Groundbreaking new research at the Center for the Study of Traumatic Encephalopathy (CSTE) suggests contact sports put athletes at risk for a disease never before described in medical literature (p. 9).

Head Games
BUSM researchers study link between repetitive head trauma and neurodegenerative disease
MESSAGE FROM THE DEAN

Dear Friends,

Recent events such as the recession, the Gulf oil spill, and the Haiti earthquake bring into sharp focus how dramatically reality can change. Faculty, staff, and students at the medical school are mindful of how these global occurrences affect our everyday lives. This issue of BUSM Campus & Alumni News tells the stories of our community of scientists, teachers, students, and caregivers and their pursuit of our far-reaching and substantive social mission.

These endeavors need support. With great pleasure we publicly recognize our own graduate, Shamim Dahod ’87, and her husband, Ashraf, for their outstanding generosity. Their previously announced anonymous pledge of $30.5 million—$9.5 million to support breast cancer research and $1 million for the new student residence on campus—is the largest individual commitment the School has ever received and will do an extraordinary amount of good for women’s health and our students.

Also, we congratulate our associate dean and faculty member, Jonathan Woodson, MD, who has been tapped by President Obama to be assistant secretary of defense for health affairs and will soon be undergoing Senate confirmation. We wish him well.

I am glad to report that we have reached our initial goal to begin construction of the student residence on the Medical Campus. It is the right thing to do for the students. The School attracts some of the best and brightest students in the nation who believe in our distinctive approach to medical education and want the kind of diverse, community-based clinical experience offered in conjunction with Boston Medical Center. Boston is a very expensive city in which to live. Further, in what used to be an inexpensive neighborhood around the School, there are no longer affordable options for housing.

The Medical Campus student residence will substantially enhance the sense of community for our students, providing an opportunity for them to build the foundation of their careers in an appropriately supportive and interconnected environment,” adds Witzburg. “The top applicants to medical school now look for this as they evaluate their options.” Four out of five students who decline to come to BUSM do so because of out-of-pocket expenses, putting the School at a competitive disadvantage. By building student housing, the School gains in stature and attractiveness.

It is right for the neighborhood. City officials strongly support this project, which will bring several hundred serious-minded medical students into the neighborhood. It will reduce pressure on local affordable housing and increase foot traffic and commercial activity in the area. The residence will add to the already substantial investments Boston University has made on campus and in the area surrounding it.

The School is ready and the students are ready. The property has been secured. The plans have been drawn. The city has approved the plans. The University has committed $30 million to the project. The School of Medicine has raised the $10 million initial investment needed to start construction on a student residence that will go a long way to helping reduce debt for Boston University medical students.

Why a Medical Campus Student Residence?

There are compelling reasons to build a residence hall on the Medical Campus. It is the right thing to do for the students. The School attracts some of the best and brightest students in the nation who believe in our distinctive approach to medical education and want the kind of diverse, community-based clinical experience offered in conjunction with Boston Medical Center. Boston is a very expensive city in which to live. Further, in what used to be an inexpensive neighborhood around the School, there are no longer affordable options for housing.

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Best wishes,

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

Student Residence on the Threshold

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The residence will provide a significant ‘scholarship equivalent’ for every student who lives in the facility,” says Robert Witzburg, associate dean and director of admissions. “Despite the vigorous efforts by the Dean and the Board to manage expenses and to hold tuition increases at very low levels, the total cost of attendance at BUSM (tuition plus fees plus cost of living) remains high.

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“We are absolutely committed to controlling the cost of a Boston University medical degree,” says Dean Karen Antman. “We compete with top-ranked medical schools that have similar residencies for their students. We will facilitate student education, in part by providing affordable housing that eliminates the need for late-night, expensive, long-distance commuting.”

The Right Plan
The building will be nine stories high, made of brick and limestone in the classic Boston tradition. It will have 104 units that will accommodate 208 students in two-bedroom suites. All residents in the building will have individual bedrooms, which is the standard for graduate student housing. The two residents will share the bath, kitchenette, and living spaces.

Large window bays will bring ample natural light into the building and enhance the look of the façade. Wireless internet connections will make the resources of the Boston University Medical Campus available to students free of charge, 24/7.

Why Make a Gift to the Student Residence?
It is time to act. Other medical schools in relatively high-cost metropolitan areas took similar steps decades ago. Creating a versatile facility that will serve our students for generations is of the highest priority for BUSM.

“We need the support of all members of the BUSM community to build this on-campus home for our students,” notes Antman. “Every dollar donated decreases the rent for our students.”

“As the parent of a student entering BUSM in the fall, I know how important it is for the medical students to live on campus in a safe, easily accessible residence,” says David Rothbaum, MD ’82. “Having this facility will enhance life for students and encourage their feelings of community as scholars and professionals.”

The monthly difference between the off-campus and on-campus scenarios is $450, or $5,400 in annual savings. With two students sharing the suite, the total savings add up to $10,800 a year. This does not include the savings on commuting costs.

To make your contribution to the BUSM student residence please contact Karen Engelbourg, assistant dean of development, at kengelbo@bu.edu or call 617-638-4570.

Library Renovations Focus on Students

Stepping off the elevators on the 12th floor of the Instructional building opens up a landscape for patrons of the BUSM Alumni Medical Library. The entry to the Library is now bright and inviting, the soothing sage green of the walls and furniture adding to the light and modern look of the space.

“The goal was to create a more welcoming and comfortable studying and learning environment for students,” explains Mary Blanchard, director of library services. “We repurposed the space to make it more student-centered, removing several stacks of books and periodicals and installing new laptop/study tables, comfortable seating, study carrels along the walls, and fixed computer stacks of books and periodicals and installing new laptop/study tables, comfortable seating, study carrels along the walls, and fixed computer stacks. With increasingly more students enrolled in programs on the medical campus, expanding and providing more options for study space was another major factor in the renovation. The Library also provides services to students in the Schools of Dental Medicine and Public Health.

Where the circulation desk once was, bistro tables and chairs now sit. The Library supports sustainability initiatives at the medical campus with recycling bins, and the renovation also includes two filtered water units where students can refill water bottles. A wall was removed to expand library space, and a new ceiling was put in with improved, energy-efficient lighting. The carpet has been replaced and new flooring installed throughout.

“I didn’t think I was going to like it because I thought it might be too modern,” says Shamini Mylvaganam ’13. “But the library is so bright now and the new desks make studying easier. There is so much more room to study.”

The study tables and carrels are powered for laptops, and a new single-service circulation and reference desk frees up significant additional space for students. What were once offices on the 12th floor have now been converted into study rooms.

Much of the Library’s collection of periodicals was removed from the 12th floor to create more space for laptop/study tables. Reference book stacks were also removed and space was created for comfortable chairs and individual study carrels. Faculty can still request that print materials be placed on reserve in the Library at the circulation desk.

While the trend is to increase the numbers of e-books, which have the benefit of being available 24/7 to the BUMC/BU campus communities, and do not take up valuable library space. Except for the few titles available in print form only, the Library’s journal collections are also accessible online. “We are collaborating with the Charles River Campus libraries on building ‘One-BU’ electronic collections that more effectively leverage our resources and provide access to expanded collections on both campuses. The BUMC Library subscribes to very few print journals today and we are actively expanding our e-book collections,” notes Blanchard. “These web-based, electronic resources provide greater accessibility to all of our Library users and free up more space for student use.”

According to Dean Karen Antman, “Our mission at BUSM is to be educational, intellectual, professional, and personal development of our students. The Library is an integral resource for them. The renovations provide a facility that meets the needs of a modern academic medical center.”
Head Games
Where sports injury and science connect to understand and prevent a neuro-degenerative disease

What do a former World Wrestling Entertainment (WWE) star, a world-renowned neurosurgeon, a leading Alzheimer’s disease (AD) researcher, and a noted brain pathologist have in common? To answer that question, one must follow the intersecting stories of their work and research—and their dedication to understanding and preventing a serious and crippling disease: chronic traumatic encephalopathy (CTE).

CTE—originally referred to as dementia pugilistica, the “punch drunk” syndrome, because it was believed to affect only boxers—is a progressive neurological disease caused by repetitive trauma to the brain, including concussions and subconcussive blows to the head. At-risk populations include athletes, military personnel in combat situations, and victims of domestic violence. Symptoms can begin months or years after a head injury until the illness progresses into full-blown dementia. Unlike other neurodegenerative diseases, CTE has a specific cause and is totally preventable.

Robert Stern, PhD, BUMS associate professor of neurology and co-director of the Neurology Service for the New England Veterans Administration Medical Centers (VISN 1), specializes in neurodegenerative diseases—which in most cases cannot be diagnosed accurately until autopsy—and for two decades has directed brain banks that support their study. “In the course of studying the brains of patients who were diagnosed with Alzheimer’s, I came across two boxers with what was best termed dementia pugilistica,” he says. “Because I have been so focused on all of the neuropathological variations in neurodegenerative disease, these cases were extraordinarily fascinating, as the brains showed enormous amounts of tau protein in a very unique pattern that was quite unlike any disease I had previously encountered.”

Tau, one of the proteins that provide an internal framework for nerve cells, builds up in the brain in CTE and starts clogging up the normal functioning of nerve cells, eventually causing them to die. It appears that once the abnormal tau protein starts to accumulate, the process continues as long as the patient survives, causing dementia, Parkinsonism, and gait and speech difficulties. CTE is different from Alzheimer’s disease in that there are no beta-amyloid plaques (in addition to the abnormal tau), which build up in the brains of those with Alzheimer’s.

The sports injury connection
Nowinski is a former Harvard College football player and professional wrestler. “As a two-way player in high school and an All-Ivy League defensive tackle at Harvard, I probably hit my head over one thousand times a year from the ages of 13 to 21,” he says. During his three years in the WWE, Nowinski suffered four concussions; the last being a hefty kick to the chin that was serious enough to force him to retire at age 24. He suffered from severe headaches and sleepwalking and eventually contacted noted neurosurgeon Robert Cantu, MD, a concussion expert, for treatment.

Clinical professor of neurosurgery at BUMS and chief of neurosurgery and director of sports medicine at Emerson Hospital in Concord, Massachusetts, Cantu developed the Cantu Grading System for concussion assessment and also helped construct international guidelines for return-to-play issues in sport. He serves as medical director of the National Center for Catastrophic Sports Injury Research, a registry for data collection and analysis of spine and head injuries, and as vice president of the National Operating Committee on Standards for Athletic Equipment (NOCSEA) and is co-director of the Neurological Sports Injury Center at Brigham and Women’s Hospital in Boston.

“Bob [Cantu] was the first to tell me about the long-term effects of head trauma, the first guy to tell me what a concussion was and that I had been suffering them throughout my career,” Nowinski says. It became Nowinski’s mission to educate athletes, coaches, and parents about the long-term debilitating effects of repetitive head injury. According to the Centers for Disease Control (CDC), 1.6 to 3.8 million sports and recreation-related concussions occur each year in children between the ages of 5 and 18 in this country, and athletes who have had a concussion are at greater risk for another one.

In 2006, Nowinski published a book titled Head Games: Football’s Concussion Crisis, which profiled cases of former NFL players who had died under tragic circumstances after years of progressive brain damage. “Unlike other neurodegenerative diseases, CTE has a specific cause and is totally preventable.”
NFL contributes $1 million to support CSTE research
The National Football League (NFL) has contributed a $1 million unrestricted gift to the BUSM Center for the Study of Traumatic Encephalopathy (CSTE) to support the Center’s research.

The funds will be used to continue the Center’s groundbreaking research into the long-term effects of repetitive brain trauma in athletes, particularly football players. The NFL is the first sports league to financially support the CSTE’s research.

“We are extremely grateful to the NFL for their support of this important research,” said Robert Cantu, MD, CSTE Co-Director and Clinical Professor of Neurosurgery at Boston University School of Medicine. “This gift and the significant changes made in recent months by the NFL demonstrate the League’s commitment to the health and safety of current, retired, and future players, as well as millions of youth athletes. These unrestricted funds allow us to accelerate our research with independence and scientific integrity.”

“We obviously are very interested in the Center’s research on the long-term effects of head trauma in athletes, said NFL Commissioner Roger Goodell. “It is our hope this research will lead to a better understanding of these effects and also to developing ways to help detect, prevent and treat these injuries.”

In February of 2008, 45-year-old John Grimsley, former linebacker for the Houston Oilers and Miami Dolphins, died accidentally of a gunshot wound to the abdomen and Nowinski received permission for McKee to examine Grimsley’s brain. She found a pattern of tau neurodegeneration in Grimsley, very similar to that of the boxers she had studied, completely in the absence of beta amyloid, the protein marker for AD. “This was truly amazing in my mind,” recalls McKee. “For more than 15 years as part of the Framingham Heart Study, I have been studying the brains of people living ‘ordinary’ lives and am quite familiar with the patterns of tau that we had found in those brains—but never had I even remotely seen anything resembling what I found in the brains of John Grimsley and the two boxers.”

That year, Chris Nowinski, the athlete, Robert Cantu, the neurosurgeon; Robert Stern, the Alzheimer’s researcher; and Ann McKee, the neuropathologist, merged their expertise and resources to establish the Center for the Study of Traumatic Encephalopathy (CSTE) at Boston University School of Medicine as a collaboration between the School of Medicine and the Sports Legacy Institute (SLI). The Center has three major components: a brain bank to store and analyze the brain tissues of former athletes; a suspicion network to identify athletes who may be willing to participate in longitudinal research and donate their brains and spinal cords after death; and clinical studies designed to identify genetic and environmental risk factors, diagnostic tests, and treatments.

Cognitive decline and behavioral dysfunction; he warned that anyone playing the game is at risk for traumatic brain injury. By 2007, he and Cantu had created the Sports Legacy Institute, an educational and advocacy organization. They hoped to establish a home for research into traumatic brain injury at a top-tier university medical school.

The research connection
Nowinski was aware of the findings of Bennett Omalu, a pathologist who examined the brains of several former NFL players. In 2002, on Pittsburgh Steelers lineman Mike Webster committed suicide at age 50 after being homeless; and in 2005, another former Steeler, Terry Long, killed himself at age 45 by drinking antifreeze. Omalu found the evidence of a build-up of tau in both of the athletes’ brain tissues.

For years, the National Football League had been denying any connection between brain trauma and CTE, and Nowinski and Cenuzu agreed that proving the connection between CTE and chronic head banging to those who controlled policy would require better scientific data. The NFL contributed $1 million to support CSTE research.

“Before these neuropathological analyses of the brains of these athletes have given us enormous insight into what exactly CTE is,” McKee says. “Before these neuropsychological analyses showed that the process was really a tau-based neurodegeneration, there was massive lack of understanding about the chronic effects of mild repetitive trauma.” She notes that the analyses have demonstrated the existence of the disease in athletes other than boxers, what parts of the brain it affects, and what type of brain cells are particularly affected. “Now that we know what we are looking for, we can get out armed with that knowledge and look for markers of the disease in living individuals,” she adds.

