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I N S I D E

McNary Learning Center opens doors

(and windows)

The consummate educator, William F. McNary Jr., would have been proud of the learning center named in his honor. **Story, page 2.**



MESSAGE FROM THE DEAN

There have been several exciting developments at the School of Medicine in recent months. I am particularly proud to announce that the School of Medicine has received a national award for its commitment to the community and public health: the 1995 Outstanding Community Service Award of the Association of American Medical Colleges.



This award recognizes Boston University School of Medicine's longstanding commitment to, and support of, meaningful service to the residents of Boston. It honors the students and faculty who began making house calls to elderly Boston residents more than one hundred years ago and who continue to discover new ways to bring health care services into homes, homeless shelters and community health centers across the city.

This commitment will be further strengthened by the merger of the School's two affiliated hospitals. On Oct. 6, Massachusetts Gov. William Weld signed a historic piece of legislation that authorized the merger of Boston City Hospital, a venerable public hospital, and the private Boston University Medical Center Hospital. Negotiations should be completed, and the merger official, on July 1, 1996. This merger assures that the mandate of providing health care for the city's underserved and low-income population will continue into the 21st century.

Other considerations as we face the future are the sweeping changes taking place in the health care environment, and their impact on medical education. In order to ensure the School's prominent position in health care education and research for many years to come, we have embarked on an exciting reengineering process.

I chair a steering committee, with Robert Meenan, MD, MPH, director of the School of Public Health as vice chairman, that is directing a process involving virtually everyone at the medical school, as we seek ways to advance teaching, research and clinical practice in a new era.

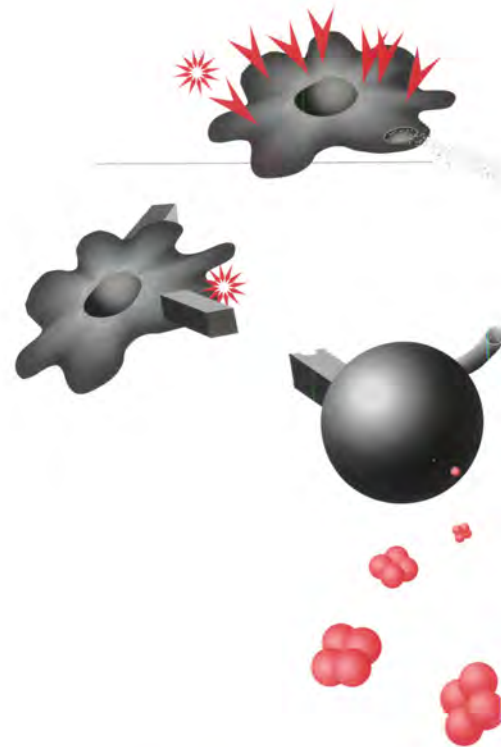
The committee has thus far identified four opportunities deserving initial attention: enhancing support for clinical trials; expanding and creating non-MD education programs; reengineering financial processes, including grants administration; and reorganizing academic departments.

Many of you are aware of BioSquare, the \$350 million business park being developed by Boston University and Boston University Medical Center Hospital on Albany Street, across from the School of Medicine. Recently, more than 100 executives from biotechnical and biomedical industries attended a reception to launch marketing efforts for this business venture. As tenants choose to locate at BioSquare, we will add three research and office buildings, a parking garage, and a hotel and conference center.

The partnerships that will be developed between our Medical Center and biomedical companies and other businesses will benefit all participants, as well as the economy of our city and state.

Aram V. Chobanian

Aram V. Chobanian, Dean
Boston University School of Medicine



IN THIS CORNER

Participating in CityLab, one of BUSM's many community outreach programs, Kissi Stinson, a student at University School in Boston, is instructed in a biotechnology class by Don DeRosa, CityLab education coordinator.



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Features

The McNary Learning Center /2



A vital new learning environment mirrors in spirit the man for whom it is named, the late William F. McNary Jr., PhD.

IL-16 /5

During a decade of painstaking research, a BUSM team identifies a new interleukin. Now the researchers are exploring whether IL-16 can be manipulated to treat asthma—and HIV 1.

Susan Leeman /8

She once considered going into the theater, but instead she has helped blaze the field of neuroendocrinology.



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Cover: The McNary Learning Center's 20-workstation computer classroom includes interactive computer teaching aids and a program that enables professors to observe and communicate via computer with students working at individual terminals.

Cover photograph by Craig MacCormack

Editor Jennifer O'Brien
Boston University Medical Center, Department of Public Relations

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The McNary Learning Center

Inspired by a man who motivated many

GALA OPENING

Some 300 guests turned out at the School of Medicine on Nov. 9 for the dedication of the McNary Learning Center, named in honor of the late William F. McNary Jr., PhD, a teacher and associate dean of student affairs. Dean Aram V. Chobanian, Boston University President John Silber and Andy Chiou, MD, the 1992 recipient of the William F. McNary Jr. Student Teaching Award, spoke of McNary's love for teaching and the fact that his spirit has left an indelible mark on the very fabric of the School.

PASSING ON A LEGACY



GUSTAV FRIEDMAN

Following the inauguration, William F. McNary Jr.'s nephew, Joseph, stepped up to a terminal in the center's computer classroom. McNary's wife, Jean, and Arthur Culbert, PhD, associate dean of student affairs, looked on.

Even in death, William F. McNary Jr., PhD, has found a way to take care of School of Medicine students.

Before losing his battle with cancer in 1991, McNary, the beloved first associate dean of student affairs at BUSM, was told that the School planned to establish a student resource center in his honor. He was pleased with the recognition and with what the learning center would mean for BUSM students. But neither he, nor his wife, Jean, could have expected the breadth of the center that was unveiled on Nov. 9 in an inaugural ceremony at the School. Nor could they have expected the widespread outpouring of financial support that his former students and friends have provided for the center. These contributions have already resulted in more than \$1 million in donations. Future gifts will be used to continue to pay for the cost of building the center.

"The dynamics of the McNary Fund have been extraordinary," says Donald Bell, associate vice president for development at BUSM. "It is very unusual to have a broad spectrum of individuals, rather than just a few

major donors, contribute money to a center established in someone else's name—it defies normal fund-raising practice."

"Bill would be ecstatic with the center," says McNary's wife, Jean. "He believed that all students need spaces where they can gather together and study. He also believed in continually re-evaluating the way in which students are taught, and I know he would have been pleased with the small seminar rooms and new teaching technologies. He would use many approaches to teaching and stick with the ones that worked," she says, "but he never wanted things to get stale. He would change often."

McNary dedicated 41 years—more than half of his life—to the School of Medicine. He introduced more than two-thirds of the living alumni to gross anatomy, and served as an administrator, counselor and friend to students and faculty.

The center named in his honor comprises the entire first floor of the newly renovated Housman Building, which opened this fall with state-of-the-art laboratories and offices from the basement through the sixth floor of the 10-story building.

"We are very excited about the impact the McNary Learning Center is already having on the educational environment here at the School," says Dean Aram V. Chobanian, MD. "The creation of the center and the renovation of the Housman Building overall underscore the School's commitment to continually reassessing its programs and to maintaining itself as a superior environment for the study of medicine and the pursuit of scientific knowledge."

Physically, the center is designed to help meet the classroom needs created by the School of Medicine's new curriculum, which the School began imple-

M McNARY LEARNING CENT

MISSION

To foster an intimate, interactive educational environment supported by small classrooms and seminar rooms, advanced audiovisual technologies and computer-based video instruction.

PRIMARY FUNDING

More than \$1 million to date, donated primarily by alumni and friends. Future gifts will be used to continue to pay for the costs of the Center.



"To me, he was the best. He was a natural born teacher. I guess his philosophy of teaching was, 'use anything that works.'"

—Jean McNary



William F. McNary Jr., PhD, well-loved teacher and colleague, chats with a student in 1972.

menting in 1991, and the expanded programs of the School of Public Health (SPH) and the Division of Graduate Medical Sciences. The new classrooms, seminar rooms and conference rooms are intended to foster a student-centered, small-group approach to studying that emphasizes student participation, cooperative group learning and problem solving.

Spiritually, the McNary Learning Center represents something equally vital to the School's mission: It is a permanent testament to a man who dedicated his career to instilling in his students a reverence for medicine.

"You come across one or two Dr. McNarys in your entire academic career, if you're lucky," says 1971 graduate George Whitelaw, MD, associate professor of orthopedic surgery at BUSM, chief of orthopedics at Boston City Hospital and president of the BUSM Alumni Association. "The knowledge he possessed was superb, but there are lots of people who have knowledge. He was able to make it come alive. And you never felt intimidated by him. He was kind,

"You come across one or two Dr. McNarys in your entire academic career, if you're lucky. The amount of knowledge he possessed was superb, but there are lots of people who have knowledge. He was able to make it come alive."

—George Whitelaw, MD (BUSM '71)

BRADFORD F. HERZOG

FACILITIES

Five classrooms of various size, with technology providing satellite-based programming, closed-circuit television programming, video projection and access to the Medical Campus computer network.

Seven seminar rooms to facilitate core curriculum study-group classes.

Computer classroom with 20 workstations utilizing interactive computer teaching aids and providing computer-assisted interaction between the professor and individual students, as well as a language lab.

Dean's conference room



BUSM students engage in an integrated problem-solving class in one of the McNary Learning Center seminar rooms.

understanding and took an interest in everyone.”

The McNary Learning Center is, itself, intended to make medicine come alive for students. Its audiovisual technology systems allow for teacher-student interaction via computer and for visual-based learning. The five classrooms are equipped to provide satellite-based programs, closed-circuit television programs, video projection and access to the Medical Campus computer network.

The crown jewel of the center is its computer classroom, which contains 20 workstations equipped with IBM-compatible Apple Power PC computers. This classroom enables professors to use interactive computer teaching aids, such as the CD-ROM program Adam, an anatomy simulator that allows students to “dissect” on the computer screen. The classroom also includes a video computer program that enables a professor to interact from the instructor computer with individual students or groups of students working at their own computers. In this way, a professor can observe and comment on the work a student is doing while using a program such as Adam.

Seven seminar rooms are used for the integrated problem-

solving study groups that are a core of the School of Medicine’s new curriculum and for SPH and graduate-division classes.

“These classrooms and the technology they contain will support the new curriculum in a way that the large lecture halls we relied upon in the past cannot,” says John McCahan, MD, associate dean for academic affairs. “The resources now at our disposal should greatly enhance the experience of our students.”

The classrooms and seminar rooms are also providing students with an unexpected bonus: a quiet, peaceful environment in which to study on their own. The McNary Learning Center was barely a week old before it became the prime study spot on campus, says Arthur Culbert, PhD, associate dean of student affairs. “It is being used 24 hours

“There is no point in trying to be Bill McNary. You can’t emulate the man—he was unique. But I think that as long as you do the best you can and do what’s best for your students, you are carrying on his legacy.”

