Boston University School of Medicine

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It's one thing to forget where you put them. It's another to forget what they're for.

Targeting Alzheimer's Disease



ALSO INSIDE: New Provost of Graduate Medical Sciences Named BUSM Alumna Pledges Largest Individual Gift to School of Medicine

Dear Friends,

Commencement 2009, the graduation of my first freshman class as dean, was a milestone for me. These incredibly talented, curious, and caring new physicians are now launched into their residencies, the next phase of their training and professional lives.

We are tracking national trends to determine their effects on the Medical Campus. The American Recovery and Reinvestment Act (ARRA), also known as the Stimulus Package, is a unique opportunity for our exceptionally creative faculty to capture funding to advance their basic science and clinical research pursuits. Because of the compressed timeframe of ARRA requirements, we developed new strategies to harness this opportunity. The good news is that in fiscal year 2009, the number of research applications increased by 26 percent, and our research awards increased by 10 percent over last year, with \$144 million in grants awarded to the School of Medicine, plus an additional \$12 million for the National Emerging and Infectious Diseases Laboratories.

An example of our research is the extensive and successful Alzheimer's disease programs on campus. This work integrates the talents of a wide cross-section of researchers on the Medical and Charles River campuses, weaving the disciplines of discovery, clinical care, and educational initiatives to understand and better treat or prevent this destructive disease. We feature some of the highlights of their work in this issue.

We also recently received the largest individual donation to the School of Medicine in our history. An alumna of the School, who wishes to remain anonymous, has generously committed \$10.5 million to create a breast cancer research center and to support the construction of the student residence on campus. (See page 8.)

After considerable study and discussion by the MD-PhD Executive Committee, under the direction of David Farb, PhD, new students in the MD-PhD program now receive full funding for tuition in addition to a research stipend during their PhD years. Easing the educational debt of these students provides greater flexibility to pursue the research that advances biomedical knowledge and treatments for patients. (See page 9.)

We are pleased that the work that we do to fulfill BUSM's mission of providing high-quality medical and health sciences education, leading basic and clinical research, and supporting patient-centered care is being recognized with the rise in our national ranking among medical schools as judged by *U.S. News & World Report.* We are now ranked 35th among the nation's 126 medical schools, between Brown and Dartmouth.

Your affiliation with BUSM enriches our community, and we greatly value this relationship.

Best wishes,

Lt

Karen Antman, MD Provost, Medical Campus Dean, School of Medicine



BU NEWS

TABLE OF CONTENTS

2 BUSM News
10 Graduate Medical Sciences News
12 Research
16 Faculty News
23 Student News
29 Giving to BUSM





Boston University School of Medicine

Campus & Alumni News | Summer 2009

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New Online Archive of University Research Offers Public Access

Boston University is in the process of creating an online archive of University research available for public access. It is believed that this is the first time an entire university has made its research so openly available.

The online archive will allow anyone to view BU's scholarly work, previously only available to journal subscribers, as long as the scholarship is not used for profit and the authors are credited. Since journals typically own the exclusive copyright, they often control access to intellectual property, restricting academics and clinicians from distributing it freely to colleagues and students.

Faculty who participate will retain the rights to their own research. The archive will help researchers on the Medical Campus comply with the National Institutes of Health mandate that any research it funds must be open-access within a year of publication.

"The resolution passed by the Faculty and University Councils is a very important statement by the entire BU community on the importance of open access to the results of scholarship and research created within the institution," said BU President Robert Brown. "The digital archive will become a great repository for the creativity of our faculty and students." Robert Hudson, director of BU's Mugar Memorial Library, is co-chair of the University Council Committee on Scholarly Activities and Libraries, a key force behind the move toward open access. Hudson says the effort to maintain an up-to-date collection of scholarly journals costs approximately \$8 million per year. Annual subscription rates can reach \$20,000 and tend to increase 6 to 10 percent each year, making the expansion of the library's scholarly archive a financial challenge.

"This vote sends a very strong message of support for open and free exchange of scholarly work," said Hudson. "It really has increased the potential to showcase the research and scholarship of the University in ways that have not been evident." *****

1

BUSM NEWS



BUSM Rises in National Rankings

For 2009 U.S. News & World Report has ranked BUSM 35th overall among the nation's 126 fully accredited research medical schools. In 2008, BUSM was ranked 43rd by the publication.

The rankings are determined by a combination of reputational surveys and objective data, such as the amount of research grants, student selectivity, and faculty/student ratios.

"This is a wonderful accomplishment, and we can take great pride in this news," said Dean Antman. "I thank all of the BUSM community for their dedication and commitment in continuing to make the School of Medicine an extraordinary institution."



"BU is a wonderful institution, and I look forward to the opportunities and challenges that this position presents." —Linda Hyman, PhD

Biologist Named Associate Provost of Graduate Medical Sciences

Linda Hyman, PhD, has been named the new associate provost for the Division of Graduate Medical Sciences. Following a nine-month nationwide search, the 14-member committee chose Hyman, a biologist, for her extensive background in research, academia, and administration.

"I'm very excited," said Hyman. "BU is a wonderful institution, and I look forward to the opportunities and challenges that this position presents."

Most recently she served as the vice provost of Montana State University's (MSU) Division of Health Sciences and assistant dean at the University of Washington School of Medicine as director of the medical program. She has also held faculty positions at both MSU and Tulane University Medical School, and served as program director at the National Science Foundation and principal investigator on several national grants.

Hyman earned her bachelor's degree from the State University of New York at Albany, received both her doctorate and master's degree from Brandeis University, and was a postdoctoral fellow at Tufts University School of Medicine. Throughout her career, she has mentored dozens of students and, after getting her bearings as associate provost, she hopes to return to the classroom as soon as possible. "I love teaching, and I firmly believe teaching is the best way to get to know your students and to stay fresh in your area," she said. In her role as associate provost, she will be a member of the senior leadership teams of the School of Medicine and the Medical Campus. She will oversee and support graduate education with the goal of increasing the quality and impact of all graduate educational programs on the campus.

Specifically, Hyman will oversee curricula and execution of all graduate programs, including recruitment, admissions, ongoing program activities, new program development, student outcomes, and graduate alumni relations. "An important responsibility of this role is supporting the collaboration of the basic science and clinical departments in education and graduate research," said Karen Antman, MD, dean of the School of Medicine and provost of the Medical Campus. "This integration is a core value and a strategic advantage of our program."

Hyman follows on the heels of long-time Associate Dean for Graduate Medical Sciences, Carl Franzblau, PhD. Franzblau (see page 10), also the former chair of the Department of Biochemistry, who has spent 45 years at BUSM and has been instrumental in the significant growth and development of Graduate Medical Sciences on campus. During his tenure, the number and quality of programs and faculty have increased significantly. "Dr. Franzblau is going to be a tough act to follow," Hyman noted. "He has a real entrepreneurial spirit, and I have some trepidation about filling his shoes." **★**

Small Molecules Reveal Big Health Risks

\$7.6 million federal grant fuels search for clues to heart disease and stroke

Backed by a new, multimillion-dollar federal grant, scientists from BU, BUSM, and the National Heart, Lung, and Blood Institute (NHLBI) are on the hunt for two of America's biggest killers: heart attack and stroke, the nation's first- and third-leading causes of death. The goal is to find new biomarkers warning signs in the form of proteins, small molecules, or genes that are screened for in blood tests—that could allow doctors to identify earlier the patients at risk and to offer more personalized drug or lifestyle interventions to reduce that risk.

The investigation involves several research projects, known collectively as the Systems Approach to Biomarker Research in Cardiovascular Disease (SABRe), and is funded by \$7.6 million from the NHLBI, part of the National Institutes of Health.

While the search for new biomarkers involves collaborations among scientists from BU, BUSM, industry, and the NHLBI, it will center on the Framingham Heart Study, a multigenerational epidemiological study begun in 1948 by the NHLBI and run by BU since 1971 under NIH contract. Researchers will analyze blood samples collected between 1998 and 2005 from approximately 7,000 Framingham study participants to determine whether specific proteins or genetic markers are associated with heart disease or metabolic syndrome—a group of risk factors, such as obesity and high blood pressure, that can be a precursor to heart disease, stroke, or diabetes. "We will look at a number of individuals who have been diagnosed with these conditions and compare their biomarkers with healthy individuals," said Martin Larson, a College of Arts & Sciences research professor of mathematics and a senior statistician with the Framingham Heart Study. Larson emphasized that no identifiable patient health records will be shared.

The SABRe initiatives will include RNA profiling of blood samples by scientists at the NHLBI and by Jane Freedman, MD, BUSM professor of medicine, pharmacology, and experimental therapeutics, and a cardiologist at Boston Medical Center, and a five-year Cooperative Research and Development Agreement, which is a written agreement between a private company and a government agency to work together on a project, between BU, NHLBI, and BG Medicine of Waltham, Massachusetts.

Scientists at BG Medicine will scour blood samples for 1,000 biomarkers and combine their findings with imaging studies and other medical tests conducted on the Framingham participants over the years. Researchers from the company, NHLBI, BU, and the School of Medicine will conduct a statistical analysis of the data to spot associations between individual biomarkers and disease risk. Like all SABRe studies, the findings will be made freely available to other scientists online.

Currently, clinicians assess their patients' risk for cardiovascular disease based largely on broad indicators such as blood pressure and cholesterol. The current techniques offer relatively blunt tools for identifying who is likely to experience a heart attack or a stroke, said Daniel Levy, MD, director of the Framingham Heart Study and of the NHLBI Center for Population Studies.

"There are a lot of people who don't have one particular risk factor that stands out as very elevated," said Levy, who is also a professor of medicine at BUSM. "They might have marginal rates of various risk factors. And if we had better means of identifying their risk early on, we might be able to design better interventions."

Indeed, the more biomarkers clinicians can link to disease, Levy noted, the more personalized they can be in their determination of a patient's risk and in their recommendations for changes in diet, exercise, or drug regimens. "Just as the identification of high cholesterol as a biomarker for cardiovascular disease led to cholesterollowering drugs," added Levy, "the discovery of new biomarkers could tell us a great deal about approaches to prevention and open the door to new therapies."

"The patients in the Framingham Heart Study are a unique source for this kind of investigation," said Dean Karen Antman. "This collaborative research effort will add to our understanding of the complex interactions between certain risk factors and disease and contribute to major scientific and clinical advances." *****



Targeting Alzheimer's

Understanding the risk factors, advancing prevention and treatment

Count to 70. By the time you finish, another person in America develops Alzheimer's disease. By the middle of this century, it will be every 33 seconds. As the older population increases, the number of Americans with Alzheimer's and other dementias also is increasing and will escalate dramatically as the baby boom generation ages.

There are currently 5.2 million Americans diagnosed with Alzheimer's disease, and approximately half of all people 85 and older have this degenerative brain disease. According to researchers in BUSM's Department of Neurology, by the time the first wave of baby boomers reaches age 85 (2031), there will be an estimated 3.5 million people over that age with Alzheimer's. By 2050, it is estimated that between 11 and 16 million Americans age 65 and older will have Alzheimer's.

As these data demonstrate, this devastating disease poses enormous challenges for preventing and treating it and for financing this care. However, research on Alzheimer's is opening new avenues for understanding and treating the disease. Early interventions have been shown to be beneficial to patients, necessitating better diagnostics.

Alzheimer's disease is the most common form of dementia and accounts for 60 to 80 percent of cases. Dementia is characterized by loss of or decline in memory and other cognitive abilities and can be caused by various diseases and conditions that result in damaged brain cells. Some early symptoms of Alzheimer's include difficulty remembering names and recent events, apathy, and depression. More-advanced signs include impaired judgment, disorientation, confusion, behavior changes, and trouble speaking, swallowing, and walking.

Researchers and clinicians on the Medical Campus are engaged in a multifaceted campaign to acquire and advance knowledge of the disease, enhance clinical care through development of new treatments, and provide education and support for those with the disease and for their caregivers.

"This is an exciting time because we are now at a stage of our investigations where there is truly hope for the effective treatment and prevention of Alzheimer's disease," said Robert Stern, PhD, BUSM associate professor of neurology and co-director of the Alzheimer's Disease Clinical and Research Program. "The advances in our research in the last few years play a key role in creating that hope." The Alzheimer's Disease Center (ADC) is the core of the activity taking place on campus. Established in 1996 and primarily funded by the National Institute on Aging, it is one of 31 federally funded Alzheimer's Disease Centers nationwide. The center supports many types of research on Alzheimer's. Primary areas of investigation are memory and aging, treatment and prevention, genetics, caregiving, and brain imaging. The ADC also offers diagnostic workups and consultation and patient support.

Memory and Aging

A number of ongoing studies are examining the impact of aging on memory and cognition through the Health Outreach Program for the Elderly (HOPE) study. Funded by the National Institute on Aging, HOPE is a long-term study of memory and aging designed to help improve the understanding of how memory and other thinking abilities change in people over the age of 65. The study evaluates persons with and without memory problems throughout their lives. It also serves as a registry of research participants to help other researchers who are studying normal aging and Alzheimer's disease.

Under the direction of Stern and Robert Green, MD, MPH, BUSM professor of neurology, genetics, and epidemiology and co-director of the Alzheimer's Disease Clinical and Research Program, the HOPE study also addresses topics such as aging and decision making, memory and cognitive assessment, thyroid function, and exercise and cognition. The study provides education to older adults and families about brain aging and Alzheimer's disease.

Angela Jefferson, PhD, BUSM associate professor of neurology and co-director of the ADC Education and Information Transfer Core, is examining aging and the decision-making abilities of older adults with and without memory problems. Known as the ADMIRE study, her work seeks to determine whether memory or other cognitive skills are linked to one's decisional capacity, or ability to make decisions.

Jefferson also is studying vascular risk factors and brain aging. "There is clearly a link between Alzheimer's disease and vascular disease," she said. "My research looks at cardiac output and blood flow to the brain. With heart failure there is a chronic reduction in blood flow to the brain. We know that reduced cardiac output corresponds to "This is an exciting time because we are now at a stage of our investigations where there is truly hope for the effective treatment and prevention of Alzheimer's disease."

reduced cognitive function, especially on tests of sequencing and organization. Whether it is causative is not yet proved."

In addition to forgetting things, patients with Alzheimer's disease and other dementias frequently remember things that never happened. Researchers in the laboratory of Andrew Budson, MD, BUSM professor of neurology and director of cognitive neuroscience research at the ADC, working at the VA Hospital in Bedford, Massachusetts, are studying what causes these false memories in Alzheimer's disease and related dementias. The ultimate goal of this study, sponsored by the National Institute on Aging, is to provide the basis for ways to reduce false memories in patients with dementia.

An ongoing study of the Alzheimer's Disease Cooperative Study (ADCS) and funded by a grant from the National Institute on Aging, the Home-Based Assessment (HBA) study seeks to determine the feasibility of detecting cognitive change in participants age 75 or older from the comfort of their own home. Currently, Alzheimer's disease prevention trials require large numbers of subjects who must devote a great deal of time coming in to research centers for their examinations. They also often require the subject to have a study partner in order to participate. The HBA study, by testing participants in their own homes, as well as not requiring a study partner, should decrease the burden on participants, reduce the cost of these studies, and allow more people to participate in such a trial. Headed by Stern, the study is comparing three different at-home methods, including mail-in forms or a special telephone or computer, to the traditional way of collecting information in a clinical setting. It is looking at how well subjects adhere to study medication schedules using a multivitamin that BUSM researchers will provide.

Stern and his colleagues are also studying the progressive impairment of thinking abilities necessary for safe driving. With a grant from the Alzheimer's Association, the SAFE Drivers study is examining cognitively healthy drivers as well as those with mild cognitive impairment or dementia between 55 and 70 years of age. The goal is to evaluate a battery of existing office-based tests to determine which combination of tests most closely relates to real-world, on-the-road driving safety. The results will be used to help older drivers and their families make better-informed decisions about driving cessation.

Treatment and Prevention

The fibrous protein aggregates or amyloid beta that form plaques in the brain are prominent and diagnostic features of Alzheimer's disease. Understanding the biology of plaques and how they form and finding out how to get rid of them are important areas of investigation. Carmela Abraham, PhD, BUSM professor of biochemistry and medicine, studies the etiology of Alzheimer's disease. Her work is focused on the role of the amyloid precursor protein (APP) and amyloid beta protein in the development of the disease. She also studies enzymes that break down the toxic amyloid beta as a means to clear the brain therapeutically of this peptide. Genetic and molecular studies indicate that amyloid beta initiates the neurodegenerative aspects of Alzheimer's disease. Using high-throughput screening, Abraham is testing 150,000 molecules or compounds to determine which ones inhibit toxic amyloid beta protein as a potential prevention opportunity or treatment of the disease.

Lee Goldstein, PhD, associate professor of psychiatry, neurology, ophthalmology, pathology and laboratory medicine, and biomedical engineering, is building on his team's earlier research that determined that the amyloid beta protein also collects in the lenses of eyes in people afflicted with Alzheimer's disease and causes an unusual cataract that is completely different from common age-related cataracts. The discovery established the first evidence of Alzheimer's-linked pathology outside the brain. "Alzheimer's is an exceedingly slow disease that starts as much as a decade before the beginning of cognitive decline," said Goldstein. "With the emerging treatments coming on line, we can beat back this disease, but only if we begin treatment early, long before the onset of clinical symptoms." He hopes that in the next few years patients will be able to ask for a laser-based

BUSM NEWS



Alzheimer's is an exceedingly slow disease that starts as much as a decade before the beginning of cognitive decline. With the emerging treatments coming on line, we can beat back this disease, but only if we begin treatment early, long before the onset of clinical symptoms."

 Alzheimer's Disease Amyloid-β (Aβ) Pathology

 Brain
 Image: Comparison of the second second

molecular diagnostic screening test to detect abnormal accumulation of the amyloid proteins in the lens of the eye.

