UNIVERSITY of MARYLAND
SCHOOL OF MEDICINE

somnews

May 2012 Vol.13 No.9

DEAN'S MESSAGE: What's On My Mind

What's on my mind this month is our unwavering commitment to cancer care and our dedication to expand fundamental research that will drive the discovery of future treatments and cures. Our comprehensive cancer program is world-class, recognized for its scientific excellence and outstanding patient care. We have some of the best scientific minds working to unravel the mysteries of cancer, and we continue to recruit the best and brightest faculty in order to have the greatest possible impact. It is important that we continue to invest heavily in cancer care and research because the return on investment (ROI) is so extraordinary. This ROI is not measured in dollars, but in lives saved and in the improved quality of life for those with cancer.

IT IS IMPORTANT THAT WE CONTINUE TO INVEST HEAVILY IN CANCER CARE AND RESEARCH BECAUSE THE RETURN ON INVESTMENT (ROI) IS SO EXTRAORDINARY. THIS ROI IS NOT MEASURED IN DOLLARS, BUT IN LIVES SAVED AND IN THE IMPROVED QUALITY OF LIFE FOR THOSE WITH CANCER.

A testament to our commitment is the Maryland Proton Treatment Center, an estimated $200 million project that will, for the first time, give patients in our region access to the most advanced radiation technology and care available. At the groundbreaking ceremony last month, guests were invited to ring bells of hope just as patients do at the end of their treatment in the Department of Radiation Oncology. This tradition, and the hope that will result from the center, are made possible through the leadership of William F. Regine, MD, professor and Isadore & Fannie Schneider Foxman Endowed Chair in Radiation Oncology, and interim chair of the Department of Diagnostic Radiology & Nuclear Medicine.

Patients already have access to a vast array of personalized treatment options, thanks to the University of Maryland Marlene and Stewart Greenebaum Cancer Center, which recently received renewal of its National Cancer Center designation. Only a select group of 64 cancer centers out of nearly 900 nationwide achieve this recognition, which underscores our reputation as a national leader in cancer care and research. It is a reputation that has also been recognized by President Barack Obama, who named center director Kevin J. Cullen, MD, to the National Cancer Advisory Board. Under the leadership of Dr. Cullen, who is also the Marlene and Stewart Greenebaum Professor in Oncology, the cancer center has increased total research funding by 55 percent, expanded its staff to more than 200 faculty physicians and scientists, and dramatically increased the number of clinical trials for patients.

To support the expansion of our cancer programs, we are renovating research space on three floors of the Bressler Research Building. The renovations, funded by a $12.3 million dollar grant from the National Institutes of Health (NIH), will provide multidisciplinary space for new, modern laboratories and core facilities. These core facilities will centralize key technology and expertise which can then be shared by cancer center researchers and other scientists on campus. The renovations, expected to be complete in 2013, will pave the way for major breakthroughs in cancer research.

Many of the cancer center's physicians and scientists have already achieved preeminence, helping to attract even more high-caliber specialists to our cancer programs. Angela Brodie, PhD, professor, Department of Pharmacology & Experimental Therapeutics, pioneered the development of aromatase inhibitors, which slow the growth of recurrent post-menopausal cancers. Aromatase inhibitor therapy is also a research focus for John A. Olson, Jr., MD, PhD, the newly appointed Campbell and Jeanette Plugge Professor and Vice Chair of the Department of Surgery. A nationally respected surgeon-scientist who specializes in endocrine and oncologic surgery, Dr. Olson will head the Division of General and Oncologic Surgery. His well-funded research also includes the development of biomarkers for breast cancer.

