) and orders the defendant to pay the original or reduced fine. "If the driver given PBJ is not caught speeding again during the probation period, then the violation is kept off the driving record, thereby avoiding insurance rate increases," says Lawpoolsri.

"PBJ appears to be the most effective penalty for speeding, however we do not know if other contributing factors exist that influence drivers receiving PBJ and if these factors are responsible for the lower rate of repeat violations in this group," says Lawpoolsri. "If the effects of PBJ are due to the punishment itself, perhaps the experience of going to court and appearing before a judge has more of an impact on a violator than sending in a check to pay a fine. We must conduct future research to learn more about the deterrent effects of PBJ."

"The current traffic enforcement system is like playing the lottery," says Elisa R. Braver, PhD, associate professor in the Department of Epidemiology & Preventive Medicine, who is based at the Charles McC. Mathias National Study Center for Trauma and Emergency Medical System. "The chances of getting a ticket on any one trip are low. To affect a behavior like chronic speeding, there needs to be a higher certainty of getting caught and punished. We believe that measures such as installing automated speed cameras on public roads should be evaluated to see if they provide stronger deterrents."

Dr. Braver served as Lawpoolsri's and Li's advisor on the study, which was carried out for a class on epidemiological research methods at the School of Medicine. 



Saranath Lawpoolsri



Jingyi Li

**Mark Your Calendars!**

**Friday, April 27, 2007**

**Classes are cancelled at the School of Medicine!**

Students will spend the day in public service projects involving school children. For details, see the bicentennial Web site at [www.sombicentennial.umaryland.edu](http://www.sombicentennial.umaryland.edu) and click on Student Event.

# SOMnews

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## IMPORTANT ANNOUNCEMENT

The Annual  
**State of the School of Medicine Address**

has been changed  
**from April 24 to September 25, 2007!**

Please change your calendars accordingly.  
The program will start at 3:00 p.m. in MSTF Auditorium.  
A reception will follow.



## 6TH ANNUAL Celiac Walk/Run

Sign up for the 6th annual walk/run for celiac disease to benefit the University of Maryland Center for Celiac Research!

**Sunday, May 6th**  
**at DuBurns Arena in Canton**

Registration begins at 8:00 a.m.; race starts at 9:00 a.m.

For more information, check out [www.celiacwalk.org](http://www.celiacwalk.org).