The ADC regularly sponsors clinical trials to test possible new and improved treatments for Alzheimer's disease. These studies help to determine if new or currently used medications can prevent Alzheimer's or slow its progression. Boston University and the School of Medicine are part of the Alzheimer's Disease Cooperative Study created in 1991 that includes sites across the nation working together on clinical trials of new agents to treat Alzheimer's.

The Investigational Clinical Amyloid Research in Alzheimer's (ICARA) study is investigating the effectiveness of a new study vaccine, Bapineuzumab, in slowing the progression of Alzheimer's disease. Also headed by Stern, the study has been referred to as the "Vaccine Study," but it is not the typical "vaccine" that is given to prevent a disease. Rather, Bapineuzumab is a passive immunotherapy approach to treating Alzheimer's in people who already have the disease. Bapineuzumab is an antibody that may increase the clearance of amyloid beta from the brain. The ICARA study is sponsored by Elan Pharmaceuticals, Inc.

Another clinical study, the DHA study, is evaluating the effectiveness of one of the Omega-3 fatty acids, docosahexaenoic acid (DHA), in slowing the progression of Alzheimer's disease. As in the ICARA study, researchers are looking to slow the abnormal build-up of amyloid beta in the brains of patients, which is associated with the progressive cognitive decline seen in Alzheimer's disease, by administering DHA to determine whether it can slow the progression of the disease. The study is directed by Anil Nair, MD, BUSM assistant professor of neurology, along with Stern, and is funded by the Alzheimer's Disease Cooperative Study, through a grant from the National Institute on Aging.

Genetics

In the early 1990s, geneticists began to identify some of the panoply of genetic variants associated with Alzheimer's disease. This has opened myriad possibilities for investigation, and BUSM scientists and clinicians are conducting a variety of studies into the role that genetics plays in Alzheimer's. Lindsay Farrer, PhD, BUSM professor of medicine, neurology, genetics and genomics, and BUSPH professor of epidemiology and biostatistics, and chief of the genetics program, will tell you that the second most important risk factor for Alzheimer's disease (the first being living to an old age) is your family history. Farrer leads the Multi-Institutional Research in Alzheimer's Genetic Epidemiology (MIRAGE) study at BU, which is evaluating the role of both genetic and non-genetic risk factors in the development of Alzheimer's disease. "BU was among the first institutions to make a major long-term effort to assemble patient resources to study the underlying questions of the etiology of Alzheimer's disease," said Farrer. "Identifying the genetic risk factors and then determining how the genes cause the disease gives us the tools for treating or preventing it."

The MIRAGE study, funded by the National Institute on Aging since 1991, is the largest family study of Alzheimer's disease in the world, with information on more than 3,000 families and 30.000 individuals. It has demonstrated that genetic factors play a major role in the development of Alzheimer's disease. It encompasses basic science and epidemiological research. It has shown that APO ε 4 allele, the strongest risk factor for Alzheimer's identified thus far, is more weakly associated with the disease in men and persons older than 75. The study also confirmed that serious head trauma and early-life depression are risk factors, whereas historical use of statins and non-steriodal inflammatory drugs, as well as moderate alcohol consumption, confers a protective effect. MIRAGE is one of the first genetic studies of Alzheimer's disease to enroll a large number of African Americans and extend many findings about genetic and environmental risk factors to this group that has been understudied with respect to dementia.

Currently, the researchers are conducting a comprehensive search for genes influencing risk of Alzheimer's by evaluating association of the disease with approximately 2.5 million genetic markers, which were profiled in each of the more than 2,000 MIRAGE study subjects. To identify genes that may be involved in the earliest stages of the disease, they are also correlating the genetic profiles with measures of neurodegeneration and cerebrovascular disease obtained from magnetic resonance image scans of the study participants.

The Risk Evaluation and Education for Alzheimer's Disease (REVEAL) study is a multi-center, National Human Genome Research Instituteand National Institute on Aging-funded research project based at BUSM. In the REVEAL study, Green and his colleagues are exploring methods for and the impact of providing genetic-based Alzheimer's disease risk assessments to adult children of people with Alzheimer's disease. The goal is to provide healthy adults with genetic susceptibility testing and information about their chances to develop Alzheimer's disease. Information from the REVEAL study will be used to determine if it is beneficial to educate people about their potential genetic risk for Alzheimer's.

Brain Imaging

Brain imaging is being used in many areas of research on Alzheimer's disease, both to assist in the early detection of the disease and to help monitor the progression of the disease over time.

Green is a co-leader with Ron Killiany, PhD, BUSM research associate professor, for the BU site of the Alzheimer's Disease Neuroimaging Initiative (ADNI), a \$60-million, five-year public-private partnership overseen by the National Institute on Aging. The ADNI study is enrolling 800 participants nationwide to test whether magnetic resonance imaging (MRI), positron emission tomography (PET), and other clinical and neuropsychological measures can be combined to better understand the progression of Alzheimer's disease. Neuroimaging research has suggested that PET or MRI may serve as a more sensitive and consistent measure of disease progression than the neuropsychological and cognitive assessments now typically used in research and clinical practice.

Caregiving

Most of the 5.3 million Americans with Alzheimer's live at home and are cared for by a family member. Caregiving is a major focus of research of the ADC. Recognizing that Alzheimer's profoundly affects not only the person with the disease, but also family caregivers, the center has designed studies to address the many challenges posed by caring for someone with Alzheimer's disease.

One ongoing study is assessing the acceptability of a home safety booklet for diverse family caregivers of persons with Alzheimer's. The booklet, "Keep Your Home Safe for a Person with Memory Loss," is based on research on family preferences for home safety modifications. The overall goal is to decrease the risk of injury in the home. CARE-Plus is a five-part educational series designed to support caregivers of individuals with Alzheimer's disease. Families are often confronted with coping with changes in a loved one's behavior and mood, and at times the caregiver's own physical and emotional health and his/her relationships with friends and family are negatively affected. The goal of CARE-Plus is to determine whether a caregiver-based behavioral intervention can reduce behavior problems in individuals with Alzheimer's and improve the caregiver's emotional well-being. CARE-Plus is funded by the Alzheimer's Association.

Pairs

To give BUSM medical students a better understanding of the challenges and issues that Alzheimer's patients and their caregivers face, the ADC initiated the PAIRS program, which matches BUSM students with early-stage Alzheimer's patients. Based on a program launched at Northwestern's University Alzheimer's Disease Center, PAIRS fosters relationships between students and older adults for the students to learn how aging adults function with a neurodegenerative disease. "Students meet once a month with their 'buddy' to go to lunch, a museum, or just for a walk," said Angela Jefferson, PAIRS program director. "They also meet monthly with the PAIRS program staff to discuss their experiences." The program is funded by the Kenneth B. Schwartz Center and the Gold Foundation.

Discoveries

School of Medicine researchers are collaborating in many different areas and across disciplines to attack Alzheimer's. They have been responsible for a number of important discoveries that are expanding knowledge of Alzheimer's disease and adding to the arsenal of weapons for prevention and treatment.

Farrer, the BUSM geneticist and a lead investigator of an international team of researchers, uncovered a major genetic association with the disease. They found that specific variants of the SORL1 gene were more common in people with lateonset Alzheimer's. When SORL1 is functioning normally, Farrer and his team believe, its protein shuttles amyloid precursor protein (APP) down a pathway where it metabolizes harmlessly. But, they believe, the genetic variants of SORL1 either reduce the amount of this protein or they lead to an altered variety that allows APP to stray into a region of the cell where it degrades into its toxic form, leading to the plaques that are associated with Alzheimer's disease. "The importance of the finding is that it opens new pathways to explore the cause as well as potential targets for treatment of this devastating disease," said Farrer.

BUSM researchers from the Framingham Heart Study (FHS) are following three generations of participants and studying the risk factors and earliest biomarkers of Alzheimer's, among other diseases. They have discovered that people who have parents diagnosed with Alzheimer's disease or dementia perform less well on formal memory testing when compared to people of the same age whose parents never developed Alzheimer's or other dementia. This is true even in middle-aged persons who do not have a diagnosis of clinical stroke or dementia. "Parental dementia and Alzheimer's disease were significantly associated with poorer performance in verbal and visual memory tasks," said senior author Sudha Seshadri, MD, BUSM associate professor of neurology. Researchers further concluded that the result in persons with parents who have Alzheimer's disease is equivalent to approximately 15 years of brain aging. By studying the FHS participants, Seshadri and her colleagues also have learned that gender affects the lifetime risk for Alzheimer's. They estimate that one in six women is at risk for developing the disease, while the risk for men is one in 10.

Benjamin Wolozin, MD, PhD, BUSM professor of pharmacology, and fellow BUSM researchers have, for the first time, found that angiotensin receptor blockers (ARBs)-a particular class of anti-hypertensive medicines—are associated with a striking decrease in the occurrence and progression of dementia. They found that patients taking ARBs had about a 35-40 percent lower chance of getting Alzheimer's disease or dementia and believe the results suggest that ARBs might protect against developing Alzheimer's disease and dementia. "For those who already have dementia, use of ARBs might delay deterioration of brain function and help keep patients out of nursing homes," said Wolozin. Although unsure why ARBs might be so beneficial, one possibility is that ARBs help prevent nerve cell injury from blood vessel damage or help promote nerve cell recovery after blood vessel damage. Damage to blood vessels

7

is thought to reduce brain capacity and promote dementia, so reducing this damage might prevent the occurrence or progression of dementia.

Another study has found that pictures allow patients with very mild Alzheimer's disease to better recognize and identify a subject as compared to using just words. In addition, the researchers found that these patients can rely on a general sense of knowing or familiarity but not recollection to support successful recognition. "The results suggested that patients with very mild Alzheimer's, or amnestic mild cognitive impairment, were able to rely on intact frontally-based cognitive processes, such as implicit conceptual priming and explicit memorial familiarity, to remember pictures," said study author Brandon Ally, PhD, BUSM assistant professor of neurology. It is hoped that strategies can be developed to support new learning in patients with Alzheimer's.

Alzheimer's is a devastating and crippling disease with consequences for patients, their caregivers, and society as whole. The personal and financial costs are enormous and, as the number of older Americans increases, these costs will only proliferate. BUSM is targeting this disease with the tools of modern scientific and medical research. The full complement of Alzheimer's research and clinical care at BUSM and the many departments of Boston University that collaborate on determining the etiology of the disease, prevention and early detection strategies, treatment, and support is far wider and deeper than what has been included here. "We need better understanding of this disease to develop more effective diagnostics and treatments," said Dean Karen Antman. "The spectrum of research being carried out at BUSM is at the forefront of making this happen." *

For more information contact the Alzheimer's Disease Center at 617-638-5426 or see www.bu.edu/alzresearch.

HBO Documentary on Alzheimer's Disease

During the month of May, HBO aired a four-part documentary, *The Alzheimer's Project*, in which Robert Green, MD, BUSM professor of neurology, genetics, and epidemiology and co-director of the BU Alzheimer's Disease Clinical and Research Program, was a featured commentator as part of the series.

The documentary and 15 supplementary films examine the recent discoveries in Alzheimer's disease research and the impact of the debilitating disease on those who have it and their loved ones. The film is intended to change the way America thinks about Alzheimer's by putting faces to the disease and offering hope for future treatments.

The Alzheimer's Project is a presentation of HBO Documentary Films and the National Institute on Aging of the National Institutes of Health in association with the Alzheimer's Association, Fidelity Charitable Gift Fund, and Geoffrey Beene Gives Back Alzheimer's Initiative.



BUSM Alumna Pledges \$10.5 Million to Create Breast Cancer Research Center

BUSM has received a pledge of \$10.5 million to create a breast cancer research center, including an assistant professorship and an international scholars training program, from a BUSM graduate who wishes to remain anonymous. This pledge represents the largest individual gift received by the School of Medicine.

"This exceedingly generous commitment is an important investment in breast cancer research that will facilitate discovery and accelerate the development of diagnostics and treatment for this common life-threatening disease," said Dean Karen Antman, MD. "We are particularly grateful that our graduate has chosen to support this important work of BUSM. The donor, a two-time cancer survivor, has experienced the significance of timely and quality care. She has also worked on several health-care projects in developing countries, and this project at BUSM is an excellent opportunity to serve those in need close to home, a need she recognized while training at Boston City Hospital."

The gift will allow the School's cancer researchers to advance breast cancer studies in innovative and far-reaching ways, according to Gail Sonenshein, PhD, professor of biochemistry and director of the Women's Health Interdisciplinary Research Center (WHIRC). "The funds will be used to recruit new faculty members, train scientists from the developing world, and fund pilot grants to help us understand the molecular basis of this devastating disease in diverse populations and for translational research projects that we hope will rapidly develop into new therapies."

These projects include collaborations across the Medical Campus, pooling resources from experts and clinicians to accomplish the best possible results and applications. The breast cancer work"That's why a gift like this one is so important when you get people together in one environment, you get a lot of good things happening."

ing group within WHIRC includes faculty from biochemistry, otolaryngology, and pathology, as well as from the School of Public Health and the Henry M. Goldman School of Dental Medicine. Sonenshein and David Sherr, PhD, BUSPH professor of environmental health, are working with David Seldin, MD, PhD, BUSM professor of hematology and oncology, to look at environmental pollutants and their effect on breast cancer—a partnership that Sherr says is a huge advantage.

"Technology is moving so fast that no one lab can keep up with it," he says. "But when you put a bunch of smart people together in a team, you can do so much more than you can with an individual. That's why a gift like this one is so important—when you get people together in one environment, you get a lot of good things happening."

The fulfillment of the pledge also will support the building of a new residence for medical students on the Medical Campus. The proposed nine-story building will house 208 first-year medical students and transform student life at the School of Medicine.

Along with her affiliation as a graduate of the School, the donor chose BUSM because of the Medical Campus's tradition of caring for the poor and underserved who will benefit from this research.

"Health disparities are a major concern in our society," said BU President Robert Brown. "This gift will contribute toward closing the disparities gap and will benefit the underserved and the most disadvantaged in our community. Boston University is deeply grateful to the donor." *****

Full Tuition Funding for New MD-PhD Students

Effort supports training of physician scientists

A physician scientist is a leader who forms the link between basic biomedical science and clinical practice. The Combined MD-PhD program, one of the many career pathways at BUSM, nurtures and develops these leaders by providing students with the opportunity for advanced education and research training in one of the medical sciences along with training in clinical medicine.

The program espouses the view that the clinical encounter is central in the generation of relevant questions that can be explored by scientific methodology and produces a physician scientist with the capacity to derive a clinically relevant question, explore it in the laboratory or clinical research center, and translate the new knowledge into pragmatic clinical practice.

"We produce a unique cadre of professionals in medicine and research," said David Farb, PhD, chair of the MD-PhD Executive Committee and chair of the BUSM Department of Pharmacology & Experimental Therapeutics. "However, with a seven-year time frame for completion, this is an extended and expensive process for our students, many of whom are forced to choose between practicing medicine and research because of the cost."

With the strong support of Dean Karen Antman and the extensive effort of Carl Franzblau, PhD, former associate dean of the Division of Graduate Medical Sciences, the MD-PhD program is now funding new MD-PhD students who receive their research and clinical medical training with full financial support. "Tuition remission is the best thing we can do for these students," added Farb. "Going forward they will have greater choice and flexibility in making a career of and making contributions to medical research."

To compete for and attract the best students, the School of Medicine needed to provide a schoolbased alternative to the Medical School Training Program of the National Institutes of Health, which offers full tuition and stipends to only two MD-PhD students per institution. "We worked to find a way to provide tuition funding for all of our MD-PhD students," said Douglas Rosene, PhD, professor of anatomy and neurobiology and a member of the MD-PhD Executive Committee. While research and training grants support their PhD training, the School of Medicine now is providing the financial support for their medical education. "Our hope is to increase funding in the future to expand the number of students who can be supported," added Rosene.

Because BUSM was his first choice, Chad Farris '13 entered the MD-PhD program in the fall of 2004 even though he knew it was not a fully funded program and that he would have to pay 50 percent of his tuition. "I am sure that there are a number of students who chose to attend different schools because the funding was better but would have preferred to attend BUSM had the funding been equal," he said. "I think this new funding is a very important improvement in our program and students are very happy about this change. The MD-PhD program at BUSM is an excellent program and this improvement in funding makes it even better."

Peter Bergethon, MD, PhD, associate professor of anatomy and neurobiology and a member of the MD-PhD Executive Committee, believes that this commitment by the School of Medicine reflects well on the institution and significantly strengthens medical research on campus. "It demonstrates that we highly value these students and are committed to training physician scientists who will someday make the important scientific discoveries that advance our understanding and prevention of human disease and develop the clinical treatments for diseases as well." *****

S For more information see www.bumc.bu.edu/ admissions/programs/md-phd.

GRADUATE MEDICAL SCIENCES NEWS



Photos by Ken Richardson

47 Years of Research and Teaching

Carl Franzblau honored for his contributions to science and education

It took 21 separate presentations over two days to illustrate the life and times of Carl Franzblau at Boston University. His nearly 50-year tenure at BU is replete with achievements large and small. He has forged a legacy of enduring commitment to the University and School of Medicine and dedication to his students. Retiring as chair of the BUSM Department of Biochemistry, a position he held for the past 32 years, and as associate dean for the Division of Graduate Medical Sciences for the past 20 years, Franzblau was honored with a symposium and reception organized by faculty, staff, and students. On June 15 and 16, present and former colleagues and students shared their remembrances of and appreciation for Franzblau the friend, mentor, and inspiration.

"During the next two days you will hear of Carl's creativity as a scientist, his excellence as an educator, his accomplishments as an administrator, and his prowess as an out-of-the-box inventor and entrepreneur," said Dean Karen Antman in her remarks opening the program celebration. "We hear regularly from students about the time and care that he lavishes on their research projects, and of his ready accessibility to any student with a problem."