In the past 20 years, Maryland's cancer mortality rate has improved significantly, rising from one of the worst in the nation, to better than the national average. This achievement would not have been possible without philanthropic and state support for our cancer care and research. The University of Maryland Cancer Program has received more than $80 million dollars in funding from the Cigarette Restitution Fund, mandated by the Maryland General Assembly. **I am grateful for the help of many generous benefactors in the community, many of whom received care from the cancer center.**

In the relentless pursuit of excellence, I am
Sincerely yours,

E. Albert Reece

E. Albert Reece, MD, PhD, MBA
Vice President for Medical Affairs, University of Maryland
John Z. and Akiko K. Bowers Distinguished Professor and
Dean, University of Maryland School of Medicine

Two-time cancer survivor, Patty Kirwan, and her husband, University System of Maryland Chancellor William "Brit" Kirwan, along with Bill Regine, MD, ring the "bell of hope."

Breaking Ground on $200 Million Proton Therapy Cancer Treatment Center

► BY KAREN ROBINSON

THE UNIVERSITY OF MARYLAND School of Medicine and Advanced Particle Therapy LLC of San Diego have broken ground on a new, more than $200 million proton treatment center, bringing to Maryland for the first time the most advanced radiation technology in cancer treatment. It will be just the 12th proton treatment center in the United States, and the only one in the Baltimore-Washington region. The facility will be housed in an 110,000-square-foot building in the University of Maryland BioPark.

"Proton therapy represents the next-generation improvement in radiation oncology," said professor William F. Regine, MD, professor and Isadore & Fannie Schneider Foxman Endowed Chair in Radiation Oncology, and interim chair of the Department of Diagnostic Radiology & Nuclear Medicine. "It allows us the unprecedented ability to deliver a targeted dose of lifesaving radiation therapy directly to the tumor while minimizing radiation to the healthy tissue. It can result in a more effective treatment for patients with fewer side effects. This technology is a powerful new addition to our tool box for fighting cancer."

The School of Medicine's radiation oncology practice plan has signed an agreement with the Maryland Proton Treatment Center to provide clinical management and therapeutic services, including physician services and medical direction. Maryland Proton Treatment Center LLC will design, build, equip and own the center.

"The relationship we celebrate today between the University of Maryland School of Medicine and Advanced Particle Therapy represents another public-private partnership that also brings over $200 million in investment while providing life-giving proton therapy to cancer patients for the first time in the Baltimore-Washington region," said Gov. Martin O'Malley. "In addition to the hundreds of construction jobs and 175 per-

[please turn to back page]

Representatives from Advanced Particle Therapy, UMMC, the School of Medicine, and the University of Maryland joined Governor O'Malley and Mayor Rawlings-Blake in the groundbreaking.

► BY BILL SEILER

Full Face Transplant

Faculty from the Department of Surgery have performed the most extensive full face transplant completed to date, including both jaws, teeth, and tongue. The 36-hour operation occurred on March 19–20 at the University of Maryland R Adams Cowley Shock Trauma Center and involved a multi-disciplinary team of faculty physicians and a team of more than 150 nurses and professional staff.

The face transplant, formally called a vascularized composite allograft (VCA), was part of a 72-hour marathon of transplant activity for one of the busiest transplant teams in the world. The family of one anonymous donor generously donated his face and also saved five other lives through the heroic gift of organ donation. School of Medicine faculty performed four of these transplants over the course of two days.

Patient Richard Lee Norris before and after his full face transplant.

> *We utilized innovative surgical practices and computerized techniques to precisely transplant the mid-face, maxilla and mandible including teeth, and a portion of the tongue….the transplant included all facial soft tissue from the scalp to the neck, including the underlying muscles to enable facial expression, and sensory and motor nerves to restore feeling and function.*

The face transplant team was led by Eduardo D. Rodriguez, MD, DDS, associate professor, Department of Surgery. This marks the first time in the world that a full face transplant was performed by a team of plastic and reconstructive surgeons with specialized training and expertise in craniofacial surgery and reconstructive microsurgery.