— Lawrence Zoller, PhD
Associate Professor of Anatomy

a day, seven days a week. “It is an added benefit that we hadn’t anticipated. The center is the most ideal study space we have ever had on this campus.”

“I anticipated that the center was going to be great, but the consensus among students is that it is fantastic,” says second-year student Albert Chang, a member of the Student Committee on Medical School Affairs. It is a welcome change from studying in laboratory space or in library cubicles, he says. “It’s great for group studying. It makes it easier to sit down and study, any time of day or night,” he says.

One can’t help but believe that McNary would be tickled by the enthusiasm.

It is this spirit, in part, that makes establishing a permanent memorial to this man’s legacy so appropriate. Perhaps it will serve as an inspiration to the BUSM professors now teaching the physicians of tomorrow.

“There is no point in trying to be Bill McNary,” says Lawrence Zoller, PhD, an associate professor of anatomy and McNary’s former colleague. “You can’t emulate the man—he was unique. But I think that as long as you do the best you can and do what’s best for your students, you are carrying on his legacy.” ■

MCNARY TAKES THE CAKE



LEWIS A. BLASS

FUND-RAISING CONTINUES FOR MCNARY LEARNING CENTER

The fund-raising program to help underwrite the McNary Learning Center continues. There are a number of rooms in the center that have not yet been named.

Contributions may be sent to The McNary Fund at Boston University School of Medicine, c/o The Office of Development, 80 East Concord Street, Boston, MA 02118.

IL-16



GUSTAV FREEDMAN

In a probe that reaches into the heart of the immune system, researchers in the BUSM Pulmonary Center laboratory of David M. Center, MD, have identified a protein that appears to wield critical control over the potent CD4 T cell.

This cell, one of the key lymphocytes, is believed to initiate, or at least exacerbate, the inflammation associated with immune response in many diseases, and is the central player in some T cell cancers. It is also the vital immune system cell crippled by HIV 1, the virus that causes AIDS.

In their study, the investigators have determined that the protein—recently certified as an interleukin and dubbed IL-16—manipulates the dynamic CD4 T cell in two ways. In one capacity, it serves as a powerful attractant, drawing these cells, as well as some eosinophils and monocytes, into organs where there has been cellular injury, thus initiating the immune system's inflammatory response. In this arm of their research, the

RESEARCH profile

PILOTING THE IL-16 TEAM:

David M. Center, MD
Hardy Kornfeld, MD
William W. Cruikshank, PhD

PRINCIPAL FUNDING:

National Institutes of Health

- SCOR grant in Immunology and Occupational Lung Disease.
- RO1 from National Heart, Lung and Blood Institute—fueled team's investigation of specific mechanisms of IL-16 long before it was called an interleukin.
- RO1 from National Institute of Allergy and Infectious Diseases—supports research into IL-16's role in asthma.

Above:
Key members of the IL-16 team (from left): David M. Center, MD, Hardy Kornfeld, MD, William W. Cruikshank, PhD.

researchers have focused their investigation on the protein's role in attracting CD4 T cells into the lungs of asthmatics, where the cells are believed to be an early response to histamine. They suspect, however, that IL-16 may draw CD4 T cells into diseased areas where inflammation is permanent, as well.

On another front, the researchers have determined that IL-16 conditions CD4 T cells to grow IL-2, a potent growth factor that then stimulates these cells to grow and divide. The production of CD4 T cells can be lethal, in association with certain T cell lymphomas and leukemias, but would be a blessing for those whose immune systems are depleted, such as HIV patients and cancer patients who recently have undergone bone marrow transplants.

Research
into this

interleukin's
power reveals
therapeutic
potential on
several fronts.

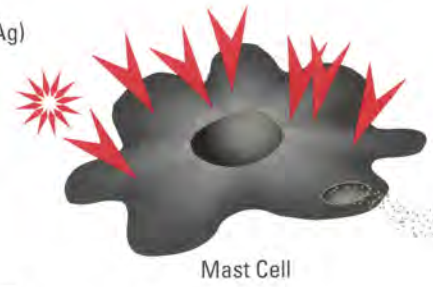
In exploring potential clinical interventions, the team's preliminary results are promising—favorable enough that Boston University has recently filed for patents on the uses of IL-16 as a therapeutic agent for asthma, HIV 1 and certain T cell lymphomas and leukemias.

One thrust of the researchers' work involves developing a way to inhibit IL-16 from attracting CD4 T cells into the lung of asthmatics, where they are involved in the inflammation that causes bronchial constriction. The investigators believe that the interventional tactic could also be applied to other diseases that

involve accumulations of CD4 T cells, such as inflammatory bowel disease, should IL-16 prove to be implicated in any of them. They have already identified the protein in sarcoidosis, a form of inflammatory lung disease.

In this effort, the team is exploring several interventional approaches: In one, they have de-

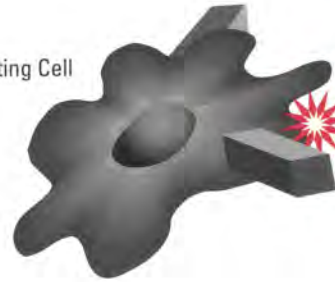
Antigen (Ag)



Mast Cell

Histamine

Antigen Presenting Cell (APC)



CD8 T Cell



WHAT'S NEXT?

THE POTENTIAL CLINICAL APPLICATIONS? NUMEROUS AND VARIED

- Develop a drug that would inhibit IL-16's ability to lure CD4 T cells into organs where inflammation is developing, and possibly treat a range of inflammatory diseases.
- Therapeutically administer IL-16, in conjunction with IL-2, to CD4 T cells, and produce massive numbers of these critical immune system cells in order to bolster the T-cell counts of HIV 1 patients, as well as of cancer



patients who have recently had bone marrow transplants.

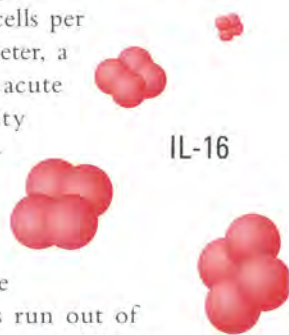
- Create a drug that would prevent IL-16 from stimulating CD4 T cells to

grow in response to IL-2, and perhaps hold in check the uncontrolled growth of certain T-cell leukemias and lymphomas.

more effective than the antibodies for human use. The team is also working to develop a genetically

altered mouse that expresses human IL-16 in lung epithelial cells, in order to see if the mouse takes on the characteristics of an asthmatic. If it were to do so, the mouse model would provide another medium for exploring ways to ma-

blood count has dropped below 200 cells per cubic millimeter, a marker for acute susceptibility to opportunistic infection. In this state, the bone marrow has run out of cells. Acute vulnerability to infection also occurs in cancer patients and others who have undergone bone marrow transplants, in the period before their bone marrow has replenished itself with a healthy new batch of CD4 T cells.



IL-16

veloped a series of inert derivatives of IL-16 that, in cell culture, appear to inhibit IL-16's activity. In another, they have examined the inhibitory effects of these peptides, as well as of antibodies, in mice that have an experimental condition closely resembling asthma. The antibodies in this model have markedly suppressed the airway reactivity occurring there. The peptides' effects have not yet been fully examined, but Center speculates they may ultimately prove

IL-16 manipulates the CD4 T cell in two significant ways.

nipulate IL-16.

On another front, the researchers are exploring mechanisms for harnessing IL-16, in conjunction with IL-2, to induce the production of CD4 T cells. Their goal would be to bolster the depleted immune systems of HIV 1 patients and cancer patients who recently have had bone marrow transplants. AIDS, or acquired immune deficiency syndrome, develops when an HIV 1 patient's CD4 T cell

The researchers' work in the lab has already yielded some revealing results. When they have put normal, resting T cells, from either healthy human beings or those infected with HIV 1, in culture with IL-2, all the cells have died out within a week or two. Alternatively, when they have put these cells in culture with IL-16, and then added IL-2, the cells have not only stayed alive, but, after six to eight weeks, have multiplied eight to 16 times.

Role of IL-16 in Asthma

A complex cascade of cells and substances results in the release of IL-16 from CD8 lymphocytes:

A foreign substance (Ag) either directly stimulates CD8 cells to release IL-16 or the foreign substance stimulates mast cells to release histamine, which signals CD8 cells to release IL-16. IL-16 activates the CD4 receptor on the CD4 white blood cell, causing the CD4 cell to become more active in inflammation, as occurs in such diseases as asthma.

A recent National Institutes of Health (NIH) study determined that IL-2 alone could boost the CD4 T cell count of HIV 1 patients. However, because not all CD4 T cells have the receptor for IL-2 on them, some of these cells are immune to the interleukin's power. IL-16 could, in theory, Center reasons, prime these non-IL-2 receptor CD4 T cells to grow IL-2 receptors and make patients more responsive to IL-2 therapy.

Center presents several pos-

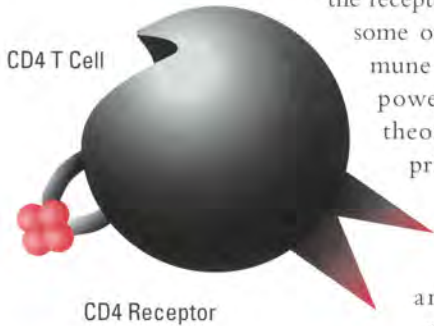
sible scenarios for therapeutic intervention, should this strategy be achieved. Patients with HIV 1 could be infused with massive quantities of CD4 T cells or, more likely, their existing CD4 T cells could be prompted to divide within their bodies with an IL-16 based drug. Patients would still be infected with HIV, and would still be able to transmit the disease, but, with a higher CD4 T cell count, might stave off the development of

In exploring potential clinical interventions, the team's preliminary results are promising—favorable enough that Boston University has recently filed for patents on the uses of IL-16 as a therapeutic agent for asthma, HIV 1 and certain T-cell lymphomas and leukemias.

AIDS for a prolonged period. Likewise, cancer patients could be given infusions of CD4 T cells to bolster their immune systems in the period before their own CD4 T cells, grown in culture, recovered.

How far off are these scenarios?