As a scientist, he developed the biochemistry and synthesis of connective tissue proteins and the role they play in cardiovascular and pulmonary disease. He authored more than 200 peer-reviewed scientific papers as well as numerous review articles. As an educator and administrator, he has been responsible for training more than 800 master'sand doctoral-level students. In 1986, the University recognized him with its highest teaching award, the Metcalf Cup. To expand interest in the biomedical sciences among young people in the Boston area, he initiated City Lab, an academic and laboratory skills training program for qualified high school graduates interested in pursuing a career and further education in biotechnology.

President Emeritus John Silber, unable to be present for the celebration, noted in a letter read to the assembled guests, "Carl's particular gift, the one most critically important to the University community, is his ability not merely to teach information but to foster interest and excitement

Join in Honoring Carl Franzblau

A number of years ago, Carl and Myrna Franzblau established an endowment fund to provide graduate medical sciences students with small grants to enhance their biomedical research experiences. The grants cover travel expenses, summer research support, funding for student-initiated research projects, and/or personal needs and emergency assistance. Their generosity has been an important resource for assisting GMS students in need.

Please join in honoring Carl Franzblau by contributing to the Carl and Myrna Franzblau Fellowship Fund. To make a gift, contact the BUSM Development Office at 617-638-4570 or visit www.bu.edu/alumni/giving/online. In the box under Your Gift Designation enter "Carl and Myrna Franzblau Fellowship Fund."





about learning in his students. Teaching information may allow a student to pass a class; instilling a passion for learning and discovery will drive a student to a successful academic or professional career. No one at Boston University merits more than he all the honor and gratitude that we can express to him."

Mark Moss, PhD, professor and chair of the Department of Anatomy & Neurobiology, referred to Franzblau as "The Wizard" because "he makes things happen." Moss described the increased stature and growth of the Division of Graduate Medical Sciences under Franzblau's leadership, including the recent development of new master's degree programs in mental health and behavioral medicine, forensic sciences and anthropology, biomedical crisis management, and bioimaging. As an entrepreneur, Franzblau was involved in the founding of Hemagen Diagnostics, Inc., a developer and manufacturer of medical diagnostic test kits. Frustrated with not being able to transfer his medical data from one doctor to another effectively and easily, he designed Med-InfoChip, a memory chip that allows users to carry their entire medical history with them at all times. He is now president of Med-InfoChip LLC.

Sporting his trademark bowtie, Franzblau said, "It was an overwhelming experience. The outpouring of good wishes from all corners of the University was something I will never forget. I want to thank everyone for the effort they made in making this such a spectacular event for me and my family." *****

Franzblau Honored by Einstein College of Medicine

Carl Franzblau, PhD, was honored by his alma mater, Albert Einstein College of Medicine, with a Distinguished PhD Alumnus Award in June. Franzblau is a member of the class of 1962 and was one of the first students to be awarded a PhD at Einstein.

The College recognized his many achievements, including his extensive publishing in the field of cardiovascular and pulmonary diseases, focusing on the role of connective tissue proteins in those diseases' processes. His key role in describing the nature of the chemical crosslinks in collagen and elastin as well as describing the synthesis of these structural proteins in cell culture was also highlighted.

Researchers Garner Major Grants

PTSD and Domestic Violence

The U.S. Department of Defense has stepped up efforts to provide services for the many Iraq and Afghanistan veterans who are returning home, offering family-oriented counseling and support programs and funding research into deployment stress and the impact of post-traumatic stress disorder (PTSD) on families.

Some of that funding, in the form of a \$1.5 million grant, was recently awarded to Casey Taft, PhD, BUSM associate professor of psychiatry and staff psychologist at the Behavioral Sciences Division of the National Center for PTSD in the VA Boston Healthcare System. Taft is studying domestic violence among returning soldiers with PTSD. His research dovetails with his other veteranrelated work—funded with a \$2 million grant from the Centers for Disease Control—on preventing partner abuse and enhancing soldiers' intimate relationships.

"People who are exposed to trauma, and in particular those who develop PTSD, are at very high risk for aggressive behavior," said Taft. "In one Vietnam War study, they found that among vets with PTSD, one third had engaged in physical violence against their partner in the past year. This rate was almost three times the rates they found among veterans without PTSD." Taft notes that current veterans from the wars in Iraq and Afghanistan have been exposed to significant trauma and many of them have been on multiple deployments. "They are coming back with high rates of PTSD and other mental health issues and it would stand to reason that they would also



engage in high levels of aggression and partner violence, though we don't have the specific data to back that up."

The project will unfold in two phases, starting with focus groups and the development of an intervention. The second phase involves controlled clinical trials in Boston and Arkansas. Program topics will include healthy relationships, understanding anger, stress, and coping, relaxation, and communication styles, among others.

Modifying Patients' Own Cells to Fight Breast Cancer

Richard Junghans, MD, associate professor of surgery at BUSM and chief of surgical research at BUSM-affiliated hospital Roger Williams Medical Center in Rhode Island, was named principal investigator of a grant to research how breast cancer patients' own cells can be modified to fight their disease. Junghans, along with colleagues, received the \$5.9 million Impact Award from the Department of Defense Breast Cancer Research Program.

Junghans conducts research into redirecting the immune systems of cancer patients to fight their cancers. Using gene therapy techniques, patients' own T cells are modified to create "designer T cells." As part of the research, a coordinated series of clinical trials and laboratory research activities is planned with the focus of curing metastatic breast cancers via this emerging technology.

"T cells have the capacity to hunt down and eliminate infected host cells, or when properly directed, tumor host cells, anywhere in the body," said Junghans. "We propose a therapy with intent to cure metastatic, widely disseminated tumors in patients who otherwise have no hope from existing treatments."

Keeping the Elderly Independent

With a grant of \$5.8 million over five years, the National Institute on Aging (NIA) has funded the establishment of the Boston Claude D. Pepper Older Americans Independence Center at Boston University Medical Campus and Boston Medical Center. It is one of only 11 Pepper Centers in the country.

"Physical ailments and social isolation take the elderly on a downward spiral in which they lose their independence and become a burden to society," notes Shalender Bhasin, MD, BUSM professor of medicine, chief of endocrinology, diabetes, and nutrition at Boston Medical Center and principal investigator of the Pepper Center grant. "The grant will foster collaborations among our multidisciplinary team of investigators to promote physical function mobility and cover the entire spectrum of discovery from target identification to clinical trials and function-promoting anabolic therapies."

Researchers are currently developing drugs that will target muscle proteins to increase muscle mass and prevent walking intolerance in older people, allowing them to maintain or restore their independence. Researchers will also conduct collaborative, interdisciplinary research to address other elderly ailments such as osteoporosis, hip fractures, and type 1 diabetes.

The Claude D. Pepper Older Americans Independence Center Program was established in honor of Claude D. Pepper, the late U.S. senator from Florida. During his five decades of public service, Pepper was an advocate for the health and wellbeing of older adults and built a legacy of ongoing research support to promote independence, function, and quality of life in the elderly.

Research in Brief

Gene Variant Associated with Chronic Obstructive Pulmonary Disease Identified

For the first time, researchers have identified a gene variant on chromosome 4 that may be a potential risk factor for chronic obstructive pulmonary disease (COPD).

COPD is the fourth-leading cause of death in the U.S. and one of the most prevalent disabling diseases of adults. According to researchers, cigarette smoking is the primary risk factor for impaired lung function, yet only 20 percent of smokers develop COPD. This observation, along with family studies of lung function and COPD, suggests that genetic factors influence susceptibility to cigarette smoke.

The researchers performed a genome-wide association study on 7,691 Framingham Heart Study participants to identify a relationship between common genetic variants and measures of lung function. The identified variants on chromosome 4 were then examined and confirmed in an independent set of 835 Framingham Heart Study participants.

"Several interesting genes are present in the region that we identified, including a gene (HHIP) interacting with a biological pathway involved in lung development, but it is not yet clear which gene in the region explains the association," said lead author Jemma Wilk, DSc, BUSM assistant professor of neurology. "Our results identified a region of chromosome 4 that warrants further study to understand the genetic effects influencing lung function."

These findings were published in *PLoS Genetics* in March 2009.

Researchers Discover Ways of Integrating Treatment of Traumatized Tibetan Refugee Monks

The Boston Center for Refugee Health & Human Rights (BCRHHR) at Boston Medical Center on the BU Medical Campus has treated many of the large number of Tibetan refugee monks who have fled violent religious persecution. These individuals arrived in Boston suffering from symptoms of traumatic stress, which interfered with their meditative practice.

Recognizing that barriers exist between Western and Eastern medicine, the BCRHHR researched and implemented its own complementary therapy options to heal the monks. Research in crosscultural health settings, particularly refugee health services, shows that successful treatment is contingent on a combination of the patient's interpretation of the illness and biomedical categories. This allows the patient to actively participate in his or her own healing. Crosscultural psychiatric assessment is also necessary in determining appropriate treatment options, as treatment can be detrimental if not harmonized with the religious context in which mental illness develops.

"This research and treatment involving patients accustomed only to traditional medicine presented an opportunity for the acceptance of non-traditional therapeutic approaches," explained Michael Grodin, MD, BUSM professor of psychiatry, sociomedical sciences, and community medicine and BUSPH professor of health law, bioethics, and human rights. "The difference between Tibetan and Western disease pathologies represents the need for evidence-based complementary therapies, such as [those used with] the Tibetan monks in exile and other religious refugee populations."

Grodin said that the refugee health center integrated techniques of Western medicine, such as anti-depressant prescribing and psychotherapy, with Tibetan healing practices, including medicines prescribed by Tibetan Amchi, meditation advice, Tai Chi, and Qi Gong exercises. Grodin is trained in traditional Chinese medicine, such as acupuncture and meditation.

The findings appeared online in the March 2009 issue of *Mental Health, Religion & Culture.*



Risk of Aggressive Breast Cancer Subtype Three Times Higher for Black Women

Lifestyle, age, and weight have all been considered risk factors for breast cancer. Now a study by BUSM researchers has found that even taking these factors into consideration, black women face three times the risk of developing an aggressive triple-negative tumor compared to women of other racial backgrounds.

In the U.S., which has the highest rate of breast cancer in the world, the overall incidence of breast cancer is lower in black women than in white women. Yet when black women do get breast cancer, it tends to be more advanced when diagnosed, has a higher risk of recurring, and has a less-favorable outcome.

The research team led by Carol Rosenberg, MD, BUSM associate professor of medicine, searched hospital records from Boston Medical Center, focusing on 415 breast cancer cases. The team looked at clinical features, particularly patient age, weight, and race/ethnicity, and pathological features, including the triple-negative pattern tumors that lack expression of the estrogen receptor, the progesterone receptor, and the HER2 gene.

"The odds of having a triple-negative tumor were three times higher for black women than for non-black women in the study," said Rosenberg. "Previously, it was known that pre-menopausal black women had more triple-negative tumors. What we found that was new was that these tumors were just as common in black women diagnosed before or after age 50, and in those who were or were not obese."

Rosenberg adds, "The higher prevalence of triplenegative breast tumors in black women in all age and weight categories likely contributes to black women's unfavorable breast cancer prognosis."

The study was published in the open-access journal *Breast Cancer Research*.

Research in Brief

First Series of Prenatal Molecular Diagnosis for Tuberous Sclerosis Complex Reported

BUSM researchers have reported the world's first series of cases of prenatal diagnosis for women at risk of having a child with tuberous sclerosis complex (TSC). Earlier, the BUSM Center for Human Genetics team published the first molecular prenatal diagnosis of TSC. The current study details the sequencing of the TSC genes (TSC1 and TSC2) analyzed in 50 completed pregnancies.

TSC is a genetic disorder that causes tumors to form in many different organs, primarily the brain, eyes, heart, kidneys, skin, and lungs. In addition, this condition accounts for mental retardation in about 44 percent of patients. Current estimates place TSC-affected births at one in 6,000. Nearly one million people worldwide are known to have TSC, with approximately 50,000 in the United States.

Advances have occurred in prenatal genetic diagnosis, including the re-sequencing of the two tumor-suppressor genes (TSC1 and TSC2) for TSC. DNA studies were performed on amniotic fluid cells and chorionic villi of the pregnant women at risk for having a child with TSC. Mutations were determined by gene sequencing and deletion/ duplication analysis of the two TSC genes.

Sequencing both the TSC1 and TSC2 genes facilitated detection of about 83 percent of mutations. Coupled with multiple ligation-dependent probe amplification assays, an overall detection rate of nearly 93 percent was achieved.

"Physicians are advised to be alert to family history of TSC or unexplained mental retardation and to first test a known affected family member and/or [do] preconception testing rather than [rely on] the anxiety-provoking, last-minute efforts at prenatal testing initiated in the second trimester of pregnancy," said lead author Aubrey Milunsky, MBBCh, DSc, director of the Center for Human Genetics and professor of human genetics, pediatrics, pathology, and obstetrics and gynecology at BUSM.

"Given the clinical and molecular complexities of TSC, it would be advisable for all couples at risk to be referred to a clinical geneticist for evaluation and counseling," recommended Milunsky.



These findings appeared in the March 2009 issue of the *American Journal of Obstetrics and Gynecology.* Funding for this study was provided by the Center for Human Genetics at BUSM.

Vitamin D Deficiency Associated with Greater Rates of Caesarean Sections

Researchers found that pregnant women who are vitamin D deficient are also at an increased risk for delivering a baby by caesarean section. Over a two-year period, BUSM researchers analyzed the relationship between maternal serum 25-hydroxyvitamin D [25(OH)D] and the prevalence of primary caesarean section. "In our analysis, pregnant women who were vitamin D deficient at the time of delivery had almost four times the odds of caesarean birth than women who were not deficient," said senior author Michael Holick, MD, PhD, BUSM professor of medicine, physiology, and biophysics and director of the General Clinical Research Center, and Anne Merewood, MD, BUSM assistant professor of pediatrics and lead author of the study.

The researchers suggest that one explanation for the findings is that vitamin D deficiency has been associated with proximal muscle weakness as well as suboptimal muscle performance and strength.

These findings were published online in December 2008 in the *Journal of Clinical Endocrinology & Metabolism.* The study was funded by the U.S. Department of Health and Human Services, Maternal and Child Health Bureau: R40MC03620-02-00, and by the U.S. Department of Agriculture Cooperative State Research, Education, and Extension Service Award.

Gene Variant Associated with Cocaine Dependence and Cocaine-Induced Paranoia Discovered

Researchers from BUSM, Yale University School of Medicine, and the University of Connecticut School of Medicine have discovered that variants in the α -endomannosidase (MANEA) gene are associated with cocaine addiction and cocaine-induced paranoia in European-American and African-American populations.

The U.S. Department of Health and Human Services 2002 National Survey on Drug Use and Health revealed that nearly six million Americans age 12 or older used the drug during the preceding year and that compulsive use of cocaine is also common, with more than one million individuals considered dependent on the drug. Several studies have suggested a substantial genetic contribution to cocaine dependence and related behaviors.

This study reviewed close to 4,000 individuals from two sets each of European-American and African-American family-based samples and case-control samples who were enrolled in studies of drug addiction and classified them as either cocaine dependent, suffering from cocaineinduced paranoia, or controls. They were then genotyped for 11 markers spanning the MANEA gene.

Researchers found that cocaine-induced paranoia was associated with six of the 11 markers in the European-American family sample. They also found that these six markers and three other markers were significant in the African-American sample.

"Our findings suggest that cocaine dependence and associated behaviors may involve biological pathways not typically thought to be associated with brain metabolism and open a new pathway to understanding these highly prevalent disorders and their psychopathological manifestations," said lead author Lindsay A. Farrer, PhD, BUSM professor of medicine, neurology, genetics and genomics, and BUSPH professor of epidemiology and biostatistics, and chief of the BUSM Genetics Program.

These findings appeared in the March 2009 issue of the *Archives of General Psychiatry*. The work was supported by a grant from the National Institutes of Health.



Study Finds Preemies More Likely to Score Positive on Checklist for Autism

BUSM and Boston Medical Center researchers in collaboration with other medical centers have found that children born more than three months premature are at three times the risk for screening positive on the Modified Checklist for Autism in Toddlers (M-CHAT). Children who screen positive on M-CHAT may be at greater risk for developing autism.

The Council on Children with Disabilities of the American Academy of Pediatrics recommends that pediatricians screen for an autism spectrum disorder (ASD) if there are concerns about the child's development. The M-CHAT is a checklist that asks the parent or caregiver to report on 23 behaviors. Checking any three items or two of six critical items as "unable to perform" leads to a positive screen on M-CHAT.

Overall, more than 21 percent of the children in this study screened positive as compared to a 5.7 percent positive result when an M-CHAT is used as a screen in unselected children during well-child care visits between 16 and 30 months of age.

The study investigators found that the presence of multiple physical handicaps appears to contribute to screening positive, independent of true autism risk. "However, in our study, even after excluding those children with motor, vision, and hearing impairments, we still found 16 percent screened positive," said lead author Karl Kuban, MD, BUSM professor of pediatrics and neurology and chief of the Division of Pediatric Neurology at Boston Medical Center.

"Because we have not yet determined if those who screened positive satisfy criteria for an ASD, we cannot yet assess the predictive values of the M-CHAT among children born at extremely low gestational ages," he added.

Making a diagnosis of ASD often occurs after many years of symptoms, at times delaying appropriate services for children with the disorder. "Determining the predictive value for screening positive on the M-CHAT among extremely low gestational age children and among handicapped children may offer critical information for pediatricians, since the AAP has recommended early screening for autism," added Kuban.

These findings appeared in the January 2009 issue of the *Journal of Pediatrics*. Funding for this study was provided by the National Institute of Neurological Disorders and Stroke.

Genetic Variants Associated with Increased Risk of Stroke Discovered

Scientists have identified a previously unknown connection between two genetic variants and an increased risk of stroke, providing strong evidence for the existence of specific genes that help explain the genetic component of stroke.