"We utilized innovative surgical practices and computerized techniques to precisely transplant the mid-face, maxilla and mandible including teeth, and a portion of the tongue. In addition, the transplant included all facial soft tissue from the scalp to the neck, including the underlying muscles to enable facial expression, and sensory and motor nerves to restore feeling and function," explained Dr. Rodriquez. "Our goal is to restore function as well as have aesthetically pleasing results."

The face transplant recipient, 37-year-old Richard Lee Norris of Hillsville, Virginia, was injured in 1997 in a gun accident. Since that time, he has undergone multiple life-saving and reconstructive surgeries. Due to the accident, Mr. Norris lost his lips and nose and had limited movement of his mouth. Mr. Norris first began to discuss reconstructive options with Dr. Rodriguez in 2005.

Grant funding from the Office of Naval Research (ONR) in the Department of Defense to Stephen T. Bartlett, MD, Peter G. Angelos Distinguished Professor and Chair, Department of Surgery, has supported the University of Maryland basic and clinical research program in vascularized composite transplantation leading up to and supporting this groundbreaking face transplant. The ONR funds medical research to support military operational medicine and clinical care of returning veterans. In addition to conducting research, the School of Medicine supports military medicine in a variety of ways, including performing organ transplant surgeries for patients at Walter Reed/Bethesda National Naval Medical Center.

The team of face transplant surgeons benefited greatly from their experience treating high-velocity ballistic facial injuries at Shock Trauma. The team also includes research scientists and physician scientists from the School of Medicine's nationally recognized Division of Transplantation, who research ways to reduce rejection of donated organs and minimize the side effects of long-term immunosuppressive use after transplantation.

"A project like the face transplant requires multi-disciplinary collaboration between numerous clinical services and in many ways is very similar to trauma care," said Thomas M. Scalea, MD, Francis X. Kelly Professor of Trauma Surgery, director, Program in Trauma, and physician-in-chief, R Adams Cowley Shock Trauma Center. "Because we have an infrastructure built around multi-disciplinary care, it made sense for the facial transplant program to be housed at the Shock Trauma Center."

The scientific team that includes Drs. Bartlett and Rodriguez as well as Rolf Barth, MD, associate professor, Department of Surgery, focused on the anatomic and immunologic challenges to craniofacial transplantation. This work has been the basis for Dr. Rodriguez and his surgical team's groundbreaking surgical achievement.

"This accomplishment is the culmination of more than 10 years researching the immune system's response to vascular composite allograft transplants," said Dr. Bartlett. "Our solid organ transplant immunosuppressive protocol has led to excellent outcomes for our patients and will be part of the long-term care plan for the face transplant patient."

The face transplant team collaborated with the Living Legacy Foundation of Maryland, the organ and tissue donation program serving most of Maryland. The Living Legacy Foundation of Maryland is a non-profit organization that helps facilitate the donation and recovery of human organs and tissues for transplantation and research, and provides public and professional education on organ donation.

► BY KAREN WARMKESSEL

Benefits of Aromatase Inhibitors:

May Preempt Need for Mastectomy among Postmenopausal Women

John A. Olson, Jr., MD, PhD

PREOPERATIVE TREATMENT with aromatase inhibitors increases the likelihood that postmenopausal women with estrogen receptor-positive breast cancer will be able to have breast-conserving surgery rather than a mastectomy, according to the results of a national clinical trial led by John A. Olson, Jr., MD, PhD, Campbell and Jeanette Plugge Professor and Vice Chair, Department of Surgery.

"We found that half of the postmenopausal women in the study who initially faced having a mastectomy were able to have breast-conserving surgery after being treated for four months with an aromatase inhibitor. Preoperative therapy with aromatase inhibitors significantly increases surgical options for women with estrogen-rich cancers," said Dr. Olson. Results of the study were presented in March at the Society of Surgical Oncology annual meeting in Orlando.

Dr. Olson is co-principal investigator of the Phase II trial, which was conducted by the American College of Surgeons Oncology Group (ACOSOG).

Aromatase inhibitors, which stop the production of estrogen that fuels the growth of cancer cells, are widely used to treat postmenopausal women with hormone-responsive breast cancer.