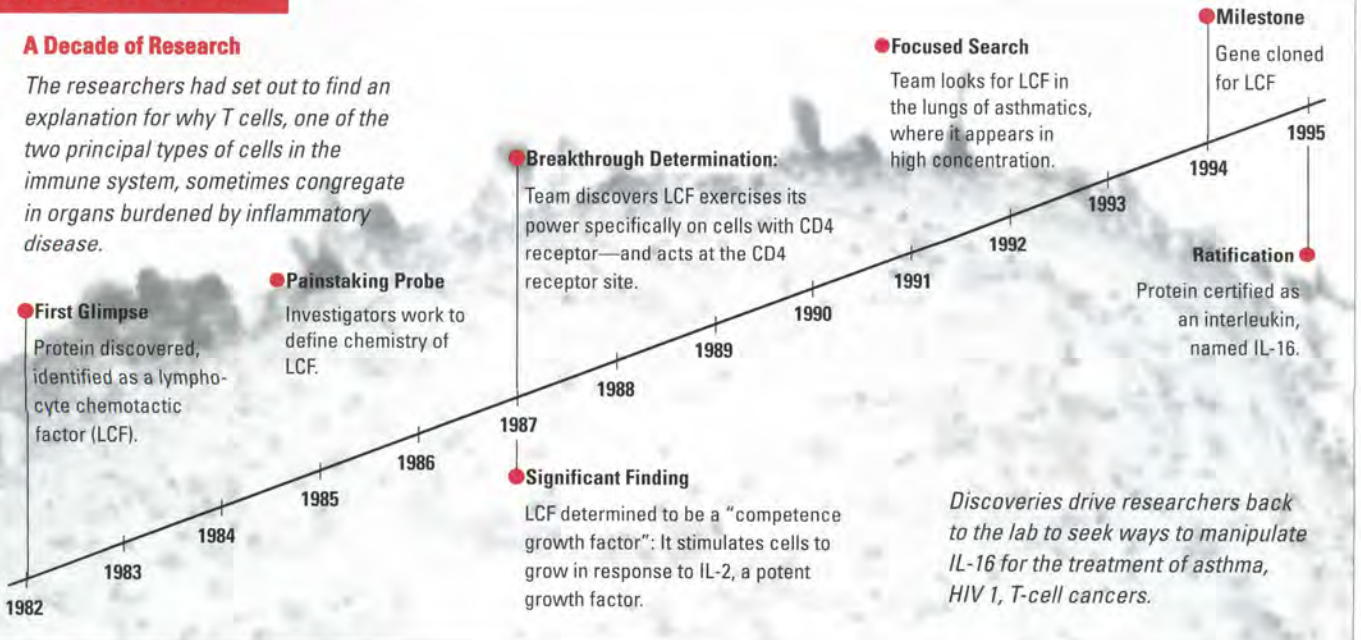
Probably quite a ways, says Center. First the group needs to get better results in vitro and then succeed in a mouse model. But, so far, all of the results are promising, he says. ■



TRACKING IL-16

A Decade of Research

The researchers had set out to find an explanation for why T cells, one of the two principal types of cells in the immune system, sometimes congregate in organs burdened by inflammatory disease.



Pioneering neuroendocrinology with spirit

Susan Leeman, PhD, rummages through a stack of papers on her desk. She is searching for a journal. Finding it, she opens to a particular page and turns to her guest, beaming. “Isn’t this beautiful?”

She’s pointing to a sequence of images in the journal *Science*. The slides aren’t hers, nor is the paper, but she’s dazzled by them. “I think these pictures are just remarkable,” she says.

Leeman’s reaction reveals the wonder that still inspires this preeminent neuroendocrinologist. The article, itself, hints at the impact she has had on her field. For, while the paper is not about her research, it is an outgrowth of it—as are a library stack full of other papers.

A professor of pharmacology and experimental therapeutics at BUSM, Leeman is the lioness at the forefront of a field she pioneered nearly four decades ago. And, at 65, the involved mother and grandmother continues to blaze new paths.

Leeman’s work involves seminal research on two peptide molecules, substance P and neurotensin, which she discovered in the early 1970s while a postdoctoral fellow at Brandeis University. Her work has revealed that these molecules act as neurotransmitters, hormones and growth factors throughout the body, and that they appear to play important roles in multifarious disease processes. Substance P is suspected

of being involved in the transmission of painful stimuli and the inflammatory responses associated with such diseases as arthritis, asthma, ulcers and hypertension. Neurotensin, meanwhile, appears to play roles in mediating the body’s reaction to stress, which may generate the negative response that causes such conditions as irritable bowel syndrome in the gastrointestinal tract, and in ovulation.

Today, Leeman leads a team of researchers working to develop drugs to interrupt the deleterious actions of the two peptides. The researchers are currently focused on a drug to treat pain. Several pharmaceutical companies, following on Leeman’s original work, are developing orally active non-peptide antagonists to substance P and neurotensin that are expected to be clinically useful, particularly in the management of pain and arthritis and asthma.

“I have always said that if you’re finding out something new about how biological systems function, then eventually a clinical application will be forthcoming. But it’s still always very gratifying when it actually happens,”

profile

SUSAN LEEMAN, PhD

Trailblazing
neuroendocrinologist.

CAREER MILESTONES:

Discovering the
neuropeptides substance P
and neurotensin.

MEMBERSHIP:

National Academy of Sciences, American Academy of Arts and Sciences; New York Academy of Sciences—
Woman of the Year Award recipient (1991).

REFLECTION:

“Science is a very hard profession, but if you have the research bug it’s kind of hard not to pursue it..”

CURRENTLY READING:

Marie Curie, A Life, by Susan Quinn: “It recasts her in a very different light—not the long suffering, miserable person with great vats of stuff to purify. It touches on her personal life quite a bit. It’s a fun read.”

FAVORITE RETREAT:

Maine coast, with family.

Leeman seems unfazed by her accomplishments; rather, she portrays herself as someone who took her steps like the rest of us, and sometimes they brought her forward.



Leeman says.

The clinical potential of her research aside, Leeman's work represents a profound contribution to the genesis of the field of neuroendocrinology. Her identification of the two peptides provided some of the first hard evidence that the brain secretes hormones that act on other parts of the body, including endocrine glands. Previously, scientists had thought the nervous system and endocrine systems did not communicate.

For Leeman, the hypothesis that endocrine glands are regulated by way of neurohormones was a tantalizing new theory waiting to be proved when she graduated from Goucher College as a physiology major in 1951. "I had always been interested in the mind-body connection, and had even considered going into philosophy," she says. "When I graduated," she recalls, "I thought, 'Wow, I can be involved in mind-body issues, but on a strictly biological plain.' I guess I figured it would be easier to measure something than be a philosopher."

The first female to be in-

ducted into the physiology and pharmacology section of the National Academy of Science, a member of numerous other societies, including the American Academy of Arts and Sciences, and a 1991 Woman of the Year award recipient from the New York Academy of Sciences, Leeman's contributions have not gone unnoticed by the scientific community.

Nor has her talent ever been lost on BUSM Department of Pharmacology and Experimental Therapeutics Chairman David Farb, PhD. Three years ago, he recruited his former teacher to the thriving department from University of Massachusetts Medical School, where Leeman was director of the Interdepartmental Program in the Neurosciences. Leeman's student at Brandeis, and later a colleague at Harvard Medical School, Farb says he was looking for a senior scientist who could serve as a role model both as an investigator and a team player. Moreover, he says, "I wanted someone who provided a positive outlook on both science and life, and Susan does that."

Farb also got someone with an abundance of energy. Leeman has logged enough miles re-

Leeman's work represents a profound contribution to the genesis of the field of neuroendocrinology, having provided some of the first hard evidence that the brain secretes hormones that act on other parts of the body, including endocrine glands.

THE PATH OF SCIENTIFIC DISCOVERY

Leeman happened upon her discoveries in the 1970s, while conducting research on corticotropin releasing factor, an elusive hormone believed to reside in the hypothalamus, an area of the brain. In the course of this work, she discovered an active substance in acid extract of the hypothalamus that stimulated salivary secretion. Redirecting her work towards this finding, she used the induction of salivation as a test to isolate the active substance. It proved to be substance P.

This finding was followed several years later by Leeman's equally chance discovery of another factor in hypothalamic extracts that caused a visible dilation of blood vessels and subsequent reddening of exposed areas of skin. She and her colleagues isolated this factor, identifying it as a peptide, and named it "neurotensin," to reflect its effect in lowering blood pressure.

substance **P**

porting her findings at symposiums to swing her around the world repeatedly on frequent flier miles alone. Just weeks ago, she and her BUSM colleagues returned from Florence, where they reported on a novel neurotoxin based on the fusion of diphtheria toxin and substance P.

Soft spoken and unpretentious in her signature running shoes, Leeman seems unfazed by her accomplishments. Rather, she portrays herself as someone who took her steps like the rest of us, and sometimes they brought her forward.

“I didn’t start out thinking I was even going to have a career,” she says. “It was the ’50s, and my life plan was that after graduating from college I would get married and have a family, and I didn’t think about much else.”

Leeman remained married for 25 years, and speaks with great affection about her three children and grandchildren, pointing to their photographs in her cluttered office. “My family always came first, and then came work,” she says. Just last month, her son, a computer specialist, accompanied her to her meeting in Florence. “I was so amazed—and thrilled—that he would think that would be fun,” she says.

This grandmother’s weekends clearly are ones of both test tubes and family. “You talk about the conflicts of a working mother, and let me tell you, I feel the conflicts of a working grandmother,” she says.

Leeman doesn’t complain about her juggling act, however; nor does she complain about the challenge of trying to maintain a balance as a researcher, teacher and leader in numerous scientific societies and advisory boards for National Institutes of Health. She

“There are very few role models of women my age still engaging and participating and reconnecting and recharging ones battery.”

—Susan Leeman, PhD

lot of fun helping the whole field develop.”

It is this contribution, Leeman says, that provides her with her greatest satisfaction as a scientist. “There is huge gratification that comes from seeing how many excellent neuroscientists and others have devoted their research careers to things that I helped start,” she says. “And the research just continues to move ahead and show exciting results. There are still many more things to be discovered about what these peptides do.”

The fact that chance played an important role in her initial findings is not lost on Leeman. She says it demonstrates the value of basic research. “I wish that Congress understood this concept,” she says. “Targeted research certainly has its place, but we must maintain our interest in basic science, because otherwise the research is very short-lived. The real cutback on academic support in basic science is discouraging the next generation

from coming in.”

“It really is important to support basic science and then be patient, because you just can’t tell where you are going to end up with real breakthroughs,” she says. ■



Susan Leeman, PhD, with graduate student Caroline Fisher, MD/PhD candidate.

This grandmother’s weekends appear to be ones of test tubes and family. “You talk about the conflicts of a working mother, and let me tell you, I feel the conflicts of a working grandmother.”

—Susan Leeman, PhD

speaks more, perhaps, with wonder. She discusses what it’s like to be “doing it all” at age 65—to play an important role in a young family and still be a driven researcher. “There are very few role models of women my age still engaging and participating and reconnecting and recharging their batteries,” she observes.

“But I definitely think it has been worth it. There has been a lot of research excitement, and a

Excessive vitamin A intake linked to birth defects

Results of a major study linking a high intake of vitamin A and birth defects was announced by BUSM researchers at a major news conference at the School in October.