The genetic variants were discovered by analyzing the genomes of individuals from the CHARGE (Cohorts for Heart and Aging Research in Genomic Epidemiology) consortium. This extensive resource includes participants from the Framingham Heart Study, Atherosclerosis Risk in Communities Study, Cardiovascular Health Study, and Rotterdam Study.

"This study, which integrates longstanding observational trials such as Framingham with cutting-edge genomic technologies, moves us closer to the era of personalized medicine," said Elizabeth G. Nabel, MD, director of the National Heart, Lung, and Blood Institute (NHLBI). "As we learn more about the role that an individual's unique genetic make-up plays in their overall health, we will ultimately be able to tailor care to better diagnose, prevent, and treat conditions such as stroke."

The research team included Sudha Seshadri, MD, BUSM associate professor of neurology, and Philip A. Wolf, MD, principal investigator of the Framingham Heart Study and BUSM professor of neurology, and involved investigators from numerous universities.

The research was funded by the NHLBI of the National Institutes of Health (NIH) and by several other NIH institutes and centers. The analysis was published in the April 23, 2009, issue of the *New England Journal of Medicine*.

FACULTY NEWS



Kenneth Grundfast, MD Professor and Chair, Department of Otolaryngology-Head & Neck Surgery

Every Day as a Physician Is a Privilege⁹⁹

Teacher, clinician, researcher, mentor, administrator, leader, humanitarian: These are some of the roles that Kenneth Grundfast, MD, performs on the Boston University Medical Campus. With his varied interests and expansive involvement on campus, on any given day he can be found mentoring individual students on their specialty choice, working on a research project, chairing the Ethics Committee, streamlining the faculty evaluation process, instructing residents, caring for patients, or attending an alumni event.

As professor and chair of the Department of Otolaryngology-Head & Neck Surgery at BUSM and chair of otolaryngology-head and neck surgery at Boston Medical Center, he directs the training of medical students and residents and oversees the care of patients. As assistant dean for student affairs at BUSM and an advisor in the Academy of Advisors program, he guides and supports the students through the challenges of their medical education.

"Ken Grundfast is an outstanding chair and a committed member of the faculty," noted Dean Karen Antman. "He manages all of his many responsibilities well and has a reputation for level-headed, collegial, and thoughtful solutions to any issue."

Drawn to the Medical Campus because of the emphasis on community medicine that serves a needy population and because of the leadership and influence of BUSM faculty Stuart Strong, MD, and Charles Vaughan, MD, two of the most distinguished pioneers in otolaryngology-head and neck surgery, Grundfast joined the department in 1999 as chair. "It is wonderful here at BUSM and Boston Medical Center," noted Grundfast. "The collegiality is exceptional and the unified mission to train patient- and community-centered health-care providers and policy makers and to care for all patients regardless of ability to pay is what inspires and motivates me."

The son of Russian immigrants—his father was an obstetrician-gynecologist and his mother a lawyer-Grundfast grew up with a strong emphasis on education and commitment to helping others. "My father felt proud to be a physician and I feel privileged to be one," he said. He has had a lifelong interest in community medicine. During President Lyndon Johnson's Great Society initiative to invest in health care for the underserved, he worked at Columbia Point in Boston, one of the first community health centers in the country, and at Tufts Delta Health in Mount Bayou, Mississippi, the country's first rural health center. He spent two years in the National Health Service, caring for migrant workers, and at the Shaw Center, Washington, DC's community action agency, which in 1972, when he was there, was still assisting with the aftermath of the 1968 riots.

A graduate of Johns Hopkins, Grundfast received his medical degree from the State University of New York at Syracuse and served his surgical internship at Tufts-New England Medical Center, followed by a community health and social medicine fellowship there. After a general surgery residency at Sibley Memorial Hospital in Washington, DC, he came to Boston University for his otolaryngology residency and did a fellowship in pediatric otolaryngology at Children's Hospital of Pittsburgh. Grundfast also completed an intensive course in biomedical ethics at the Kennedy Institute at Georgetown University and a one-year sabbatical in molecular biology and molecular genetics at the Laboratory of Molecular Otology of the National Institute on Deafness and Other Communication Disorders of the National Institutes of Health.

When he talks about patients, Grundfast's commitment and dedication to caring for them is striking. He describes himself as the ultimate anti-cynic. "Every day as a physician is a privilege when people trust you to figure out what is wrong with them and treat them," he said. "And to pass this on to the next generation of physicians is also a privilege. I love to be around young people who are oriented to this. I can't imagine anything better than people thanking you for the work that you do."

He specializes in ear and hearing disorders in adults and children, with expertise in evaluation of hereditary hearing impairment and surgery for chronic middle-ear disease and cholesteatoma.

Grundfast takes great pride in the otolaryngology residency program that he directs. When he assumed the chair of the department, his goal was to build a vibrant program of national prominence. "Our residency program is among the best in the country. We have an accomplished research program and our residents are highly visible at national meetings. They go on to very successful careers and many have faculty appointments in academic medicine," he said. According to Grundfast, the collegiality of the department distinguishes it. "We are like a family, and as with any family you want yours to do well. We set high standards, but it is our culture to provide the support that underpins the genuine connections we have with each other." The result, he said, is that in the National Residency Matching Program, BUSM's program is consistently ranked number 1 or 2 by prospective residents, and BUSM students who go into otolaryngology match at a very high rate.

It was his chairing of the BUSM Appropriate Treatment in Medicine Committee that brought him into greater contact and involvement in student issues, especially issues that arise during clerkships regarding how students are treated by clinical staff. It was this experience that readied him for his role as assistant dean for student affairs, which he assumed in 2007.

As a dean, he assists medical students with the residency process, writes dean's letters, and provides support with specific student issues that can range from handicap accommodations to the stress of clinical rotations to personal or emotional issues. According to Phyllis Carr, MD, associate dean for student affairs, Grundfast is a strong student advocate. "He is never too busy to help a student, and he is able to bring people together and reach consensus even on difficult issues. He brings clarity and thoughtfulness to his work and is able to cut straight to the chase."

As an advisor in the Academy of Advisors, he follows a group of students throughout their four years, getting to know them and acting as a resource for them. The Academy program is an advising and mentoring initiative that promotes professional, ethical, and humanitarian values by exposing medical students to the best educators and professional role models at the School. "We meet on a regular basis, which provides a framework for the students to discuss issues. We have social events that add to the cohesiveness. I like watching them mature and helping them make career choices," said Grundfast. "It is incredibly rewarding to go through the medical school experience with them."

One of his most important roles, he says, is as chair of the Boston Medical Center Ethics Committee. "The group is made up of people dedicated to patient care and end-of-life issues," he said. "We examine various trends associated with patient care and work on hospital issues dealing with major life dilemmas."

He has pursued research on hereditary deafness and assisted in initiating studies aimed at mapping the genes involved in hereditary deafness. His work has appeared in numerous peer-reviewed journals. He has written 32 book chapters and a textbook, and co-authored a book on childhood ear infections written specifically for parents of children who have troublesome otitis media.

Grundfast's reputation and leadership extend beyond the Medical Campus. He served as president of the American Society of Pediatric Otolaryngology, the Society for Ear, Nose, and Throat Advances in Children, the Washington Metropolitan Ear, Nose, and Throat/Otolaryngology Society, and the New England Otolaryngology Society. He was elected vice president of the American Academy of Otolaryngology-Head and Neck Surgery. As a fellow of the American Academy of Pediatrics, he served as chair of the executive committee of the Section on Otolaryngology and Bronchoesophagology and president of the International Society for the History of Otolaryngology. He currently serves as president of the Association of Academic Departments of Otolaryngology.

"I have been an otolaryngologist for 30 years," Grundfast said, "and I continue to find otolaryngology as fascinating today as I did in the years when I was first learning to become one. It is a total privilege." *****

Awards Honors







Alice Jacobs, MD Richard L. Kalish, MD Paul Tornetta III, MD

Aram V. Chobanian, MD

Aram V. Chobanian, MD, president emeritus of BU and dean emeritus of BUSM, received dual honors at this year's annual meeting of the Massachusetts Medical Society: He was honored with a Committee Chair Service Award for his longtime and excep-

Kenneth M.

Grundfast, MD

tional leadership and was selected to deliver the Society's prestigious Shattuck Lecture.

the Committee on Publications, which oversees the *New England Journal of Medicine* and its related *Journal Watch* publications that cover 13 medical specialties. He became a member of the Committee in 1999 and has served as chair since 2004.

The Shattuck Lecture dates to 1890 and is named for George C. Shattuck, the 12th president of the Medical Society. Chobanian discussed the remarkable advances made in the treatment of hypertension, which have provided the capability to lower blood pressure in almost every hypertensive patient, and the paradox of this treatment success coinciding with the increase of hypertension in the U.S. and worldwide.



Marie-France Demierre, MD, (center) BUSM professor of dermatology and medicine and director of the Skin Oncology Program at Boston Medical Center, received the 2009 Women's Dermatologic Society President's Award for her tireless community work promoting sun-safety awareness and education to children, teens, and their parents. She also was honored as a Medical All-Star by the Boston Red Sox, prior to their April 24 game at Fenway Park, for being an outstanding member of the medical community. Kenneth M. Grundfast, MD, professor and chair of the Department of Otolaryngology-Head & Neck Surgery and assistant dean for student affairs at BUSM, was elected president of the Association of Academic Departments of Otolaryngology (AADO). Grundfast, who also serves as chief of the Department of Otolaryngology-Head & Neck Surgery at Boston Medical Center, had previously served as secretary-treasurer of AADO in 2005 and 2006.

As president, Grundfast will undertake initiatives including improving otolaryngology education for medical students, writing and implementing a policy on transfer of residents from one program to another, and analyzing the relationship between training of residents in otolaryngology and the training of dentists/oral and maxillofacial surgeons in areas that overlap with the training of residents in otolaryngology.

AADO is a national organization of the chairs from every department of otolaryngology from each school of medicine throughout the United States.

Alice Jacobs, MD, BUSM professor of medicine and director of the Cardiac Catheterization Laboratory and interventional cardiology at Boston Medical Center, is the recipient of the 2009 American Heart Association Gold Heart Award. The award is the highest honor the association gives to volunteers who have provided continued, distinguished service. She also is the recipient of the Drake Award, given to physicians who have made significant contributions in cardiovascular disease research, treatment, and education. It is presented in memory of Dr. Eugene Drake, considered the first physician in Maine to specialize in the treatment of heart disease. He was also co-founder of the American Heart Association, Maine Affiliate, and dedicated his career to carrying out the American Heart Association mission.

Richard L. Kalish, MD, BUSM assistant professor of medicine and family medicine, was selected by his physician peers to receive the 2009 Community Clinician of the Year Award of the Suffolk District Medical Society. The award, established in 1998 by the Massachusetts Medical Society, recognizes a physician from each of the Society's 20 district medical societies who has made significant contributions to his or her patients and the community. The Suffolk District comprises nearly 4,000 physicians who live and work in Boston and adjacent communities.

Kalish is the medical director for Boston HealthNet, which includes 15 community health centers, Boston Medical Center, and Boston University School of Medicine. He is also medical director of the Boston Medical Center HealthNet Plan, a managed care plan with 170,000 Medicaid and 70,000 Commonwealth Care members throughout Massachusetts. A board-certified internist, he practices primary care at the South Boston Community Health Center.

Margaret Kelly-Hayes, EdD, RN, a clinical professor of neurology at BUSM and an investigator for the Framingham Heart Study, is this year's Helen B. Spaulding Community Conscience Award Recipient. The award, sponsored by the American Stroke Association, is given annually to an individual or group that has made significant contributions to the community by increasing awareness of stroke prevention or treatment through advocacy, communications, community education, and quality improvement initiatives.

Pierre Mendoza, MD, chief resident in the BUSM and Boston Medical Center Department of Urology, was the first-place winner of the 2008 Max K. Willscher Resident Research Award for his paper "Voiding Complications as a Function of Surgeon Experience with Holmium Laser Enucleation of the Prostate." He was presented with the award at the 77th Annual Meeting of the New England Section of the American Urological Association. The manuscript is pending publication in the *Journal of Urology*.

Paul Tornetta III, MD, BUSM professor and vice chair of orthopaedic surgery and director of orthopaedic trauma at Boston Medical Center, was elected to the Board of Directors of the American Academy of Orthopaedic Surgeons (AAOS).

A former president of the Orthopaedic Trauma Association (OTA), Tornetta is chair of the OTA Strategic Planning & Board Development Committee. He also is a member of the AAOS Instructional Course and Guidelines Oversight Committees. He serves as an associate editor for the *Journal of Orthopaedic Trauma* and as an editor and reviewer for the *Journal of Bone and Joint Surgery*, the *Journal of the American Academy of Orthopaedic Surgeons*, and the *Journal of Trauma*.

Anatomy Lab Manager Chosen for Service Award

Among many nomination letters for the BU 2009 John S. Perkins Distinguished Service Awards, one name kept popping up: **Robert Bouchie (SMG '92)**, BUSM anatomy laboratory manager and anatomical gift coordinator. Along with two other award recipients, Bouchie was honored with a plaque and \$500 at a ceremony at the BU Castle on May 5.

Bouchie came to BUSM in 2001 after working in pathology at Children's Hospital in Boston. He is in charge of anatomy courses, the neurobiology course, the laboratory, and the anatomical gift registry.

"Rob brings the highest ethical standards to the body donation program," noted one of the nomination letters. "It's not unusual to see him working on weekends or patiently answering questions from prospective donors or their families long after the workday is done."

Bouchie, a licensed funeral director, personally embalms and prepares bodies for anatomical

study. He also instructs first-year students on ethics and is a presence in the lab, taking note of the students' anatomical discoveries.

"The honor of being singled out for performing a job I love is very gratifying," Bouchie said. "When I was approached with the news, I was speechless, which doesn't happen often. I had to make sure it said my name on the envelope. I really had no idea that what I do was noticed."

The Perkins Awards are presented by the BU Faculty Council, funded by an endowment from the late John S. Perkins, a former University faculty member, administrator, trustee, and treasurer. Only members of BU's faculty can make nominations, which must be accompanied by three letters of support. The council's Research Activities, Libraries, and Support Services members recommend four to six nominees, and the Faculty Council makes the final decision. Letters are carried forward from year to year so nominees can be reconsidered.



Vitamin D Expert Receives Linus Pauling Prize and Establishes Scholarship

Michael Holick, MD, BUSM professor of medicine, physiology, and biophysics, has received the \$50,000 Linus Pauling Institute Prize for Health Research. Holick, who has revolutionized the understanding of vitamin D and its role in disease prevention, has generously contributed the prize money to establish the Holick Family Fund at BUSM to support first-year medical students engaged in the School's Medical Student Summer Research Program.

The prize recognizes international leaders in research on the role of diet and nutrition in health promotion and disease prevention, as well as efforts to disseminate knowledge on diet, lifestyle, and health to enhance public health and reduce suffering from disease. It is named after Linus Pauling, the two-time Nobel Laureate and founder of the Linus Pauling Institute and pioneer in the role of vitamins and micronutrients in promoting health and preventing disease. Holick was the first scientist to isolate the active forms of vitamin D and in the past three decades has become the world authority on photobiology of vitamin D through synthesis in the skin. His work has helped lead to vitamin D fortification in various foods, and his recent studies have shown links between vitamin D deficiency and the development of preeclampsia in pregnancy.

The Student Summer Research Program provides mentored research experiences for first-year medical students at Boston University during the summer between their first and second years of medical school.

Awards Grants

CIMIT 2010 Innovation Grants

The Center for Integration of Medicine & Innovative Technology (CIMIT), a nonprofit consortium of Boston teaching hospitals and engineering schools, has awarded grants to BU and BU Medical Campus researchers Satish Singh, MD, BUSM assistant professor of gastroenterology, and Aaron Bartoo, MD, BUSM instructor in gastroenterology, along with BU researchers Irving Bigio, PhD, and Ousama Aamar, PhD, for their study "Validation of colon cancer screening by optical sensing of field effect in rectal mucosa"; and Jussi Saukkonen, MD, BUSM assistant professor of pulmonary medicine, and George O'Connor, MD, professor of pulmonary medicine, and BU researchers Malay Mazumder, PhD, Mark Horenstein, PhD, and Andrew Jackson, PhD, for their study "Electrostatic dry powder inhaler for constant dose respiratory drug delivery."

CIMIT fosters interdisciplinary collaboration among experts in medicine, science, and engineering, in concert with industry and government, to rapidly improve patient care. This year CIMIT received over 255 applications, from which 65 teams were invited to submit full proposals for one-year (up to \$100,000) and seed (up to \$40,000) grants. Aram V. Chobanian, MD, president emeritus of BU and dean emeritus of BUSM, was awarded an initial grant of \$260,000 from the Lincy Foundation to support a curriculum development project at the Yerevan State Medical University (YSMU) in Armenia. The project will develop a framework to make medical education in Armenia comparable to that in the U.S. and Western Europe. BUSM and the YSMU will use the BUSM curriculum as a model and modify it as appropriate for Armenian students. The funds will support the first and second years of the three-year project.

Helen Tager-Flusberg, PhD, received a threeyear, \$150,000-a-year grant to develop novel methods for testing language comprehension in children with autism. The project will investigate the use of eye movements as a sensitive implicit measure of online language processing in young children with autism. The feasibility of employing these measures with preschool-age children with autism will be evaluated. Performance using these eye-tracking measures will be compared with standardized testing methods. Finally, the sensitivity of eye-tracking measures to developmental changes in language knowledge will be evaluated.

Chihhung Wang, MD, PhD, BUSM assistant professor of pediatrics and public health, received a \$300,000 three-year grant from the Robert Wood Johnson Physician Faculty Scholars Program. His project, "Premature Infants: Improving Their Follow-up Care," is focused on improving the quality of follow-up care for preterm infants by enrolling them in a federally enacted, statecoordinated early intervention program.