Breast-conserving surgery, or lumpectomy, means that surgeons remove only the tumor and surrounding tissue, sparing a woman's breast. Mastectomy requires removal of the entire breast. Many women, especially those with larger tumors, are treated with chemotherapy to shrink the cancer before surgery in hope of avoiding mastectomy. There is growing evidence that hormone therapy with aromatase inhibitors may be more effective than chemotherapy in older women with hormone-responsive cancers.

About 80 percent of postmenopausal women with breast cancer have tumors that express hormone receptors, such as the receptor for estrogen.

In the ACOSOG study, researchers analyzed results from 374 patients with larger, Stage II and III-grade, estrogen receptor-positive tumors. Of these, 45.7 percent were considered candidates for mastectomy, 53.2 percent for breast conservation surgery and 1.1 percent were deemed inoperable. The women were selected at random to receive one of three aromatase inhibitors approved the U.S. Food and Drug Administration: anastrozole, letrozole or exemestane.

After treatment for 16 weeks, 352 women had surgery. Of these, 241 women (68.5 percent) had breast-conservation surgery and 111 had a mastectomy. The group that had breast conservation therapy included 84 of 163 women (51.5 percent,) who were deemed to require mastectomy by their surgeon at the outset.

"We found it particularly interesting that about one-fourth of the patients who had a mastectomy after being treated with an aromatase inhibitor had evidence of a relatively small tumor when we examined their breast tissue in the laboratory, suggesting that a mastectomy might not have been necessary," Dr. Olson said. He added, "Giving aromatase inhibitor therapy preoperatively allows breast conservation surgery in a substantial proportion of patients with estrogen receptor-rich tumors who would otherwise be considered candidates for mastectomy. If we had better techniques to determine how much cancer remains after preoperative treatment and surgeons were willing to attempt breast-conservation surgery in patients with responsive tumors, perhaps we could improve the rates of successful breast-conservation therapy for these patients."

In 75 percent of the cases, the final determination on what type of surgery to have was based on the recommendation of the surgeon. The remaining 25 percent was based on the patient's preference.

► BY SHARON BOSTON

Increasing the Number of Students Choosing

Primary Care

WITH PRIMARY CARE EXPECTED TO PLAY a key role in national health care reform, the School of Medicine will use a five-year, $877,000 grant from the federal Health Resources and Services Administration (HRSA) to develop a program aimed at increasing the number of medical students who choose primary care specialties.

"Primary care and preventive health measures are the foundation of any health care system. However, primary care specialties, including family medicine, pediatrics and internal medicine, face a shortage of physicians as, over the last decade, general interest in primary care has drastically decreased," explained the lead investigator on the grant, Richard Colgan, MD, associate professor and director of medical student education, Department of Family & Community Medicine.

A multidisciplinary team, featuring faculty from family medicine, pediatrics and internal medicine, will create a special Primary Care Track (PCT), an ambitious academic program that will allow students to gain hands-on experience throughout their four years of medical school. First-year students will be connected with primary care physicians in urban as well as rural communities, fostering an opportunity for mentoring across all years of medical school and the opportunity to see the different medical challenges in different communities.

"There is no way to contain health care costs without addressing the need for more primary care services. We will offer our students a unique medical school program featuring longitudinal mentoring and intensive clinical experience with dedicated practitioners to show these students the rewards of primary care medicine, which we hope will prompt more of them to choose primary care as a career," said Linda Lewin, MD, associate professor, Department of Pediatrics, a co-investigator on the grant.

"Our goal is to get students excited about primary care early in their careers. We were fortunate to have mentors while in medical school to help guide us into our current specialties. We hope that this grant will provide a robust clinical experience for students to help them understand what primary care is all about," said co-investigator Nikkita Southall, MD, assistant professor, Department of Medicine.