Not every brain the CSTE has examined has been diagnosed with CTE. However, all 12 examined brains of former college and professional football players showed the disease to varying degrees. The center also examined the brain of a former National Hockey League (NHL) player, and—like the football players—the build-up of tau protein was evident.

Sterk is quick to point out that CTE is not limited to professional athletes. “Mike Borich played football in high school and college, but never the pros.” Borich was a football coach for Brigham Young University—where he was 2001 NCAA Division I Offensive Coordinator of the Year—but he quickly lost his job because of his out-of-control behavior, including alcohol and drug abuse. He died of an overdose at the age of 42. “The postmortem examination of his brain showed a massive amount of the disease,” Sterk says. He also cites the example of an 18-year-old who was already showing signs of the disease when he tragically passed away.

Brain Donation Registry
While pathological examinations are the only way to confirm the existence of CTE in the brains of the athletes, being able to identify risk factors to aid in predicting who among head trauma sufferers is more likely to get CTE is a major component of the Center’s mission. “We started the brain donation registry to get more information on the living; we wanted to get athletes involved now. We seized the momentum the pathological research was generating,” said Megan Wulff, research coordinator for the CSTE. Current and retired athletes can sign up for the CONTACT (Consent to Offer Neural Tissue of Athletes with Concussive Trauma) study by agreeing to donate their brain and spinal cord tissue upon death. CONTACT members also agree to participate in a longitudinal study by updating their medical records and trauma history annually with the CSTE by phone, which enables the CSTE to obtain more accurate and detailed descriptions of the medical histories of eventual donors. The CSTE has applied to the NIH for a grant to add neuroimaging, plus cognitive and blood testing, to the data gathering.

“We started the brain donation registry to get more information on the living; we wanted to get athletes involved now. We seized the momentum the pathological research was generating.”

Brain tissue of Thomas McKee
Top left: A section of the neocortex showing extensive deposition of tau protein (brown stain) as neurofibrillary tangles throughout the neocortex.
Bottom left: High magnification photomicrograph of neocortex showing tau neurofibrillary tangles and neuronal inclusions.
Top right: A section of the amygdala showing dense, patchy deposition of tau protein (brown stain).
Bottom right: High magnification photomicrograph showing tau neurofibrillary tangles and neuronal inclusions in the amygdala.
The identity of donors is confidential and protected by both HIPPA and FIPPA laws. However, many donors have chosen to allow the CSTE to release their names to draw attention to the research.

Questions to be answered, treatments to be discovered

The four collaborators agree that there is a need for long-term study of athletes with a history of traumatic head injury. Stern notes the threshold of injury, the frequency, and the time in between inju-
ries as some questions that need to be answered: “What are the underlying biological/chemical reac-
tions in the brain that are setting off the disease in the first place?” Also, because not all athletes who suffer head injuries develop CTE, the researchers are looking at other risk factors that may be involved in the disease and hope to identify biomarkers that can predict at-risk candidates and develop preven-
tion treatment options. “Since this is a tau-based disease, we need to actively, comprehensively search for therapies directed against the build up of tau,” says McKee.

Cantu, the clinician, emphasizes that the immediate goal is to be able to diagnose CTE while people are alive. He wants imaging technologies and clinical tests that can accurately determine when a concus-
sion has cleared. “The brain doesn’t know whether it got injured on a football field or by a blast in Iraq,” says Cantu. “Brain trauma is brain trauma. There are people with clinical depression, cognitive impairment, dementia, or lack of impulse control, and they are really suffering from CTE.”

The CSTE is working to create a diagnostic test for CTE in living persons, identify genetic and envi-
ronmental risk factors, and develop treatment for CTE. The CSTE reports its findings to families of the athletes, shares data and findings with other researchers, and stores tissues for future studies to be conducted at aging technologies and clinical tests that can accurately determine when a concussion has cleared. “The brain doesn’t know whether it got injured on a football field or by a blast in Iraq,” says Cantu. “Brain trauma is brain trauma. There are people with clinical depression, cognitive impairment, dementia, or lack of impulse control, and they are really suffering from CTE.”

The following September, the CSTE announced that the first active professional football players had committed to donating their brains to the CSTE. The Judiciary Committee of the U.S. Congress, responding to growing legal concerns and increas-
ing reports of the long-term effects of head injuries, held hearings in October of 2009. Testifying before the Committee, Nowinski—noting that the primary focus was on the NFL and professional athletes—said, “As we move forward, I hope we can recast this issue as a public health crisis. We must remem-
ber that 95 percent of football players are under the age of 58 and under the age of consent.”

Head Games continued on page 10

On August 17 the BUSM Center for the Study of Traumatic Encephalopathy (CSTE) and the U.S. Department of Veterans Affairs (VA) announced that they had the first pathological evidence that repetitive head trauma experienced in collision sports is associated with motor neuron disease, a neurologic condition that affects voluntary muscle movements. The most common form of motor neu-
ron disease is amyotrophic lateral sclerosis (ALS), or Lou Gehrig’s disease. The findings are published online and in the September issue of the Journal of Neuropathology and Experimental Neurology. Ann McKee, PhD, and colleagues at the CSTE made this groundbreaking pathological discovery while examining the brains and spinal cords of 12 athletes donated by family members to the CSTE Brain Bank. Three of these 12 athletes, including former National Football League (NFL) players Wally Hilgenberg and Eric Scoggins, as well as an uniden-
tified former military warrior and professional boxer, developed motor neuron disease late in their lives; the two former NFL players were diagnosed clinically with ALS.

ALS is a progressive neurodegenerative disease that attacks motor nerve cells in the brain and spinal cord, resulting in muscle weakness and atro-
phy. ALS affects fewer than two in 100,000 patients annually, and 30,000 Americans currently live with the disease. Ninety to ninety-five percent of ALS cases are considered “sporadic,”—or of unknown cause—although ALS has long been suspected to involve a complex interaction between genetic and environmental risk factors.

McKee found that when they died, all 12 athletes showed neuropathological evidence of chronic traumatic encephalopathy (CTE), a progressive degenerative brain disease characterized by depos-
sits of an abnormal form of tau protein and believed to be caused by repetitive head trauma. In the three athletes with motor neuron disease, abnormal tau deposits were not only found throughout the brain but also in the spinal cord.

CTE researchers also discovered that 10 of 12 CTE victims had a second abnormal protein, TDP-43, in their brains. Of those 10, only three had TDP-43 in the brain and the spinal cord, and those were the three athletes diagnosed with motor neuron disease. TDP-43 is also found in individuals with sporadic ALS in the brain, although in the athletes with repeti-
tive brain trauma, the TDP-43 pathology was more severe than that in sporadic ALS, and was accompa-
nied by extensive tau pathology. The brains and spinal cords of normal individuals show no TDP-43 or tau deposition. These new findings suggest that the motor neuron disease that affected the three athletes is similar to, but distinct from, sporadic ALS and represents a disease never before described in the medical literature. This new disease, referred to as chronic traumatic encephalopathy (CTE) by McKee and colleagues, is likely caused by the repetitive head trauma experienced by athletes playing contact sports.

The association between head trauma and ALS is supported by medical literature, which reports the risk of ALS as being higher among contact sport athletes and military veterans. A study of profes-
sional soccer players in Italy found that their inci-
dence rate of ALS was 6.5 times higher than in the general population; an increased incidence of ALS has also been reported in American football players, including those from the 1964 San Francisco 49ers who died from ALS. Based on the number of retired NFL players with ALS, it is estimated that their risk is at least eight times higher than in the adult male population. Among military veterans with a history of head injuries, risk of ALS was 2.3 times higher than normal, and Gulf War veterans have a two-fold increased risk. In fact, since 2008, the U.S. Depart-
ment of Veterans Affairs has considered ALS as a presumptively compensable illness for all veterans. The discovery of this new ALS-like disease by the BUSM CSTE investigators suggests that one possible reason for the increased risk of clinically diagnosed ALS in veterans and in contact sport athletes may be exposure to repetitive head trauma, includ-
ing concussions, subconcussive blows, and blast injuries.

The study was funded in part by an unrestricted gift from the National Football League to the CSTE.
In December of 2009, the NFL acknowledged, for the first time, the connection between repetitive head injury and the neurodegenerative disease affecting former players. The League also announced major changes to concussion and other head trauma policies, including provisions that players with a head injury must be cleared by medical specialists unaffiliated with their team and that they cannot return to a game or practice in which they have demonstrated signs of head trauma.

The NFL also pledged $1 million in unrestricted support for the research being done by the CSTE. The NFL Players Association announced it would collaborate with the CSTE to support its research. Last spring, the number of athletes committing to the Brain Registry steadily increased to 270 players from across the spectrum of sport. The center also has plans to create a brain registry for military veterans.

**Support for the CSTE**

In addition to BU’s support and the NFL’s commitment, the CSTE has received funding from the National Institute on Aging, the National Operating Committee on Standards for Athletic Equipment (NOCSAE), and the VA New England Geriatric Research, Education, and Clinical Center. “BUSM is doing important research in the area of neurodegenerative diseases like Alzheimer’s and Parkinson’s,” says Dean Karen Antman. “Advancing the understanding of such a debilitating disease like chronic traumatic encephalopathy is a perfect fit with BUMS’s resources and our scientists’ expertise.”

Learn more about CTE, the CSTE, and preventing traumatic brain injury at: www.bu.edu/cte/

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**Anonymous Donors of Largest Gift to BUSM Step Forward**

*$10.5M for the Shamim and Ashraf Dahod Breast Cancer Research Center and New Student Residence*

In August 2009, a Boston University School of Medicine alumna who chose to remain anonymous at the time pledged $10.5 million to the School of Medicine, the largest gift in our history.

Now, more than a year and a half later, University Overseer Shamim Dahod (CGS’76, CAS’78, MED’87) and her husband, Ashraf, are putting a face—or more accurately, two faces—on their contribution, which will establish the Shamim and Ashraf Dahod Breast Cancer Research Center at the School of Medicine. The gift will also endow assis- tant professor and international scholar positions at the center and support MED’s new residence hall.

“The Dahods are modest and generous individu- als who haven’t sought the spotlight,” says Karen Antman, dean of MED and provost of the Medi- cal Campus. “But having their names tied to this important work lends both prestige and momentum to our breast cancer initiative. We at the School of Medicine are grateful that they have agreed to step forward and be associated with the Dahod Breast Cancer Research Center.”

High school sweethearts and practicing Muslims from Mumbai, India, the Dahods moved to the United States in the early 1970s to enjoy married life and pursue their educations. They are closely connected with Boston University: Shamim, now a research scientist in a MED lab for five years, and gradu- ated with a B.U. medical degree in 1987. Ashraf, a computer engineer turned entrepreneur, whose initial start-up, Appfleek, developed the first cable modem, holds degrees from the University of Mumbai, the University of Michigan, Stanford Uni- versity, Northeastern, and Harvard Business School, and he has several relatives who attended BU.

So, although Shamim, a two-time cancer survivor, had been treated for breast and thyroid cancers at another local institution, when they decided to support breast cancer research, she says, BU was “the logical place.”

“Our connection with BU was factor number one,” Ashraf confirms. “And number two is the patients who are served at Boston Medical Center. If you look at Boston, you find that care and treatment can be very different depending on your social status. We could have made this gift elsewhere, but no other place in this city serves the same population that BUMC does.”

“I got the best of treatment. But everybody’s not that fortunate,” Shamim says. As a medical trainee at Boston City Hospital, now Boston Medical Center, New England’s largest safety-net hospital, she saw the plight of underprivileged patients first-hand—lack of knowledge, lack of facilities, lack of insurance. “There was no prevention for them, just emergency or catastrophic care. They were really sick, and they came, and they got sicker, and that was it. So when I went through breast cancer, I said, ‘I would like to do something to take care of that population.’”

The $10.5 million pledge is not the first contribution the Dahods have made to help overcome health disparities. As members of the Dawoodi Bohra, an international Muslim community based in Mumbai, they are charged to “ uplift” the needy—in their case, by improving health and education in Yemen, parts of India, and Myanmar.

They were involved, for example, in the construc- tion of Salee Hospital, a 280-bed general hospital in Mumbai that offers paid care—in rooms like posh hotel suites, for luxury-minded patients—as well as discounted and free care subsidized by a philan- thropic trust. They also helped open a medical clinic in Yemen, where U.S. physicians provide pro bono services on a two-week rotating basis.

Although serving the underserved was the original inspiration for their donation to the Breast Cancer Research Center, Shamim says her fight against the disease is more personal today. “My brother recently diagnosed with breast cancer” she explains. “He’s in the midst of getting his treatment. I also have a niece who was treated for breast cancer. Now I feel compelled to do something about breast cancer, because it’s going to affect my children.”

She hopes that the assistant professorship included in their pledge will help up-and-coming breast cancer researchers keep that from happening: “Professors with tenure already have ample opportunities,” she says. “This is an opportunity for the young ones—who are on the bottom rung and trying to climb. This gives them a chance to show their capacity, and bring out an idea that nobody has thought of about how to take care of this disease.”

(This story originally appeared in BU Today.)

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**Medical students teaching young athletes how to play smart and be smart about head injury**

**Dan Daneshvar ’14 (MED-GMS) started playing football in fifth grade and recalls his mother’s reluctance to watch him play. Both a football and basketball player at MIT, and I were competitive athletes, we can relate to players with a head injury must be cleared by medical specialists unaffiliated with their team and that they cannot return to a game or practice in which they have demonstrated signs of head trauma.**

Daneshvar and Bagley are teaching and training other students from those respective medical schools, because they believe that young, professional medical students are ideal mentors and can effectively teach students about concussion.

With the support of SLI President Chris Noviak, Daneshvar and co-founder/co-director Alex Bagley, a second-year MD/PhD candidate at Harvard Medical School, cre- ated a curriculum and developed a presentation to engage students in interactive exercises to make it as science talk,” Daneshvar notes. “We can give future neuroscientists and professional medical students are competitive athletes, we can relate to teachers and their teammates. ‘This is not a science talk,’” Daneshvar notes. “We use case studies of athletes who have experienced concussion and have active exercises to make it as real as possible. We give our kids action items, like how to go to your coach to report what you’re feeling. Because Alex, a former varsity basketball player at MIT, and I were competitive athletes, we can relate to them that they can play hard, but they can also smart about it.”

Daneshvar and Bagley are recruiting and training other students from those respective medical schools, because they believe that young, professional medical students are ideal mentors and can effectively teach students about concussion. They also foster the teaching that med- ical students receive as presenters can give future neuroscientists and sports medicine physicians an in- depth introduction to the sports con- cussion crisis and chronic traumatic encephalopathy (CTE), which most medical schools don’t cover.

