

Vitae:

The magazine of the University of Massachusetts Medical School

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CAMPUS GROWTH 5

INSIDE: The Three 'I's' (page 10)
Our Time to Lead (page 26)
A Decade of Distinction (page 28)

The University of Massachusetts Medical School

SCHOOL OF MEDICINE, opened in 1970

GRADUATE SCHOOL OF BIOMEDICAL SCIENCES, opened in 1979

GRADUATE SCHOOL OF NURSING, opened in 1986

Vitae: *L., the plural of life*

The name of this magazine encompasses the lives of those who make up the UMMS community, for which it is published. They are students, faculty, staff, alumni, volunteers, benefactors and others who aspire to help this campus achieve national distinction in education, research and public service.

Contents:



Five

BUILDING ON SUCCESS



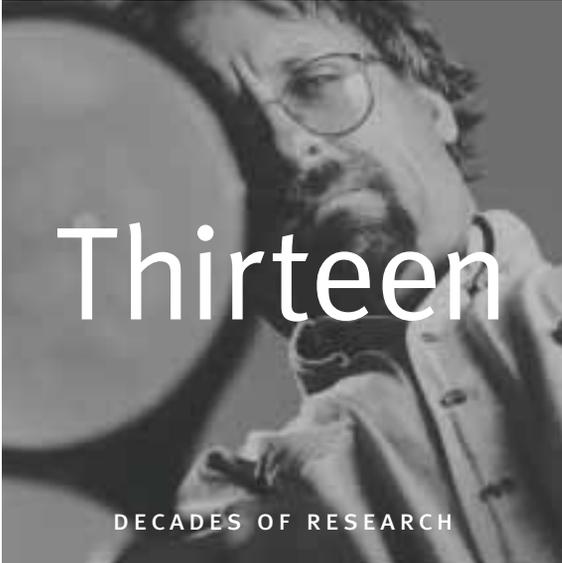
Eight

FOR THE COMMON GOOD



Ten

DRIVING EDUCATION



Thirteen

DECADES OF RESEARCH

2 NEWS & NOTES

15 GRANTS & RESEARCH

17 ALUMNI REPORT

25 DEVELOPMENT UPDATE

28 THE LAST WORD

News & Notes:



NIH AWARDS \$6.7 MILLION FOR CANCER RESEARCH

The rewards of a collaborative research environment were clearly evident in March, when the University of Massachusetts Medical School was awarded a five-year, \$6.7 million program grant from the National Institutes of Health (NIH). Granted to the UMass Cancer Center, the funds will support the efforts of a team of 50 UMMS faculty and staff representing a variety of basic and clinical departments. Immense in its scope, the project will investigate the method by which genes are redistributed in the nucleus of a tumor cell. The cooperative effort comprises a group of junior and senior investigators with laboratories in every research facility on the Worcester campus and will incorporate molecular, cellular and genetic approaches to this scientific dilemma.

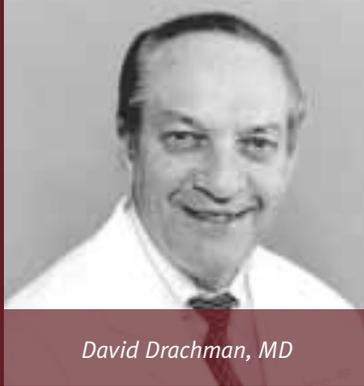
According to Principal Investigator *Gary S. Stein, PhD*, the Gerald L. Haidak, MD, and Zeldia S. Haidak Professor of Cell Biology, and deputy director of research for the Cancer Center, the grant was a direct consequence of the successful collaboration among several UMMS departments over the past five to seven years. "This grant reflects something very positive about the Medical School. This is a group of people who can work effectively together, and more importantly, truly enjoy doing so," Dr. Stein said.