The Outreach Van Project is a recipient of a Helping Hands Grant from the American Psychiatric Foundation (APF). The grants of up to \$5,000 each are for community mental health service projects initiated and managed by medical students. The Outreach Van Project is a student-run, nonprofit organization that serves the homeless and low-income communities in Boston on a weekly basis. The grant will allow the incorporation of mental health services and education for clients and will also offer student volunteers an opportunity to learn about mental health and substance abuse from providers working in these fields. The awards are made possible through an unrestricted educational grant from Otsuka America Pharmaceutical, Inc.

Faculty Appointments

Sushil Basra, MD, has been appointed assistant professor of orthopaedic surgery at BUSM and orthopaedic surgeon, Section of Spine Surgery in the Department of Orthopaedic Surgery at Boston Medical Center.

Basra received his medical degree from the State University of New York Downstate Medical Center in Brooklyn and completed his residency in orthopaedic surgery at the University of Medicine and Dentistry of New Jersey in Newark. Prior to his appointments, Basra completed a fellowship in spine surgery at Emory University Hospital in Atlanta.

His clinical expertise includes spine trauma, degenerative conditions of the spine, and thoracic and lumbar spine surgery. His research interests include tumors or infections of the spine, spine trauma, degenerative disorders of the spine, and scoliosis, a medical condition in which the spine is curved from side to side.

Jennifer Ballard Dwan, MD, has been appointed assistant professor of obstetrics and gynecology at BUSM and obstetrician in the Department of Obstetrics & Gynecology, Division of Maternal-Fetal Medicine, at Boston Medical Center. Dwan received her medical degree from the University of Michigan Medical School in Ann Arbor, and completed her integrated residency in obstetrics, gynecology, and women's health at the University of Minnesota in Minneapolis. She did a maternal fetal medicine fellowship at Brown University, Women and Infants' Hospital of Rhode Island in Providence.

Dwan's clinical expertise is in the care and consultation of women whose pregnancies are complicated by a maternal or fetal disease, such as HIV and other infectious diseases. Her research interests include international women's health and pregnancy care, the reduction of mother-to-child HIV transmission, and safer reproductive techniques for HIV-discordant couples.

Andrew Jawa, MD, has been appointed assistant professor of orthopaedic surgery at BUSM, and hand and upper extremity surgeon in the Department of Orthopaedic Surgery at Boston Medical Center. Jawa received his medical degree from the University of Pennsylvania School of Medicine and completed his residency in orthopaedic surgery at Harvard University, as well as completing two fellowships at Massachusetts General Hospital. Jawa's clinical expertise is in shoulder reconstruction for instability, arthritis, trauma, nerve injury, and rotator cuff disease. Additionally, he is experienced in caring for hand and wrist ailments such as fractures, arthritis, and nerve and tendon disease. Jawa is devoted to improving the field of orthopaedics through research. His focus is on traumatic and reconstructive challenges of the upper extremity.

Deborah Green, MD, has been appointed associate professor of neurology at BUSM and director of neurocritical care in the Department of Neurology at Boston Medical Center. Green received her medical degree from Albany Medical College in New York and completed her residency in neurology at Tufts University, as well as a fellowship in critical care neurology and stroke at Saint Elizabeth's Medical Center in Boston. Prior to her appointments, Green was the associate director of the Stroke Center and a staff neurointensivist at the Queen's Medical Center Neuroscience Institute in Honolulu.

Green's clinical expertise is in neurocritical care, vascular neurology, and cerebrovascular disease, a brain dysfunction related to the disease of blood vessels supplying the brain. Her research interests include traumatic brain injury, glucose control in the ICU, and Guillain-Barré Syndrome, a disorder in which the body's immune system attacks the peripheral nervous system.



David A. Harris, MD, PhD, has been appointed

professor and chair of the Department of Biochemistry at BUSM effective September 1. He will be responsible for all academic appointments in the department and will provide leadership for undergraduate and graduate educational programs.

He earned his bachelor's degree in molecular biophysics and biochemistry from Yale University, and his MD and PhD degrees from Columbia University College of Physicians and Surgeons. He was a postdoctoral fellow at the Center for Neurobiology and Behavior at Columbia.

He began his 23-year career at Washington University School of Medicine in St. Louis as a research associate, instructor, and research assistant professor in the Department of Anatomy and Neurobiology. He then moved to the Department of Cell Biology and Physiology, serving as assistant professor, associate professor, and for the past eight years as professor. His research is focused on a group of unusual neurological disorders that includes "mad cow disease" and related human diseases caused by abnormal proteins in the brain. He has published more than 90 peer-reviewed and invited manuscripts, and has trained 28 doctoral students and postdoctoral fellows during his career. He also has been active in graduate school education, serving as the program director of a training grant in cellular and molecular biology, and as chair of a committee for promotion of racial and ethnic diversity in the student population. His work is supported by several grants from the National Institutes of Health and from private foundations.

Among his editorial activities, Harris has edited two books on neurodegenerative diseases and served on the editorial boards of the *Journal of Biological Chemistry, Molecular Neurodegeneration,* and *Prion.* In addition, he served on study sections for the National Institutes of Health and the U.S. Department of Defense.

"Dr. Harris's work on neurodegenerative diseases at the cellular and molecular levels will be of great value to the Medical Campus," said Karen Antman, MD, Provost of Boston University Medical Campus and Dean of BUSM. "His innovative brain research along with his commitment to creating a supportive environment for scientific endeavors will benefit faculty and students alike."

James Holsapple, MD, has been appointed professor of neurosurgery at BUSM and is an attending physician in the Department of Neurosurgery at Boston Medical Center. He received his medical degree from the University of Kansas School of Medicine and completed an internship in internal medicine at the St. Luke's Hospital, Kansas City, Missouri. His general surgery internship and residency in neurosurgery were completed at Upstate Medical University, Syracuse, New York. His expertise is in general adult and pediatric neurosurgery as well as functional neurosurgery. His research interests include neuroscience research in vision and the study of neurotransmitter packaging.

Joseph Mizgerd, ScD, was appointed director of the BUSM Pulmonary Center on July 1, 2009. Mizgerd has been a BUSM professor of medicine and microbiology since July 2008. After completing his doctoral and postdoctoral training at the Harvard School of Public Health (HSPH), he joined the HSPH faculty as an assistant and then associate professor of physiology and cell biology, and then moved to BUSM to join the Pulmonary Center last summer. His research includes studies on acute lower respiratory infections, particularly innate immune responses to microbes in the lungs. His NIHfunded research focuses on the transcriptional and post-transcriptional regulation of gene expression programs that balance the protective and destructive effects of pulmonary inflammation during pneumonia.

Mizgerd, who has served on numerous study sections, is currently a member of the Lung Cellular, Molecular, and Immunobiology study section at the NIH. He was a section editor of *The Journal of Immunology*, and he is a member of the Faculty of 1000 Medicine in the Respiratory Infections section.

Katya Ravid, DSc, PhD,



BUSM professor of biochemistry and medicine, has been appointed director of the Evans Center for Interdisciplinary Biomedical Research. Ravid is known internationally for her work in platelet biology and the definition of intracellular pathways that mediate platelet development and vascular function.

She will lead the center's efforts in promoting affinity research collaborations with the goal of developing new interdisciplinary paradigms of scientific discovery and training by faculty and trainees from across departments and campuses of Boston University.

Maria Trojanowska, PhD, professor of medicine at the Medical University of South Carolina, has been appointed director of the Boston University Arthritis Center effective October 1, 2009. Trojanowska is known internationally for her studies on the cellular and molecular mechanisms that regulate synthesis of extracellular matrix, particularly focused on the pathogenesis of fibrosis in scleroderma. She has published over 90 manuscripts, has had sustained grant support from the NIH and NCI, and has trained over 50 postdoctoral and graduate students. Dr. Trojanowska is a member of study sections in the NIH, NSF, and Scleroderma Foundation. She is a remarkably collaborative and thoughtful investigator who will bring great leadership skills to the Arthritis Center and our broader scientific community.

Faculty—In Memoriam

Sang I. Cho, MD, on March 12, 2009, at the age of 72. Joining the Medical Campus in 1987, he served for more than 20 years as professor of surgery at BUSM and chief of transplant surgery at Boston Medical Center.

Cho received his medical degree from Yonsei University School of Medicine in Korea and completed his internship at Severance Hospital in Korea. He completed his residency at the Long Island College Hospital, Brooklyn, NY, and a fellowship in organ transplantation at University of California, San Francisco. He also served in the Korean Army Medical Corps. Prior to coming to BU Medical Campus, Cho was a professor of surgery at Tufts University School of Medicine and director of the Transplant Service at New England Medical Center, now known as Tufts Medical Center. He also served as director of the Organ Procurement and Preservation Laboratory at New England Organ Bank.

Cho was a member of numerous professional societies including the American College of Surgeons, American Society of Transplant Surgeons, International Liver Transplantation Society, the Boston and New England surgical societies, and the Massachusetts Medical Society. He served on the editorial board of *Transplantation*. Steven J. Parker, MD, on April 13, 2009, at the age of 65. Parker was an associate professor of pediatrics at BUSM and director of developmental and behavioral pediatrics at Boston Medical Center. He founded and directed the Comprehensive Care Program at BMC—a national model in family-centered care for children with developmental disabilities. He trained hundreds of resident pediatricians as well as postgraduate fellows in developmental and behavioral pediatrics who are now continuing his work nationally, providing the next generation of pediatricians with the knowledge and skills of early childhood development.

Parker received his medical degree from the University of Michigan Medical School and completed his pediatric residency at Stanford University Hospital. He completed a fellowship at Children's Hospital of Boston with T. Berry Brazelton, MD.

He published many scientific articles on children's development and behavior and was co-editor of *Developmental and Behavioral Pediatrics: A Handbook for Primary Care*, one of the most successful books for doctors on this subject. He was co-director of Healthy Steps, a \$40 million national experiment that improved pediatric quality care by placing an early childhood specialist in pediatric practice to promote children's social, emotional, and cognitive development as a complement to physical health care. He co-authored *Baby and Child Care* with Benjamin Spock, MD, and was the last physician to collaborate directly with Spock on the book.



Faculty in Print

Francis A. Farraye, MD, MSc, co-editor Curbside Consultation in IBD: 49 Clinical Questions (Slack Incorporated; New Jersey; 2009)

This volume offers expert advice, references, and opinions on tough clinical questions commonly associated with irritable bowel disease (IBD). The Q&A format provides quick access to current information related to IBD with the simplicity of a conversation between two colleagues. Farraye, BUSM professor of medicine and clinical director in the Section of Gastroenterology, and co-director of the Center for Digestive Disorders at Boston Medical Center, is the series editor for all six books in the Curbside Consultations in Gastroenterology series.

Caroline Genco, PhD, and Lee Wetzler, MD Neisseria: Molecular Mechanisms of Pathogenesis

(Caister Academic Press; Norfolk, UK; January 2010)

Genco, BUSM professor of medicine and microbiology, and Wetzler, BUSM professor of infectious disease, present a new review volume bringing together the expertise and knowledge of an international panel of leading researchers to provide a state-of-the-art overview of the field. Topics such as gene expression, genomics, biofilms, denitrification, adhesion strategies, and mechanisms of cellular invasion are covered.

STUDENT NEWS







Paul Butler

Marshall Chamberlin

BUSM Student Wins Massachusetts Medical Society Essay Award

Paul Butler, an MD-PhD student, is the 2009 winner of the Massachusetts Medical Society's Committee on History Medical Student Essay Award. He is the first to receive the award, presented to a medical student for the best original, independently researched essay focusing on medical initiatives associated with the Massachusetts Medical Society that have improved the public's health and access to medical care.

Butler's essay, "From Miasma to Modernity: How Henry I. Bowditch Ushered Public Health into America," focused on the career and public health advocacy of Henry Ingersoll Bowditch, MD, whose advocacy led to the establishment of the first Massachusetts Board of Public Health in 1869 and who subsequently became its first chair. It was the first state board of health in the country.

Two BUSM Students Named Massachusetts Medical Society Scholars

Marshall Chamberlin '09 and **Christie Morgan '09** are among eight scholars from each of the state's four medical schools presented with a \$10,000 scholarship from the Massachusetts Medical Society. The scholarships are designated for fourth-year medical students who demonstrate excellent academic performance, community involvement, and financial need.

Chamberlin, after completing a five-year master's in business administration and engineering program, joined the Peace Corps to use his business skills to help mitigate poverty in Haiti. During medical school, he returned to Haiti to help a small hospital with financial and inventory management. An Albert Schweitzer Fellow, he worked with the Haitian Health Institute and helped organize the Haitian Healthcare Career Conference held at Boston Medical Center.

Morgan is a member of the Massachusetts Medical Society's House of Delegates, its Medical Student Section, and its committees on Nominations and Membership. In 2007, she co-chaired the first statewide Medical Student Section "Cover the Uninsured Week" event at Boston's South Station. At the American Medical Association, she served as chair and vice chair of the Medical Student Section Region VII, and took a leadership role in passing policy that made comprehensive health system reform an AMA priority. She has a master's degree in physiology and biophysics and directed clinical research at Massachusetts General Hospital and Newton-Wellesley Hospital.



Class of 2009 Part of the Largest Match Day in History

With medical schools increasing the size of their programs, the National Residency Matching Program had the highest number of applicants in history for Match Day on March 18. BUSM had 154 students who matched in 20 specialties at 70 programs across the nation and Canada. Internal medicine was the choice of 23 percent of the class, followed by pediatrics at 11 percent, and anesthesiology and diagnostic radiology tied for third at 8 percent. "The good news is that we are keeping 24 members of the class on campus at Boston Medical Center," said Dean Karen Antman, MD. "We look forward to great things from them, and we know that every other residency program that has accepted our graduates also will receive great benefits from the outstanding quality of these physicians."

"Match Day is a rite of passage, perhaps as memorable as graduation for medical students," noted Phyllis Carr, MD, BUSM associate dean of students. "It has been a privilege to both teach and learn from our young physicians." *



Honoring Excellence

The annual Alpha Omega Alpha (AOA) Honor Medical Society induction ceremony was held in March. In the presence of family and the BUSM community, the following faculty, students, residents, and alumni, who were elected by the BU Chapter of AOA for this honor, took an oath to the honorable practice of medicine.

Class of 2009 Inductees: Monica Agarwal, Nora Bassiouni, Rebecca Batiste, Emily Blum, Christina Di Loreto, Nicole Dumas, Marissa Fast, Lauren Fiechtner, Hilary Gallogly, Kelly Guld, Jennifer Hensley, David Hindson, Brandon Jones, Anastasia Khoubaeva, Joshua Kuban, Matthew Lee, John Lien, Jessica McHugh, Ami Shah, Roberta Spencer, Anna Volerman, Emily Wise, Chih-Hsiang Yu, and Scott Zimmer

Housestaff Inductees: Daniel Arnold, MD, Lauren Nentwich, MD, and Scott Prushik, MD, PhD '03

Faculty Inductee: Ravin Davidoff, MD

Alumna Inductee: Gail D'Onofrio, MD '87



Alpha Omega Alpha Oath

I solemnly pledge myself to consecrate my life to the service of humanity. I will give to my teachers the respect which is their due. I will practice my profession with conscience and dignity. The health of my patient will be my first consideration. I will respect the secrets which are confided in me; I will maintain by all the means in my power the honor and noble traditions of the medical profession. My colleagues will be my brothers and sisters. I will not permit considerations of religion, nationality, race, party politics, or social standing to intervene with my duty between me and my patient. I will not use my medical knowledge contrary to the laws of humanity. I make these promises solemnly, freely, and upon my honor.



AOA Induction

Opposite page:

1. Associate Dean of Admissions Robert Witzberg, MD '77, and AOA Faculty Councillor Barry Manuel, MD '58, gather with the 2009 inductees to the Alpha Omega Alpha Honor Medical Society.

2. Anna Volerman '09, an inductee and recipient of the AOA Medical Student Service Award, poses for a photo with her guest, Andrew Beaser.

3. AOA alumna inductee Gail D'Onofrio, MD '87, poses with her daughter, Jennifer, an undergraduate student at Boston University.

4. AOA Faculty Councillor Barry Manuel, MD '58, poses with the elected AOA student officers, Jeremiah Alexander '09, AOA President Grace Lee '09, Steven Kussman '09, and Jules Manger '09.



Barry Manuel, MD, with AOA Service Award recipients Hillary Johnston-Cox and Nahomy Calixte

Haitian Youth Education Program Receives AOA Medical Student Service Award

Two BUSM students in conjunction with the Haitian Health Institute (HHI) have developed a health career leadership conference for Haitian youth in Boston, and their student service project has been accepted by Alpha Omega Alpha (AOA) for a \$2,000 funding award.

The Haitian community in Boston, with a population of more than 100,000 members, has many barriers to receiving quality health care. Among them are poverty, little formal education, lack of English-speaking skills, and little knowledge of the educational and health care systems. Add to this the shortage of Haitian professionals who are health care leaders and the result is very few opportunities and mentors for Haitian youth interested in careers in health care.

In response to this situation, BUSM students Nahomy Calixte '11 and Hillary Johnston-Cox '15, working with the HHI at Boston Medical Center, have developed the Haitian Health Career Leadership Conference. The conference aims to develop leadership and social engagement among Haitian-American youth interested in health careers; increase youth awareness about health issues affecting Haitians in Massachusetts, the United States, and Haiti; and provide opportunities for Haitian students to network and find adult role models who have overcome the challenges of poverty and immigration to become successful health care professionals.

"These two students have invested many hours and a great deal of skill in putting this proposal together," said Barry Manuel, MD, faculty councillor for the Boston University School of Medicine Chapter of AOA. "We are extremely pleased that their efforts have been recognized with this very competitive grant." *****

STUDENT NEWS







Commencement 2009

"I do solemnly swear by whatever I hold most sacred..."