The medical students provide the ser- vice on a volunteer basis and the program, which is offered free of charge, has been presented at pub- lic and private schools throughout Massachusetts. The student-ath- letes are taught what concussion is, why it is important to recognize and report one, and what they can and should do to limit lasting effects of the injury. “The Boston Public School system has one trainer on call for the whole system,” Daneshvar says. “With the number of games being played, the onus is on the student- athlete to recognize a problem if they have one, and to do something about it. Without information on the signs of concussion they would keep playing, potentially winding up with second-impact syndrome or causing permanent damage.”

Daneshvar, who says he has always liked seeing how things work, became interested in the mecha-

nisms of the brain as an undergradu- ate because so much is unknown about its functions. Working with Robert Stern, PhD, BUMS associ- ate professor of neurology and co-director of the Center for the Study of Traumatic Encephalopathy (CSTE) and Ann McKee, MD, BUMS associate professor of neuropathology and also co-director of the CSTE, Daneshvar now intends to utilize the brain bank of the CSTE for his PhD research and is work- ing on formalizing the pathological staging criteria for CTE, as no strict staging criteria currently exists. “I am also interested in the clinical diagnos- tic criteria that can be determined while people are still alive,” he adds. “There is so much out there to learn and discover.”

Daneshvar and Bagley hope to one day make a program a national model that medical students across the country can replicate in their own communities.
President Obama has nominated Jonathan Woodson assistant secretary of defense for health affairs for the U.S. Department of Defense. His nomination requires U.S. Senate confirmation.

Associate dean for diversity and multicultural affairs and associate professor of surgery at BUSM, and veteran attending vascular surgeon at BMC, Woodson holds the rank of brigadier general in the U.S. Army Reserve. He is currently assigned as assistant surgeon general for reserve affairs, force structure, and mobilization in the Office of the Surgeon General and serves as deputy commander of the Army Reserve Medical Command.

As assistant secretary of defense for health affairs, he would be the principal adviser to the secretary of defense on health issues and oversee the entire U.S. military medical enterprise, known as the Military Health System. This includes the services’ care of war wounded and basic health care for 9.6 million active and retired service and family members through the Tricare medical and dental care program. He would also be responsible for setting medical health standards for enlistments and deployments, developing health and medical program policies, and overseeing Uniformed Services University for Health Sciences (USUHS), the Armed Forces Institute of Pathology, and other organizations.

In a joint statement announcing the nomination, Karen Anntman, provost of BU Medical Campus and Kate Walsh, president and CEO of BMC, wrote, “Dr. Woodson is an excellent choice for this important role. His clinical and administrative experience and outstanding leadership will be of great value to our nation’s soldiers and veterans as he takes on this Department of Defense role.”

In 1992, he was awarded a research fellowship at the Association of American Medical Colleges Health Services Research Institute. His current research interest is in health outcomes, particularly functional outcomes in limb salvage vascular surgery. He has authored/coauthored a number of publications and book chapters on vascular surgery. He has authored/coauthored a number of publications and book chapters on vascular surgery.

His military experience makes him the perfect candidate for this position and he is well prepared to handle the challenges of this new position.”

Woodson is a graduate of the City College of New York (magna cum laude) and New York University School of Medicine’s (1979) six-year BS-MD program. He received his postgraduate medical education at the Massachusetts General Hospital, Harvard Medical School and completed residency training in internal medicine and vascular surgery. He is board certified in internal medicine, general surgery, vascular surgery, and critical care (surgery). He holds a master’s degree in strategic studies (concentration in strategic leadership) from the U.S. Army War College.

The BU Cares Institutional Learning Objectives

(Developed in Fall 2009 to serve as the condensed version of the BUSM Institutional Learning Objectives (ILOs), the BU CARES objectives are directly linked to the Accreditation Council for Graduate Medical Education’s (ACGME) General Competencies required for all physicians in residency training: Patient Care, Medical Knowledge, Practice-based Learning and Improvement, Interpersonal and Communication Skills, Professionalism, and Systems-based Practice. The principles behind BU CARES guide the management of the curriculum, inform student assessments, and form the basis of all course and clerkship learning objectives. The Liaison Committee on Medical Education (LCME), the accrediting body for U.S. and Canadian medical schools, requires all students, faculty, staff, and trainees working with students to have a working knowledge of the institutional learning objectives and to understand their role in guiding the education program of the School. In anticipation of BUSM’s LCME Site Survey (February–March 2011), the Office of Academic Affairs has launched a marketing campaign to ensure that BU CARES reaches everyone involved in BUSM student education—whether teaching occurs on the medical campus, at affiliated hospitals, or in small local or distant community-based practices. “By the first day of internship, we expect our students to demonstrate mastery in the BU CARES learning objectives,” says Sharon Levine, MD, associate dean for academic affairs. “Our graduates will exhibit the knowledge, attitudes, skills, and professionalism necessary to meet the needs of all patients in our diverse society and demonstrate that they can adapt to the ever-changing world of medicine and science.”

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The BU CARES Institutional Learning Objectives

(The objectives are linked to the ACGME competencies which are in parentheses.)

The BUSM Graduate:

Behaves in a caring, compassionate, and sensitive manner toward patients and colleagues of all cultures and backgrounds, using effective interpersonal and communication skills

Interpersonal and Communication Skills; Professionalism

Uses the science of normal and abnormal states of health to prevent disease, to recognize and diagnose illness, and to provide an appropriate level of care

(Medical Knowledge; Patient Care)

Communicates with colleagues and patients to ensure effective interdisciplinary medical care

(Interpersonal and Communication Skills; Patient Care)

Acts in accordance with the highest ethical standards of medical practice

(Professionalism)

Researches and critically appraises biomedical information and is able to contribute to the advancement of science and to the practice of medicine

(PRACTICE-BASED LEARNING AND IMPROVEMENT; MEDICAL KNOWLEDGE)

Exhibits commitment and aptitude for lifelong learning and continuing improvement as a physician

(PRACTICE-BASED LEARNING)

Supports optimal patient care through identifying and using resources of the health care system

(SYSTEMS-BASED PRACTICE; PATIENT CARE)
Medical Students Benefit from Campus Research Opportunities

There is a history of advances in medical science achieved by medical students. Studying for a medical career in Padua, Italy in the late 1500s, the Englishman William Harvey was the first to describe correctly and in detail the circulation and properties of blood flow in the body. In 1869, Paul Langerhans, a medical student in Berlin, discovered clumps of tissue in the pancreas called islets that produce secretions; his finding later led to the discovery of insulin by William Banting and second-year medical student Charles Best. Rose Lamerton, a medical student in Paris studying and writing about the membranes that line the heart, the brain, joints, and the abdominal cavity, invented the stethoscope in 1817. Helen Taussig, the founder of the field of pediatric cardiology, began her studies of the muscle bundles of the heart while a medical student at BUSM in the early 1920s.

Medical school is replete with lectures, seminars, case-based instruction, labs, clerkships, and rotations, all of which are necessary to prepare for medical practice. Engaging in research is an added enrichment that both enhances clinical self-confidence and offers the foundation for becoming a physician-scientist. A decade ago, Suzanne Sarfaty, MD ’88, assistant dean for academic affairs and director of international health programs, developed the Medical Student Summer Research Program (MSSRP) at BUSM in response to student requests for greater access to research opportunities.

“I am very proud of the fact that we have been operational all these years and that we have facilitated many authentic and professional student-faculty partnerships which are often long-lasting,” says Sarfaty.

Students conduct research full-time for eight to ten weeks in a variety of School of Medicine departments including medicine, surgery, dermatology, ophthalmology, cardiology, and emergency medicine. They work with faculty within the context of ongoing clinical and basic science research. Potential projects and mentors are identified through a database of research experiences maintained by the BUSM Office of Enrichment, or students identify projects by independently seeking mentors throughout the Medical Campus. The program develops and enhances understanding of basic science and for clinical research principles. It also provides a strong foundation in the ethical conduct of research, strengthens skills in critical evaluation of data, and reinforces the concept of evidence-based medicine. Students broaden their knowledge of the role and relevance of research to clinical medicine. In addition, the program facilitates the development of faculty-student mentorship and student professionalism.

“We are given eight weeks to get our feet a little wet,” explains Leah Evans ’12, a program participant. “I wanted to see if I could imagine myself doing this kind of research as part of my career as a doctor. I also wanted to know more about where the research behind many medical therapies comes from and what it entails.” Evans worked in the Cancer Center on the mechanisms of gene methylation implicated in the silencing of tumor suppressor genes in many cancers. “This program is a great opportunity for medical students who have experience in research and even have a specific project they want to further, as well as for those of us starting from scratch,” she adds.

At the end of the summer, the student researchers submit summaries of their work, even if the project is ongoing. Work often continues during the academic year.

“The MSSRP confirmed my interest in academic medicine and introduced me to professors conducting research, as well as other student researchers,” says Steve Sherry ’12, whose ongoing summer research project looked at outcomes of patients with negative or indeterminate post-treatment scans (18F-EDC PET/CT) after primary surgical intervention and/or concurrent chemoradiation therapy for advanced head and neck squamous cell carcinoma.

“I found that networking with researchers and exchanging ideas is critical to the process of research,” adds Sherry. “Because of my experience, I read the medical literature with a more critical eye, and consider the evidence for a medical intervention more carefully. Not all situations are informed by an equal weight of experience.”

A series of research seminars and a symposium/poster day complement the research experience. The seminars introduce the student participants to a variety of topics including research ethics, project design, and writing skills, and are taught jointly by BUSM and BU School of Public Health faculty. Students are required to develop a poster with the help of their faculty mentor; the symposium/poster day represents the culmination of their summer research. During the symposium, all the student-scholars formally present their work and are recognized by the Medical Campus community. Awards, sponsored by Dean’s Office of Development, are presented for best clinical and best basic science posters. For more information on the MSSRP, visit www.bu.edu/enrichment. If you would like to discuss a contribution to the program, contact BUSM Office of Development, 617-638-4070 or Karen Engberg at kengelbo@bu.edu.

Neda Laiyeerapong ’05 is an internal medicine resident at the University of Chicago engaged in health services research.

“I worked with Dr. Karen Freund (BUSM professor of general internal medicine and associate director of the Women’s Health Interdisciplinary Research Center) on a project validating the race and ethnicity data of patients in the hospital database. Through this project, I learned a great deal about what defines a person’s race and ethnicity and how complicated the issue is. It’s a very relevant issue as well, as there has been a great deal of public concern regarding the race question on the U.S. Census this year. I had always thought I’d be a researcher. However, after my initial attempts in basic science research, I was discouraged because I could not find a niche for myself in the lab at all. I didn’t know anything at all about health services research. Working with Dr. Freund was a turning point in my career. It was very challenging at first, since I had no formal research training. However, the summer allowed me to dedicate time and energy to learning essential skills, such as IIB submission, oral presentations, and proposal writing. I also learned terminology and concepts, such as what grant and community-based participatory research are. After the summer, I was hooked. When I went to residency, I sought out a similar mentor and a research project as soon as I could.

‘Health services research is bit of an enigmatic term, but basically it examines how people get access to health care, how much care costs and what happens to patients as a result of this care. Specifically, I am interested in improving physician decision making in patients with chronic diseases like diabetes and obesity.

“They are a way to affect a larger number of people than you would normally care for as a clinician.”

Graham Snyder ’05 is an infectious diseases specialist at Beth Israel Hospital in Boston. His research is in the fields of infection control and hospital epidemiology.

“During the summer of 2002 and beyond, I was introduced to infectious diseases research through participation in Dr. Jani Saukkonen (BUSM associate professor of medicine and director of the pulmonary clinic at the West Roxbury VA Medical Center). Our project involved risk factors for non-adherence to treatment for latent tuberculosis infection by administering a survey to patients seen during a first visit to the Boston Medical Center Tuberculosis Clinic, and subsequently correlating adherence to therapy with results from this survey.

“One of the benefits of this research was connecting with patients in a new setting and from a different vantage point—that of investigator—as well as getting a sense of how challenges in medicine can be solved through asking the right question, planning a test to solve the question, and then interpreting the results of the test. This is part and parcel of the scientific process, which should be structuring our clinical actions every day.

“The practice of infectious diseases appealed to me by the end of medical school and very early into internal medicine residency. It requires a meticulous and creative thought process. The part of the job that I love the most is when we get the weed-out-type results requiring a careful history, exam, and brainstorms across disciplines. My current research is specifically detection and transmission dynamics of antibiotic-resistant organisms including multidrug-resistant, gram-negative bacteria. The general goal is to be able to trace and detect these bacteria and prevent their transmission from patients to healthcare workers and other patients.”

The effects of side effects on treatment and prevention of drug resistance

For more information on this project, please visit www.bumc.bu.edu.
The devastating earthquake that hit Haiti in January is estimated to have killed or injured more than half a million people and left one million Haitians homeless. While the international community launched major aid missions, members of the BU Medical Campus responded with an outpouring of assistance by donating to organizations doing relief work in Haiti as well as initiating individual activities to provide assistance to the people there.

**Campus Aid to Haitian Community**

Thea James, MD, assistant professor of emergency medicine, and David Hirsch, MD, instructor in emergency medicine and both members of the Emergency Department at Boston Medical Center, traveled to Haiti as part of the Massachusetts Disaster Medical Assistance Team that responds to national disasters by setting up field hospitals and providing medical care. James made a second trip to Haiti, often working 18-hour days at a mobile hospital near Tent City in Port-au-Prince.

Michele David, MD, associate professor of medicine and co-director of the Haitian Health Institute at Boston Medical Center, also went to Haiti to provide medical assistance.

Susanna Walsh, MD, clinical assistant professor of OB/GYN, spent a week in Haiti as part of a surgical team organized by the University of Vermont Medical School to provide orthopedic and plastic surgery and wound care. Jennifer Dwan, MD, assistant professor of OB/GYN, and her husband spent 10 days in a town outside of Port-au-Prince with a medical team organized by Family Health Ministries to provide care to more than 1,500 Haitians.

Here in the U.S., Renee Boynton-Jarrett, MD, assistant professor of pediatrics, and Nicole Prudent, MD, clinical assistant professor of pediatrics, organized the Haitian Earthquake Long-term Pediatric Support (Amwe/HELPs) program to provide a systematic response to those affected by the earthquake in the local Haitian community, including those who lost family members and those caring for family members—especially children—who were forced to leave Haiti because of the quake. The program educates and trains providers and educators responding to traumatic stress and supporting grieving families. Utilizing existing services at Boston Medical Center and in the community, the program initiated an on-call system to share available resources, a coordinated referral process, and expanded support services to connect families with community-based resources.

Moses Toussant, a secretary in the outpatient neurology clinic and a Haitian-American, collected funds, clothing, and hygiene supplies and sent them to a small community outside of Port-au-Prince.

Student leaders in the BU School of Medicine International Health Organization worked with Drs. David and Prudent to find ways students could volunteer. Several events were organized by BU School of Medicine and BUSPH students that raised more than $3,500 to aid the victims of the earthquake, and a forum was established on the aftermath of the earthquake and the role of public health.