Shown in the future home of the UMass Cancer Center, grant researchers from left to right, front row: G. Wayne Zhou, PhD; Janet Stein, PhD; Gary Stein, PhD; Jane Lian, PhD. Back row: Andre J. Van Wijnen, PhD; Anthony Imbalzano, PhD; Greenfield Sluder, PhD; Stephen Doxsey, PhD; German Pihan, MD; and Jeffrey A. Nickerson, PhD

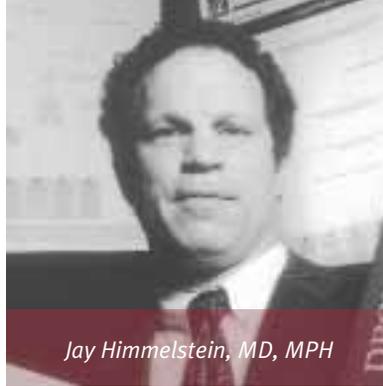
UMMS PROFESSOR EXPLORES DRUG'S EFFECT ON DEMENTIA

With results certain to impact future research on the treatment of cognitive impairment and dementia-inducing diseases such as Alzheimer's, a new study co-authored by Professor and Chair of the Department of Neurology, *David Drachman, MD*, concludes that people age 50 and older could be 70 percent less likely to develop dementia if prescribed cholesterol-lowering drugs called statins.

Because vascular and cholesterol-related mechanisms are thought to have a role in the development of Alzheimer's disease and vascular dementia, Dr. Drachman and co-authors, including Dr. Hershel Jick of the Boston University School of Medicine, undertook an epidemiological study of the potential effects of statins on dementia. Concluding that patients prescribed statin drugs were 70 percent less likely to have dementia than those with no diagnosis of high cholesterol or exposure to cholesterol-lowering drugs, Drachman, Jick, et al, encouraged other researchers to conduct further studies to confirm their findings. According to the authors, "If substantiated, the implications of this study are considerable. These findings suggest that the use of statins could substantially reduce the risk of dementia in the elderly, either by delaying its onset, or by opposing specific or general age-related changes that result in cognitive impairment."



David Drachman, MD



Jay Himmelstein, MD, MPH



nature

UMMS RESEARCHERS CONTRIBUTE TO PIVOTAL ISSUE OF NATURE

On February 15, 2001, the prestigious journal *Nature* unveiled the first draft sequence of the human genome. The result of a collaboration involving 20 groups from the United States, the United Kingdom, Japan, France, Germany and China, the draft sequence was generated from a physical map and covers approximately 94 percent of the human genome.

Director of the UMMS Program in Gene Function and Expression Michael R. Green, MD, PhD, Howard Hughes Medical Institute Investigator and professor of molecular medicine, was one of the experts to contribute to the notable issue with the article, "Expressing the Human Genome." With UMMS co-authors Rosella Tupler and Giovanni Perini, Dr. Green examines the implications of the human genome for gene expression processes. The authors write, "The availability of the human and other genome sequences will revolutionize all fields of biomedical research. But, as the genome is itself the object of gene expression, the impact may be particularly profound for those of us studying this process."

A 'TICKET TO WORK' FOR PEOPLE WITH DISABILITIES

Attainment of competitive employment continues to be a significant obstacle for people with disabilities. However, with guidance from UMMS, the Massachusetts Division of Medical Assistance (DMA) was recently awarded a \$4.3 million grant to develop and evaluate programs to help individuals with disabilities meet their employment goals.

Because of successful collaboration between UMMS and DMA on various public policy issues, when a Medicaid Infrastructure Grant was made available through the federal Ticket to Work and Work Improvement Incentives Act, DMA turned to the Medical School to help the agency vie for, and ultimately, receive the funds. According to Principal Investigator Jay Himmelstein, MD, MPH, UMMS assistant chancellor for health policy and director of the Center for Health Policy and Research, the grant will address systematic inequities that continue to affect the disabled population and "fund lasting enhancements to the Medicaid program to improve health systems and employment opportunities."

DMA Director of Plans for the Elderly and Disabled and Project Co-director Eleanor Shea-Delaney agreed. "Our partnership will greatly improve the quality of services available for both working adults with disabilities and those who wish to work."