The research results, to be reported in the Nov. 23 issue of the *New England Journal of Medicine*, were issued early to permit timely dissemination of the information, a decision made by the editors of the *NEJM*.

While the hazards of high vitamin A intake during pregnancy had previously been suspected, the relatively low dose that can cause the problem had not. As a result of the new findings, the Food and Drug Administration says it will now consider issuing guidelines or regulations on the use of the vitamin.

The studied focused only on "pre-formed" vitamin A from animal sources. The plant substance beta-carotene, from which the body makes vitamin A, is not a hazard, the researchers said. Previous studies have shown that a high intake of beta-carotene does not elevate vitamin A levels in the body enough to surpass the threshold for causing birth defects.

The epidemiologic analysis, which involved more than 22,000 pregnant women, determined that women taking supplements of vitamin A at levels greater than 10,000 international units (IU) per day give birth to an increased proportion of infants with select birth defects, including cleft lip, cleft palate, hydrocephalus and major heart defects, among others. The likelihood of these birth defects occurring increases steadily with the amount of vitamin A taken over this IU level. Among those women whose intake is 20,000 IU, the researchers estimate that the occurrence of birth defects approxi-

Women taking supplements of vitamin A at levels greater than 10,000 international units (IU) per day have an increased proportion of babies with select birth defects.



DAVID HERWALDT

Lead author Kenneth J. Rothman, DrPH, a professor of public health, reported the results of the vitamin A study at a BUSM press conference, accompanied by co-authors Lynn L. Moore, DSc, and Martha R. Singer, MPH, RD. Uyen-Sa D.T. Nguyen, MPH, and Aubrey Milunsky, MD, DSc, were the other BUSM authors of the study.

mately quadruples. Their data indicates that one baby in 60 born to women taking doses above 10,000 IU is adversely affected by this high intake of vitamin A.

One concern is that, by the time a woman realizes that she is pregnant, it may be too late for her to reduce her high vitamin A intake enough to avoid adverse effects. Moreover, because vitamin A is stored in the body, it is even possible that excess vitamin A intake before conception could lead to birth defects.

The recommended dietary allowance of vitamin A

for adult and pregnant women is 2,700 IU of preformed vitamin A, or 8,000 IU of beta-carotene.

A source of concern, however, is that preparations of vitamin A available in food stores and health stores contain as much as 25,000 IU of vitamin A in a single capsule. Moreover, some multivitamin preparations that are readily available contain as much as 10,000 IU of vitamin A, along with other vitamins. Some women may take a combination of multivitamins and additional vitamin A supplements, or take more than one multivitamin pill per day.

Vitamin A is also found in some foods, particularly liver, which could lead to excessive levels. Thus, the combination of high vitamin A intake from food and vitamin A-containing supplements could also lead to excess intake.

New vitamin D cream reduces psoriasis in children

Calcitriol, the biologically active form of vitamin D, safely and effectively reduces psoriasis in children, according to a study published by BUSM researchers in the August issue of the *Archives of Dermatology*. The pilot study found the calcitriol ointment eliminated or significantly reduced psoriasis in children even when the disease did not respond to conventional treatment.

Psoriasis is a lifelong, disfiguring skin disease that affects five million Americans, among those several hundred thousand children. Although it can be alleviated in many cases by exposure to ultraviolet light or by treatment with topical corticosteroids, these treatments may cause severe side effects in children, such as thinning of the skin and skin cancer. With calcitriol, however, the researchers noted no side effects in any of the four children treated.

The researchers compared psoriasis lesions treated with calcitriol ointment to those treated with only petroleum jelly. After two

months, the lesions treated with topical calcitriol showed decreases in scaling, erythema and plaque thickness, whereas the lesions treated with petroleum jelly showed only minimal improvement.

"These findings indicate that calcitriol is effective and safe as a long-term treatment," says Michael F. Holick, PhD, MD, a professor of medicine, dermatology, and physiology and senior author of the study. "Patients using the ointment for as long as 24 months continued to be free of side effects and psoriasis."

Ultrasound advocated for diagnosing male infertility

Transrectal ultrasound (TRUS) is safer and more effective in diagnosing male infertility than the traditional imaging method of vasography, according to a recent study by BUMC researchers.

Unlike vasography, TRUS does not require surgery, and it provides a direct and clear picture of the entire reproductive system. Using the TRUS image, physicians can detect obstructions that block the passage of sperm to the penis, and then immediately devise a treatment plan. In addition to being clinically advanced, TRUS does not involve the inherent risks of surgery and anesthesia, and their accompanying costs, says Ewa Kuligowska, MD, a professor of radiology and chief of the Body Imaging Center at BUMC. It also does not involve lost work time or recovery time.

Kuligowska used this method to study 128 men with infertility problems. In nearly all cases, the specific problem causing the infertility was diagnosed. The problems included stones, cysts, inflammation as a result of infection and the congenital absence of certain ducts leading to the penis.

The results of Kuligowska's study were recently presented this past spring at the 95th Annual Meeting of the American Roentgen Ray Society in Washington, D.C. ■

Reif's contribution recognized by *Cancer Research*

In recognition of his pioneering work in the development of monoclonal antibodies in the 1970s, **Arnold E. Reif, MS, DSc**, research professor of pathology, emeritus, and former chief of the laboratory of Experimental Cancer Immunotherapy at the Mallory Institute of Pathology, was featured in the cover story of *Cancer Research* (April 1, 1995). Reif and his research assistant, Joan Allen, discovered the first cell-surface antigen used widely in the typing of mouse lymphocytes, in 1963.

Sarfaty named assistant dean

Suzanne Sarfaty, MD, a 1988 BUSM graduate, was recently appointed assistant dean of student affairs. As assistant dean, Sarfaty's role involves advising, counseling and mentoring. She also aids in curriculum development and writes letters of recommendation for students applying for residencies.

Sarfaty completed her internship and residency in internal medicine at Boston City Hospital. She is an attending physician and director of the smoking cessation program at the East Boston Neighborhood Health Center.

Grant awarded for cancer prevention and control curriculum

BUMC's Cancer Prevention and Control Center has been awarded a five-year, \$238,000 grant from the National Cancer Institute to implement a comprehensive cancer prevention and control curriculum for BUSM students in all four years. The grant is one of the first to support a medical school curriculum teaching cancer prevention and control in areas such as tobacco control and smoking cessation, cancer screening, and patient education about risk factors.

Mintz honored with prestigious fellowship

Isabelle Mintz, PhD, an assistant professor of pharmacology and experimental therapeutics, has been selected as an Alfred P. Sloan Research Fellow. This highly competitive award includes a grant of \$30,000 to support her research for two years on synaptic function in the vertebrate central nervous system. She has already made the significant achievement of identifying a new toxin, omega-Aga-IVA, as a selective inhibitor of P (Purkinje)-type calcium channels.

Short takes . . .

Karen Freund, MD, MPH, associate professor of medicine and director of the Women's Health Group at BUMC Hospital, was honored recently with the Distinguished Service Award from the R.O.S.E (Regaining One's Self-Esteem) Fund, for leadership in identifying and assisting victims of family violence in primary care practice. **Joseph T. Ferrucci, MD**, professor and chairman of the Department of Radiology, has been elected president of the American Roentgen Ray Society, the oldest radiologic society in North America.

Leonard Gottlieb, MD, chairman of the Department of Pathology and Laboratory Medicine, was honored at a surprise reception in June by the Boston City Hospital administration, the Mallory Institute of Pathology and the Boston City Council of the Board of Trustees of the Department of Health and Hospitals for "his 45 years of devoted service to the BCH and the citizens of Boston." He was also elected Governor of the Board of Governors of The Hebrew University of Jerusalem.

Obituaries

Jerome Preston Sr., BUMC Hospital chairman emeritus and trustee emeritus, died on Aug. 9 at the age of 96. Mr. Preston was the president of BUMC Hospital Board of Trustees from 1946 to

1972. He received an honorary Doctor of Science degree from Boston University in 1973. In recognition of the many contributions and services to the Hospital by the Prestons, the Preston Family Building was named in their honor in 1983. Since 1907, when Mr. Preston's father, Elwyn Preston, was appointed as a State Trustee of Massachusetts Homeopathic Hospital, a member of the

ness of scleroderma, Ebert came to Boston University as a research fellow in the University Professors Program in 1981, and joined the School of Public Health faculty in 1983. He graduated from Massachusetts Institute of Technology and earned a doctorate at the University of Wisconsin. He worked extensively with parents of children with severe learning disabilities.

Advancing research

The dedication of the John H. Nichols Jr. and Doris A. Nichols Laboratory for Study of Molecular Genetics in Parkinson's Disease and Related Disorders was held on Sept. 17, at the School of Medicine. Funded by the husband of a former patient of **Robert G. Feldman, MD**, chairman of the Department of Neurology, the new laboratory will open soon in the newly renovated Housman Building. The laboratory will provide start-up funding for significant new research being conducted by **Richard H. Myers, PhD**, associate professor of neurology.



Dean Aram V. Chobanian (right) presents donor John H. Nichols Jr., husband of the late Doris A. Nichols, with a copy of the plaque that will hang in the new Parkinson's disease laboratory.

Preston family has served continuously on the hospital's board. Jerome Preston, Jr. is currently a trustee.

Robert Ebert, PhD, a former associate professor of psychology at the School of Public Health, died April 11, at the age of 44. He died of complications from pneumonia, following a long ill-

ness of Down syndrome and autism, and published widely on the subject.

Charles Nagy, a former research professor of medicine, died July 18, at the age of 81. A native of Hungary, Mr. Nagy created and taught a number of computer courses at BUMC. He was a member of the faculty from 1965 until he retired in 1973. ■

“The NBA, the Superbowl and the Olympics, all rolled into one.”

Mirthful spirits prevailed at the School of Medicine’s 121st graduation ceremony on Sunday, May 21, at the Westin Hotel.

The event included the graduates of the Division of Graduate Medical Sciences for the second year in a row.

The joy of practicing medicine, and the gratification of having succeeded in getting to the point of being *able* to practice medicine, were the focus of much of the event. “We did it,” said BUSM student speaker Kenneth Mandato, who stepped to the podium with flourish and wielded a wand of laughter over the audience for the next 10 minutes.

While in a position to discuss the economics of health care, BUSM graduation speaker Robert McAfee, MD, then-president of the American Medical Association and a surgeon in Maine, instead focused on the fulfillment that comes from practicing medicine, and shared his wisdom on how to be a good physician. “You are embarking on a series of ongoing natural highs beyond compare to those experienced by most people,” he told the graduates. For parents, McAfee said, graduation was “the NBA, the Superbowl and the Olympics all rolled into one.”



“You have the freedom to develop your life more than any other profession on earth.”

—Robert McAfee, MD

BUSM graduates (from left) Ira Skolnik, Namita Agarwal and Joseph Dulac rejoice during the close of commencement.