Before the multiple generations of their excited and proud families, the 185 members of the Class of 2009 commenced their careers as physicians and scientists by reciting the Hippocratic Oath, concluding the School of Medicine's 162nd graduation ceremony.

Before taking the oath they were urged by Dean Karen Antman to remember always why they entered the profession of medicine and to remain involved members of the Boston University family. "Keep your idealism and your balance," said Antman. "The faculty are very proud of your accomplishments, and we hope that you enter the next step in your career confident that you are well prepared."

Stephen Bergman, MD, PhD, author of the novels *House* of God and The Spirit of the Place under the pen name Samuel Shem, was the guest speaker. Two student speakers, one from the Division of Graduate Medical Sciences and one from the School of Medicine, offered comments on behalf of their respective classmates.

Sandra Rolfe, speaking for the PhD graduates, noted, "Researchers discover new things each day, and this knowledge may be the beginning of a process that results in something that can truly change lives. While often it has felt like we are taking one step forward and two steps back, at the end of the day our work has mattered even if we don't see the fruits of it immediately."

Paul Talusan, elected by his MD classmates to speak on their behalf, offered that he was not qualified to give them advice because "most of you are much smarter than I am." He added, "I am qualified, however, to give advice to everyone else in the crowd: Don't get sick for the next few months because 10,000 new doctors will be starting out in July." *****



"Scholarships are truly an invaluable part of a student's education. They open windows of opportunity because they turn students' dreams and lifelong goals into realities. I am fortunate to have received the support of the Arnold '58 and Doris Wong Scholarship Fund and feel it is important to give back to the community through my extracurricular experiences, as well as pursue my own academic interests. Boston University's resources and dedicated faculty provide support for students' aspirations, but generous donor support is necessary for keeping the school at the forefront of medical education." —Jason Leung, BUSM 2012

Jason is currently doing research on the effects of flavonoids on gastrinreleasing peptide (GRP) receptor-mediated prostate and pancreatic cancer cell proliferation in the gastroenterology lab at BUSM. In the fall, he will serve as co-chair for BU's chapter of Boston Coalition for Adult Immunization, an organization that provides flu vaccinations to the underserved population of Boston, and he will continue as a chair/ member for the Outreach Van Project, a student-run mobile health program that brings care to some of Boston's neediest citizens.

Currently, BUSM has more than 70 endowed scholarship funds that are used to award need-based scholarships. They are supplemented by named prize and award funds for various achievements of the medical students. In the last 10 years many members of the Dean's Advisory Board (formerly the Board of Visitors) and alumni donors have established named, endowed scholarships that have helped to increase the support the School of Medicine is able to offer its students.

Please open a window of opportunity for a BUSM student by creating an endowed scholarship. For more information, contact the Development Office, Boston University School of Medicine, 72 Concord Street, Boston, MA 02118, or call 617-638-4570 or visit www.bumc.bu.edu/meddevelopment.







Lynn Hendricks Retires as Associate Vice President for Development

After an 11-year affiliation with BUSM and BU Medical Campus, Lynn Hendricks retired as of June 30. Hendricks was appointed director of major gifts at BUSM in 1998 and promoted to assistant vice president and director of development in 1999. In 2006, she became the first associate vice president for development on the Medical Campus.

"Lynn worked tirelessly to coordinate development efforts during her tenure and has had many accomplishments," said Dean Karen Antman. "She identified, cultivated, and solicited many prospects for the School to build support from alumni, parents, and friends. She worked with former Dean Aram Chobanian and me to build the School's endowment by adding additional professorships and endowed scholarships and fellowships." Hendricks was instrumental in building the Dean's Advisory Board (formerly Board of Visitors), BUSM's premier group of advisors and donors, and increasing their support and participation. She most recently worked with Dean Antman to bring in the largest gift in the history of BUSM, a \$10.5 million anonymous contribution from an alumna to name the Breast Cancer Research Center and the lobby in the Student Residence. (See page 8.)

Hendricks is spending several months in Italy and traveling in Europe with her husband, Peter, and spending time with her children and grandchildren. **★**



Tai Scholarships Making a Difference. Tai scholarships are an important source of support for BUSM students. MD-PhD students (left) Michael Yee '14, Clare Timbie '14, and Daniel Daneshvar '13 are recent recipients of Tai scholarships.

The Chester S. Keefer, MD, Society

At its annual dinner in April, the Chester S. Keefer, MD, Society welcomed 13 new members whose cumulative support for the School of Medicine exceeds \$50,000. With attendance this year the highest to date, the event featured musical performances by the members of the Opera Institute of Boston University College of Fine Arts.

Established in memory of Chester Keefer, who, as chair of the Department of Medicine, dean of the School of Medicine, and director of the Medical Center, helped to establish the foundation for the Boston University Medical Center, the society honors the generosity of leadership donors to BUSM.

The members of the Class of 2009 bring the total Keefer membership to 133. They are: Winston D. Alt, MD '80 David W. Bishop, MD '46 Charlotte and Philip Forster Haynes Family Foundation Irwin and Judith Montag Memorial Fund Nancy E. Rice, MD '65 Charles L. and Evelyn C. Schwager Lee B. Silver, MD '82, and Rachelle L. Silver Louis W. Sullivan, MD '58





Keefer Society Dinner

- 1. (left) BU President Robert Brown and Keefer members Ginger Sullivan and Louis Sullivan, MD '58

- (left) Elaine Schwager and Keefer members Charles Schwager and Mary Scott, MD
 Keefer members (left) Carmela Abraham, PhD, Menachem Abraham, and Shamim Dahod MD '87
 (left) Rachelle L. Silver, Lee B. Silver MD '82, Keefer members, and BUSM faculty member Carol Walsh, PhD





Serchuck Award Winners: At the Student Summer Research Symposium in February the Serchuck Awards were awarded to two Class of 2011 students. Flanked by Suzanne Sarfaty, MD, assistant dean (left), and Dean Karen Antman are Yamin Shwe (center left), who received the Best Basic Science Poster award for her research, "Maturation of Adult Generated Neurons in the Dentale Gyrus of Aging Rhesus Monkeys," and Byron Drumheller (center right) who was recognized for the Best Clinical Science Poster for his work, "Urine Albumin: Creatinine Ratio as a Predictor of Outcome in Emergency Dept. Patients with Sepsis."



Lewis Kornfeld, BUSM Dean's Advisory Board member emeritus, had breakfast with Associate Vice President for Development Lynn Hendricks in Fort Worth, Texas, in November 2008. Kornfeld is still involved at Radio Shack, where he was a longtime director and president. He lives an active life and has written seven books, the most recent of which is *The Love Gene*.



Douglas and Donna Barnard, both members of the Class of 1965, with Dean Karen Antman at the Barnards' home in Naples, Florida, where they hosted a gathering in February.



Dean Karen Antman is shown with parent and longtime Dean's Advisory Board member Jerry Serchuck and his wife, Joan, at The Breakers in Palm Beach, Florida, during a visit in early March of 2009. The Serchucks have generously established the Joan and Jerry Serchuck Endowed Scholarship at BUSM, are contributing to the BUSM student residence, and regularly support the Medical Student Summer Research Program. Their daughter, Leslie Serchuck, MD, graduated from BUSM in 1990.

ALUMNI NEWS

Ralph Sacco '83 Named to Lead American Heart Association

The American Heart Association (AHA) has named BUSM alumnus Ralph L. Sacco, MD '83, as the organization's president for the 2010– 2011 term. He will serve for three years, beginning as president-elect of the 2009–2010 term, then as president and immediate-past president. Sacco is the first neurologist to lead the AHA in its history.

Sacco is chair of the Department of Neurology at the University of Miami Leonard M. Miller School of Medicine. He previously served as professor of neurology and epidemiology, director of the Stroke and Critical Care Division, and associate chair of neurology at the Neurological Institute of Columbia University College of Physicians and Surgeons, the Mailman School of Public Health, and the New York Presbyterian Hospital. A noted stroke expert, Sacco also directed the Northern Manhattan Stroke Study, a seminal study tracking the incidence of stroke in ethnic minorities. His pioneering research has examined improving stroke care delivery to high-risk disadvantaged populations.

He has been the principal investigator of numerous National Institutes of Health-funded studies and is a co-investigator of five National Institute of Neurological Disorders and Stroke grants, including the principal investigator of the New York Columbia Collaborative Specialized Program on Translational Research in Acute Stroke.

Sacco is the author of more than 300 papers, chapters, reviews, and abstracts. He serves as president of the New York City Regional Board of Directors of the American Heart Association, chair of the AHA Stroke Advisory Committee, and past chair of the Clinical Research Subcommittee of the American Academy of Neurology. He is a member of the Board of Directors of the American Academy of Neurology and the American Neurological Association and is on the Stroke Prevention Advisory Panel of the National Stroke Association.

He completed his residency and a fellowship in neurology at Columbia Presbyterian Medical Center and received an MS in epidemiology from Columbia University School of Public Health. *****



A Passion for Her Mission Rear Admiral Christine Hunter, Medical Corps, U.S. Navy '80

In May, Rear Admiral Christine Hunter '80, was appointed deputy director of TRICARE Management Activity. Her new position puts her in charge of coordinating health care for 9.4 million military beneficiaries worldwide. How she came to be one of the highestranking leaders in the military health system is a story of opportunity at key points—and one of "passion for the mission."

As deputy director, Hunter serves as the principal advisor to the Assistant Secretary of Defense (Health Affairs) on Department of Defense (DoD) health policy and performance. She oversees the acquisition, operation, and integration of DoD's managed care program within the Military Health System. She leads a staff of 1,400 in planning, budgeting, and executing a \$27 billion Defense Health Program and in ensuring the effective and efficient provision of high-quality, accessible health care for uniformed service members, their families, and retirees worldwide.

A native of Worcester, Massachusetts, Hunter was accepted from high school into the BUSM six-year program that offered a combined bachelor's and medical degree. With schoolteachers as parents, Hunter was raised to value education. "My father thought that medicine would be a good field for me," Hunter remembers. "I had a great sense of urgency to be a physician, and the sixyear program met that need." Partway through her education, she realized that, with three younger siblings, she needed to assume more of the cost of her schooling. While she had no plans for a life in the military, its Health Profession Scholarship Program seemed a fair trade: Four years of her time for complete coverage of all tuition, fees, and equipment, plus a small living stipend.

The combination of her BUSM education and military life has offered Hunter a career rich in advantages, service to others, and leadership experiences. "Every time I came to a career transition point, the people and the setting provided me with amazing challenges and fulfilling opportunities," she said. "BUSM gave me the confidence to assess problems and ask the right questions. Along with critical thinking skills, I learned about the sacredness of the doctor-patient relationship. My hematology/oncology training offered me multidisciplinary strategies for care." The military gave her a respect for service and teamwork. "The attitude in the Navy is that we are in this together. The passion for the mission is always evident." According to Hunter, she had opportunities that she never would have had in private practice, the path she thought her life would take. She noted that physicians and other health care providers in the military are free to focus on the patients because they do not have to factor in financial choices in the care they provide. She also has appreciated the flexibility and "can do" attitude of the armed services. "The military is an early adopter of new methods and technology because of the different missions we have," she affirmed. "We provide combat support and respond to epidemics as well as natural disasters. We offer public health services, deal with trauma and everyday problems, and we have an active research component."

Transition Points

As one of the first women to serve on naval ships, Hunter saved a colleague's life on her first tour of duty aboard a submarine tender. In port in a remote section of Scotland, her Executive Officer had a heart attack in front of her. She stabilized him in the shipboard medical facility, which was better equipped than the local community hospital. Ultimately, she transported him by small boat to a regional hospital with cardiac care facilities.

Following that tour, she completed a residency in internal medicine and a fellowship in hematology/ oncology at the Naval Medical Center San Diego. She was impressed with her co-workers' sense of duty and their commitment to serve their country. The camaraderie and lack of distinctions between providers appealed to her. "In combat situations, the medical technician is the most important link in the chain of care. The patient's life depends on this person. Their bravery, courage, and skills inspired me," said Hunter.

From 1995 until 1998, she served as director of medical services at the Naval Medical Center San Diego. During that assignment, she redesigned primary care services and developed the Medicare Subvention project that served as the model for TRICARE for Life (TRICARE's Medicare wraparound coverage). Hunter assumed command of Naval Hospital Bremerton in 2007. Under her leadership, the hospital added a new Family Care Center, improving patient access. She led the staff "BUSM gave me the confidence to assess problems and ask the right questions. Along with critical thinking skills, I learned about the sacredness of the doctor-patient relationship."

to rapid recovery from an earthquake that required hospital evacuation, and facilitated the successful deployment of Fleet Hospital 8 to provide casualty care for Operation Enduring Freedom. While serving as Pacific Fleet Surgeon from 2003 to 2004, she developed the Expeditionary Resuscitative Surgical System to provide surgical capability aboard small combatant ships in support of military medical operations afloat and ashore.

As chief of staff of the Naval Bureau of Medicine and Surgery from 2004 to 2006, she ensured the ongoing deployment of medical personnel in support of operations Enduring Freedom and Iraqi Freedom, as well as organizing medical support for tsunami, earthquake, and hurricane relief missions. She also led the development of Navy Medicine's Pandemic Flu Response Plan. When the 2004 tsunami in the Indian Ocean struck, Hunter was called upon to integrate non-governmental medical personnel with naval medical personnel to serve on board military hospital ships. This is an example of one of the unique opportunities that Hunter says have defined her career. "Normally an operation of this size would take months," she said. "'How long will this take you?' I was asked. 'How long do I have?' I answered. 'Three days,' I was told." The teamwork and sense of commitment to the mission, which Hunter considers the hallmark of military medicine, made it possible for her to carry out her assignment. "A Public Health Service Admiral immediately

offered his assistance and told me we would get it done, and we did."

In 2007, she assumed command of Navy Medicine West and Naval Medical Center San Diego. In this role, she developed nationally acclaimed programs for wounded warriors, including amputee care, combat stress control, and traumatic brain injury; expanded health services across the Pacific; promoted medical research; and led the medical center to achieve the top ranking in DoD for combined quality, population health, and business performance. Hunter's personal decorations include the Legion of Merit (six awards), Defense Meritorious Service Medal, Meritorious Service Medal, Navy and Marine Corps Commendation Medal (two awards), and Navy and Marine Corps Achievement Medal (two awards).

TRICARE

TRICARE is a health-care plan that uses military health care as the main delivery system and is augmented by a civilian network of providers and facilities. It serves the uniformed services, retired military, and their families worldwide. It oversees the continuum of care for its beneficiaries through 63 military hospitals, 413 medical clinics, 413 dental clinics, more than 325,000 civilian network providers, and another 780,000 civilian providers who accept TRICARE patients. Its mission is to enhance the DoD and the nation's security by providing health support for the full range of military operations and sustaining the health of all those in its care.

As deputy director of TRICARE, Hunter's mission is ensuring that the needs of patients and their families are met. "We are entrusted with anticipating and understanding what care is necessary, listening to our patients, advancing healthy outcomes, and ensuring military readiness," said Hunter. She believes that "passion for the mission, my ability to tell our story in a compelling way, and my experiences as a physician are the strengths that I bring to this assignment." *****

Alumni Weekend

Celebrating 10th to 70th reunions, alumni gather together

A tour of the North End of Boston launched visiting BUSM alumni on their celebration weekend. They and their guests visited local shops and eateries to sample Italian delicacies and learn the history of one of the most interesting parts of Boston.

Alumni, faculty, and residents attended Medical Grand Rounds as part of the scientific session for the presentation of the Leah Lowenstein Lecture. Douglas Cotanche, PhD, associate professor of otolaryngology-head and neck surgery, and anatomy and neurobiology, discussed his research on the development and regeneration of hair cells in in the avian and mammalian cochlea. His work has advanced the understanding of hair cell regeneration as a potential treatment for sensorineural deafness. A poster session of medical residents' research also was open to alumni.

Alumni who graduated from 10 to 70 years ago attended the reunion reception and class dinner parties. Dean Karen Antman visited each class to welcome them and provide an update on recent events at the School of Medicine. Timothy Curran '39, accompanied by his son, John '80, celebrated this 70th reunion as the evening's oldest BUSM graduate in attendance. "When I think back, my medical education took place before we even had penicillin," said Curran. "I sit here tonight with fond memories of BUSM, and I thank this great School for the life it gave me and my family."





2009

The Saturday barbecue for alumni and their families was a hit with a "make your own" ice cream sundae bar. Medical students provided tours of the campus; of particular interest to visitors was the new Clinical Skills Center, where alumni experienced some of the latest technology and clinical training techniques using a "SimMan."

The 134th Annual Meeting and Banquet of the Alumni Association included music and dancing, and also featured the election of new officers and directors of the Alumni Association, presentation of Distinguished Alumnus Awards (see page 36), and an official welcome to the newest members of the Association, the Class of 2009.





When I think back, my medical education took place before we even had penicillin. I sit here tonight with fond memories of BUSM, and I thank this great School for the life it gave me and my family. —Timothy Curran '39

ALUMNI NEWS



Pictured from left to right: Alumni Association President Ana-Cristina Vasilescu '84, Distinguished Alumnus Award recipient and Assistant Dean of the Alumni Association Howard Bauchner '79, Distinguished Alumnus Award recipient Joseph Tucci '59, and Assistant Dean of the Alumni Association Jean Ramsey '90.

Distinguished Alumnus Awards 2009

Howard Bauchner '79 is a professor of pediatrics and public health at BUSM and is the director of the Division of General Pediatrics and vice-chair of Academic Affairs at Boston Medical Center. He also serves as assistant dean for Continuing Medical Education and for the Alumni Association at BUSM.