U.S. News & World Report, in its "Best Graduate Schools" issue published in March, ranked the University of Massachusetts Medical School fourth in the nation on its list of Top Medical Schools—Primary Care. UMass Medical School praised its exceptional faculty in the advertisement above, for providing quality instruction to its medical students—recognized by a U.S. News "Top Ten" ranking every year since 1995—and leading America's medical schools in innovative curriculum and educational research.

FIRST CENTRAL MASS. HEART TRANSPLANT PERFORMED

Launching a new era in cardiovascular medicine in Central Massachusetts, UMMS surgeons performed the first cardiac transplant surgery in the state outside Boston on February 27, followed in quick succession by procedures in April and May. The cardiac transplantation program's team, directed by James S. Gammie, MD, UMMS assistant professor of surgery, and Lana Tsao, MD, UMMS assistant professor of medicine, performed the surgeries at clinical partner UMass Memorial Health Care.



Bernard LaFayette Jr., EdD



Paul Appelbaum, MD



Andre Biuckians '01

UMMS COMMUNITY CHALLENGED TO ACTIVISM

With unparalleled eloquence and inflections of humor that reinforced the seriousness of his topic, Bernard LaFayette Jr., EdD, spoke of the history and progress of the Civil Rights Movement as the keynote speaker at UMMS' 13th Annual Tribute to the Rev. Dr. Martin Luther King Jr. in January. Distinguished scholar-in-residence and director of the Center for Nonviolence and Peace Studies at the University of Rhode Island, LaFayette described the irony of a nation that expounded the virtues of freedom while supporting segregation. "The struggle wasn't about segregated buses. We were dealing with the fact that this nation, that claimed to be a democracy, would allow this situation to exist," he said.

While recognizing that progress has been made, LaFayette implored his audience to be wary of apathy. "You can't stand by and watch," he stressed. "We came over here on different ships, but right now, we're in the same boat. The world is coming to you, with folks of different colors, different languages and different cultures. We have to teach our children that they are part of that evolving world."

PSYCHIATRY CHAIR ELECTED TO IOM

Paul S. Appelbaum, MD, the Arnold F. Zeleznik Professor of Psychiatry, chair of the Department of Psychiatry and director of the Law and Psychiatry Program at UMMS, has been elected to membership in the National Academy of Sciences' Institute of Medicine. Each year, current active members of the Institute elect new members from among candidates chosen for their major contributions to health and medicine, or to related fields such as social sciences, law, administration and economics.

Recognized as one of the country's leading forensic psychiatrists, Appelbaum has published and spoken extensively on critical mental health and legal issues ranging from obtaining informed consent in treatment and research, to protecting patients' confidentiality, to the diagnosis, prevention and treatment of violent behavior. His achievements as a forensic psychiatrist, spanning clinical evaluation and scholarly research, complement the Institute's mission to advance and disseminate scientific knowledge to improve human health. "I am honored by my election to the Institute," said Appelbaum. "I look forward to working with some of the finest minds in medicine on the major health policy problems that face the nation today."

STUDENT ELECTED VICE SPEAKER OF AMA SECTION

UMMS fourth-year medical student Andre Biuckians has been elected vice speaker of the American Medical Association Medical Student Section (AMA-MSS) by fellow student members. The AMA-MSS is the largest medical student organization in the country, with over 47,000 members, and is dedicated to representing the interests of medical students and improving the quality of medical education. In his capacity as vice speaker, Biuckians will work with the speaker to determine the organization's agenda and coordinate all activities for the interim and annual meetings.

"We are very fortunate to count Andre among our students," said Aaron Lazare, MD, chancellor and dean. "His commitment to public health advocacy emulates the core mission of the Medical School."

*If a picture paints a thousand words, how descriptive are three dimensions?
At the University of Massachusetts Medical School,
buildings and spaces outline the story of a decade of expansion.*

BY MARY BETH DZIEWIETIN

Building on Success

As every prospective student knows, words and photos in a catalog can't compare to a visit for conveying the sense of a place. But visitors to the University of Massachusetts Medical School should be prepared: a tour might take awhile.