> "Primary care doctors do the job most medical students imagine when they first applied to medical school–becoming an integral part of our patients' lives over the years. We are often on the front line of challenging cases, when there is an opportunity to intervene before medical complications develop.

The PCT builds on a previous family medicine initiative, which allows University of Maryland medical students to work alongside a family physician in their first two years of medical school. In 2010, the first group of students in this program graduated, and nearly three out of four of these 17 students chose to pursue a primary care specialty, nearly twice the national average.

The Primary Care Track features partnerships with HRSA and the State of Maryland's Area Health Education Centers (AHEC).

L-R: Nikkita Southall, MD, Richard Colgan, MD, and Linda Lewin, MD, received a five-year federal grant for a special primary care education track for medical students.

"As part of the program, students will spend two weeks of their summers in distant parts of the state or in the Baltimore area, working on projects and seeing the direct benefit to the community," explained Claudia Baquet, MD, professor, Department of Medicine, and director of the Maryland AHEC.

"Primary care doctors do the job most medical students imagine when they first applied to medical school–becoming an integral part of our patients' lives over the years. We are often on the front line of challenging cases, when there is an opportunity to intervene before medical complications develop. Through this special Primary Care Track, we hope we can show these students the scope and impact that they can have as primary care physicians on the lives of their patients, families and communities," said Mozella Williams, MD, assistant professor, Department of Family & Community Medicine, and community health relations coordinator for this project.

In 2012, about 49 percent of graduates from the University of Maryland School of Medicine chose a primary care-related residency. However, a substantial number of those physicians will ultimately choose to pursue subspecialty training and will not practice primary care.

Nationally, about 16,000 U.S. medical school seniors participated in the residency placement system through the National Resident Matching Program. Of that group, about 38 percent chose a primary-care related residency, which was up slightly from the previous years. However, many of those graduates also will leave primary care for subspecialties.

► BY STEVE BERBERICH

Maryland Women's Hall of Fame

Inducts Maureen Black, "Tireless" Advocate of the Disadvantaged

Established in 1985 by the Maryland Commission for Women and the Women Legislators of Maryland, the Maryland Women's Hall of Fame seeks to honor Maryland women who have made unique and lasting contributions to the economic, political, cultural, and social life of the state and to provide visible models of achievement for tomorrow's female leaders.

Speaking in measured tones of compassion and dignity at her induction into the Maryland Women's Hall of Fame, Maureen Black, PhD, MA, John A. Scholl, MD, and Mary Louise Scholl, MD, Professor of Pediatrics, said, "the challenge for all of us is to marshal the enthusiasm and strengths" of two groups of women "to make a happier, healthier life for all of us."

She told an overflow audience at the March 7 event in Annapolis, that both groups of women, the young professionals of the future and the young women of "limited opportunities," have many commonalities that are tapped by programs at the University. "They are [both] guided by their passion for their children, passion for life and for their care of humanity," she said.

Dr. Black is also founder and director of the School of Medicine's Growth and Nutrition Clinic, a multidisciplinary clinic that provides services to children with poor growth and feeding problems from throughout the state.

Jay A. Perman, MD, president of the University of Maryland, said, "Our youngest, most disadvantaged citizens have a tireless advocate in our state of Maryland, Dr. Maureen Black. She has dedicated her life's work to improving the nutritional care of women and children in need. And I can think of no one more deserving of this honor." Dr. Perman was once Dr. Black's mentor.

Dr. Perman presented an introduction of an impressive list of Dr. Black's accomplishments in the United States and abroad. However, Dr. Black dedicated her remarks to honor Women's History Month with comparing the giving nature of women in both groups. She said the group of women in professional roles, who balance career and family, and strive to make our nation and the world a safer, friendlier place for all of us, "are a strong force, will lead us well, make us proud, and take care of us in our old age." She added, "I have the honor of working with many of these women at the University of Maryland in health care and I can tell you we are in for a treat."