Hilary Johnston-Cox ’15 and Nahomy Calixte ’11 used their $1,000 Alpha Omega Alpha Medical Student Service Project Award to support the Haitian Health Career Leadership Conference. Sponsored by the Haitian Health Institute at Boston Medical Center, the conference addressed “Lessons from the Haiti Earthquake: Emergency Preparedness, Relief and Beyond.”
School of Medicine graduates commence

“This is not the end. It is not the beginning of the end,” said Karen Antman, MD, Dean of the School of Medicine and Provost of the Boston Medical Campus, quoting Winston Churchill as she opened the 163rd MED commencement Saturday, 6/11 at Agganis Arena. “But it is, perhaps, the end of the beginning.”

“This is the commencement of your careers of lifelong learning in the health sciences,” she added. “We hope you will do well, but even more, we hope you will do good.”

Rather than belaboring the current challenges of the health care delivery system or the issues of health care reform, the focus instead was on the positive roles that the graduates are now moving into as they leave BU behind. Some will start residencies in their chosen medical specialties, while others will begin post-doctoral fellowships or employment in their fields of expertise.

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.

Speaking for the PhD grads, Adrian Lynn Obiok noted about scientists, “We work in a lab to try to figure things out. We crave the unknown and we must explain our contributions to the world and to society. We have inherited the responsibility to make the world a better place.”

Justin Golden, who was elected to speak for his MD classmates, said, “Each challenge that we faced (during medical school) served as a stepping stone to strengthen our resolve.

“The bonds we have built these last four years will carry and support us during the challenges and obstacles we are bound to face in our careers. There is no such thing as incorrect effort. We are driven by the desire to help people. Do the right thing, even when it isn’t the easy thing.”

But perhaps it was Robert Lowe, MD, associate professor of medicine and the educational director of the Section of Gastroenterology at Boston Medical Center, chosen by the students to deliver the commencement address, who stole the show.

“You aren’t the same person you were when you walked into medical school,” he said. “Being a doctor is the greatest thing in the world. It is about intimacy. It is about access. It is a privilege. It is awesome. People trust us with their lives.

“Medicine extends beyond the office, beyond the OR, beyond the hospital. You are a doctor now. It is who you are, all the time. It defines your role in society, and it defines how you look at people and respond to situations. Don’t be mean. Love what you do…medicine is big, with lots of opportunities. Be a doc. You’ve got to find out that life is huge, and amazing, and kinda scary—in other words, it’s awesome.”

With that, the entire audience erupted with cheers and a standing ovation.

Among the graduates who are now physicians were Gretchen and Jonathan Strempek, a married couple who met as freshmen at Notre Dame and tied the knot one month before they started at MED. Gretchen’s mother, Deborah Dado, gradu- ated from BU’s School of Nursing in 1973. They were hooded by Gretchen’s father, W. Murray Ryan, MD. “I wanted to be a doctor since I was seven. Now it’s official,” Gretchen said. “I was married worked for us. We studied together; we went through everything together. Boston University was awesome for medical school. I don’t think we would have been as happy if we were anywhere else.” The couple’s next stop is the University of Kansas-Wichita, where Gretchen will start a residency in pediatrics and Jonathan will start one in orthopedic surgery.

Stacey Fulton, MD, deferred her residency for one year to do research on spinal cord injuries and pressure ulcers at the Cleveland Clinic. “BU gave me a top-notch education,” she said. “I am prepared. I know I will conquer things that come my way. BU showed me facets of myself that I never knew I had.”

Elizabeth Housman graduated magna cum laude and is a resident in internal medicine at Boston’s Beth Israel Deaconess Medical Center. Between commencement and residency, Housman married Jonath Cohen, who graduated from Brown University School of Medicine in May. Elizabeth’s twin sisters also a Brown medical student, introduced them. “I’ve been blessed,” Elizabeth said. “This is an incredible achievement that is something I will never forget.”

Six faculty members were also recognized during the ceremony. The Educator of the Year awards, established in 1999 by the Committee on Faculty Affairs and selected by student nominations, honor, recognize, and reward faculty who, as gifted teachers, facilitate the education of their students. Gwynneth D. Offner, PhD, associate professor of neurobiology, was named Educator of the Year in Graduate Sciences; Ann C. Zumwalt, PhD, assistant professor of anatomy and neurobiology, was named Educator of the Year in Preclinical Sciences; and Daniel C.-R. Chen, MD, assistant professor of medicine, was named Educator of the Year in Clinical Sciences.

Gary J. Balady, MD, professor of medicine, and Robert J. Vinci, MD, professor of pediatrics, received the Leonard Tow Humanism in Medicine Faculty Award, presented annually by the Arnold P. Gold Foundation to faculty members at approximately 80 medical schools nationwide who demonstrate outstanding compassion in the delivery of care, respect for their colleagues, their patients and their patients’ families, and who practice clinical excellence.

David B. McAneny, MD, FACS, associate professor of surgery, received the Stanley L. Robbins Award for Excellence in Teaching. "This is an incredible achievement that is something I will never forget."

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View Dr. Lowe’s speech at: www.bu.edu/buuniverse/view/7V=4A0ZGk.
“Where are you going?”

The Division of Graduate Medical Sciences launches master’s degree graduates from thirteen different programs.

“Quo Vadis? Where are you going?” So asked Graduate Medical Sciences (GMS) Associate Provost Linda Hyman of the 130 graduates of 13 programs in the division when she addressed them at the 2010 GMS commencement ceremony on May 14, 2010.

Presiding at her first GMS commencement exercises, Hyman noted that in the year she has been on campus, “I have seen firsthand that BU is about its people and putting you, the student, in the center of our mission. Whatever you are doing or wherever you are going, you are now armed with the best the world has to offer: State-of-the-art knowledge of your discipline and a ‘just do it’ and ‘yes I can’ attitude.”

Describing her own journey from New York to New Orleans to Montana to Boston as “the Big Apple to the Big Easy to the Big Sky to the Big Time,” Hyman told students, “Where you will go, no one knows, but wherever it is, make it your own Big. Not just for you, but for all whose lives you will touch.”

Dean Karen Antman praised the class: “You have worked very hard to get to this moment. Graduation is only the end of the beginning of your education. More importantly, it is the commencement of your careers of lifelong learning in the health sciences. We hope that as you begin the next phase of your life you will derive a great deal of professional and personal satisfaction on this path you have chosen, and that at trying times you will remember why you chose it.”

Three members of the Class of 2010 selected by their classmates addressed the class and their families. Katherine Coles, a graduate of the genetic counseling program, reminded her fellow graduates that “We got a wonderful and richly diverse education at BU and we are that much stronger for it.”

Samuel Kim, who received a master’s degree in medical sciences, said, “When we do encounter those moments when things don’t pan out the way we plan, we look back on our experiences—especially in this program—and we gain strength, resilience, and the ability to face it head on with confidence, pride, and the knowledge that we can do it.”

Kathleen Copeland, who received a master’s degree in mental health counseling and behavioral medicine, shared how the program had changed her. She expressed her gratitude “to our BU director, our professors, our mentors, and our administrators, who have educated, trained, and supported us to get to this point together and beyond to achieve more than just degrees and a real paycheck.”

The 2010 Educator of the Year Award was presented to Gwynneth Offner, PhD, associate professor of medicine. The award recognizes, honors, and rewards a faculty member for excellence in teaching, mentoring, and devotion to students. Citing nominations for Offner, Antman said, “Dr. Offner is a truly passionate educator. Her genuine enthusiasm for the material captivates her students’ interest while the clarity of her lectures makes her effective in the classroom.”

Hooded by the faculty member of their choice, each graduate received a gift from Jean Ramsey ‘90, associate dean for alumni affairs, courtesy of the Alumni Association. Addressing the candidates being presented to her, Dean Antman said, “It is with enormous pride in your accomplishments that the faculty of the Boston University School of Medicine confer your diplomas today.”
A unique program that combines training in counseling with neuroscience foundation and the biological basis of illness. With backing and input from the departments of psychiatry and anatomy and neurobiology, the Mental Health Counseling and Behavioral Medicine program was launched at BUSM in 2002. Former BUSM Dean Aram Chobanian and former Division of Graduate Medical Sciences (GMS) Associate Dean Carl Frischlau discussed development and the currently focused programs for the division.

The two-year Master of Arts program is designed to meet the educational requirements for licensure as a mental health counselor in Massachusetts. “We focus on a traditional mental health curriculum that includes how to talk with patients, how to diagnose mental disorders, theory of psychopharmacology, and techniques of therapy,” says Stephen Brady, PhD, associate professor of psychiatry and director of the Mental Health Counseling and Behavioral Medicine program. “What makes us unique is that we also offer courses in neuroscience and behavioral medicine. We have learned so much about the brain in the past 10 to 15 years that it is important for master-level clinicians to understand the central nervous system and how to talk with patients about the biological basis of their illnesses.”

DMED’s Stephen Brady says MI counselors will give mentally ill people unpersoning information about the potential price of risky sexual or drug use and behavior and help them build skills to change that behavior. Armed with a five-year, $2.8 million federal grant, School of Medicine researchers are hoping to stem HIV infection and transmission among mentally ill people engaged in risky behaviors such as needle sharing and unprotected sex.

Applying a technique called motivational interviewing (MI), the BU team, from the Mental Health Counseling and Behavioral Medicine Program (MHCBA), will recruit and counsel severely mentally ill adults who want to protect themselves from HIV or who are already infected but don’t want to pass the disease to others. Sometimes homeless, these people lack the confidence, self-control, and communication skills to change their behavior. By tailoring sessions to the individual, MI counselors give people unpersoning information about the potential price of their risky behavior and help them build skills to change that behavior, says Stephen Brady, BUSM associate professor of psychiatry and graduate medical sciences and MHCBA director. The study, funded by the National Institute of Mental Health, will include 308 volunteers and will compare brief MI-based intervention on what clients call “care as usual.”

Participants will be recruited through advertisements posted at homeless shelters, emergency rooms, housing for the mentally ill, and other care centers, and will represent people living with a range of mental illnesses, including schizophrenia, major depression, bipolar disorder, and severe anxiety disorders like post-traumatic stress disorder. What they have in common, along with intravenous drug users in the study, is their greatly increased risk of acquiring or passing along HIV.

Brady and his colleagues will measure MI’s effects in sessions three, six, and twelve months after the interventions. If results are as promising as those of a much smaller pilot study conducted by his team in 2009, says Brady, the model could be adapted to a range of settings and providers.

Alcohol and other drugs go along with hospitalization, making the seriously mentally ill a high-risk group for HIV. In fact, 80 percent of Americans with serious mental illness are sexually active. of these, many engage in high-risk behavior, which is most prevalent among the homeless. The review found that nearly half of the people in the studies had multiple partners and never used condoms, while a quarter had a history of prostitution or sex trading, and 30 percent had had at least one sexually transmitted disease. Additionally, 20 percent of the seriously mentally ill in the studies had histories of IV drug use.

“What we do is primary prevention,” Brady says, “to prevent people who don’t have HIV from getting it, and secondary, preventing those who are HIV-positive from spreading it.” Brady believes high-risk behavior among the mentally ill is a motivation problem. “Most behavioral science research is very static,” its strategy applied across the board, he says. “But the package we offer is focused on the individual patient and what he or she wants to do. We can help people with their thinking and planning, from saying no to negotiating safer sex.” For example, he says, female condoms are expensive, but the women who begin using them soon feel empowered.

When Brady first began his research, people in the field told him that his approach would never work. “Predictions were that the clients would all wind up with HIV,” he says. “But my experience is, these people don’t want to get HIV and they don’t want to give it to people. They just face so many obstacles — where to sleep, drug addictions, or turning their bodies to get what they want. But this doesn’t mean people can’t be motivated to use condoms, have periodic visits with an ob/gyn, or stop sharing needles.” (This story originally appeared in BU Today.)
RESEARCH

**BUSD Researchers Discover Pathway Responsible for Epigenetic Memory During Breast Cancer Progression**

BUSD researchers have determined how the TGFβ-Smad signaling pathway, which is overactivated in late-stage cancers, is responsible for the “epigenetic memory” that maintains unique patterns of regulatory DNA hypermethylation causing the critical genes that facilitate breast cancer progression to be silenced. These findings reported in the February 1, 2010 issue of Cancer Research, may lead to the development of new therapeutic strategies for late stage breast and other cancers.

“While targeting of TGFβ and TGFβ receptors has been actively pursued for cancer therapy, the re-expression of genes belonging to one such family of anti-hypertensive medicine—are associated with a striking decrease in the occurrence and progression of dementia.”

**Angiotensin Receptor Blockers Associated with Lower Incidence and Decreased Progression of Alzheimer’s Disease**

BUSD researchers have found that angiotensin receptor blockers (ARBs)—a novel class of anti-hypertensive medicine—are associated with a striking decrease in the occurrence and progression of dementia. Using data from the Decision Support System Database of the U.S. Department of Health System Veterans Affairs (which contains information on more than five million people), the researchers examined records from patients who used ARBs and compared them with subjects who had a similar health status but were taking different medications. They found that patients taking ARBs had up to a 50 percent lower chance of getting Alzheimer’s disease or dementia. Participants taking two or more medications targeting the angiotensin system, ARBs and Angiotensin Converting Enzyme (ACE) inhibitors, had a 55 percent lower risk of dementia. Researchers also examined patients who were already suffering from Alzheimer’s disease or dementia, and found those subjects had up to a 67 percent lower chance of being admitted to nursing homes or dying if they were taking both ARBs and ACE inhibitors. Patients who appeared to benefit particularly well from use of ARBs were those who had experienced strokes before or during the course of their illness.

**Cigarette Smoke is the Dominant Cause of Lung Cancer in the U.S.**

Alcohol is the dominant cause of lung cancer in non-smokers in the U.S., according to a new study published in the March issue of the Archives of Internal Medicine. Funding was provided by the National Cancer Institute and the Casten Foundation.

**New Approaches for Identifying Smokers at Highest Risk for Developing Lung Cancer Discovered**

In collaboration with investigators at the University of Utah, BUSD researchers have discovered a new approach for identifying smokers at the highest risk for developing lung cancer. The approach will allow researchers to use a genomic approach to prevent lung cancer in these individuals and to personalize cancer chemoprophylaxis and therapy.

Pre-Pregnancy Obesity and Gestational Weight Gain Influence Risk of Preterm Birth in African-American Women

Researchers at BUSD’s Slone Epidemiology Center and Boston University School of Public Health (BUSPH) have found that pre-pregnancy obesity and gestational weight gain are associated with an increased risk of preterm birth in African-American participants from the Black Women’s Health Study.