Dean Aram Chobanian, too, focused on the satisfaction of practicing medicine. Noting that during the four years the BUSM graduates had been in school clinicians had come to be called “providers,” and patients “consumers,” Chobanian urged the new physicians to allow the

“humanistic spirit” to prevail. “Don’t forget why you went into the field,” he urged.

Division of Graduate Medical Sciences student speaker Stefania Thorgeirdottir, of Iceland, urged her colleagues to put their research to “meaningful purpose.”

McAfee emphasizes the joy of practicing medicine

The experience of saving a life, “of knowing that the 19-year-old man you’ve just treated is going to have a life . . . is the single greatest natural high, comparable only to childbirth,” said BUSM graduation speaker Robert McAfee, MD.

McAfee emphasized the satis-

faction of practicing medicine, and the responsibility physicians have to treat their patients with compassion. “You have the freedom to develop your life more than any other profession on earth—as a teacher, researcher, administrator, clinician,” he said. Do, so, he said, “with a

liberal dose of love and respect. And hope a bit, pray a bit."

McAfee urged the graduates to remember that a "pat on the back" is "often better medicine than a shot in the arm." "Sit next to the patient," he said. "Touch his or her hands. Don't be afraid to cry with the patient, with the patient's family, or alone. The patient wants to know how much you care."

And be humble, he advised. Remember "that your time isn't more important than the patient's." Remember also, he said, how important nurses are to the patient's care.



BUSM graduation speaker Robert McAfee, MD, then-president of the American Medical Association.



Division of Graduate Medical Sciences student speaker Stefania Thorgeirdottir (center) views her certificate with her fellow students.

McAfee urged the graduates to be leaders in society. He encouraged them to participate in the profession of medicine, by joining state and national societies, including the AMA. "Many voices make a mighty chorus," he said.

"You are the sons and daughters who will stagger us," he said. "Improve where you can, reinvent where you must. I so envy the journey, the challenges, the discoveries you have ahead of you. I look forward to being staggered by where you go and what you will be." ■



BUSM students (from right) Alan Karbor, David Carrington and Michael Brunelli listen intently during graduation speeches.

BUSM Class of 1995 award and prize winners

- Namita Agarwal:** New England Pediatric Society Award
Steven Lawrence Barnett: Anthony L.F. Gorman Prize in Physiology; Upjohn Award
Shailesh Bhat: Alumni Association Awards
Nelson Branco: Stephen R. Preblud Memorial Award in Pediatrics
Alan Charles Carver: Dr. David R. Iverson Student Award; Robert G. Feldman, MD, Prize in Neurology
David Walter Casavant: Jacob Swartz Award from the Class of 1981
Frank Leonard Christopher: William F. McNary, Jr. Award
Andrea Chisholm: Dr. Peter J. Mozden Award
Jong-Ho Richard Choi: Merck Manual Award
Hong Phung Duong: Kenneth C. Edelin Prize in Obstetrics and Gynecology
Timothy Francis Donahue: Alumni Association Awards
Marc Andrew Edelstein: Henry J. Bakst Scholarship Award
Lori Ann Farnan: Benjamin Tenney Prize in Obstetrics and Gynecology; AMWA's Janet M. Glasgow Memorial Award; Merck Manual Award; Lange Medical Publication Award; McGraw Hill Award
Edward Elton George: Robert Slater, M.D. Prize in Anesthesiology
Karen Sydney Greenberg: John M. Murray Prize
Brian Richard Hallstrom: Richard J. Elkort Memorial Award; Merck Manual Award
Geanice Holton: Solomon Carter Fuller Award
Karolyn Ross Kerr: Geoffrey Boughton Student Award; American Society of Clinical Pathology Award
James Matthew Koomey: Murex Diagnostics Award in Microbiology
Ramsay Li-Ping Kuo: McGraw Hill Award
Francis A. LaRosa: Sidney Cooperband Award

- Albert Sungha Lee:** University Hospital Student Prize
Phillip Langston Massengill: Alumni Association Awards
Claudie Suzanne McArthur: Dora Savenor Memorial Prize for Excellence in Surgery
Elizabeth Ann Murphy: AMWA's Janet M. Glasgow Memorial Achievement Citations
Paul Nikolaidis: Radiology Award
Carol Simpson Papov: Henry J. Bakst Award in Community Medicine; Dr. Samuel L. Poplack Award
Sarah Youngmee Park: Radiology Award
Jagruti Chandrakant Patel: Bertha Curtis Award
Minalkumar Ashokkumar Patel: Dean Eleanor Tyler Memorial Award; Internal Medicine Award; Ciba-Geigy Prize in Neurological Science
Kami Susan Phillips: Henry J. Bakst Award in Community Medicine; Esther B. and Albert Kahn Scholarship Award
Heidi Freya Queen: Dr. Louis Weinstein Prize for Excellence in Infectious Diseases; Society of Academic Emergency Medicine's Excellence in Emergency Medicine Award
Diana Reeves: Achievement Citations
Debra Louise Roberts: Internal Medicine Award; Chester S. Keefer Scholarship Award; Esther B. and Arthur Kahn Scholarship Award
William Henry Sabina: Henry J. Bakst Award in Community Medicine
Richard Woodville Sams II: Internal Medicine Award
Hyagriv Nara Simhan: David Rothbaum, MD, Award in Obstetrics and Gynecology
Veronica Mary Stasa: Malamud Prize
Stephen Anthony Vaughn: Dr. John Dittmer and Dr. Linda Wright Award for Excellence in Teaching
Charles Francis Wennogle, Jr.: Elizabeth K. Moyer Memorial Prize in Anatomical Sciences; Anthony L.F. Gorman Prize in Physiology

BUSM graduate Rachael Levenson-Acker helps her classmate Jagruti Patel prepare for graduation.

Urges obedience to the "unenforceable"

Delivering the main address at Boston University's 122nd commencement on May 21, University President John Silber invoked a call to arms against what he called "the crisis of the spirit" in America.

Silber sounded his call under spectacular blue skies on Nickerson Field to a gathering of 5,000 graduates and their families, a crowd totaling more than 25,000 people.

American society is in a crisis of moral decay, Silber said, and is in this state in part because too many individuals lack a sense of personal obligation to do what is right when there is no law to enforce such behavior. It is adherence to this realm of the "unenforceable," between law and free choice, that defines the quality of a society, he said. "While [this realm] may include moral duty, social responsibility and proper behavior, it extends beyond them to cover 'all cases of doing right where there is no one to make you do it but yourself,'" he said, quoting John Fletcher Moulton, Lord Moulton, a noted English Judge who spoke on the subject 75 years ago.

Silber called not for more laws, nor for limits on, for instance, what television stations can program. Rather, he called for individuals to exercise personal responsibility. The resolution of the current crisis "far transcends the power of the state," he said. "It lies," he told the graduates, "within the grasp of each of us."



BUSM Graduates and their Residencies

- * cum laude •• MD/MA
- ** magna cum laude •• MD/PhD
- *** summa cum laude • MD/MPH

- **Namita Agarwal**, *pediatrics*, Kaiser Permanente Medical Center, Oakland, CA
- Shubhada N. Ahya**, *medicine*, Barnes Hospital, Saint Louis
- Zoya Kvitash Arbiser**, *pathology*, Beth Israel Hospital, Boston
- Janis Lee Baccari**, *pediatrics*, Rhode Island Hospital, Providence
- * **Steven Lawrence Barnett**, *orthopedic surgery*, U.Cal.-Irvine Medical Center, Irvine
- Elizabeth A. Bennett**, *family practice*, Univ. of Maryland, Baltimore
- Shailesh Bhat**, *medicine*, Loma Linda Univ., Loma Linda, CA
- Elisabeth de Freitas Bilden**, *emergency medicine*, Hennepin County Medical Center, Minneapolis
- Boutros Toufic Bouyounes**, *surgery; urology*, Lahey Clinic Medical Center, Burlington, MA
- Nelson Branco**, *pediatrics*, Children's Hospital Oakland, Oakland, CA
- Michael Paul Brunelli**, *orthopedic surgery*, Mt. Sinai Hospital, NY, NY
- David Christopher Carrington**, *surgery*, Union Memorial Hospital, Baltimore
- Alan Charles Carver**, *medicine*, New York Hospital; *neurology*, New York Hospital/Cornell Medical Center Program
- David Walter Casavant**, *pediatrics*, Mass. General Hospital, Boston
- Rachel Leland Chapman**, *pediatrics*, Univ. of Michigan Hospitals, Ann Arbor
- Raja Sekhar Cheruvu**, *transitional; diagnostic radiology*, Baylor College of Medicine, Houston
- Andrea Chisholm**, *ob/gyn*, St. Luke's-Roosevelt Hospital, NY, NY
- Frank Leonard Christopher**, *transitional*, Brooke Army Medical Center, Fort Sam Houston, TX
- ** **Jong-Ho Richard Choi**, *transitional*, Cambridge Hospital, Cambridge, MA; *diagnostic radiology*, New England Deaconess Hospital, Boston
- David Joon-Ho Chun**, *medicine*, BU Medicine Residency Program
- Giuseppe Ciaravino**, *ob/gyn*, Brookdale Hospital Medical Center, Brooklyn, NY
- Lisa Pavelich Connolly**, *family practice*, Beverly Hospital, Beverly, MA
- Dino C. Constantinou**, *medicine*, Yale-New Haven Hospital, CT

- Robert Cranley**, *transitional*, Overlook Hospital, Summit, NJ; *diagnostic radiology*, Duke Univ., Medical Center, Durham, NC
- **Dennis Charles Crawford**, *orthopedic surgery*, Rhode Island Hospital, Providence
- Maureen A. Crotty**, *pediatrics*, Rhode Island Hospital, Providence
- Joseph Albert D'Ambrosio**, *medicine/pediatrics*, Baylor College of Medicine, Houston, TX
- **Mitchell Ryan Davis**, *family practice*, St. Elizabeth Medical Center, Dayton, OH
- Robert James Davis**, *emergency medicine*, Rhode Island Hospital, Providence
- * **Matthew Howard DiMasi**, *transitional*, BUSM; *diagnostic radiology*, Boston City Hospital, Boston
- Timothy Francis Donahue**, *surgery*, National Naval Medical Center, Bethesda, MD
- **Joseph Michael Dulac**, *family practice*, New Hampshire-Dartmouth Family Practice Consortium, Concord, NH
- Matthew James Draghetti**, *diagnostic radiology*, Maine Medical Center, Portland, ME
- Hong Phung Duong**, *surgery*, St. Elizabeth's Medical Center, Boston
- Ann Francine Dzialo**, *medicine*, Baystate Medical Center, Springfield, MA; *anesthesiology*, Dartmouth-Hitchcock Medical Center, Lebanon, NH
- Marc Andrew Edelstein**, *medicine*, U.C. Los Angeles Medical Center
- Dena Gewanter Edge**, *medicine*, BU Medicine Residency Program
- Frederick Wilson Ehret**, *surgery*, BUSM
- Lars Magnus Ellison**, *surgery; urology*, Dartmouth-Hitchcock Medical Center, Lebanon, NH
- *** **Lori Ann Farnan**, *medicine*, Brigham and Women's Hospital, Boston
- **Bradford William Fenton**, *family practice*, East Carolina Univ. Program, Greenville, NC
- * **Michael Peter Fischbein**, *surgery*, U.C. Los Angeles Medical Center
- Marianne Augot Fleischman**, *ob/gyn*, Univ. of Mass. Programs, Worcester
- Stephen Van Kirk Friedman**, *transitional*, St. Vincent's Hospital, NY, NY; *emergency medicine*, Lincoln Medical Center/N.Y. Medical College, Bronx, NY
- Mitchell Allen Garrison**, *medicine*, Madigan Army Medical Center, Tacoma, WA