The campus map in the 1991-1993 Medical School Catalog pictures five buildings and a parking garage on the institution's 67 acres, and one building in the Massachusetts Biotechnology Research Park across Plantation Street. (Anderson House, a bit farther north on Plantation, is off the page.) In the current edition, catalog viewers find not only half a dozen new structures around the main campus but also four more campuses.

"Old" at UMMS is relative: its first structure was the Shaw Building, which dates back only to 1970, and most of the other facilities on the campus in 1991 were completed by 1976. The tour of the institution's recent expansion begins at a new space in an old place.

During the 1990s, as a result of changes in medical education nationally and at UMMS, new methods of teaching and learning created the need for different kinds of classrooms. The Medical School, already crowded by a growing



student population, responded by filling two courtyards adjacent to the library in the school building with small-scale, high-tech case study rooms and group study areas. The Allan S. Goff Learning Center opened in June 1997.

"We designed portions of the Learning Center to address the requirements of each of the three schools," recalled Director of Facilities Management Timothy M. Fitzpatrick, whose 25 years at UMMS make him a knowledgeable tour guide. "I think we were fairly successful—successful enough that the rooms are always booked," he added.

The need for space, of course, is basic to the institution's growth. For several reasons, research space in particular has been of great importance: achievements in research help fulfill the Medical School's mission and benefit humanity as a whole; a nationally recognized research program contributes to the viability of the entire educational institution; and a critical mass of investigators and resources is essential to attracting ever more competitive external funding. UMMS was not alone in recognizing the changing demands of scientific research, and unions with other institutions as well as new construction added to the Medical School's facilities.

Above: Timothy M. Fitzpatrick

Background: A classroom in the Goff Learning Center



Spring at the Worcester Campus | Rose and Gordon Research Laboratory, Worcester Foundation Campus | Benedict Building, Worcester Campus

In 1991, all wet-lab research was conducted in the School and leased space in Two Biotech at the Massachusetts Biotechnology Research Park (MBRP). UMMS purchased Two Biotech the following year, and increased its presence on the other side of Plantation Street with the acquisition of One Biotech and lease of Four Biotech in 1998; the spaces accommodate, among others, the Program in Molecular Medicine, Commercial Ventures & Intellectual Property, and UMMS scientists of the former Worcester Foundation for Biomedical Research (WFBR), one of three institutions to combine with UMMS in the last few years.

An independent research facility with an international reputation, the WFBR merged with the Medical School in 1997. The Foundation's 80-acre campus in Shrewsbury is the first UMMS-owned space on the tour not in walking distance of the main campus. (The hill to the MBRP is steep, but not insurmountable.) Of the nine major buildings on the Worcester Foundation Campus, three—the Hoagland-Pincus Conference Center, Chang Building, and Rose and Gordon Research Laboratory—have since undergone major renovations.

Two more unions created UMMS campuses even farther east of Worcester. Also in 1997, the commonwealth transferred operation of the Massachusetts Biologic Laboratories and the New England Newborn Screening Program in Jamaica Plain from the Department of Public Health to the Medical School. The Eunice Kennedy Shriver Center in Waltham merged with UMMS last year. Researchers at both facilities continue to pursue their established investigations.

The state laboratory complex and the Shriver Center are part of Commonwealth Medicine, a UMMS initiative that lends expertise and support to 10 state agencies. Fitzpatrick described Commonwealth Medicine as one of Facility Management's "biggest clients;" as well as the Jamaica Plain and Waltham sites, the group occupies space at the Foundation Campus, MBRP and Auburn Campus, south of Worcester.

**“WE’RE GOING TO USE THIS PROJECT
AS A MODEL TO SAY THAT YES, YOU CAN DO
GOOD CONSTRUCTION OPENLY, HONESTLY,
COST EFFECTIVELY—AND ON TIME.”**

The drive from Auburn to Worcester is long enough to calculate that, of the more than 400,000 square feet of wet-lab research space purchased, leased or acquired through mergers, only 80,000 was available for new investigators. Back on Plantation Street, the tour approaches the Medical School's newest structures.