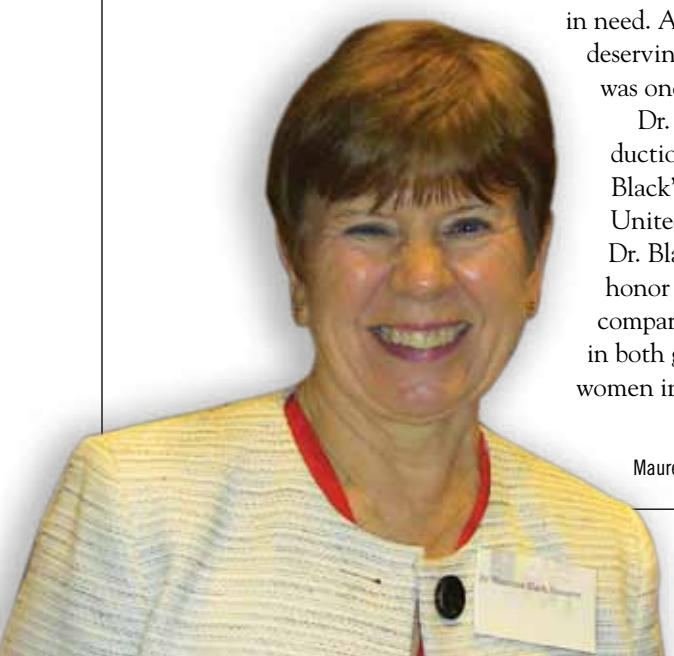
Dr. Black said the second group "are just as strong, but their opportunities are limited often by their fate of being born into low-income circumstances with limited opportunities for education or professional advancement. In the cycle of life, they become mothers of vulnerable children. As a pediatric psychologist, I work with many of these families in downtown Baltimore and globally."

Following her undergraduate training in mathematics at Pennsylvania State University, Dr. Black worked as a systems analyst for IBM in New York, Philadelphia, London and Los Angeles. She obtained an MA from the University of Southern California and a PhD in psychology from Emory University in Atlanta. For several years, she lived in Bangladesh and Peru, where she worked with undernourished children, prior to moving to Maryland where she joined the Department of Pediatrics at the School of Medicine.

In addition to providing clinical services through the Growth and Nutrition Clinic, she oversees postdoctoral training in nutrition and psychology, mentors junior faculty, conducts research related to children's growth and development, and is an organizer of the Women in Medicine and Science, which helps recruit, retain and promote women in academic women and science.

She is also an adjunct professor in the Center for Human Nutrition at the Johns Hopkins Bloomberg School of Public Health and the Department of Psychology at the University of Maryland, Baltimore County.

Dr. Black has been president of two divisions of the American Psychological Association, chair of the Maryland WIC Advisory Committee, chair of the Child Health Foundation, a founding member of the Global Child Development Group, and has served on committees for several professional societies, such as UNICEF, WHO and the Institute of Medicine.



Maureen Black, PhD, MA, at her induction ceremony into the Maryland Women's Hall of Fame.

Proton Therapy Cancer Treatment Center *[continued from page 1]*

manent jobs this center will create, it will have the capacity to treat approximately 2,000 patients annually."

"The Maryland Proton Treatment Center will further enhance Baltimore's reputation as the epicenter of medical research and innovation in America, and support growth of our west side," said Mayor Stephanie Rawlings-Blake. "We believe this project will uplift the people of Baltimore and of the west side in many ways. We look forward to continuing our work with the university and finding new ways to help Baltimore and its people to grow and flourish."

University System of Maryland Chancellor William "Brit" Kirwan and his wife Patty, a cancer survivor who was treated at the University of Maryland, also attended the groundbreaking ceremony. The Kirwan's joined Dr. Regine in ringing a 'bell of hope' to mark the end of the ceremony. Traditionally, Department of Radiation Oncology patients ring a bell at the conclusion of their radiation treatment. Attendees at the groundbreaking were provided with smaller bells to ring during this symbolic gesture.