Edward Elton George, *medicine*, Newton-Wellesley Hospital, Newton, MA, *anesthesiology*, Mass. General Hospital, Boston

Maria Pineda Gobencion, *surgery*, BUSM

* **Olga E. Golub**, *ob/gyn*, Women and Infants Hospital of Rhode Island, Providence

Britta Meghan Gooding, *transitional*, Alameda County Medical Center, Oakland, CA; *diagnostic radiology*, Stanford Univ. Hospital, Stanford, CA

Charlotte Elizabeth Grayson, *medicine*, Medical Univ. of South Carolina, Charleston

Karen Sydney Greenberg, *medicine*, New England Deaconess Hospital, Boston; *psychiatry*, Harvard Longwood Psychiatry Residency Training Program, Boston

** **Brian Richard Hallstrom**, *orthopedic surgery*, Univ. of Michigan Hospitals, Ann Arbor, Mich.

Geanice Holton, *medicine*, BU Medicine Residency Program

Allen Ming Huang, *medicine*, Jackson Memorial Hospital, Miami, FL

Faheem Hyderi Hussain, *ob/gyn*, Madigan Army Medical Center, Tacoma, WA

** **Ramsay Li-Ping Kuo**, *urology*, Duke Univ. Medical Center, Durham, NC

** **Francis A. La Rosa**, *transitional; ophthalmology*, Baylor College of Medicine, Houston

* **Albert Sungha Lee**, *surgery; neurological surgery*, Mass. General Hospital, Boston

John Chienchiang Lee, *surgery*, Cabrini Medical Center, NY, NY

Sandra Karon Lee, *family practice*, Harbor-UCLA Medical Center, Torrance, CA

Rachel Levenson-Acker, *pediatrics*, Rhode Island Hospital, Providence

Anne Moleli Lihau-N'Kanza, *surgery*, New Rochelle Hospital Medical Center, NY

Ronald Stanley Lisiecki, *medicine*, Univ. of Utah Affiliated Hospitals, Salt Lake City

Jacob Edward Locke, *urology*, Mayo Graduate School of Medicine, Rochester, MN

Lorenzo Lopez, *ob/gyn*, U.C. San Francisco/Fresno Program, Fresno

Jennifer Killeen Lowney, *surgery*, Barnes Hospital, Saint Louis, MI

Francis Philip MacMillan, Jr., *medicine*, New England Deaconess Hospital, Boston



• **Steven Jon Mendes**, *pediatrics*, Rhode Island Hospital, Providence

Nikolaos Michalacos, *medicine*, BU Medicine Residency Program

** **Praveen V. Mummaneni**, *surgery; neurological surgery*, U.C.-Irvine Medical Center, Irvine

* **Elizabeth Ann Murphy**, *medicine*, Univ. of Mass. Programs, Worcester

Timothy Paul Murphy, *medicine*, BU Medicine Residency Program

Swati Namburi, *medicine*, McGaw Medical Center/Northwestern Univ. Program, Chicago

Sandeep Nathan, *medicine*, Univ. Health Center of Pittsburgh

Josephine Nguyen, *medicine*, BU Medicine Residency Program; *diagnostic radiology*, New England Deaconess Hospital, Boston

Paul Nikolaidis, *diagnostic radiology*, Univ. of Texas Medical School, Houston

Jennifer Ann Gage Nogueira, *transitional*, BUSM; *diagnostic radiology*, Lahey Clinic Medical Center, Burlington, MA

Mahnaz Nouri, *medicine*, Newton-Wellesley Hospital, Newton, MA; *ophthalmology*, Mayo Graduate School of Medicine Program, Rochester, MN

Edward Obedian, *transitional*, Hackensack Medical Center, NJ; *radiation oncology*, Yale-New Haven Medical Center, CT

Terrence Frederic Oder, *medicine*, Miriam Hospital, Providence

Steven Thomas Olive, *family practice*, Naval Hospital, Jacksonville, FL

Carol Simpson Papov, *ob/gyn*, Univ. of Connecticut, Farmington, CT

Magali Michele Parisien, *medicine*, Cambridge Hospital, MA

Sarah Youngmee Park, *pediatrics*, Stanford Univ. Hospital, C

Jagruiti Chandrakant Patel, *plastic surgery*, Rhode Island Hospital, Providence

* **Minalkumar Ashokkumar Patel**, *medicine*, Brigham and Women's Hospital, Boston

Robert Feldman, MD, chairman of the Department of Neurology, (left) was presented with a Metcalf Award for Excellence in Teaching by Boston University Trustee Emeritus Arthur Metcalf, during Boston University commencement exercises.



Carol Walsh, PhD, an associate professor of pharmacology and experimental therapeutics, was presented with the Stanley L. Robbins Award for Excellence in Teaching at the School of Medicine graduation.

Scott A. Kamelle, *ob/gyn*, Hospital of the Univ. of Pennsylvania, PA

Susannah Kay Withheld by request

Kirk David Keene, *urology*, Oregon Health Sciences Univ., Portland, OR

* **Karolyn Ross Kerr**, *medicine*, Lenox Hill Hospital, NY, NY; *diagnostic radiology*, Presbyterian Hospital, NY, NY

Wissam Joseph Khoory, *medicine*, BU Medicine Residency Program

Sona Shah Kirpekar, *medicine*, Univ. Hospitals of Cleveland, Cleveland, OH

James Matthew Koomey, *medicine*, BU Medicine Residency Program

Rizwan Malik, *ob/gyn*, Jackson Memorial Hospital, Miami, FL

Kenneth Mandato, *medicine*, Winthrop-Univ. Hospital, Mineola, NY; *diagnostic radiology*, Stony Brook Teaching Hospitals, Stony Brook, NY

* **Gen John Maruyama**, *medicine*, St. Mary's Medical Center, San Francisco; *diagnostic radiology*, U.C. San Francisco program

Phillip Langston Massengill, *transitional*, Walter Reed Army Medical Center, Wash., D.C.

Claudie Suzanne McArthur, *surgery*, Mount Sinai Hospital, NY, NY

BUSM graduate Audrey Tracey celebrates with her children at commencement.



Philip Jiji Patel, *medicine*, Mayo Graduate School of medicine, Rochester, MN

Riti Patel, *medicine*, Yale-New Haven Hospital, New Haven

Kami Susan Phillips, *family practice*, Lancaster General Hospital, PA

Michael Allen Posternak, *medicine*, St. Elizabeth's Medical Center, Boston

* **Heidi Fréya Queen**, *emergency medicine*, Harbor-UCLA Medical Center, Torrance, CA

Nanda Devi Ramsaroop, *medicine*, New York Univ. Medical Center, NY, NY

* **Diana Reeves**, *neurological surgery*, Univ. of Cincinnati College of medicine, Cincinnati

Jennifer Aed Rehm, *medicine*, Lahey Clinic Medical Center, Burlington, MA

Dustin Randall Ridout, *surgery*, Univ. of Illinois College of medicine, Chicago

* **Debra Louise Roberts**, *family practice*, Greater Lawrence Family Health Center, Lawrence, MA

Dov Mordecai Rosen, *pediatrics*, Long Island Jewish Medical Center, New Hyde Park, NY

William Henry Sabina, *emergency medicine*, Rhode Island Hospital, Providence

Kavita Balraj Sabnani, *medicine*, Univ. of Illinois College of medicine, Chicago

Dana Lynn Sachs, *medicine*, Beth Israel Hospital, Boston

Suchat Saelim, *medicine*, New England Deaconess Hospital, Boston

Richard Woodville Sams II, *family practice*, Waukesha Memorial Hospital, Waukesha, WI

Brian Robert Schnell, *pathology*, SUNY at Buffalo Medical-Dental Education Consortium, Buffalo, NY

Robert C. Schreiman, *family practice*, U.C.-Irvine Medical Center

Janak Naresh Shah, *diagnostic radiology*, Bridgeport Hospital, Bridgeport, CT

Matthew Shahbandi, *surgery; urology*, Univ. of Mass. Programs, Worcester

Russell Stephen Shu, *otolaryngology*, Tufts Univ. Otolaryngology Residency Program, Boston

* **Hyagriv Nara Simhan**, *ob/gyn*, Hospital of the Univ. of Pennsylvania, Phila.

** **Ira Lawrence Skolnik**, *pediatrics*, U.C. San Francisco



BUSM student Laurie Ann Farnan graduated first in her class, with a ranking of *summa cum laude*.

Stephen Anthony Vaughn, *medicine*, Milton S. Hershey Medical Center/Penn. State Univ., Hershey, PA

Candace D. Wang, *medicine*, BU Medicine Residency Program

Charles Francis Wennogle, Jr., *transitional*, Fitzsimons Army Medical Center, Aurora, CO

Timothy Wilfred Wild, *surgery*, U.C.-Davis, East Bay, Oakland; *otolaryngology*, Kaiser Permanente Medical Center, Oakland

Keith Hunt Wittenberg, *medicine*, New England Medical Center, Boston; *diagnostic radiology*, Mayo Graduate School of Medicine, Rochester, MN

Matthew Scott Wolins, *anesthesiology*, New York Hospital, NY, NY

Berhan Shon Yeh, *surgery*, Univ. of Mass. Programs, Worcester

John Wai-Kit Yim, *urology*, Albany Medical Center Hospital, NY

Kenneth C.Y. Yu, *surgery*, Wilford Hall USAF Medical Center, San Antonio

Jeffrey Frank Zacks, *pathology*, BU Program

James Joseph Zerner, *diagnostic radiology*, Baptist Medical Center of Oklahoma, Oklahoma City



BUSM student speaker Kenneth Mandato.