Adjacent to the MBRP, on the grounds of Worcester State Hospital, the Irving S. and Betty Brudnick Neuropsychiatric Research Institute opened in 2000. The facility is devoted to biological research into the causes, diagnoses and treatment of chronic and serious mental disorders and is the result of the vision of Irving and Betty Brudnick of Weston. The Brudnicks contributed \$2.5 million toward



State Laboratory Building, Jamaica Plain Campus | Brudnick Neuropsychiatric Research Institute | Lab ventilation atop Biotech Four

construction of the 32,000-square-foot facility. With additional funds from the Department of Mental Health, the building serves as evidence of UMMS efforts over the past decade to seek new sources of support.

The last stop is the eye-catching structure that likely drew many tour participants: a 10-story, glass-covered, 360,000-square-foot research laboratory building. According to Fitzpatrick, construction is substantially complete on levels 1 through 4, and though the building won't be entirely finished, researchers and staff will begin moving in during the first week of September as scheduled. "For a project of this size, carried out this quickly—30 months from pre-conceptual design to occupancy—I'd say it's unusual that we've been able to stay on target," said Fitzpatrick. "It's one thing to do it fast, but to do it right and do it fast is a challenge."

The facilitating factor was the success of the UMMS leadership team, led by Chancellor and Dean Aaron Lazare, in finding ways to work with the commonwealth that allow the Medical School to build more efficiently. Said Fitzpatrick: "We're going to use this project as a model to say that yes, you can do good construction openly, honestly, cost effectively—and on time."

With projects in process such as another parking garage—part of the UMass Memorial Emergency Department expansion plans—and a \$65 million vaccine filling and manufacturing facility at the Jamaica Plain Campus, tourists in the next decade better plan on wearing comfortable shoes.

Background: The Research Laboratory Building

NAMES AND SPACES

The year 1992 saw two milestone achievements at the former University of Massachusetts Medical Center: the opening of the Joseph T. Benedict Building, the institution's first new structure other than the parking garage since 1976 and the culmination of a major collaboration with the commonwealth and city to rehabilitate Worcester City Hospital. Six years later, the merger of the UMass clinical system and Memorial Health Care, another landmark event, transferred ownership of the sites to UMass Memorial Health Care.

The clinical partnership has created and expanded opportunities for the advancement of the Medical School's mission. As well as supporting education and service programs at its hospital and ambulatory care sites, UMass Memorial pledged \$30 million toward the cost of the new UMMS research laboratory building to fund cutting-edge research.

The construction of the Benedict Building and the renovation of the Family Health Center (the old City Campus) addressed the shortage of convenient, comfortable patient-care space brought about by a growing number of patients seeking a greater array of services. Both the need and the cause remain, and UMass Memorial has several projects underway in response: the system recently completed a technologically advanced ambulatory surgical center at the Hahnemann Campus, and is expanding the cardiac catheterization labs at the University Campus and the Ambulatory Cancer Center at the Memorial Campus. Three UMass Memorial member hospitals—Clinton, HealthAlliance and Marlborough—also are making capital improvements to enhance access to health care.



BY ANDREA L. BADRIGIAN

For the Common Good

A meeting of two minds in the UMMS Department of Psychiatry in the early 1980s has led to ideas so innovative that their implementation serves as a model for the rest of the country and garners recognition at the highest level here in the Bay State.

Commonwealth Medicine (CM), initiated by Chancellor Aaron Lazare and Vice Chancellor Thomas D. Manning, is the state's partner in public sector health care programs that serve to optimize efficiency, increase the value and quality of health care expenditures, and improve access and delivery of care to at-risk and uninsured citizens. With its various academic, research, management and clinical components—serving the Massachusetts departments of Mental Health, Social Services, Public Safety and Public Health and the state's Medicaid program—and staffed by forward-thinking professionals, CM is UMass Medical School's answer to state agencies' quest for streamlined performance and positive returns.