**Using data from the Slone Epidemiology Center’s study of Black women’s health, BUSD researchers compared more than 1,000 women of infants born three or more weeks early with more than 7,000 mothers of full-term infants. They examined two types of preterm birth—medically indicated, or those that occurred for medical reasons; and spontaneous, or those that occurred for no known reason. The researchers found that obesity increased the risk of medically indicated preterm birth and very early spontaneous preterm birth (at less than 32 weeks), and that underweight increased risk of both preterm birth subtypes. Among obese women, gestational weight gain within the range recommended by the 2009 Institute of Medicine (IOM) report (0.4–0.6 lbs/week in the second and third trimesters) was optimal in reducing risk of preterm birth.**

“Our data suggest that it is especially important for obese women to adhere to IOM guidelines for pregnancy weight gain to reduce their risk of preterm birth,” says lead author Lauren A. Wise, Sc.D., an associate professor of epidemiology at Boston University School of Public Health and a senior epidemiologist at the Slone Epidemiology Center. The study appeared in the March issue of Epidemiology. Funding was provided by the National Cancer Institute and the Casten Foundation.

**New Syndrome Identified**

BUSD researchers have identified a new syndrome affecting potentially thousands of hospital inpatients. The syndrome, which includes altered mental status and difficulty walking, can be prevented by excluding high-protein dietary supplements in patients’ diets if they have experienced poor eating for more than a week prior to their admittance.

**Altered mental status describes a disorder of impaired cognition, diminished attention, reduced awareness, or an altered consciousness level. Ten to 50 percent of hospitalized patients will experience acute altered mental status which accounts for a significant portion of neurological inpatient consultation.**

After excluding for other causes, the researchers concluded that the confused mental status and high levels of ammonia in the blood were due to introducing high amounts of protein too quickly into the patients’ diets after weeks of poor eating.

“With advances in nutritional education and supplements, this syndrome likely occurs thousands of times per year in hospitals across the United States,” says senior author Michael Perloff, MD, PhD, a fourth-year resident in the Department of Neurology. “We believe it may account for more than 10,000 hospital days, countless morbidity, and even some mortality.”

The condition is described in the March issue of the Archives of Internal Medicine. Funding for this study was provided by the Boston University Department of Neurology Residency Education Fund.
specific cancer-related pathway, PI3K, are acti- vated in the cells that line the airway of smokers with lung cancer. This gene expression activity in the normal cells of the proximal airway precedes the development of lung cancer and may be reversed with a specific chemo-preventive agent (myo-inositol) that targets this pathway.

The researchers validated their findings by meas- uring the biochemical activity of this pathway in the airway epithelial cells from an independent group of smokers with and without lung cancer. They maintain that the data suggests measur- ing this airway gene expression activity can help determine which specific cancer pathways have been deregulated within an individual smoker, allowing one to tailor a specific drug that will tar- get the pathway to reduce that individual’s risk of lung cancer.

“This represents a critical advance in the field of lung cancer prevention as there are currently no effective strategies for lung cancer preven- tion among high risk smokers. Our work has the potential to help address the enormous and growing public health burden associated with lung cancer, the leading cause of cancer-related death among men and women in the U.S. and the world,” says Spira.

The findings appeared in the April 7, 2010 issue of Science Translational Medicine. Funding for the study was provided by the National Institutes of Health. Spira is one of the founders of Altegra Diagnostics Inc., a molecular diagnostics com- pany that plans to market the gene expression biomarker.

**Study Shows Massachusetts Health Care Reform Improved Access to Inpatient Procedures among Minorities**

Researchers from the Department of Veterans Affairs and BUSM found that health care reform in Massachusetts has improved minority access for some inpatient procedures.

Since 2006, when Massachusetts became the first state to enact health care reform and sharply expand health coverage to all its citizens, no stud- ies have examined whether expanded insurance coverage has improved access to specific elective inpatient procedures among minorities until now.

Using information from 2004 to 2008, the researchers analyzed Massachusetts hospital inpatient discharge data looking specifically at a number of cardiovascular, cancer, and musculo- skeletal procedures that are most often sched- uled by physicians and therefore likely to be sensitive to insurance status. These procedures are traditionally underutilized among minorities.

They found that use of some surgeries among minorities increased significantly following the passage of the health care reform law. Use of inpatient procedures among minorities increased significantly following the enactment of health care reform.

**Additional Genes That May Play a Role in Alzheimer’s Disease Identified**

In collaboration with scientists from the U.S. and Europe, BUSM researchers have identified two new genes that may be risk factors for the devel- opment of late-onset Alzheimer’s disease (AD). Genetic variants appear to play an important part in the development of the disease, since having parents or siblings with the disease increases a person’s risk.

Using an intensive, genome-wide association analysis study (GWAS), the researchers ident- ified two new genes at specific locations in the DNA called loci that reached the required genome-wide statistical significance threshold for the first time, thus pinpointing them as very likely associated with AD. The findings were replicated in an independent population.

“Identifying each of these new genes, one on chromosome 2 and a second locus on chromo- some 19, points to new biological pathways involved in the development of AD,” says senior author Sudha Seshadri, MD, BUSM associate professor of neurology and an investigator at the Framingham Heart Study. “Although such benefits are likely a decade away, studying these pathways should lead to new ways to postpone, prevent, and perhaps treat the disease.”

Since 1979, the National Heart, Lung, and Blood Institute (NHLBI) and BU’s Framingham Heart Study have gathered information on AD; in 2007 they obtained extensive genetic data on these persons through the SHARPs (SNP Health Associ- ation Resource) project. BUSM researchers then joined with leading epidemiological researchers worldwide who were also studying AD in popula- tion cohorts—notably the Rotterdam study, the Cardiovascular Health Study and the AGES- Reykjavik study—to form the Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) consortium. The researchers com- bined their data with published data and assembled the largest sample data to date— over 35,000 persons, of whom over 8,500 developed AD.

“This highly collaborative international effort enabled researchers to build the large sample size needed to identify elusive gene variants that may play a role in this devastating neurological disease,” says Marilyn Miller, PhD, of the National Institute on Aging, which funds the collection of AD data in the Framingham study and funded the analysis for this GWAS. “Such collaborations are key to a fuller understanding of the many genetic factors that may contribute to overall risk for late onset Alzheimer’s and how these genes affect the development of the disease.”

The findings were reported in the May 12, 2010 issue of Journal of the American Medical Association. Funding for this study was provided by the National Institute on Aging, NHLBI, and Boston University.

**Findings May Lead to Eye Tests for Brain Disease in Alzheimer’s and Down Syndrome**

A team of researchers has discovered that the protein that forms plaques in the brain in Alzheimer’s disease also accumulates in the eyes of people with Down syndrome. The new findings in Down syndrome show that the toxic protein, known as amyloid-β that causes Alzheimer’s pathology in the brain also leads to distinctive cataracts in the eyes. The discovery is leading the researchers to develop an innovative eye test for early detection of Alzheimer’s pathology in both disorders.

The research, led by Lee Goldstein, MD, PhD, BUSM associate professor of psychiatry, neu- rology, ophthalmology, pathology and labora- tory medicine, and biomedical engineering, and Juliet Moncaster, PhD, associate director of BU’s Molecular Aging & Development Laboratory, included investigators at the Brigham and Women’s Hospital; Massachusetts Eye and Ear Infirmary; Massachusetts General Hospital; Harvard Medical School; Bush University Medical Center; Children’s Hospital Boston; and the University of Washington, Seattle.

"People with Down syndrome develop symptoms of Alzheimer’s-type dementia often by the age of 30,” says Goldstein. “This is because they have an extra copy of a key Alzheimer’s gene that leads to increased amyloid-β accumulation in the brain. We discovered that this same protein starts to accumulate very early in the lens of the eye, even in children.”

"The lens provides a window to the brain,” Mon- caster explains. "The lens can’t clear protein deposits the way the brain does. Our findings show that the same amyloid-protein that aggres- gates in the brain also accumulates in the lens and leads to these unusual cataracts in Down syndrome.”

"We are developing an eye scanner to measure amyloid-β in the lens,” says Goldstein. This approach may provide a way for early detec- tion and monitoring of related pathology in the brain. Effective treatments for the brain disease in Down syndrome and Alzheimer’s disease are on the horizon, and early detection is the key for suc- cessful intervention. The path to effective treat- ment is what drives our research.”

The findings were presented at the annual meet- ing of the Association for Research in Vision and Ophthalmology in Fort Lauderdale, Florida and reported in the May 20 issue of PLoS One. The five-year research effort was supported by the National Institutes of Health (National Institute of General Medical Sciences, National Insti- tute on Aging), American Federation for Aging Research, Alzheimer’s Association, American Health Assistance Foundation, Cure Alzheimer’s Fund, National Disease Registry Interchange, Sun Health Research Institute, Florida Lion’s Eye Bank, and an anonymous foundation.

**Research in Brief**

RESEARCH in Massachusetts has improved minority access to health care reform among Minorities

Health Care Reform Improved Study Shows Massachusetts

biomarker.

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The research, led by Lee Goldstein, MD, PhD, BUSM associate professor of psychiatry, neu- rology, ophthalmology, pathology and labora- tory medicine, and biomedical engineering, and Juliet Moncaster, PhD, associate director of BU’s Molecular Aging & Development Laboratory, included investigators at the Brigham and
Gene Network Associated with Vitamin A Deficiency and Lung Birth Defects Discovered

BUSM researchers have discovered the mechanism responsible for the failure of the lungs to form as a result of vitamin A/retinoic acid (RA) deficiency. The study also shows that corrections to this network make it possible to prevent the lung defet in retinoid acid-deficient animals.

Congenital abnormalities of the respiratory system are often part of multi-organ syndromes associated with genetic, environmental, or nutritional imbalances during fetal life. Developmental defects, such as tracheoesophageal fistula, pulmonary hypoplasia, and failure to form one or both lungs have been known for decades to be important components of the so-called “Vitamin A deficiency syndrome.” Researchers knew that Vitamin A, through its active form RA, is highly important components of the so-called “Vitamin A deficiency syndrome.” Researchers knew that vitamin A/retinoic acid (RA) signaling. Genetic mutations in RA pathway components leading lung developmental defects have been already identified in human syndromes.

The study appeared in the June issue of the Journal of Clinical Investigation. The study was provided by grants from National Institutes of Health/National Heart, Lung, and Blood Institute.

RA-deficient mice using pharmacological and genetic models. They identified gene networks controlled by RA and characterized their role and hierarchy in this process. The researchers found that RA controls lung formation by balancing the effect of the Wnt and Tgfβ pathways in Fgf10, a growth factor required for induction of lung buds. Like two opposing forces, Wnt and Tgfβ act as positive and negative regulators of Fgf10 and bud growth, respectively. The study shows that RA coordinately acts on these pathways, ensuring that proper levels of Fgf10 are present at the sites of budding.

“Our data strongly suggest that disruption of Wnt-Tgfβ-Fgf10 interactions represents the molecular basis for the failure to form lung buds classically reported in vitamin A deficiency,” says Wellington V. Cardoso, MD, PhD, professor of medicine and pathology and director of the Lung Development and Progenitor Cell Biology program at BUSM.

“Moreover, we show that simultaneously activating Wnt and repressing Tgfβ fully rescues the lung in both RA-deficient models. These findings unravel molecular interactions critical for lung progenitor cell development and shed light into the pathogenesis of abnormalities induced by vitamin A deficiency.”

According to the researchers, a better knowledge of the molecular pathways regulating early lung organogenesis is critical for the understanding of the pathogenesis of congenital lung malformations. This is particularly relevant in the context of conditions associated with disruption of RA signaling. Genetic mutations in RA pathway components leading lung developmental defects have been already identified in human syndromes.

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The family of the late William T. McNary, Jr., visited the “School of Medicine and the McNary Learning Center. Beloved by generations of BUSM students for his concern for their professional and personal well-being, his reputation as a teacher was legendary. McNary was the first associate dean for student affairs at the School of Medicine and held this position for 15 years. He taught anatomy to BUSM students for 45 years until his death in 1999.

In 1999, the School named the student learning center in his memory. Members of the McNary family continued along with faculty, students, alumni, and staff. First Row: Kelly McNary, Ryan McNary, Tom Chen, Joon Seok Son. Second Row: Chia Simonis, Adrano Ciancio, Donna McReynolds, Todd Clancy, Tom Clancy (father), Steve Oles, Richard Hoyt, Jim Marlow.
Osamu Shimomura, who discovered green fluorescent protein in the jellyfish Aequorea victoria in 1962, never expected his work to change the world of cell biology.

Osamu Shimomura, a Nobel Prize-winning chemist and BUSM professor emeritus of physiology, was awarded an honorary Doctor of Science at Boston University’s 137th Commencement ceremonies on Sunday, May 16, 2010.

Shimomura, a former senior scientist at the Marine Biological Laboratory in Woods Hole, Mass., was one of three winners of the Nobel Prize in 2008 for his discovery of green fluorescent protein in the jellyfish Aequorea victoria. He shared the $1.4 million award with Martin Chalfie of Columbia University and Roger Y. Tsien of the University of California, San Diego, two researchers who pioneered cellular research techniques using the proteins Shimomura identified.

Although Shimomura pursued his studies of GFP for years, he didn’t realize the potential applications of his work until 1994, when Chalfie’s research emerged. In an organism, GFP can be fused to proteins Shimomura identified.

“These discoveries were seminal and decades ahead of their time,” says Gary Borisy, director and CEO of the Marine Biological Laboratory. “They really have ushered in a revolution in cell biology.”

Irving Bigin, PhD, was selected for the BU School of Engineering 2010 Distinguished Lecturer Award. A physicist, Bigin is a professor in the departments of Medicine, Biomedical Engineering, Electrical & Computer Engineering, and Physics. The annual Distinguished Lectures Series Award honors a faculty member engaged in outstanding, high-impact research and offers that person a public forum to discuss and showcase research before the Boston University academic community.

Robert Cantu, MD, clinical professor of neurosurgery, has been named the 2009 United States Sports Academy Ernest Jaki Sports Medicine Award winner. Cantu is known throughout the world for his work on catastrophic head and neck injuries, concussions, and post-concussive syndrome. He was the first doctor to establish a grading scale for concussions based on symptoms at the time of injury.

David Coleman, MD, professor and chair of the Department of Medicine, was elected to the Board of Directors of the American Board of Internal Medicine effective July 1, 2010, for a two-year term as an at-large member.

Catherine Costello, PhD, professor of chemistry, biochemistry, and biophysics and founding director of BUSM’s mass spectrometry resource and its cardiovascular proteomics center, was recognized by the American Chemical Society with the 2010 Frank H. Field & Joe L. Franklin Award for Outstanding Achievement in Mass Spectrometry.

Michele David, MD, associate professor of general internal medicine, was selected for the 2010 William A. Hinton Award by Massachusetts Public Health Commissioner John Auerbach for her many years of activism, commitment to public health, and extensive work to promote and support efforts to eliminate health inequities and to educate the public about them. The award is named in honor of one of the first African-American graduates of Harvard Medical School who made important contributions in the field of immunology.

James Hamilton, PhD, professor of biophysics and physiology, with joint appointments in biomedical engineering and medicine, received the Biophysical Society’s 2010 Avanti Award in Lipids to recognize his innovative contributions in the application of nuclear magnetic resonance methods to phospholipids and fatty acids.