Kyle Ansel Soltys, *surgery*, UMDNJ-New Jersey Medical School, Newark

Veronica Mary Stasa, *pediatrics*, Wilford Hall USAF Medical Center, San Antonio

Jean L. Talleyrand, *family practice*, U.C. San Francisco

Mark Pai-Luen Teng, *medicine*, BU Medicine Residency Program

Cheryl D'Souza Thackston, *pediatrics*, Children's Hospital, Boston

Samir Shripad Tilak, *medicine*, Newton-Wellesley Hospital, Newton, MA; *diagnostic radiology*, Medical Center of Delaware, Newark

Audrey Allen Tracey, *family practice*, Univ. of Mass. Programs, Worcester

William Louis Trotter, *medicine*, BU Medicine Residency Program; *ophthalmology*, Albany Medical College, Albany, NY

Nicholas Michael Tsaparis, *medicine*, BU Medicine Residency Program

PhD graduates, Division of Graduate Medical Sciences

Dennis Charles Crawford, BS, MD

Bradford William Fenton, SB, MD

Daqing Wu Hartwell, BS, MA

Bruce Alan Jacobson, BA, BS

Francis Anthony La Rosa, AB, MD

Andrew Wallace Minto, BSc

Steven N. Perrin, BS

Gregory Norman Prado, BS

Jose Recardo Romero, BS

Kumkum Saxena, BSc.

Ira Lawrence Skolnik, BA, MD

Galini Thoidis, BS

Stefania Thorgeirsdottir, BS

Yaoqi Wang, BS

Hui-juan Xie, BS



SPH graduation speaker Paul Tsongas, former U.S. Senator



Exhorts students to seize initiative

In a speech leavened with humor, former U.S. Senator Paul Tsongas addressed his driving concern, the "future of America," at the School of Public Health's 16th commencement on May 21, at Berklee Performance Center.

The 1992 presidential candidate offered the 120 SPH graduates and their families a blueprint and vision of what the United States could be in the 1990s and beyond. He emphasized the importance of research and development, innovation, quality products, manufacturing, trade and cooperation with the American government.

Tsongas also told the graduates that, despite the odds that fate deals, they have a substantial degree of control over what happens in their lives.

He warned the graduates that, unlike previous generations, today's leaders have improved the quality of life in the United States only at the expense of future generations. He noted that the federal budget deficit has quadrupled each term during the last four presidential administrations and that the budget must be balanced by reducing spending at all levels, including entitlement programs and military expenditures.

He, along with former senator Warren Rudman and former Treasury Secretary Pete Peterson, founded the Concord Coalition in 1992, a nationwide grassroots organization aimed at promoting recognition and support for a balanced budget.

"Despite the odds that fate deals, you have a substantial degree of control over what happens in your life."

SPH Graduates

- *** Graduate of January 1995
- ** Graduate of September 1995
- * Graduate of September 1994

- Sharon Kathleen Abele
- Karen L. Acerra *
- Oscar Efrain Aguilar *
- Tomoyo Aikawa
- Sergei L. Aish *
- Sisay Tamene Akalu
- Ramona Carroll Albin
- William Richard Alexis *
- Dawit Amare **
- Diana Anderson
- Michael Laden Anderson *
- Katherine Patricia Andrews
- Kristine Ann Arakelian
- Julie Ann Arel
- Paul G. Armstrong
- Rachel Atkins **
- Rekiya Atta
- Amy Rae Aulwes *
- Onesky Aupont
- Cholis Bachroen *
- Merwyn Bagan
- Clemenciana Bakasa
- Maria Regina Barbosa Rodrigues Barros
- Julia Anne Battel
- Caroline M. Baumecker ***
- Patricia A. Beckman
- Sassan Behjat *
- Nikki Melina Constantine Bell
- Neil David Beneck *
- Leonard Bernstein **
- Lynn Ann Bethel-Perry
- Naomi B. Blumberg *
- Sharyn Marie Botsch
- Melissa Marie Bottrell
- Susan F. Bowler *
- Jennifer Lynn Brackett
- Christian Lawrence Brady
- Marjorie Monica Browne
- Kimberly Marie Burrows **
- Pamela M. Butler
- Jean-Felert Cadet
- Leslie Ann Cahill *
- Elizabeth S. Carroll *
- Theresa Florence Cassidy
- John Francis Cavanaugh
- Jacquelyne Cernieux
- Christine E. Chaisson *
- David Michael Chaletsky
- Kimeli Chepsiror
- Priscilla Way Chew *
- Jennifer Jean Cilento **
- Constance Judith Clarke
- Amy Elizabeth Cloke
- Mark Joseph Coen **
- Rebecca Anne Cohen *
- David Michael Comperatore
- Carolyn Jeanine Conte
- Anne Mary Coughlin
- Jane Alynn Craycroft
- Richard Joseph Cresta *
- Elisabeth A. Cruz

- Mary Ellen Curran
- Lori J. Dacier **
- Heather Ann Davis
- Mitchell Ryan Davis
- Carolina Grace Dedosantos *
- Candace Jane DeLisio
- Katherine Elizabeth Dowley
- Christina Ruth Drakonakis *
- Ann-Marie K. Duffy **
- Alexandra Isabel England *
- Beverly Esielonis
- John Michael Fastenau
- Amsalu Feleke Demssie
- Shingairai A. Feresu
- Roberta Susan Fish *
- Margaret M. Fisher
- Elizabeth J. Foley
- Michelle J. Folsom **
- Glenn G. Fort
- Stephanie Marie Frieswick
- Betsy P. Frymoyer
- Robert A. Furman
- Anita Pravin Gandhi
- William Amin Ghali
- Anuj Kumar Goel
- Margaret Ann Goetz *
- Nina Hilary Greenbaum
- Evelyn Margaret McKenna Greene
- Douglas Richard Gronda *
- Christine Denise Gruden **
- Marian Therese Hannan **
- Kustini Lory Hawani Harefa **
- Barbara O. Healy
- Heidi Kara Heinlein
- Lynne DeEtte Himmelreich
- Kareem A. Hinedi **
- Mary Lynne Hobson
- Julie Ann Hogan
- William Hilbrand Holmes *
- Laila Haj-Hassan Homoud



SPH founding director Norman A. Scotch, PhD, professor emeritus, was presented with an Oscar-like award for "Best Performance as the Director of a School of Public Health."

- Joe Le Hsu
- Judy Sue Hurstak **
- Michael Kalil Hyder
- Elaine M. Hynes
- Jocelyn Edith Isadore
- Betty Hannah Jaros
- Heather Lynn Johnson-Lamarche
- Bethany A. Joseph

Muhammad Amir Kamaluddin *
 Susan Rachael Kamin
 Cathy Lynn Kaplan
 Susan Saheb Kashaf *
 Rachel S. Kasper **
 Laura Gaeta Kehoe *
 John George Kemp **
 Parto Khorshidi
 Mary Susan Kiernan *
 Cathy Clare Kiley
 Bobby Sanghon Kim **



L. Adrienne Cupples, PhD, professor of public health (epidemiology and biostatistics), was awarded the 1995 Scotch Award for Excellence in Teaching.

Kagwiria Kioga Mutwiri
 Martha Wilk Klein **
 Hnin Hnin Ko
 Howard Kyongju Koh
 Dana Robin Kulvin
 Madhu Shylendra Kuma
 Anne Elizabeth LaFave
 Kenneth Thomas Lajoie *
 Patricia M. Lamb
 Heather Binks Lang
 Pierre F. LaPlante *
 Dorothy Louise Lebeau
 Cindi A. Lefari
 Susan West Levine
 Susan Ann Lindsay **
 Elva Lionel
 Mee-Htain Liu
 Heidi E. Lyle
 Christopher Jarvis Maddock
 Laurie Marla Malcom
 Cheryl Ann Craaybeek Marino **
 Allison Jo Marshall
 Paula Marie Mazzio
 Denise Nolan McCauley
 Timothy Edward McAlindon
 Karen McArdle-Guthrie
 John Andrew McCraw *
 Kathlene McGrail
 Donald Addison McLean, Jr. *
 Divyang Dolat Mehta **
 Steven Jon Mendes
 Catharine Ann Merley **
 Miriam Sara Messinger
 John D. Meyer



Cynthia Lynn Mierzejewski *
 Deborah Ann Milbauer
 Mary Anne Miller
 Sonya Paulette Mitchell
 Abdul Rahim Mohamad
 Nibaran Mohanty
 Linda Marie Monteiro-Hopper
 Kimberly Ann Moran
 Ossama Ahmed Mossallam
 Entela Mullaj
 Yenny Munoz
 Elfriede Kautoora Mutirua
 John Muya **
 Frank Romeo Mwambaghi
 Divya Narayanan *
 Dipesh Navsaria
 Maria Christina Neube
 Wangechi Ndei
 Phumzile Leah Ndhlebe
 Tu Anh Ngo **
 Amy Therese Nicknisch
 Jacqueline Jennifer Nolan
 Giulia diStefano Norton
 Judith Noyovitz Hart
 Njagi Nyagah Nyagah
 Kimberly Joan O'Brien *
 Heidi M. Oh
 Lea Susan Ojamaa
 Susan Oommen
 Alexander Neil Ortega *
 Cecilia D. Padlan **
 Diana Alison Palmer, M.D.
 Paul Andre Paquette
 Nicolas Parkhurst Carballeira
 Nilam Mangubhai Patel
 Diane Griffiths Peck
 Dawn Michelle Pelletier *
 Scott Edward Perkins
 Sharyn Frances Perpall
 Jean Marie Piper
 Brian Robert Poirier
 Sharon Prizant
 Julie Noelle Pyatt
 Heidi Fréya Queen
 Matthew Joseph Reardon
 Babitha Muddasani Reddy *
 Sharron E. Rich **
 Nabila Sidky Riskalla
 Karlene Elicia Roberts **
 Katherine Leslie Roberts
 Sara Rochmis
 Rey Francisco Rosario
 Phedra Rachel Rudell
 Mathilda B. Ruwe
 Ellen Mary Ryan
 Balbir Sandhar
 Alfredo J. Selim

*SPH student speaker
 Rachel Atkins*

Elizabeth Ann Selleck **
 Jasmine Vinayak Sharma **
 Kursten Lyn Sheeley
 Dunanti RK Sianipar
 Inez Madeleine Sieben *
 Melissa Reneé Smith
 Susy Kusmawati Soenarjo *
 A. Christina Sokoloff
 Mah-Jabeen Soobader
 J Adam Speer
 Vinod Sreeharsha
 Michael Suk
 Imende Antoinette Sutherland
 Ivi Maria Mercelina Swaen
 George Kalman Szabo
 Carol Sachi Taniguchi
 Eleanor Marie Tanpiengco *
 Olga Maria Tolscik *
 Kristen Leigh Tomec
 Pauline Tsirigotis *
 Dorris Devereau Tucker *
 Catherine Vasilakis
 Christina J. Vlad
 Nancy Gathoni Wanjigi

**"Accept the
 challenge of
 humanity . . .
 work to develop
 the ideals of a
 just and civilized
 society that is
 unwilling to leave
 people in need."**

—Rachel Atkins



*Diana Anderson,
 Dawit Amare and
 Sisay Tamene
 Akalu (from left)
 enjoy graduation.*

Steven Joseph Ward **
 Tanya Esther Weinstein
 Gail Carol Wenzlow
 D. Joyce White **
 James Robert Whitley *
 Nelson Kin-Man Wong
 Hae Gyeong Woo *
 Beatrice Martha Woodward **
 Claire F. Yamanaka *
 Denise Andria Yob
 Edgardo Ramos Yutangco
 Riché C. Zamor, Sr. **
 Shelly R. Zimmer

*SPH graduate
 Shingairai Feresu
 celebrates with
 glee.*



Renovations give School new look

Major renovations to the first floor and basement of the L Building and to floors one through six of the Housman Building have been made to provide the state-of-the-art in all aspects of medical education and research.