His area of expertise includes clinical trials, quality improvement, and evidence-based medicine. Bauchner became the first U.S. editor-in-chief of *Archives of Disease in Childhood,* which is the official publication of the Royal College of Paediatrics and Child Health in the United Kingdom. He is currently on the editorial boards of *Journal Watch* and *Journal Watch Pediatrics and Adolescent Medicine.* He is a member of the Society for Pediatric Research and American Pediatric Society and is an honorary fellow of the Royal College of Paediatrics and Child Health.

Bauchner completed his pediatric residency at Boston City and Yale-New Haven hospitals and was a Robert Wood Johnson Foundation Fellow in General Pediatrics at Yale. Joseph R. Tucci '59 is a professor of medicine at BUSM, adjunct professor at the Warren Alpert School of Medicine at Brown University, and director of the Division of Endocrinology in the Department of Medicine at Roger Williams Hospital in Providence, Rhode Island. He also serves as director of the Division of Endocrinology and Metabolism and head of the Metabolic Bone and Mineral Unit at the Roger Williams Medical Center in Providence.

The author of more than 200 publications on a variety of endocrine and metabolic disorders, he has been a principal investigator in more than 50 studies. He is a fellow of the American College of Physicians and of the American Association of Endocrinologists, and is a member of the Endocrine Society and American Society of Bone and Mineral Research.

Tucci completed his residency in medicine at Saint Elizabeth's Hospital in Boston and clinical and research fellowships in endocrinology and metabolism at Georgetown Medical Center in Washington, DC, and at the Peter Bent Brigham Hospital in Boston. Subsequently, he served in the U.S. Navy as a commander and established an endocrine research laboratory to support and facilitate behavioral science studies at the Naval Medical Research Institute in Bethesda. Get ready to relive your BU.

Schedule of Events

Friday, October 23

William J. Bicknell Lectureship in Public Health

Medical Campus, 670 Albany Street 9-11 a.m. Is There Such a Thing as a Safe(r) Cigarette?: Tobacco Legislation and the FDA

Dean's Club Dinner

Trustee Ballroom, School of Management Building, BU Charles River Campus 6 p.m.

By invitation only.

As part of the inaugural MED Fall Alumni Weekend that coincides with the University's alumni events, the Medical Campus schools will honor their leadership donors. Members of the Boston University Ballroom Dance Troupe will show off their dance moves and offer demonstrations for attendees to learn dance steps.



Saturday, October 24

Medical Campus Alumni College

Bakst Auditorium, BUSM, 715 Albany Street 9-11:30 a.m.

Disparities in Health Care

Panel discussion from expert faculty members from the schools of Dental Medicine, Medicine, and Public Health address this timely and important topic.

Medical Campus Gala

The Westin Boston, Waterfront 6 p.m.

Join your medical, dental, and public health colleagues for cocktails and a festive buffet dinner. Dance to one of Boston's best bands at Boston University's inaugural combined Medical, Dental, and Public Health schools' alumni gala.





umn

Fall 2009 October 23-25

SoWa Sunday

540 Harrison Avenue, Boston 10 a.m.-5 p.m.

Experience the most eclectic shopping in Boston, right in the heart of the BU Medical Campus and Boston's South End art community! Browse through original art, clothing, jewelry, crafts, and more in the open-air market south of Washington Street (SoWa).

For more information, please visit our website at www.bumc.bu.edu/medalumni or call or write:

BUSM Alumni Association 72 East Concord Street, L120 Boston, MA 02118 Tel: 617-638-5150 Fax: 617-638-4492 E-mail: alumbusm@bu.edu www.facebook.com/alumbusm



Alumni in Print



Michael L. J. Apuzzo '65 Surgery of the Human Cerebrum (Lippincott, Williams, and Wilkins, 2009)

This comprehensive special supplement to *Neurosurgery*, the official journal of the Congress of Neurological Surgeons, documents the past thirty years' advances in surgery of the human cerebrum. The volume brings together new and archival articles by the world's foremost authorities to provide the most complete single source of information on contemporary cerebral surgery.

Apuzzo is the Edwin Todd/Trent H. Wells, Jr., Professor of Neurological Surgery and Radiation Oncology, Biology, and Physics at the Keck School of Medicine of University of Southern California. He is director of neurosurgery at the USC Kenneth Norris, Jr., Cancer Hospital and is director of the Center for Stereotactic Neurosurgery and Associated Research there.

Robert J. Carey '54

Patients Teach a Doctor About Life and Death: Tales from Fifty-Six Years of Practicing (Xlibris Corporation, 2009)

Part biography, part autobiography, the book is about the patients Carey encountered while practicing medicine in the United States, Okinawa, South America, and briefly in a few other countries and how much he learned from them. All proceeds from the sale of the book will be donated to the BUSM Alumni Association. Carey is a retired internist and cardiologist, and the former head of geriatric medicine at the Lahey Clinic in Burlington, Massachusetts. He also served as an assistant clinical professor of medicine at BUSM. Since 1977, he has made numerous medical missions to care for some of the most impoverished and medically underserved people in South America.

Eva Selhub '94

The Love Response: Your Prescription to Turn Off Fear, Anger, and Anxiety to Achieve Vibrant Health and Transform Your Life (Ballantine Books, 2009)

A practical life-healing program, the first of its kind, *The Love Response* is the result of Selhub's years of research—and clinical practice—on how to reverse the destructive physical effects of fear and stress and banish emotional wounds from the past. The book contains a simple-to-use plan of awareness, breathing, visualization, and verbal command exercises with the aim of reprogramming the brain and changing biochemistry from negative to positive, putting the reader on a path to long-term wellness and happiness.

Selhub is a senior staff physician at the Benson Henry Institute for Mind/Body Medicine at Massachusetts General Hospital. An integrative health specialist and the founder of Alight Medicine for Learning and Healing in Newton, Massachusetts, she is also a clinical instructor of medicine at Harvard Medical School.

Visit www.theloveresponse.com.

Book Review

Hideo H. Itabashi '54

Forensic Neuropathology: A Practical Review of the Fundamentals With John M. Andrews, Uwamie Tomiyasu, Stephanie S. Erlich, and

Lakshmanan Sathyavagiswaran (Elsevier/Academic Press, 2007)

Reviewed by Michael J. O'Brien, MD, MPH, BUSM professor of pathology and laboratory medicine, BUSPH professor of epidemiology and biostatistics, and chief of anatomic pathology at Boston Medical Center.

Neuropathology deals with mechanisms and description of disease of the brain and its coverings. Forensic neuropathology is the application of this science to investigate the cause and manner of death or injury in the context of a legal inquiry. The senior author of this intensively illustrated textbook is Hideo Itabashi, professor emeritus of pathology and neurology at UCLA and consulting forensic neuropathologist for the Medical Examiner's Office of Los Angeles County, California.

The book represents a distillation of the experience gained by Itabashi and his team of associates at the Department of the Coroner over a period of almost 30 years, drawing directly from the large number and wide range of neuropathologic cases they encountered.

The scope of the text is comprehensive and includes topics ranging from consideration of sudden unexpected deaths to neurodegenerative disorders. The introductory chapters provide a step-by-step instruction manual on forensic autopsy that is replete with detail on areas where errors are apt to occur. The sound warnings as well as technical advice proffered in these chapters are ample justification for this text to be on the bookshelves of any pathologist who performs autopsies and in every medical examiner's office. It will also prove a valuable resource for attorneys and medico-legal personnel. I would also recommend it to general pathologists. It is a book that every pathologist-in-training should be aware of.

I am pleased to have it on my own bookshelf, if for no other reason than as an example of how to pass on professional knowledge and skill acquired over a lifetime in the format of a beautifully illustrated and elegantly written textbook.



Alumni Association Assistant Deans Jean Ramsey '90 and Howard Bauchner '79, along with Dean of Students Phyllis Carr, pose with the Spring Phonathon volunteers. Alumni and students alike gathered to raise over \$17,000. This amount in combination with funds raised in the fall brought the 2008/2009 Phonathon fundraising total to just under \$125,000.





Spring Phonathon

Alumni Association Assistant Dean Jean Ramsey '90 poses with the recipient of the Alumni Association volunteer service award, Sharyn Niles '09.

Annual Fund Phonathon volunteers John Hermos '65 and Jennifer Rizzo '09 share a laugh during this spring fundraising event.

Alumni Association Phonathons

Connecting alumni to the School of Medicine and generating support

More than 120 students and 15 alumni joined together for the 2008-2009 Alumni Association phonathons to raise \$125,000 for the Boston University School of Medicine Annual Fund.

Alumni generosity supports many programs at the School, like the Stethoscopes for Students initiative, which for a donation of \$150 provides a stethoscope for an incoming student, or the Outreach Van Project, a student-run mobile clinic service that provides access to health care in medically underserved areas of Boston.

Volunteers are treated to dinner courtesy of the Alumni Association before settling down to call alumni. Some of the student volunteers used their study breaks to make calls, while others dedicated entire evenings to the effort. Alumni volunteers make their long, busy days even longer by working into the night to help support the School and to encourage their colleagues to attend Alumni Weekend.

The Alumni Association extends sincere gratitude to all those who donated to the School and who shared some time over the phone with the hard-working volunteers. The phonathons are a wonderful opportunity for students and graduates to stay connected. *****

To volunteer e-mail alumbusm@bu.edu or to make a gift see www.bumc.bu.edu/medalumni.

Class Notes

1945

Henry R. Wolfe writes, "I would love to hear about classmates Ted Arrico, Jim Kenney, Mel Rodman, Joseph Alpert, and Seymour Shalek. I live with my wife, Grace, in Mission Viejo, CA, enjoy cooking, and am active at Mission Viejo Hospital. I attend medical conferences and see Doug MacInnis '46."

1946

Douglas N. MacInnis, of Laguna Hills, CA, writes, "I would love to hear from my classmates. I am doing okay. Activities include playing golf, living in Palm Springs desert area and local mountains of Laguna Woods. I attend medical conferences occasionally and see Henry Wolfe '45."

1952

Nicholas Giosa, of Wethersfield, CT, writes, "If one must paraphrase anyone, it might as well be the master... and so, to my fellow classmates, those of us who yet remain and are well in the sixth act of our journey, may we be spared the final scene and may we take leave with dignity. Peace."

All the World's a Stage—the Seven Acts (with apologies to William Shakespeare)

The first gasp after the nine month ripening, and so the odyssey enjoined by the ladder of genetic edicts—begins with an opening cry of protest.

The first act unfolds: wrapped in bunting, cheek to milk-laden breast, a time of dependency and spare communication, of entry into the magical maze of mortality.

After an interval of years, now upright and curious, reedy, with but a slight sense of self, mouth agape at his desk, he listens as the teacher tries to shape the lore and wisdom of centuries, begins to imprint upon the schoolboy an alphabet of awareness in a landscape of enlightenment.

Then the third age tells of the tyro lover, agog and aghast at the awakenings of stirrings and changing anatomies, as he moves haltingly in his liaison, as he coos his ardor to his inamorata in plaintive prosody.

And then as soldier, full-shouldered, with swaggering stride, eager for the euphoria of risks, beguiled with the oomp-pah-pah of gaudy parades, is lured to the battlefields of history's perpetual wars; returns sullen and frayed, haunted by the ghosts of dead comrades.

The fifth age reveals him paunched and spectacled, buttoned-down with concerns of college tuitions, the tedium of the daily commute, the bickerings at the tables of executive meetings, with their agendas and endless disputes, held in the high-storied suites of urban citadels.

In the next act, he moves in a dwindling circle of worldly encounters, plods at the periphery away from the storms at the center: no longer at the helm, no longer in the midst of communal discourse. Now, monologues prevail with their echoes of silence and hints of unease; a time for old photographs: a source of kindled memories, perhaps a few stabbing regrets—of what was and what might have been.

In the final scene, the trial of time in austere: the bones of cheek and forehead jut forth, the sunken eyes glazed and faraway, and with curved spine and head bent down his gaze seemingly enamored of the beckoning ground—he shuffles his way toward uncertain chores, drooling admonitions to his babbling self and to whoever else might hear, as he steps in and out of memory of who he is and who he once was.

And all in all, laid bare the sum, From much ado, nothing's come.

Nicholas Giosa, February 2008

1961

Laurence A. LaGattuta, of Allegan, MI, writes, "At 79 years of age I remain very active as a trustee of the rural hospital where, for 27 years, I practiced general surgery. I would strongly recommend the practice of rural medicine to any young medical student whose motivation is to help others. It has been an extremely rewarding life, and I am thankful to Boston University for both the undergraduate (CLA '57) and graduate education given to me."

1972

Robert G. Layton, of Basalt, CO, is associate medical director at MedSolutions, Inc. He previously was employed at Miami Radiology Associates as chief of radiology. "I retired from clinical radiology and now work out of my home for MedSolutions, a medical management company. At the same time, I relocated from Miami to the Aspen, CO, area, where I very happily reside with my wife of 40 years, Judy. Our two children, with their spouses, also live in Colorado."

1977

Gary L. Stanton, of Groton, MA, writes, "I have been on the neurology service at Emerson Hospital for 20 years and have had a particular interest in various aspects of clinical neurophysiology and sleep medicine, in addition to general neurology. In recent years, I became increasingly involved in pain management and took the yearlong course in acupuncture for physicians at Harvard. I was lucky to be able to spend 2007-2008 with my family in Paris on a sabbatical leave, and there joined two acupuncture programs, one traditional and one in auriculotherapy. I got so involved in it that I enrolled in a two-year diploma program in ear acupuncture at the University of Paris XIII, where I still go every two months on average for weekend seminars. I hope some day to organize an auriculotherapy training program in Boston-who knows, maybe even at BUSM. My wife, Rebecca, is director of modern languages at Groton School, where she teaches French. Our daughter, Emilie, 18, is about to graduate from Groton and go to BU in the fall. Our son, Alexandre, is 13, and goes to the Ecole Internationale de Boston, in Cambridge. My best regards to all."

1978

Thomas L. Higgins, of Longmeadow, MA, recently accepted a position at Baystate Health, located in Springfield, MA, as medical director, inpatient informatics. He was most recently employed at Baystate Medical Center as chief of the Critical Care Division. "After two years of helping to make the ICU paperless, it was time to make the transition to the rapidly developing world of medical informatics. I will continue to be part time in critical care while taking on a larger administrative role. I recently published the following article: 'An Introduction to Statistical Methods Used in Binary Outcome Modeling.' Brian H. Nathanson, PhD, and Thomas L. Higgins, MD, MBA, Seminars in Cardiothoracic and Vascular Anesthesia 2008; 12:153–166."

1979

Charles M. Blitzer, of Durham, NH, writes, "Sandy and I continue to enjoy living in New Hampshire. I continue to represent New Hampshire in the American Academy of Orthopaedic Surgery. This year is busy with duties as president of the New Hampshire Medical Society. Our son enjoys living and working in Washington, DC, while our daughter will be in grad school in Sydney, Australia."

Karen T. Brown, of Pelham Manor, NY, writes, "I applied for and received my first NIH/NCI grant last year, the R21. I received funds for a randomized study of arterial embolization for HCC using microspheres with and without doxorubicin. I am excited to have the opportunity to learn about whether there is a difference in response to treatment and/ or survival when the embolic agent is loaded with chemotherapy. I wish I could attend the reunion weekend this year, but it is my younger daughter's junior prom weekend so thought it best to be at home. I liked reading Ed White's note. I admire his decision to live HIS life, and not someone else's. Hope you enjoy yourself, Ed!"



Rodney Hochman, of Seattle, WA, was honored for the second consecutive year by *Modern Healthcare* as part of the nationally distributed magazine's fifth-annual "50 Most Powerful Physician Executives

in Healthcare" recognition effort. In 2008, he was no. 48. This year, Hochman's ranking moved up to no. 11. Hochman is CEO of Swedish Medical Center in Seattle. Before joining Swedish, Hochman was executive vice president of Sentara Healthcare a major medical system in Norfolk, VA. Prior to that position, he served as Sentara's chief medical officer and senior vice president. An internist with a specialty in rheumatology, he served as a clinical fellow in internal medicine at Harvard Medical School and Dartmouth Medical School. He is a fellow of the American College of Physicians and the American College of Rheumatology and a member of the American College of Healthcare Executives.

1982

Jacob Asher, of Menlo Park, CA, is now market medical executive with CIGNA Healthcare, located in San Francisco. He previously was employed at Anthem Blue Cross as Northern California medical director after transitioning from 13 years of full-time practice as a head and neck surgeon with Kaiser Permanente.

Joseph J. Savitt, of Westborough, MA, writes, "I got to play Gershwin and Chopin on the concert Steinway grand piano of Mechanics Hall in Worcester, MA, in November, 2008. Six doctors played in this benefit concert sponsored by Steinert's. What a thrill!"



1984

Eric Grigsby of Napa, CA, received an award from the Malawi Minister of Health for his work in Africa with palliative care and HIV.

Madeline Rodriguez, of Vista, CA, writes, "Hello, I moved to California after graduating from BUSM. I married **Jorge Castro '83,** and we have two children together. One is finishing college this year and one graduated last year. Neither one of our children decided to pursue a medical degree! We are now living north of San Diego, and I am in a private practice in Oceanside, CA. Jorge is in pediatrics, and I am in OB/GYN. I was also elected to the board of directors of our district hospital and have more work than I need! I did get an MBA in health care after residency, so I am trying to use that degree as well. If you are ever in San Diego, give us a call. We are empty nesters and have plenty of empty rooms!"

1988

Carl E. Rosen writes, "I have been an oculoplastic and orbital surgeon in Anchorage, AK, for the past 15 years. I did my fellowship with Jack Kennerdell in Pittsburgh. I have five children and enjoy the Alaskan wilderness."