The concept of Commonwealth Medicine is tied to the goal to create a relationship with the state to deliver psychiatric care of the highest quality to patients in the public sector. In 1982, Dr. Lazare became professor and chair of the Department of Psychiatry, and immediately set to that goal. For his accomplishments in this area, the chancellor received the University's Distinguished Professional Public Service Award in 1988 "for exceptional achievement in serving the interests of the people" of Massachusetts. The Department of Psychiatry won four subsequent awards for its public sector activities.

Manning came to UMass Medical Center in 1978 to serve as administrator for the psychiatry department. In that role throughout the 1980s, he coordinated the department's fiscal

colleagues at the Division of Medical Assistance (DMA), the Commonwealth Citation for Outstanding Performance this past fall. With the award, the RMG's John Robertson, John Seaver, Bella Tong, Teresa Pastore, Donna Manoogian, Kimberli Keith, Marc Thibodeau and Alan Levites realized their dedication to CM's mission of facilitating initiatives that benefit all residents of Massachusetts. Said CM's Manning: "Receipt of this award is a prime example of two agencies within the family of state agencies initiating an extraordinary effort on behalf of the commonwealth."

The RMG has a history of developing innovative funding mechanisms resulting in the garnering of over \$500 million in non-tax revenue for the commonwealth. These programs involve the recovery of federal funds

help defray school costs in 325 municipalities or districts for health-related services, benefiting localities from Boston to the Berkshires.

Working with the DMA and the Department of Education (DOE), the RMG developed reimbursement methodologies; trained school staff in claims preparation; helped to amend state and federal regulatory language; and crafted a vehicle for transferring funds from the federal government to the localities. Staff members continue to administer the program for the DMA, providing management and technical support to the municipal providers and to the Medicaid agency.

"The team exhibited exemplary leadership in making all of the appropriate changes to state processes in order for the municipalities to

Commonwealth Medicine partners with state agencies to benefit Massachusetts' citizens—with rewarding results.

and management activities and was active in the formulation of policy for its public sector work. In 1993, he was presented the Department of Mental Health's prestigious Commissioner's Special Commendation for his efforts in supporting the rights of the mentally ill and for advocating for opportunities for them in the community. Five years later, Manning received the Manuel Carballo Governor's Award for Excellence in Public Service, the commonwealth's highest honor in the field of health and human services.

Such an award-winning legacy has been assumed by members of the Revenue Maximization Group (RMG) of Commonwealth Medicine's Center for Health Care Financing, who received, along with their

to offset state expenditures in various agencies. The RMG was presented the citation this fall for initiating yet another nationally recognized model for successfully identifying and recovering federal revenue, this time supporting local municipalities in providing health-related, school-based funding for special education and the general student population.

Dubbed "Municipal Medicaid," the project has created a means of delivering federal dollars to municipalities and local and regional school districts by using tax revenues to provide the state match for Medicaid services in schools. Certifying the local match, the DMA draws federal matching funds for the Medicaid-covered services delivered through the schools. The program has recouped over \$250 million in federal dollars to

receive the federal windfall," noted Manning. "Members of the team took on the formidable challenge of coordinating this involvement, satisfying the program goals of the DMA, the DOE, the Office of the State Comptroller and the Legislature, whose participation was vital to the process." The team convinced the municipalities and schools that the value of the revenue would offset the costs of yet another state and federal oversight agency. Said Manning: "The Massachusetts model of recovering federal reimbursement for schools was so well conceived and implemented that many other states have chosen to copy the process in part or in whole. Additionally, the team participated in a national committee that played a vital role in molding policy in this area."

BY SANDRA L. GRAY

Education Driven by the Three 'I's'

UMMS faculty continually develop educational offerings for students through creative collaboration.