The Housman Building now boasts beautiful new laboratories and offices on most floors. The L Building renovations, meanwhile, invigorate the School with a fresh, accessible look.

"The renovations are part of a continuing effort to make the School of Medicine student-friendly," says Arthur Culbert, PhD, associate dean of student affairs. They greatly improve student services, he says.

"Everything looks important and special," says second-year student Anne McCaffrey. "Now that we have it, I can't imagine how we did without it. It's fantastic."

What's new at the School

L Building Lobby

The School's lobby and the L Building hallways extending off of it have been refurbished and

repainted, and the mail room and rest rooms have been remodeled and enlarged.

Housman Building

The first-floor doors between the L Building and the Housman Building have disappeared. In their place is a warmly lit, broad opening to the McNary Learning Center, which occupies the entire first floor of the Housman Building. The basement through the sixth floor of the ten-story building contain the newly renovated laboratories and offices.

L Building Basement

The basement of the L Building has been redesigned to provide a center for communication among students and faculty and administration, Culbert said.

The student lounge has been enlarged and remodeled, and there is now a large student fitness room, a student work area that will include workstation computers providing access to e-mail (increasingly used by Student Affairs for communication), and a large bulletin board area. ■

School's community service honored



Dean Aram V. Chobanian, MD, receives the Association of American Medical Colleges' 1995 Outstanding Community Service Award from AAMC chair Kenneth I. Berns, MD, PhD, while BUSM students Allison Tonkin and P. Nelson Le look on.

BioSquare launches marketing campaign

Boston University and BUMC Hospital have launched a marketing campaign to secure tenants for BioSquare. On Oct. 12, they hosted a reception for the chief executive officers of some 100 area biotechnology firms and businesses, on hand to preview the next phase of the park. The private reception was held in the lobby of the Center for Advanced Biomedical Research, the park's pioneering structure, located at 700 Albany St.



Attending the BioSquare reception were (from left), Gillette Company Corporate Health Services Director William Greer, MD; BUMCH President Elaine Ullian; BioSquare tenant Manuel Würzel, CEO of NitroMed, Inc.; BUSM Dean Aram Chobanian; and Boston University President John Silber.

BUSM ALUMNI WEEKEND May 17 -18, 1996

Reception and Dinner Parties for Reunion Classes May 17

The Westin Hotel at Copley Place, Boston, MA

Classes celebrating reunions include:

1931, 1936, 1941, 1946, 1951, 1956, 1961, 1966,
1971, 1976, 1981, 1986, 1991.

Continuing Medical Education Scientific Session Reunion Luncheon and Tours of the School May 18

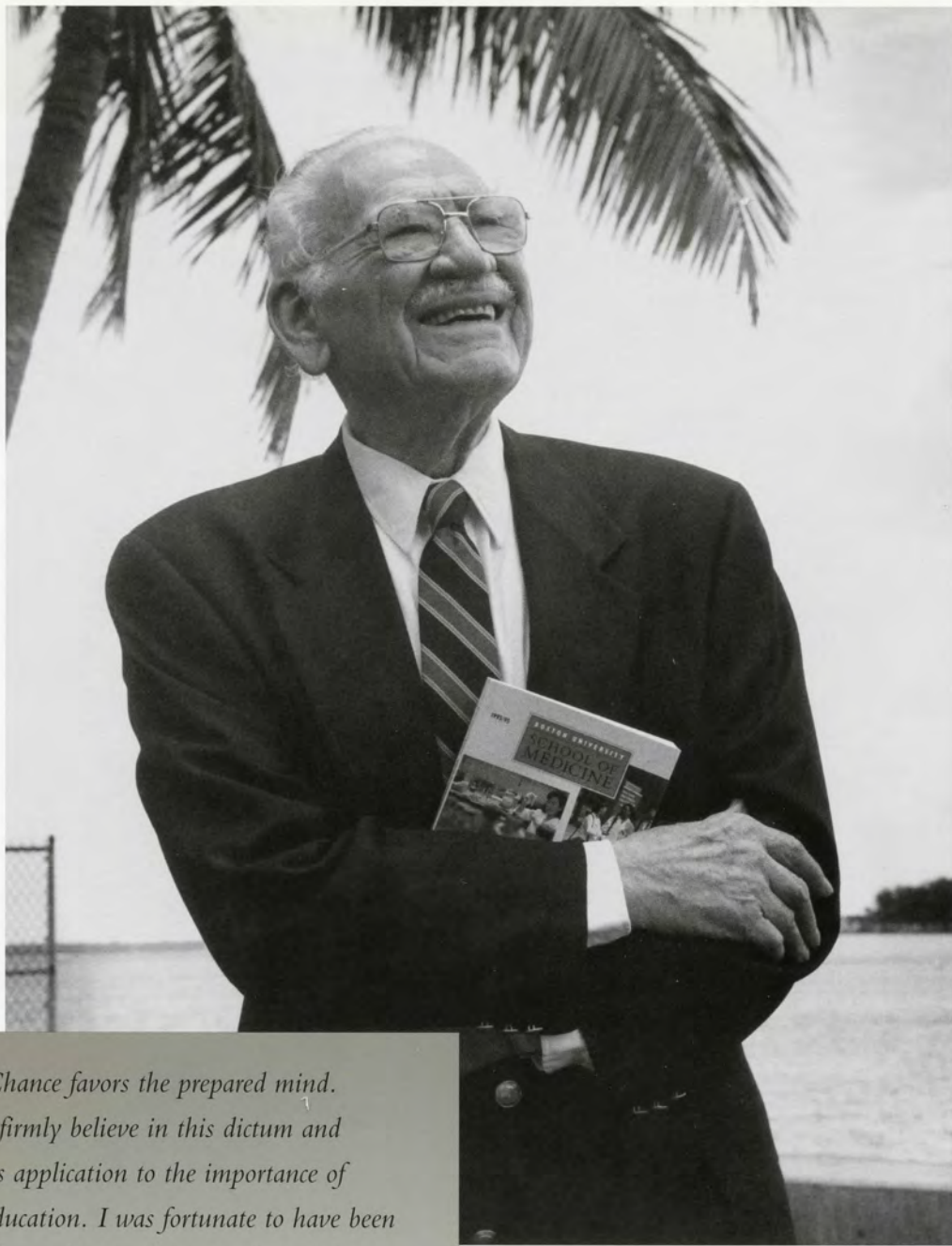
Alumni Association Annual Meeting and Banquet May 18

The Westin Hotel at Copley Place, Boston, MA

Special Guests: Members of Class of 1996

For more information:

BUSM Alumni Association
80 East Concord Street,
Boston, MA 02118
617/638-5150



"Chance favors the prepared mind. I firmly believe in this dictum and its application to the importance of education. I was fortunate to have been educated in medicine at BUSM. Its dedication to learning and the human condition impressed me profoundly.

"As a teacher in psychiatry for many years, I have become convinced that education is our best hope for solving the problems of our society.

"Therefore, I have committed a legacy to BUSM in its student loan program."

—Herman Selinsky, MD, '24, Miami, Fla.

To learn more about making a Bequest, or for a personalized financial analysis that will show you how a Charitable Remainder Trust or a Charitable Gift Annuity can benefit both you and Boston University School of Medicine, please contact:

Barry M. Manuel, MD
Alumni Association
617/638-5154

Donald Bell
Development Office
617/638-4570

Boston University School of Medicine
80 East Concord Street
Boston, MA 02118



Boston University School of Medicine

Continuing Medical Education

Course Announcements

Obstetrics, Gynecology, Perinatal, Neonatology Medicine and the Law/January 2-6, 1996/Course Director: Aubrey Milunsky, MD/Four Seasons Resort, Wailea, Maui, Hawaii

Uro-Oncology Update: 1996/January 6, 1996/Course Director: Richard Babayan, MD/Ritz-Carlton Hotel, Boston, MA

Winter Urologic Forum/January 27-February 2, 1996/Course Director: Robert Krane, MD/Hyatt Regency Hotel, Beaver Creek, CO

Advanced Trauma Life Support/February 1-2, 1996/Course Director: Erwin F. Hirsch, MD/Boston University Medical Center, Boston, MA

Behavioral Pediatrics: Clinical Problems in Primary Care/March 8-9, 1996/Course Director: Stephen Parker, MD/Royal Sonesta Hotel, Cambridge, MA

Abdominal MRI & MRA Clinical Advances/March 15-16, 1996/Course Director: Joseph T. Ferrucci, MD/Copley Plaza Hotel, Boston, MA

Recent Advances in Diagnosis and Management of Infectious Diseases in Children/March 30, 1996/Course Director: Jerome Klein, MD/Copley Plaza Hotel, Boston, MA

Current Topics in Clinical Medicine/April 16-20, 1996/Course Director: Robert M. Levin, MD/Sonesta Beach Hotel, Bermuda

Cardiology for the Non-Cardiologist/April 18-19, 1996/Course Director: Philip Podrid, MD/Royal Sonesta Hotel, Cambridge, MA

Pediatric Challenges for the 1990s and Beyond/April 22-26, 1996/Course Director: Stephen I. Pelton, MD/Hilton Head Resort, Hilton Head, SC

Dermatology for the Primary Care Physician/April 26-27, 1996/Course Director: Amal K. Kurban, MD/Sheraton Boston Hotel, Boston, MA

Controversies in Internal Medicine/May 6-10, 1996/Course Director: Robert Levin, MD/Hilton Resort, Hilton Head, SC

Pediatric Emergencies/June 5-7, 1996/Course Director: Robert Vinci, MD/Copley Plaza Hotel, Boston, MA

Recent Advances in Medicine/June 27-29, 1996/Course Director: Robert Levin, MD/Holiday Inn Crown Plaza, Kansas City, MO

For more information, contact:

Department of Continuing Medical Education, Boston University School of Medicine, 80 E. Concord St., A305, Boston, MA 02118. Telephone: 617/638-4605.

Boston University School of Medicine

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