The Biophysical Society is a professional, scientific society established to encourage development and dissemination of knowledge in biophysics.

Barry Manuel, MD ’58, associate dean and professor of surgery, was honored by the Massachusetts Medical Society (MMS) with its 2010 Lifetime Achievement Award, the Society’s most prestigious recognition. It is given each year to a member of the Society who has made a lasting contribution to the practice of medicine over a lifetime and who has made significant contributions to the Society’s goals.

A member of the MMS since 1962, Manuel has a long and distinguished record of service with the organization. Following terms as president-elect and vice president, he served as the Society’s president from 1990 to 1991. He has been a member of its House of Delegates since 1973, was a four-term member of the board of trustees, and has served on many of the organization’s committees, including the Committees on Administration and Management, Finance, Professional Liability, and Occupational Health, all of which he chaired at various times.

Jonathan Olshaker, chief and chair of emergency medicine, has received the Above and Beyond Award, presented by the Employee Support of the Guard and Reserve (ESGR) Department. The award recognizes employers at the state and local level who have gone above and beyond the legal requirements for granting leave and supporting military duty by their employees.

Adam Rose MD, MSc, assistant professor of medicine and core investigator at the Center for Health Quality, Outcomes, and Economic Research at the Bedford VA Medical Center, has been named a 2009 Pier M. Mannucci Young Investigator prizewinner. Rose received this award for his article titled “Warfarin dose management affects INR Control” which appeared in the Journal of Thrombosis and Haemostasis (Volume 7, Issue 1).
Awards

Grants

Richard Goldstein, PhD, professor of pediatrics, has been awarded an Individual Biomedical Research Award by The Hartwell Foundation and will receive $300,000 over three years as a Hartwell Investigator for his project titled, “A Vaccine Against Streptococcus Pneumoniae Based on Bacterial Surface Proteins Physiologically Conserved as Highly Conserved.” Goldstein is also director of the section of molecular genetics, Maxwell Finland Laboratory for Infectious Diseases at Boston Medical Center.

Streptococcus pneumoniae (S pneumoniae or the pneumococcus) is a bacterium commonly found in the nasopharynx (back of the nose) of healthy humans. However, this microbe has also proven to be highly conserved throughout the species.

Shellie Russo, PhD, professor of pharmacology and experimental therapeutics, and Amy Brooks-Kayal, MD, of the University of Denver/Children’s Hospital, have received an award from Citizens United for Research in Epilepsy (CURE) to examine the role of a cell-signaling pathway called the Jak/Stat pathway in the development and progression of epilepsy.

Their labs recently discovered that this pathway regulates brain inhibition and is activated by seizures, likely in response to an increase during seizures of the growth factor, brain derived neurotrophic factor (BDNF). Using a combination of studies in the laboratory and in animal models of epilepsy, they will use specific blockers of BDNF and the Jak/Stat pathway to reduce or prevent epilepsy development and/or progression.

CURE awards seed grants for novel research projects that address the goals of “no seizures, no side effects,” and specifically those that address prevention of epilepsy, including post-traumatic epilepsy; advancement of the search for a cure; elimination of treatment side effects; and reversal of deficits caused by frequent seizures.

Faculty in Print

Gene J. Blatt, PhD, editor
The Neurochemical Basis of Autism, 2010

The contributors to this book were selected for their expertise in their respective fields. Each chapter presents a unique perspective into the clinical, developmental, neurochemical, and/or physical chemical basis of autism. Current research findings are summarized, novel ideas presented, and hypotheses and possible mechanisms proposed that may be operative during development. The potential consequences of defects in specific molecules, receptors, or genes is also covered.

Blatt is an associate professor of anatomy and neurobiology and a member of the Laboratory of Autism Neuroscience Research in the Department of Anatomy and Neurobiology at BUSM.

Michael F. Holick, MD, PhD
The Vitamin D Solution: A 3-Step Strategy to Cure Our Most Common Health Care Problem, Penguin/Hudson Street Press, 2010

Dr. Michael Holick identifies the causes of vitamin D deficiency, outlines why it is essential to our health, and provides a three-step program to attain optimal levels of vitamin D in our bodies. The subject’s leading expert worldwide, Holick has studied vitamin D for more than 30 years. His research has shown that every cell body has a receptor for vitamin D going beyond bone health. Increasing the amount of vitamin D can treat, prevent, and even reverse a remarkable number of daily ailments, from high blood pressure to back pain; lessen the symptoms of chronic conditions such as diabetes and arthritis; and actually prevent infectious diseases, including HIV and cancer.

Michael Holick is a professor of medicine, physiology and biophysics and director of the General Clinical Research Unit, the Bone Health Clinic, and the Phototherapy Light and Skin Research Center at BUSM.

Alumni in Print

Vinod Jagaroo, PhD ’98
Neuroinformatics for Neuropsychology (Springer, 2009)

Neuroinformatics for Neuropsychology is the first book to explain the relevance and value of NI to neuropsychology. It systematically describes NI tools, applications, and models that can enhance the efforts of neuropsychologists. It also describes the implications of NI for neuropsychology in the 21st century and the fundamentals that shift away from the conventional modes of research, practice, and communication that have thus far characterized the field.

Vinod Jagaroo is a cognitive neuroscientist. His primary interests are neuroinformatics applied to neuropsychology, and spatial cognition. He is an Associate Professor in the Department of Communication Sciences and Disorders at Emerson College (Boston) and in the Department of Psychiatry and the Behavioral Neurosciences Program at Boston University School of Medicine. Jagaroo is also the founding member of the recently launched Society for Neuroinformatics in Neuropsychology.

In Memoriam

Marie-France Demierre, MD, professor of dermatology and medicine and director of the Skin Oncology Program in Dermatology at Boston Medical Center, passed away unexpectedly at the age of 43 on April 13, 2010, at Boston Medical Center.

Demierre lectured the world over and was internationally recognized for her clinical expertise in the management of melanoma. She was especially dedicated to melanoma prevention and public education regarding safe sun practices—as well as to patient quality of life—and wrote and lectured extensively on these topics.

Rhoda Alanis, MD, Herbert Meshon Professor and Chair at BUSM, and dermatologist-in-chief of the Department of Dermatology at Boston Medical Center, said, “Dr. Demierre was an exception- ally talented colleague who brought tremendous passion to her work and cared deeply about her patients. She was that rare academician who excelled as a clinician, educator, and scholar and was an internationally recognized leader in the management of patients with skin cancers. It is tragic to have lost someone with so much talent and promise so early in her career.”

For many years, Demierre led the BUMC Annual Skin Cancer Screening and volunteered for the annual screening of the Boston Red Sox, where she discovered numerous early malignancies and unquestionably saved lives. She testified repetitively before the Massachusetts Legislature in favor of stricter regulations for the indoor tanning industry and helped document the increase in melanomas among young women who had used tanning beds. She pioneered educational programs for mothers of newborns and young children regarding the lifelong risks of unprotected sun exposure.

In 2009, Demierre was honored for her efforts in raising awareness of sun safety, skin cancers, and melanomas with the President’s Award from the Women’s Dermatologic Society. She was also honored in 2009 by the Boston Red Sox as a Medical All-Star for her tireless community work promoting sun safety awareness and education to children, teens and their parents.

She received her medical degree and clinical training in medicine and dermatology at McGill University. Arriving at Boston University Medical Center for a skin oncology fellowship in 1995, she was recruited back to head the program in 1997. As director of the Skin Oncology Program at Boston Medical Center, Demierre developed and expanded a highly regarded service for care of melanoma patients and a photopheresis program for patients with cutaneous T cell lymphoma (CTCL) and other disorders.

She will be greatly missed.

A broad international perspective is presented through contributions from authors in 19 countries. All chapters and guidelines have been updated to reflect contemporary practices. New chapters have been introduced on the use of chromosomal microarrays in prenatal diagnosis, the social, legal, and public policy issues with special reference to international approaches, and the important perinatal and related fatty-acid oxidation disorders. Aubrey Milunsky is a professor of human genetics, pediatrics, pathology, and obstetrics and gynecology, and director of the Center for Human Genetics at BUSM. Jeff Milunsky is a professor of pediatrics and genetics and genomics, and director of clinical genetics and associate director of molecular genetics at the Center for Human Genetics at BUSM.
Andrey Ostrovsky ’10 has very high aspirations—his plans include strengthening health systems in the U.S. and developing countries through research on social and environmental risk factors that determine well-being. Ostrovsky has already made considerable strides toward accomplishing his goals. Last spring, he received the prestigious American Medical Association Foundation’s 2010 Leadership Award at their national conference. The award is presented to physicians and medical students who exemplify the medical profession’s highest values: commitment to service, community involvement, altruism, leadership, and dedication to patient care. Ostrovsky is one of only 20 medical students in the nation to receive the leadership award this year.

As part of his medical education, Ostrovsky—who is interested in primary care pediatrics and internal medicine—conducts research and has developed a public health assessment tool. Awarded a Doris Duke Clinical Research Fellowship at the end of his third year, he investigated neurodevelopmental outcomes in neonates with congenital heart disease (CHD) at the University of California, San Francisco. His research examined whether an MRI-based technique that measures brain volume and curvature can replace or supplement the current standard of measuring brain development through behavioral and cognitive testing. The research was submitted as an abstract to the 2010 Pediatric Academic Societies Conference.

“We have many extraordinary students at BUSM, and Andrey is one of them,” says Phyllis Carr, MD, associate dean for student affairs. “His dedication to improving public health is so strong that I foresee his making wonderful contributions on both the community and societal levels.”

AMA Foundation honors BUSM student as an outstanding leader in medicine

Honor Medical Society Inducts New Members

Joined by house staff, faculty members, and a BUSM alumna, twenty-four members of the Class of 2010 were inducted into the Alpha Omega Alpha Honor Medical Society. Inductees are recognized for their professionalism, academic excellence, service, and leadership in the medical profession.

Class of 2010

AOA Inductees

Paul Bower  
John Cuson  
Christopher D’André  
Alexander Delano  
Steven Doss  
Daniel Fabi  
Sarah Fexich  
Ravi Garg  
Matthew Gerzbe  
Justin Golden  
Ashleigh Halderman  
Elizabeth Hausman  
Ryan Hunt  
Nicole Jaffe  
Amy Kelly  
James Kimbaris  
Nitin Kulkarni  
Jamie Nathani  
Patrick Redmond  
Ari Sacks  
Daniel Salt  
Matthew Sullivan  
Matthew Watto  
Emily Welsh  
Hsuan Staff Inductees

Jon David Dorfman, MD  
Amanda Ruth West, MBBS  
Faculty Inductees

Todd Hoagland, PhD  
Alumni Inductees

Marie McDowell, MD ’99

The Rebecca Lee Crumpler Academy wins the first annual Academies of Advisors Volleyball Tournament

In February, the six Academies of Advisors went head to head in a volleyball tournament in the Solomon Carter Fuller Building gym. Pictured right are “The Crumpinators” of the Rebecca Lee Crumpler Academy, who won the competition, defeating the Mary Jane Safford Academy in two sets, 21-18, 21-9. The winners received a free breakfast buffet courtesy of the Academies Student Steering Committee and the Student Affairs Office.
ENGmedic student receives grant to study lung cell production

BU ENGmedic student Kelsey Derricks was awarded a highly competitive American Medical Association (AMA) Foundation Seed Grant to conduct research on lung cell production with future implications for developing treatments for chronic obstructive pulmonary disease (COPD). ENGMEDIC is the BU Engineering/Medical Integrated Curriculum that combines an undergraduate degree in biomedical engineering and a degree in medicine.

Derricks, a 2009 graduate from BU’s biomedical engineering program, will expand on her senior research project, Engineering a 3D Lung Extracellular Matrix, completed under the guidance of Matthew Nugent, PhD, BU professor of biochemistry and Bela Suki, PhD, BU professor of biomedical engineering. She will study the mechanisms controlling lung cell production of extracellular matrix and specifically aims to understand how mechanical forces and inflammatory proteases act together to modulate the structure and function of lung extracellular matrix. The goal of these studies is to gain further insight or order to aid in the development of new therapies for COPD, a large group of deadly diseases with few available treatment options.

“Kelsey is an outstanding young physician-scientist in the making and is an ideal candidate for an AMA Foundation grant,” Nugent says. “Her high standards in her work reflect an overall spirit of excellence that is inspiring.”

The AMA Foundation established the Seed Grant Research Program in 2000 to encourage medical students, physician residents, and fellows to enter the research field. The program provides grants to help budding physician-scientists conduct small basic science, applied, or clinical research projects. In 2010 the AMA Foundation awarded 38 seed grants to physicians and students across the United States. Derricks is the first Boston University student to be awarded an AMA Seed Grant.

An early selection program designed for biomedical engineering students who are interested in becoming physicians, the ENGMEDIC program was created in 1990 by the Department of Biomedical Engineering in the College of Engineering and the School of Medicine. A small number of highly qualified students who have completed two years of the pre-medical option of the undergraduate biomedical engineering curriculum are admitted to the program each year.

Two class of 2010 members named Massachusetts Medical Society Scholars

Robert Cole ‘10, recipient of the Arnold P. Gold Foundation Humanism Award and the BUSM Internal Medicine Award, has been a volunteer for many years. While in California, he volunteered at a center for people with mental and physical disabilities. During his years at BUSM, he was active in the Here to Help Advocacy Group for people with intellectual disabilities and served on the Outreach Van Project caring for the homeless.

As a first-year student at BUSM, David Young ‘10 earned the Best Dissection Award in gross anatomy. In 2009, he was inducted into the Arnold P. Gold Humanism Honor Society. A volunteer with Boston Medical Center’s Project Trust Internship program, he was appointed project development manager and a member of its executive board.

Both Cole and Young received recognition for their community involvement as well as their academic performance from the Massachusetts Medical Society (MMS). Each honoree, as one of eight 2010 MMS scholars, received a $10,000 award and was recognized at the society’s annual meeting in May.

Cole also has a master’s in medical science with honors in research from BUSM and has authored articles in the Spine Journal and Journal of Bone and Mineral Research. He is a resident at UCLA Medical Center in internal medicine and plans to specialize in cardiology.

Young has two master’s degrees from BU’s Sargent College in applied anatomy and physiology and in nutrition. He is doing an emergency medicine residency at Brigham and Women’s Hospital in Boston and plans to continue his work with underserved populations, youth development and education, and public policy.

GMS student selected BU Student Employee of the Year

Rebecca Lief, who graduated in May with a PhD in anatomy and neurobiology, began tutoring dental students in 2006 while still in the grind of graduate school. She continued working for the next two years, becoming later coordinator for first-year medical students taking gross anatomy.

“I did it because I love teaching and helping the students,” she says. “It was extra, not part of anything I had to do—it was something I wanted to do.”

The Student Employment Office has sponsored the Student Employee of the Year awards since 1989. This year, for the first time, federal Work-Study students employed at nonprofit and community service agencies off campus were eligible. A five-judge panel of BU staff from around campus chose the winners from the 50 students who were nominated.