"Location is critical to this facility's success, since proton therapy requires patients to be present for daily treatments for weeks at a time," said William E. Tucker, MBA, CPA, assistant dean for Practice Plan Affairs and chief corporate officer of University of Maryland Faculty Physicians, Inc. "The center certainly will offer our patients a revolutionary approach to treatment in a convenient location close to I-95 and many amenities in downtown Baltimore." The closest proton therapy center to the Baltimore-Washington area opened in 2010 in Philadelphia.

The center is projected to generate approximately $50 million in construction costs and a proportionate number of temporary construction-related jobs, according to Advanced Particle Therapy. The permanent jobs the center will add to the local economy include radiation oncologists, medical physicists, radiation technologists, and other medical support personnel and administrative staff.

Proton therapy is an advanced technology approved by the U.S. Food and Drug Administration and reimbursed by both Medicare and private insurance. The therapy has been used to treat nearly 70,000 patients worldwide since its inception in the 1950s, according to Advanced Particle Therapy. The technology for this therapy continues to evolve, which will allow for its expanded use in treating cancer patients worldwide. The non-invasive, outpatient therapy requires patients to receive about 30 treatments over a five to six week period. Treatments last approximately 20 to 25 minutes each day for five to six days a week. After each appointment, patients are able to leave the center and resume normal activities.

"Proton therapy is more controlled, more precise and therefore has the potential to produce more effective outcomes for certain cancer types," said Dr. Regine. "We send the proton beam directly to the tumor and instruct it to release its energy only when it reaches the tumor. We calibrate the proton radiation to the precise size and shape of the tumor, while minimizing radiation exposure to healthy tissue."

Proton beam therapy provides treatment for many common and some rare cancers. This treatment option dramatically reduces the radiation exposure to the areas of the body in the path of the radiation beam. Children are a prime example of this issue, as they are particularly at-risk for the traditional side effects commonly expected from conventional radiation.

"This technology is undergoing rapid evolution, and we're looking forward to exploring its full potential," added Dr. Regine. "As leaders in radiation oncology, we expect to be a part of the national team of experts who will determine the future of this new therapy. This center affirms our position in that leadership role."

PHOTO OF THE MONTH

Napa enjoying a spring swim at Spring Lake, NJ.

Photo by: **Jane E. Anderson**
Director of Philanthropy, Program in Trauma

Call for Photos!

Send in photos of your favorite culinary activity for the next *Call for Photos.* To participate, submit your photograph(s) to photos@som.umaryland.edu by June 1, 2012.

somnews

University of Maryland School of Medicine May 2012 Vol.13 No.9

SOMnews is produced by the University of Maryland School of Medicine, Office of Public Affairs
▲ E. Albert Reece, MD, PhD, MBA, Vice President for Medical Affairs, University of Maryland, and Dean, University of Maryland School of Medicine ▲ Larry Roberts, Executive Editor
▲ Heather Graham Phelps, Managing Editor ▲ Tom Jemski and Mark Teske, Head Shot Photos
▲ Brushwood Graphics Design Group, LLC, Design ▲ Submitting information to SOMnews:
Please email your submission six weeks prior to the month you wish to see your submission included to Heather Graham Phelps, Public Affairs Manager, at hgraham@som.umaryland.edu. ▲ Printed using environmentally-responsible low VOC inks.

University of Maryland School of Medicine
655 West Baltimore Street
Baltimore, Maryland 21201-1559

University of Maryland Farmers' Market Re-Opens for 4th Season!

Tuesdays May 8–November 20 10:00 am–2:30 pm

Support your local businesses! Come shop with returning vendors as well as meet some new farmers this season!
Visit www.umm.edu/green/farmers_market.htm for more information and a complete list of vendors.

Find the University of Maryland School of Medicine on Facebook, http://www.facebook.com/Maryland.Medicine or follow us on Twitter @ UMmedschool.