Innovative, interdisciplinary and integrated—this trio of “I” words well describes the trajectory of curriculum development at the School of Medicine, Graduate School of Biomedical Sciences and Graduate School of Nursing over the past decade. Guided by Chancellor and Dean Aaron Lazare, faculty have invested untold energy and creativity, not to mention countless hours of work, into a panoply of curriculum reforms that keep pace with the ever-changing landscape of health care and biomedical science.

When Dr. Lazare took the helm in 1991, the health care professions were faced with unprecedented changes in medical knowledge, patient populations, medical technology and how health services were delivered. The consensus in medical academic circles was that, in order to stay relevant, radical transformation in medical school education leading to the MD degree was needed. This was a view that Lazare and a critical mass of UMMS faculty shared—and a challenge they embraced.

“A major strength of our school has been a culture that encourages faculty to become involved in educational planning at the grassroots level,” said Susan B. Gagliardi, PhD, professor and vice chair of cell biology, herself a major player in curriculum reform at UMMS. “Dr. Lazare was the catalyst; faculty members responded by turning ideas into reality.” In April of 1991, the University Board of

Trustees approved Dr. Lazare’s proposal to retool the formerly departmentally driven Educational Policy Committee (EPC) into an interdisciplinary and authoritative entity reporting directly to the chancellor and dean.

In 1993, four formerly separate administrative offices were melded into the Office of Medical Education (OME). Integrating curriculum development, student affairs, admissions and graduate medical education, the OME facilitates involvement from all academic departments in developing and implementing interdisciplinary courses and educational programs.

Dr. Gagliardi, who currently co-chairs the EPC, remembers the incredible excitement generated by the opportunity to create change. “People started really talking to each other—faculty from different departments and disciplines, basic scientists and clinicians, basic scientists and social scientists,



(clockwise from top)

Susan Gagliardi, PhD
professor and vice chair of cell biology

Thomas Miller, PhD
GSBS dean

Mary Alexander, EdD
professor and associate dean of the GSN

specialists and generalists, the school and the community. Many parts of our present curriculum are continuing collaborations that grew from these conversations.”

Developed with input from more than 20 curriculum committees, faculty groups and student focus groups, a revamped School of Medicine curriculum was phased in from 1995 to 1996. In the first two years, multidisciplinary courses were expanded, and other courses



are used to help assess students’ progress. The fourth year wraps up medical students’ diverse undergraduate learning experience with interdisciplinary electives and research opportunities in addition to more required clinical clerkships. Optional Enrichment Program electives such as American Sign Language and End-of-Life Care are available across all four years.

Along with curriculum reform came recognition that, to stay focused on teaching, faculty need support and resources of their own. Since 1996, the OME’s Division of Faculty Development has supported the faculty teaching series and a teaching peer-review program. Innovations in Medical Education Grants, administered by OME’s Division of Research and Evaluation, provide faculty members with funding for pilot projects.

The Graduate School of Biomedical Sciences’ (GSBS) and the Graduate School of Nursing’s (GSN) own successes with curriculum development have always paralleled, and often intersected, with those of the School of Medicine. GSBS Dean Thomas B. Miller Jr., PhD, is pleased that “the GSBS has prospered considerably over the past decade,” with enrollment up over 100 percent. While a departmentally based core curriculum has been required for all GSBS students since 1985, it became an interdisciplinary effort in 1998; faculty representing all programs plan and teach a core curriculum that is designed to provide the most up-to-date material for all first-year students. “Beyond imparting knowledge, going through the core curriculum together gives each class a camaraderie and cohesiveness they maintain throughout their careers,” noted Dr. Miller.

made changes to emphasize interdisciplinary approaches. First-year students begin to integrate basic science with its practical clinical applications early in their education via the interdisciplinary Longitudinal Preceptorship Program and two-week Community Clerkship. The third year is devoted to required 6-12 week clinical clerkships and elective one-day interclerkships addressing contemporary topics such as substance abuse and domestic violence. Objective Structured Clinical Exams (OSCE) administered by the Standardized Patient Program



After completing the core curriculum, GSBS students select from several fields of specialization in which to conduct dissertation research. Some of these, such as Neuroscience and Biomedical Engineering & Medical Physics, are themselves interdisciplinary. The Interdisciplinary Graduate Program (IGP) introduced last year is a logical extension of the GSBS philosophy that, after gaining fundamental core knowledge, each PhD candidate should have maximum latitude in designing their own PhD specialization. All GSBS faculty are invited to join the IGP.