Lief was honored at a reception on April 13, 2010, along with three other students. Their names have been sent to the Northeast Association of Student Employment Administrators for possible state, regional, or national honors.

Despite his youth, third-year BUSM student Andrew Francis has dedicated considerable time and effort to understanding and treating eye diseases in local and international populations that often receive very little care in this area.

On a grant from the International Health Summer Research Scholarship at BUSM, last summer Francis travelled to Accra, Ghana where he conducted nine weeks of full-time research into risk factors for glaucoma progression in the native population. Glaucoma, a leading cause of blindness in Ghana, and this is the first study there to correlate potential risk factors such as advancing age, gender, intraocular pressure, and increasing cup-to-disc ratio using standardized International Geographical and Epidemiologic Ophthalmology criteria to define moderate and advanced glaucoma.

Haiyan Gong, MD-PhD, BUSM associate professor of ophthalmology and anatomy and neurobiology, was Francis’ mentor on the project. “Andrew Francis is an exceptional young man and a prodigiously hard worker with large goals he will achieve in his career,” says Gong. “His extracurricular activities and research demonstrate exceptional leadership in addressing the health care needs of minorities. I have no doubt that he has the potential to make important contributions to academic medicine and address the needs of the underserved.”

Francis’ research was accepted for presentation at the 2010 World Ophthalmology Congress held in Berlin, Germany. He also presented his summer research project at the Unite for Sight national conference and the Association for Research and Vision in Ophthalmology conference.

In the winter, he went to Guatemala with Mayan Medical Aid on an educational scholarship to provide medical care to the indigenous population who suffer from a cycle of poverty and poor nutrition that results in high rates of disease and early death.

A native of California and the son of physicians, Francis has raised more than $3,000 in philanthropic funds to offset the cost of cataract surgeries in Ghana and for medical supplies in Guatemala. In Boston, he is organizing a sustainable fundraising system for the Mayan Medical Aid program.

“Globally, more than 200 million people are visually impaired and 45 million people are blind,” said Francis, who plans to specialize in ophthalmology. “I want to devote myself to international activities, strategic research, and volunteering to help deliver health care on a global level, possibly developing a nonprofit.”

He is currently the president of the BUSM Unite For Sight (UFS) chapter and is the UFS campus representative. One of his UFS projects is organizing vision-education events and teacher-training workshops in the Boston public school system to identify children with academic difficulties due to vision problems. He has worked to connect uninsured patients to free eye-care services, reaching out to homeless shelters, libraries, and nursing homes throughout Boston, and has also managed an ongoing eyeglass collection drive for two years that has sent more than 1,000 pairs of glasses to villages in Ghana.

In recognition of his community service and research, he received the Unite for Sight Volunteer of the Year Service Award at their annual conference.

Edward Fineberg, MD, BUSM professor, emitterus chair of ophthalmology and advisor to Francis, sees a bright future ahead for the medical student: “He is already active in the roles that an academic surgeon fills in teaching, research, and service.”

Francis earns a local patient at theSanta Cruz La Laguna clinic in Lake Atitlan, Guatemala. “Globally more than 300 million people are visually impaired and 45 million people are blind.”
More than forty percent of the Class of 2010 Match in Primary Care Specialties

Since 1952, Match Day has been a rite of passage for medical students across the country. Getting the envelope with the all-important news of which residency program one has been accepted into is the culmination of many days and of study, research, and clinical rotations.

The 140 BUSM members of the Class of 2010 celebrated the milestone with family, friends, and BUSM mentors. This year, more than 40 percent of the graduates are pursuing careers in internal medicine, pediatrics or family medicine. Anesthesiology, obstetrics and gynecology, and diagnostic radiology were the next highest choices followed by general surgery.

“BUSM faculty and staff are very proud of our outstanding students. Match Day is a rite of passage, perhaps as memorable as graduation for medical students are in their future endeavors and learn from our young physicians. We wish them the very best in their future endeavors,” said Phyllis Carr, MD, associate dean of students and professor of medicine.

From Emergency Room to Corner Office

Joseph Fastow ’70, founder, president, and medical director of Physician Management Ltd.

Growing up in a small town in New Jersey, Joseph Fastow was a science fan and fascinated by the study of medicine. A biology major at Rutgers, when it came time to decide on a medical school he chose BUSM, the second-smallest medical school in the country, partly because of its size.

“I grew to love the school and faculty,” he says. Fastow wasn’t sure what specialty he wanted to pursue when he graduated, but internal medicine seemed to have the broadest exposure in patient care. He completed his medicine internship at Pennsylvania Hospital in Philadelphia, then spent two years with the Public Health Service in Bethesda, Maryland.

Fastow fell in love with the Baltimore-Washington, DC, metropolitan area. After his internship, he realized that internal medicine was not for him and started an anesthesiology residency at George Washington University Hospital. Soon he became aware of a number of emergency medicine residencies—including some at Johns Hopkins, where he was accepted 1974. “I felt that the spontaneity of emergency medicine was a better fit for me than the regimentation required of anesthesia, and the flexibility of shift work allowed me to be a clinician and a contractor of physician services,” he explains.

In 1972, a cardiologist friend mentioned to him that his hospital had agreed to fund night and weekend coverage for their CCU. Fastow, seeing a business opportunity and a chance to provide a service to hospitals by direct-contracting with physicians, began calling cardiology fellows in the Baltimore-Washington metropolitan area. “When I had a critical mass, I contacted the hospital,” he says. By 1975, Fastow and his wife, Ellen, had formed Physician Management to manage physician coverage contracts in Maryland and Virginia; shortly they expanded to New Jersey. The company has contracted for the provision of urgent care services, internal, pediatric, intensiv-
1. According to these alumni, 1965 was a great year and a great class.
2. Dawn and Michael Mullarkey ’70 with Lee and Paul Haydu ’70.
3. Associate Dean for Student Affairs Phyllis Carr, MD, with Class of 2010 members Carrie Charlton and Kurtis Birch.
4. Celebrating its 40th reunion is Jeffrey Harris ’50 with one of the newest members of the Alumni Association, Darrin Hall ’10.
5. Alumni Association President Elizabeth Barnett ’85 passes the gavel to President-elect N. Stephen Ober ’86.
6. Classmates Robert Valerio and Gene Grindlinger enjoying a collage of Class of 1970 headshots taken at the time they and their class entered BUSM.
7. Jean Ramsey ’90, assistant dean for alumni affairs, with Kenneth Walsh, PhD, BUSM professor of medicine and director of the Whitaker Cardiovascular Institute. Walsh presented the Sidney Kibrick Memorial Lecture on “Molecular Control of Body Composition.”
8. Alan Horowitch ’80, Richard Rothstein ’80, and Steven Sepe ’82, in the Hiebert Lounge with the Boston skyline as the backdrop.
10. Class of 1960 members enjoying their reunion.
11. Mark Rapoport ’70, BU student Ramya Kumar, Dean Karen Antman, and Assistant Dean Jean Ramsey ’90.
12. As part of the tour of the campus, Peter Jeffries ’60 and Mary Smith Reed ’80 practice their clinical skills on the Sim Man in the School’s Simulation Center.
13. It may have been 30 years since they graduated, but to the many members of the Class of 1980 who joined together for their reunion it seemed like yesterday.
14. Members of the Class of 1960 received 50th-Reunion gifts as special guests of the Alumni Association.
42

2010 Alumni Awards

The 2010 Alumni Awards were presented to Drs. Colan and Hunter by Assistant Dean for Alumni Affairs, Jean Ramsey at the Annual Meeting and Banquet of the Alumni Association on May 1, 2010.

Distinguished Alumnus Award

Steven Colan ’77 is a professor of pediatrics at Harvard Medical School and chief of clinical operations in the Department of Cardiology at Boston Children’s Hospital.

Colan earned a Bachelor of Science in Mathematics and Philosophy from Massachusetts Institute of Technology. He completed his internship and residency in pediatrics at Massachusetts General Hospital and a fellowship in cardiology at Boston Children’s Hospital.

His clinical work includes caring for patients with ventricular function issues, including cardiomyopathy.

Humanitarian Award

Christine Hunter ’80 is a Rear Admiral in the United States Navy and Deputy Director for TRICARE Management Activity, which coordinates health care for more than 9 million military beneficiaries worldwide.

As deputy director, Hunter serves as the principal advisor to the U.S. Assistant Secretary of Defense (Health Affairs) on the Department of Defense health policy and performance. She oversees the acquisition, operation and integration of the Department of Defense managed care program within the Military Health System.

In 2000, Dr. Hunter assumed command of Naval Medicine West and Naval Medical Center San Diego, where she developed the concept of Operations for resuscitative surgery aboard small combatant ships which later served as the prototype for today’s Expeditionary Resuscitative Surgical System. She was then Chief of Staff of the Bureau of Medicine and Surgery, where she ensured the ongoing deployment of medical personnel in support of Operations Enduring Freedom and Iraqi Freedom and organized medical support for tsunami, hurricane, and earthquake relief missions.

She led the development of Navy Medicine’s Pandemic Flu Response Plan, and implemented the reorganization of Navy Medicine to create an Echelon II Headquarters with four subordinate regional commands.

In 2007, Dr. Hunter assumed command of Naval Medicine West and Naval Medical Center San Diego, where she developed nationally-acclaimed programs for wounded warriors including amputee care, combat stress control, and traumatic brain injury; expanded health services across the Pacific; and, as chairman emeritus, continues to play regularly, both singles and doubles.

Before the journey’s done and the coda ends, let us not forbear, but let us summon the will to bend and forge…one last poem.

Nicholas Giosa

July-August 2009

Awards Honors

Steven Colan ’77 is congratulated by Alumni Association President Elizabeth Barrett ’15.

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She is a graduate of the combined BU six-year program where she earned dual Bachelor of Arts and Doctor of Medicine degrees with honors in 1980.

She has served as Director of Medical Services at Naval Medical Center San Diego, where she redesigned primary care services and developed the Medicine Subvention project that served as the model for TRICARE for Life. She also served as executive assistant to the Surgeon General, focusing on best practices in primary care and enhancing Navy Medicine’s service to the fleet.

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children of parents in the U.S. military, and incarcerated populations. My husband and I also had the opportunity to practice medicine in the Middle East, which was a very rewarding experience.

“We have four children and six grandchildren and enjoy family vacations at the beach in southern California. We are most grateful for all the blessings in our lives, including our family, and medi- cal careers, which we have enjoyed, especially since I decided to become a pediatrician when I was nine years old. I worked full-time in medicine in many diverse settings. I com- pleted my education and training many years ago,”

1968
Michael J. Kassoum of Chevy Chase, Maryland, has joined Annu's Military Health Care Advisory Committee. Dr. Kassoum, a retired U.S. Army brigadier general, recently served as the undersec- retary of the VA for Veterans Health Adminis- tration within the VA for more than 30 years. He is a professor of surgery at the University of Maryland School of Medicine and has authored numerous articles and textbooks in the field of surgery.

1965
Michael L. Apuzzo, the Edwin M. Todd/Sren H. Wells, Jr., Professor of Neurological Surgery, Radiology, Oncology, and Physics at the Keck School of Medicine received the Francisco Durante International Prize in Neurosurgery. Apuzzo was lauded as "an inspiring visionary whose ideas, research, and contributions revolutionized neurosurgery worldwide." Awarded only occasionally, the Durante Prize is administered jointly by the Universities of Mesi- sina, La Sapienza, and the European Association of Neurosurgical Societies. Apuzzo has been re- garded as "a pioneer in the field of microsurgery, cerebrovascular surgery, endoscopy, imaging-guided surgery, and radiosurgery, and for introducing con- cepts of minimal invasion, cellular and molecular methods for functional restoration, and nanotechno- logy to the neurological discipline." He is editor-in-chief of the international publication World Neurosurgery.

Curtis R. Clayman of Hanover, Massachusetts, writes, "I am still practicing full-time and enjoying every aspect of it (but not the paperwork). Barbie, my wife, is my crackerjack office manager. One of our three has pursued the medical field as a cardiologist."

1968
Joshua Wynne ’71 named vice president and dean of University of North Dakota School of Medicine and Health Sciences.

The University of North Dakota (UND) has named Joshua Wynne UND’s Vice President for Health Affairs and Dean of the School of Medicine and Health Sciences (SMHS).

Wynne has served as interim vice president for health affairs and interim dean of the UND School of Medicine and Health Sciences since 2009. He is a senior physician executive with strong leadership, administrative, clinical, edu- cational, and analytical skills, and extensive experience in multiple aspects of academic health care systems.

Wynne came to UND in 2004 as vice dean for the SMHS. Prior to that position he was senior analyst at the Institute for Strategic Analysis and Innovation, Detroit Medical Center. Wynne served as chief of the Divi- sion of Cardiology at Wayne State University School of Medicine in Detroit. He completed his internal medicine resi- dency and cardiology fellowship at Peter Bent Brigham Hospital, and spent the subsequent six years at the Harvard University-affiliated Brigham and Women’s Hospital. He holds an MBA degree from the University of Chicago and an MPH degree in health management and policy from the School of Public Health, University of Michigan. Wynne served in the United States Army as a battlefield surgeon while stationed in the Republic of Korea from 1973 to 1975. He lives in Kentucky and work locations. I am hoping to focus in Alaska off and on doing ER, hospital, and outpatient at the Northern Exposure. Regards to all my classmates."

1970
Robert A. Vigersky of Washington, D.C., writes, “This coming year, the 40th since my graduation from BUMS, is also the year that I am the pres- ident of the Endocrine Society, the world’s largest and most prestigious organization devoted to the research and practice of endocrinology. Over my career I have developed expertise in the research, clinical, research, and clinical practice. However, my election to the Society’s presidency is a unique honor since I am the first person ever to have been in full-time private practice of endo- crinology and become the Society’s president. In recognition of this, I have established the Harold Vigersky Practicing Clinician’s Travel Award in honor of my father. These awards will assist those who want to come to the Society’s scientific and educational meetings but have been unable to do so because of lost income while they are away from their practices. I look forward to reconecting with my classmates in May.”

1976
Stuart L. Davidson of Alexandria, Virginia, joined Edward White, MD, and Burton Pearl, MD, on the staff of NIH Orthopedics beginning in March of 2010. Dr. Davidson's practice involves all aspects of general orthopedic surgery, including pediat- ric orthopedics, sports medicine, trauma, and adult reconstructive surgery. From 1981 to 1983, Davidson worked for Framingham Orthopedic Associates Inc. in Framingham, Mas- sachusetts. Since 1983, he has served on the staff of Mount Vernon Orthopedic and Podiatric Associ- ates and as chief of surgery, chairman of the sur- gery department and president of the medical staff of NIH VA Mount Vernon Hospital in Alexandria, Virginia. From 1995 to present, Davidson has also served as a member of the courtroom medical staff at Shore Memorial Hospital at Nassawadox, Vir- ginia. Davidson is a fellow of the American Board of Orthopedic Surgery.