1997

Geoffrey Pechinsky has joined the Cambridge Health Alliance's CHA Malden Family Medicine Center. He previously oversaw primary care ser-



vices at the U.S. Naval Hospital Rota, Spain. He has a diverse background in public service, working as an elementary school anti-violence counselor, in an AIDS counseling project, and as a staff family physician in the Navy, stationed in Mary-

land, Puerto Rico, and Spain. Pechinsky practices primary care for patients of all ages, with a special interest in obstetrics.

1998

Christine lacobuzio-Donahue, of Ellicott City, MD, received the Ramzi Cotran Young Investigator of the Year Award at the 2009 annual meeting of the United States and Canadian Academy of Pathology. The Academy annually presents the Young Investigator Award to recognize a pathologist whose body of work has contributed significantly to the diagnosis and understanding of human disease. lacobuzio-Donahue is an associate professor of pathology at Johns Hopkins and conducts research in colorectal and pancreatic cancer. Her almost 100 scientific papers have been published in such journals as Science and the American Journal of Pathology. Her research has been selected for the cover of Cancer Research. She is the co-editor of the diagnostic textbook Gastrointestinal and Liver Pathology. She has contributed to the upcoming eighth edition of the classic medical-student textbook Robbins and Cotran Pathologic Basis of Disease. Her work has been profiled in the press including the New York Times, CNN, and Forbes magazine.

1999



Deborah A. Chong, of Los Angeles, CA, writes, "My nonprofit organization, Medicine in Action, continues to work in both Jamaica and Tanzania. We

host four medical missions each year. I would love to have some BU volunteers join us. Check out our website at www.medicineinaction.org." Jane Y. Yeh, of Seattle, WA, writes, "Just wanted to share that Jim O'Callaghan '99 received the honor of Best Pediatric Hospitalist by *Seattle Magazine* for both 2008 and 2009! Jim and I are also proud to announce the birth of a baby boy, Andrew Sean O'Callaghan. He was born on December 31, 2008, in Seattle, and weighed 8 lbs. His older brother, Matthew (1/3/07), is warming up to him!"

2000

Robert C. Kiley, of Monument, CO, writes, "My wife and I relocated to Colorado with our two daughters (ages three and four) three years ago. I am a neonatologist in a private group, and was recently promoted to medical director of our NICU. Loving Colorado, I recently completed my second halfmarathon. Two years ago I had life slap me in the face and I lost 130 pounds (and yes, without surgery). Would love to catch up with old friends (rck102@yahoo.com)."

2002



Michelle and Jason Reichenberg are proud to announce the birth of their son, Jack Evan, born Novem-

ber 7, 2008. He is welcomed by his big sister, Ali Brooke, age two. They are happily living in Austin, TX. Michelle and Jason both teach for the University of Texas Medical Branch, she in psychiatry, he in dermatology.

2004

Alexios Apazidis, of North Plainfield, NJ, writes, "Susanne and I are proud to announce the birth of a baby boy, Dominick Joseph. He was born on September 24, 2008, in New Brunswick, NJ, at St. Peter's Hospital, and weighed 6 lbs., 14 oz. DJ joins eldest brother, Harry, and sisters Georgia and Evelyn. Siblings are thrilled with their little baby and the girls are really helping momma with the baby. Although, at two and three years old, they still can't change a diaper. Susanne has given up her pediatric dental practice to take care of the kids and she loves it!

2007

Dara S. Rosenman, of Plainview, NY, and Alexander Ross are happy to announce their marriage on November 9, 2008, at The Lighthouse at Chelsea Piers. They currently reside on the Upper East Side of Manhattan.

In Memoriam

1940

Louis A. Rottenberg, of Glen Head, NY, and Bermuda Dunes, CA, on March 26, 2009, at the age of 95. A radiologist, he was a professor of medicine at Columbia University College of Physicians & Surgeons, and served on the staff of Columbia-Presbyterian Medical Center in New York until his retirement in 1979. He also had a private practice. His patients included President Herbert Hoover, Eleanor Roosevelt, Cyrus Vance, John D. Rockefeller III, Robert Moses, Spencer Tracy, and Katherine Hepburn, among others. He served as a captain in the U.S. Army Medical Corps during World War II and spent 36 months overseas in India, Egypt, Palestine, Libya, Tunisia, Sardinia, Italy, and France. He is survived by his wife and two sons, his sister, and four grandchildren. Ida, the mother of his children and wife of more than 40 years, passed away in 1980.

1942

Charles C. Thompson, of Rochester, NH, on November 27, 2008, at the age of 91. An obstetrician and gynecologist, he began his medical practice in Gonic, NH, and served patients at Frisbie Memorial Hospital for 37 years. He was the first OB/GYN in Strafford County, NH, and delivered thousands of babies in the area. Born in Mayaguez, Puerto Rico, he worked his way through college and medical school by singing in nightclubs under the name "Tommy Carr." He served as a U.S. Navy surgeon on several hospital ships in the South Pacific and proudly served with the Marines on Guam during World War II. He is survived by his wife, Joyce, three daughters, two sons, nine grandchildren, and eight great-grandchildren.

Konstantine G. Yankopolus, of New Bedford, MA, on February 16, 2009, at the age of 92. A surgeon, he served as chief of surgery at St. Luke's Hospital in New Bedford from 1969 to 1974 and retired from private practice in 1980. In 1987, he retired as chief of staff of the New Bedford Veterans Clinic. He served as a captain in the U.S. Army during World War II in Europe. His wartime experience instilled in him a passion for surgery. He is survived by his wife of 65 years, Mary; three sons, one of whom is Konstantine K. Yankopolus '73; two daughters; and nine grandchildren.

1945

Forrest (Bud) N. Maddix Jr., of Needham, MA, on May 10, 2009, at the age of 88. An orthopaedic

surgeon in Wellesley, MA, he practiced at Newton Wellesley Hospital from 1956 to 1988. He served in the U.S. Army and Public Health Service during and after World War II. He is survived by his wife of 36 years, Florence Maddix, five children, and nine grandchildren. He was predeceased by his first wife, Lois Harrington, and one child.

John E. Yelle, of Holyoke, MA, on November 16, 2008, at the age of 89. He established his medical practice as a general surgeon and general practitioner in Holyoke and was on the staff at both Holyoke and Providence hospitals, until his retirement in 1988. He served as a lieutenant in the U.S. Navy during World War II in the Pacific theater, serving on destroyers. He is survived by his wife, Helen, two daughters and two sons, six grandchildren, and two great-grandchildren.

1947

Edmund L. Saunders, of Ohio, on March 24, 2009, at the age of 85. A radiologist, he served as chief radiologist and chief of staff at the Piqua Memorial Hospital in Pigua, Ohio. He served as a 2nd Lieutenant in the U.S. Army for two years, stationed in Germany. He was chief of radiology at the VA Hospital in Brockton, MA, and later chief of radiology at the VA Hospital in Syracuse, NY, where he was clinical assistant professor in radiology at New York State University at Syracuse. Saunders was a diplomat of the American Board of Radiology, a member of the Miami County Medical Association, Ohio State Medical Association, American Medical Association, Miami Valley Radiological Society, Ohio State Radiological Society, Radiological Society of North America, and the American College of Radiology. He is survived by his wife of 53 years, Wilma Tebaldi Saunders, four sons, one daughter, and six grandchildren.

1948

John G. Koomey, of Massachusetts, on April 20, 2009, at the age of 84. An anesthesiologist, he began his career in medicine at St. Vincent's Hospital in Worcester, MA, and was chief of anesthesia during his tenure there. He then practiced at Holden Hospital until his retirement in 1990. He served in the U.S. Army with distinction during both World War II and the Korean conflict. He is survived by his wife of 59 years, Peg Elliott Koomey, seven children, and six grandchildren.

1950

Vincent J. Hickey, of Kennebunk, ME, on December 15, 2008, at the age of 86. He practiced general surgery and specialized in hand surgery from 1955 to 1970 at Nashua Memorial Hospital and then at Southern Maine Medical Center from 1970 to 1993. He served in the U.S. Army during World War II as a master sergeant for the 187th Photo Intelligence Team. He is survived by his wife of 37 years, Polly, two sons, one daughter, five grandchildren, and five great-grandchildren.

Luigi Mastroianni Jr., of Haverford, PA, on November 25, 2008, at the age of 83. An obstetrician and gynecologist, he taught for five years at Yale before becoming professor of obstetrics and gynecology at the University of California, Los Angeles, and chief of obstetrics and gynecology at Harbor Hospital in Los Angeles. In 1965, he was named chair of obstetrics and gynecology at the University of Pennsylvania. During his 20-year tenure, he established the division of reproductive biology and the division of human reproduction. In the early 1950s, Mastroianni worked with John Rock, one of the inventors of the birth control pill, and in 1959 gave sex researchers William Masters and Virginia Johnson their debut public forum at a fertility conference. In 1983, he performed the first successful human in-vitro fertilization in the Philadelphia region. In 1993, he was inducted into the Institute of Medicine of the National Academy of Sciences. That same year, the University of Pennsylvania created the Luigi Mastroianni Jr. Professorship in Obstetrics and Gynecology. In 1998, U Penn established the Luigi Mastroianni Jr. Clinical Innovator Award, and he was given the Lindback Award for Distinguished Teaching. He was on the board of counselors for the National Institute of Child Health and Human Development. After a lifetime of researching and teaching reproductive medicine to countless doctors worldwide, Mastroianni returned to the University of Pennsylvania as a student two years ago to see how his philosophical and ethical teachings on fertility were being perceived, earning a master's degree in bioethics in May 2008. He is survived by his wife of 51 years, Elaine, also an obstetrician and gynecologist, his daughter, two sons, and seven grandchildren.

1951

Perry Stearns, of Arvada, CO, on September 16, 2008, at the age of 84. An obstetrician and gynecologist, he had a private practice in Stroudsburg, PA. In 1964, he earned a master's degree in public health from Columbia University. A strong interest in the health implications of the emerging OSHA led Stearns to work with several copper companies, where he was instrumental in reconciling work practices with new work rules for the mining industry. He served in the U.S. Navy in an underwater demolition team, the precursor of the U.S. Navy SEALS. He later served as a battalion surgeon in Europe. He is survived by his wife, Frances Limberg, and a son, and is predeceased by his oldest son.

1952

Vincent E. Savukinas, of North Andover, MA, on November 14, 2008, at the age of 82. An orthopaedic surgeon in private practice, he was chief of staff for orthopaedic surgery at both Holy Family and Lawrence General hospitals. He served as treasurer of the Lawrence General Hospital medical staff and was the Merrimack College hockey team physician. He was one of the founding doctors of the Andover Doctors Park and Andover Surgical Day Care Clinic. He served as a captain in the U.S. Air Force. He is survived by his wife of 54 years, Mary, two sons, two daughters, and seven grandchildren.

1955

Anthony V. Porcelli, of Wanaque, NJ, on May 21, 2009, at the age of 80. A physiatrist, he served as chair of rehabilitation medicine at St. Joseph's Regional Medical Center in Paterson, NJ, from 1978 to 2004. He had been a family practitioner for seventeen years in Pearl River, NY, before completing a residency in rehabilitation medicine in 1977. He is survived by his wife, Mary Ellen, his son, two daughters, his step-daughter, and two stepgrandchildren. He was predeceased by his first wife, Mary Lou Burket.

1957

Abraham Heller, of Dayton, OH, on December 24, 2008, at the age of 91. A psychiatrist, he was head of the psychiatric ward at Denver General Hospital until 1972, when he joined the faculty of Brown University. In 1977, he moved to Dayton and served as professor of psychiatry at Wright State University School of Medicine. He is survived by his wife, Lora, and his daughter.

1959

William F. Sammartino, of East Greenwich, RI, on May 12, 2005, at the age of 71. A neurosurgeon, he practiced in Rhode Island for 35 years, retiring in 2003. He was a member of the American Medical Association and the Rhode Island Medical Society. He is survived by his wife, Joan, his son, and two grandchildren.

1960

Paul F. Condon, of Westfield, MA, on March 13, 2009, at the age of 76. After many years of private practice in Lynnfield, MA, as a surgeon, he moved to western Massachusetts in 1979 to join the staff of Baystate Medical Center in Springfield, where he was an emergency room physician for almost 20 years. He served as a staff sergeant in the U.S. Marine Corps from 1949 to 1957, including two years of active service in Korea. He is survived by his wife, Jane, five children, and his granddaughter.

1963

John N. Stephenson, of Madison, WI, on November 24, 2008, at the age of 71. A pediatrician, he founded the Teenage and Young Adult Clinic in the Department of Pediatrics at the University of Wisconsin Medical School in 1972. He also served as professor of pediatrics and medical director there until his retirement in 1999. He served in the U.S. Air Force in the 48th Tactical Hospital in Lakenheath, England, as a pediatrician to staff, dependents, and their families. Following his three-year military service, he went to Ohio State University in Columbus, where he served in the University Health Service. He made many trips to Kazakhstan to train Kazakh pediatricians in pediatric practice, diagnosis, and management of sexually transmitted diseases. He is survived by his wife of 48 years, Ellen, three sons, and five grandchildren.

1964



Pierre E. Provost IV, of Westwood, MA, on June 2, 2009, at the age of 72. An otolaryngologist, he was an assistant clinical professor of otolaryngology at BUSM from 1973 to 1999. He practiced otolaryngology and

head and neck surgery with ENT Specialists Inc. in Dedham and Brockton, MA, until his retirement in 1999. Provost served as president of the BUSM Alumni Association from 1988 to 1989 and celebrated his 45th BUSM reunion with his classmates in May. He was a dedicated Alumni Association phonathon volunteer, class leader, and reunion spearhead. He served on the BUSM Admissions Committee. He served with the U.S. Public Health Service under the auspices of the U.S. Coast Guard as the director of the Rosebud Indian Health Hospital on the Sioux Indian Reservation in Rosebud, SD. He was a medical examiner for District One in Norfolk County, MA. He was a fellow of the American College of Surgeons, the American Academy of Otolaryngology and Head and Neck Surgery, and the American Society for Head and Neck Surgery. He was a member of the Boston Surgical Society and a fellow of the American Academy of Forensic Sciences, the National Board of Medical Examiners, and the Massachusetts Medico-Legal Society. He served as chair of the Massachusetts Commission on Medico-Legal Investigation from 1985 to 1990. He is survived by his wife of 48 years, Lura McCready (Swift) Provost; three sons, including Pierre E. Provost V '87; and two grandchildren. His late mother was Helen Curtis Provost '35.

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CALENDAR

Calendar of Events 2009–2010

Alumni Weekend BUSM October 23–25, 2009

Dean's Club Dinner Trustee Ballroom One Silber Way, Ninth Floor Charles River Campus Friday, October 23, 2009, 6 p.m.

Alumni Association Fall Phonathon Hiebert Lounge, BUSM Monday, November 2, 2009, 5:30 p.m.

Alumni Association Fall Phonathon Hiebert Lounge, BUSM Thursday, November 12, 2009, 5:30 p.m.

AOA Induction Ceremony Boston University Castle Monday, March 15, 2010, 7 p.m.

Alumni Association Spring Phonathon Hiebert Lounge, BUSM Tuesday, March 16, 2010, 5:30 p.m.

Match Day BUSM Thursday, March 18, 2010, Noon

2009–2010 Continuing Medical Education Conferences

October 1, 2009

Worldwide Prevalence, Predictors, and Outcomes Associated with Nocturia and Nocturnal Polyuria in Men and Women: Implications for Research and Practice Satellite Symposium at the International Continence Society 2009 Meeting San Francisco, CA

October 2, 2009 Concussion and the Athlete Gillette Stadium, Foxborough, MA

October 24-25, 2009 Pediatric Infectious Diseases Royal Sonesta Hotel, Cambridge, MA

October 26-28, 2009 The 10th Annual Symposium on Virtual Colonoscopy Hyatt Regency Reston, Reston, VA

November 5-7, 2009 The Annual Congress of Obstetrics, Gynecology, and Women's Health Movenpick Hotel and Resort, Beirut, Lebanon (Jointly Sponsored with American University of Beirut—AUB)

November 13, 2009

The 24th Annual Smithwick Symposium: Focus on Acute Care Surgery Boston University School of Medicine, Boston, MA

January 2-6, 2010

The 26th Annual Conference on Obstetrics, Gynecology, Perinatal Medicine, Neonatology, and the Law The Hilton Los Cabos Beach & Golf Resort, San Jose del Cabo, Mexico

January 5-8, 2010

The 10th Annual Conference on Medical Negligence and Risk Management in Medicine, Surgery, Emergency Medicine, Radiology, Psychiatry, and Family Medicine The Hilton Los Cabos Beach & Golf Resort, San Jose del Cabo, Mexico

March 19-20, 2010

The Steven Parker Memorial Developmental Behavioral Pediatric Conference: Clinical Problems in Primary Care Royal Sonesta Hotel, Cambridge, MA

April 19-23, 2010 Current Clinical Pediatrics Hilton Resort, Hilton Head Island, SC

May 3-7, 2010

The 26th Annual Controversies in Internal Medicine Hilton Resort, Hilton Head Island, SC

S For more information contact:

Continuing Medical Education Boston University School of Medicine 72 East Concord Street, A305 Boston, MA 02118 Tel: 617-638-4605 E-mail: cme@bu.edu www.bumc.bu.edu/cme

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BUSM by the Numbers

- 8 Pathways to the medical degree
- 12 Core research facilities
- $14\,$ Centers of excellence
- $15\,$ Affiliated neighborhood health centers
- $20\,$ Research centers and institutes
- $25\,$ Affiliated hospitals
- $25\,$ Departments in basic and clinical sciences
- 25% Increase in NIH funding in FY09
- 35th U.S. News & World Report 2009 ranking of U.S. medical schools

- 100 $\,$ Applicants for every seat in the entering class
- 600 Funded research programs
- 1,159 Faculty
- 1,635 Students
- 6,200 Electronic library resources and bibliographic databases
- 7,733 MD, PhD, and MMS alumni
- 180 million NIH-funded grants
- \$282 million Total research grants