1980
Daniel Levy of Newton, Massachusetts, was recently awarded the Population Research Prize by the American Heart Association. He is the direc- tor of the Framingham Heart Study of the National Heart, Lung, and Blood Institute and professor of medicine at Boston University School of Medicine. This award recognizes an individual who makes outstanding contributions to the advancement of cardiovascular science and who currently heads a major population research laboratory.

Levy’s accomplishments include the recruitment of a third generation of participants in the ongoing heart study and the use of imaging methods. He was the leader of a consortium of 30,000 participants from around the world that identified eight novel genetic regions associated with blood pressure. He also established the SABRE CVD Initiative, which will combine a wide range of Fram- ingham data to increase knowledge of the biology of cardiovascular diseases and for the discovery of new targets for therapy. (picture and press release included, in classnotes folder.)

1985
Alan S. Muir of Woodbury, New York, writes, “I was recently named the chairman of medicine at Nassau University Medical Center in East Meadow, New York. As well, I received an inaugural appoint- ment to the new Hofstra University School of Medicine in Uniondale, New York as professor of medicine.”

1993
Ruzayn Nouri of Miami, Florida, is the director of Mohs, dermatologic and laser surgery, director of surgical training, as well as professor of dermatol- ogy and otolaryngology at the University of Miami Lemon Heart Institute and College of Medicine. In his role as dermatologic surgeon, he specializes in Mohs micrographic surgery for the treatment of skin cancer. In addition, Dr. Nouri is a dermatologic specialist with the American Academy of Dermatology and the American Society of Mohs Medicine. He is also a fellow of the American Society for Dermatologic Surgery. He is a member of the American Society for Dermatologic Surgery and the American Academy of Dermatology. He is also a member of the American Society for Dermatologic Surgery and the American Academy of Dermatology.

2000
Mark Amorosino and Jessica Lew Amorosino of Newburyport, Massachusetts, are proud to announce the birth of a baby girl, Madeline Lee Amorosino. She was born on November 16, 2009, in Massachusetts, and weighed 7 lbs, 1 oz. Mark, Jessica, and their big brother Steven are doing great.
In Memoriam

1943-A

Saul C. Holtzman of Dunwoody, Georgia, on Sunday September 13, 2009, at the age of 91. Originally of Boston, MA, he was a psychiatrist, a veteran of the U.S. Army, and a long-standing member of the Army Reserves. He graduated from Boston University School of Medicine in 1943. After WWII, he became a state representative in Tennessee, Georgia, and Massachusetts, where he worked at the Veteran’s Administration and opened his own psychiatric practice. In 1947, he was called to active duty by the Army and completed two tours as chief of psychiatry at the 97th General Hospital in Frankfurt, Germany, and as chief of community mental health activities at Tripler Army Medical Center in Honolulu, Hawaii. He then spent two years as chief of psychiatric services for the VA Medical Center in Lebanon, Pennsylvania. He also served as chief of inpatient psychiatry at the VA Medical Center in Albuquerque, New Mexico until he retired. Throughout his career, he received numerous awards and recognition for his outstanding service in the military, the Veteran’s Administration, and as a civilian in private practice. He leaves behind his wife, Mildred Holtzman of Dunwoody, whom he married for 62 years; his daughter and son-in-law, Deborah Holtzman and Rick Rubin of Dunwoody; grand-children, Emily and Sam Rubin; and a granddaughter, Kimberly Holtzman of Coconut Creek, Florida. He is survived by his sister, Karen Holtzman of Los Angeles, California; daughter Kimberly Holtzman of Los Angeles, California; daughter Karen Holtzman of Coconut Creek, Florida; and one son-in-law and his wife, Bob. He is also survived by his daughter, Kimberly Holtzman of Los Angeles, California; daughter Karen Holtzman of Los Angeles, California; and his three living children and eight grandchildren, as well as his nieces and nephews.

1946

Robert M. Steinel of Placentia, California, on April 13, 2009. Born in 1919 in Bridgeport, Connecticut to Alexander Scottdale Steinel and Isabella Macdonald Steinel, he grew up in the city of Bridgeport, Connecticut. He attended Tufts University before completing his undergraduate education at the University of Alabama. He was accepted to Boston University School of Medicine and received his medical degree in 1946 after serving a short stint in the US Army during World War II. He completed his internship at Caritas Camey Hospital in Boston and then went on to complete a postgraduate course in surgery in Edinburgh, Scotland. He then returned to Stanford, where he worked as medical director at Sikorsky Aircraft Corporation and started a part-time practice in medicine on the side. During the Korean War, he enlisted in the Navy as a flight surgeon and achieved the rank of Lieutenant Commander. Upon leaving the Navy, he moved with his family to Orange County, California, where he met and married Claire Rubenstein in 1957 and developed a career in internal medicine and allergy. In 1969, he opened a private allergy practice in Anaheim and practiced medicine until just a few years ago. He is survived by his four children and eight grandchildren from his first marriage, and by his wife, Phyllis, and her three children and eight grandchildren. As a boy, he was his oldest sister, Mary, who is now 92 years old.

1954

Duncan W. Campbell of Tucson, Arizona, on March 8, 2010. A Tuscon physician and surgeon for 25 years, he was also an avid pilot and sailor. He loved great adventures, great friends, great books, great meals, and great jokes. He had a wry sense of humor, a tender heart, and many pearls of wisdom, which he shared with his five daughters and their families. As he often said, “Sing no sad songs for me.”

1955

Edward D. Swiss of Newburyport, Massachusetts, on August 17, 2009. Born in Elizabethtown, New Jersey in 1917, and died on July 4, 2009, his wife, Claudette Rubenstein Swiss, from college. He received a PhD in Pharmacology from Boston University in 1954 and graduated with honors from Boston University School of Medicine in 1955. He served his internship in internal medicine at Ohio State University, where he was a member of many clinical research teams. He was also a veteran of the US Navy. After serving on the Anna Jacques Hospital staff for many years, he began his retirement in 1996 at Massachusetts General Hospital, where he kept up his love for his colleagues. Dr. Swiss served on the Newburyport School Committee from 1962 to 1974. He was a member of the American Medical Association for 50 years. Dr. Swiss leaves behind his beloved wife, Peg, daughters Diane Swiss and Deborah Swiss, and two grandchildren, Alex and Allison Rice-Swiss.

1957

Pantaleimon Shoeh of Sea Cliff, New York, on January 4, 2010. Born in 1942 in Thessaloniki, Greece, his father was a lawyer educated at St. Petersburg University who served as a local government official in pre-revolutionary Russia, and his mother was a graduate of the Smokey Institute for Noble Young Ladies and worked as a German Language teacher. Dr. Shoeh was educated in a German school in Munich, Germany. Upon arriving in the US in 1950, he received his bachelor’s degree from Davis & Brails College in West Virginia in 1952. He graduated from Boston University Medical School in 1967 and was a resident at Maimonides Hospital in Brooklyn, New York. He served in the armed forces during the Korean War and was a captain at the Air Force base in Blythe, Mississippi. Upon completion of military service, he returned to Sea Cliff, New York and worked as a pathologist for the Nassau County Medical Examiner’s office. He also worked for Mercy Hospital for many years, retiring in 1995. He was employed at Quest Diagnostics Laboratories until January of 2008. He leaves his wife, Anna Shoeh, his daughters, Tatiana Shoeh and Elisabeth Shoeh, his sons, Steve Shoeh and his sister, Alexandra Zuzuln, as well as nieces, nephews, and many other relatives.

1960

Jane V. Anderson of Seattle, Washington, on Janu- ary 4, 2010. Born in 1927 in Thessaloniki, Greece, her father was a lawyer educated at St. Petersburg University who served as a local government official in pre-revolutionary Russia, and his mother was a graduate of the Smokey Institute for Noble Young Ladies and worked as a German Language teacher. Dr. Shoeh was educated in a German school in Munich, Germany. Upon arriving in the US in 1950, he received his bachelor’s degree from Davis & Brails College in West Virginia in 1952. He graduated from Boston University Medical School in 1967 and was a resident at Maimonides Hospital in Brooklyn, New York. He served in the armed forces during the Korean War and was a captain at the Air Force base in Blythe, Mississippi. Upon completion of military service, he returned to Sea Cliff, New York and worked as a pathologist for the Nassau County Medical Examiner’s office. He also worked for Mercy Hospital for many years, retiring in 1995. He was employed at Quest Diagnostics Laboratories until January of 2008. He leaves his wife, Anna Shoeh, his daughters, Tatiana Shoeh and Elisabeth Shoeh, his sons, Steve Shoeh and his sister, Alexandra Zuzuln, as well as nieces, nephews, and many other relatives.

1963

Richard E. Bickham of Bay City, Michigan, on December 18, 2009, at the age of 76. Born in Bay City in 1933 to the late Edward and Isabella (Rajewski) Bickham, he graduated from Wayne State University in Detroit and received his medical training at Boston University School of Medicine. He served his residency at Henry Ford Hospital in Detroit and returned to Bay City to practice as an area pediatrician for 37 years. He served with the U.S. Air Force. He is survived by his wife, June; his children: Edward, John (Kathleen), Marcia (Raymond) Korth, two grandchildren: Lori Wackerl, Aerial Bickham, Halley Bickham, Arr Bickham, and Katie Bickham; three brothers: Pat (Ussy) Bickham, Larry Bickham, and John (Mary) Bickham; and a sister, Jane Care; he was preceded in death by two brothers: Jim and Jerry Bickham.

1964

Martha B. Boyd of Boston, Virginia, on March 12, 2010. Born in 1920 in Cranston, Rhode Island, she graduated from Northeastern University in 1959 and, while raising children, earned her medical degree from Boston University School of Medicine in 1964. That year she received a fellowship in pharmacology from the National Institutes of Health and later did her surgical internship at BOSTON UNIVERSITY School of Medicine | Campus & Alumni News

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Alumni Association Phonathons continue to support the School of Medicine

On Tuesday, March 16, 2010, 37 students and six alumni came together for the Spring Phonathon to ask alumni to contribute to the annual fund, scholarships, and student organizations. Combined with totals from the Fall Phonathons in November, $135,000 was donated to the School from alumni during the three nights of calling.

1. Motion Calendar ‘11 reached out to alumni throughout the evening, particularly concentrating on younger twins for the Stethoscopes for Students program.
2. George Agila ‘10 and Michael Freedberg ‘10 called alumni across the country on the night of Boston. They were the last Phonathon for George and Michael as student volunteers, both graduated in May and headed to residency in family medicine and pediatrics, respectively.
3. The Phonathons do more than fundraise for the School’s programs and services. Alumni called classmates to encourage attendance at Alumni Weekend. Howard Ledewitz personally spoke to dozens of his classmates from the Class of 1965 to remind them about their 45th Reunion in the spring.
4. Emily Kild, Amanda Delairies, and Lee Jamison, members of the Class of 2011, spent almost before a night of successful calling.

Continuing Medical Education Conferences

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 24 – 25, 2010</td>
<td>Inflammatory Bowel Disease: The Art and Science in the Diagnosis and Treatment in 2010</td>
<td>Langham Hotel, Boston, MA</td>
</tr>
<tr>
<td>October 1, 2010</td>
<td>2010 Head Trauma and the Athlete Conference Center at Waltham Woods, Waltham, MA</td>
<td>Massachusetts Medical Society</td>
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<tr>
<td>October 15, 2010</td>
<td>Medical-Legal Partnership Advocacy Boot Camp</td>
<td>Location TBD</td>
</tr>
<tr>
<td>October 16 &amp; 17, 2010</td>
<td>Pediatric Infectious Diseases in the Headlines</td>
<td>Royal Sonesta Hotel, Cambridge, MA</td>
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<tr>
<td>October 25 – 27, 2010</td>
<td>The 11th International Symposium on Virtual Colonoscopy</td>
<td>Westin Copley Place, Boston, MA</td>
</tr>
<tr>
<td>January 2 – 6, 2011</td>
<td>The 27th Annual Conference on Obstetrics, Gynecology, Perinatal Medicine, Neonatology and the Law</td>
<td>Fairmont Kea Lani Suites, Maui, HI</td>
</tr>
<tr>
<td>January 5 – 8, 2011</td>
<td>The 11th Annual Multispecialty Conference on Medical Negligence and Risk Management in Medicine</td>
<td>Fairmont Kea Lani Suites, Maui, HI</td>
</tr>
<tr>
<td>March 25 – 26, 2011</td>
<td>Steven J. Parker Memorial Developmental Behavioral Pediatric Conference: Clinical Problems in Primary Care</td>
<td>Royal Sonesta Hotel, Cambridge, MA</td>
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For more information, please 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

Calendar of Events

<table>
<thead>
<tr>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>Graduate Medical Sciences Welcoming Barbeque</td>
<td>Talbot Green, BUSM</td>
<td>Monday, August 30, 2010</td>
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<tr>
<td>Alumni Association Fall Phonathon</td>
<td>Hibbert Lounge, BUSM</td>
<td>Thursday, September 23, 2010, 5:30 p.m.</td>
</tr>
<tr>
<td>Alumni Association Fall Phonathon</td>
<td>Hibbert Lounge, BUSM</td>
<td>Tuesday, October 5, 2010, 5:30 p.m.</td>
</tr>
<tr>
<td>University Alumni Weekend</td>
<td>Young Alumni Reunion/SMED Reception</td>
<td>Friday and Saturday, October 29-30, 2010</td>
</tr>
<tr>
<td>Dean’s Club Dinner</td>
<td>Board of Trustees Ballroom</td>
<td>Saturday, October 30, 2010, 6 p.m.</td>
</tr>
<tr>
<td>Alumni Association Fall Phonathon</td>
<td>Hibbert Lounge, BUSM</td>
<td>Monday, November 15, 2010, 5:30 p.m.</td>
</tr>
<tr>
<td>Match Day</td>
<td>BUSM</td>
<td>Thursday, March 17, 2011, 12 Noon</td>
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<tr>
<td>Chester S. Keefor, MD, Society Dinner</td>
<td>Friday, March 18, 2011</td>
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<tr>
<td>Alumni Weekend</td>
<td>Friday and Saturday, May 13-14, 2011</td>
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<tr>
<td>Commencement Weekend</td>
<td>Friday to Sunday, May 20-22, 2011</td>
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Officers

President
N. Stephen Ober ‘86

First Vice President
Michael C. Choo ‘87

Second Vice President
Katherine L. Phaneuf ‘88

Secretary
Bernard L. Huang ’62

Assistant Secretary
Robert O. Valerio ’70

Treasurer
Barry M. Manuel ’58

Assistant Treasurer
Ronald F. Backer ’70

Directors
Kenneth B. Simons ’80
Carol Spigus Savage ’92
Stephen M. Tringale ’90
David P. DiChiara ’84
Daniel Oates ’00
Adrian Oblak, PhD ’10

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