Since 1991, the Graduate School of Nursing has developed curriculum in tandem with the School of Medicine's responses to changes in health care delivery. Soon after being appointed chancellor, Lazare met with GSN faculty to address the need for greater cooperation between the graduate school and the then UMMS-run clinical system. Afforded the necessary resources, the GSN brought nurses, physicians and basic scientists together in the classroom, hospital and community.

"Our students take for granted something I think is unique to our school: the easy interchange and collaboration between disciplines," said Mary K. Alexander, EdD, professor and associate dean of the GSN and a major architect of its Master's in Nursing Science curriculum. "When nurses, physicians and scientists learn together, they gain a true appreciation for what each one brings to the health care system, and how they can work together to enhance it"

In the mid-'90s, when the School of Medicine's emphasis on primary care in the community for graduate medical education took residents

out of the hospital, the GSN addressed the resulting shortage of in-hospital caregivers with advanced training by establishing the acute care clinical nurse practitioner specialty in the Master's program. In 1994, the GSN again responded to a shortage, this time of doctorally prepared nurse educators and researchers, by founding the Collaborative PhD Nursing Program with UMass Amherst.

Another key recognition has been that state-of-the-art infrastructure and technology are essential for optimal teaching and learning. In



1997, construction of the Allan S. Goff Learning Center was completed. Later this year, completion of the research laboratory building will open the doors to hundreds of investigators and their staffs. UMMS continues to implement technology-based educational tools, such as the interactive Web-based "StrokeSTOP" curriculum. Teleconferencing brings far-flung students and faculty together and Information Systems' Division of Academic Computing harnesses Internet technology to help students access the most up-to-date information in their fields.

Outside observers attest to advances in the quality of education at UMMS over the past decade. The School of Medicine has been ranked by *U.S. News and World Report* in the top 10 medical schools emphasizing

primary care for six consecutive years, and in 2000 entered the *U.S. News* ranks of the top 50 medical schools overall. In 1993, the National Research Council, an agency of the National Academy of Sciences, ranked the GSBS in the top half of programs offering PhD degrees in biological sciences; Dean Miller of the GSBS is confident the school would rank even higher today had the NRS not discontinued its ratings. In 1997, the GSN received its full eight-year accreditation from the National League for Nursing Accrediting Commission.

As new medical knowledge and changes in health care delivery advance, curriculum changes must continue apace. The School of Medicine makes ongoing refinements, updates and additions through a continuous process of evaluation, review and renewal by students as well as faculty. The GSBS is working towards an interdisciplinary biotechnology & bioengineering program with the University's Boston, Lowell and Amherst campuses. Under its new dean, Doreen Harper, PhD, the GSN will aggressively pursue opportunities to grow research funding and community collaborations. Most recently, Chancellor Lazare has formed a committee to recruit for the newly created post of Vice Chancellor of Education, which will address evolving educational needs for all three UMMS schools.

"We have much more to explore in the area of education," observed Gagliardi. "And continued collaboration between faculty in the three schools is an exciting step."

Craig Peterson, PhD



Babs Soller, PhD



From the outer reaches of space to the inner sanctum of DNA, UMMS investigators unravel a variety of life's puzzles, all with an eye to ethics.

Three Decades of Research

BY LYNN C. BORELLA

Because of the prominence of the new research laboratory building, together with recent news of sizable increases in National Institutes of Health funding, many at UMMS might be tempted to associate Medical School research strictly with benchwork and journal publication.

Yet, since 1991, when Aaron Lazare, MD, became chancellor, the mission to expand the Medical School's research enterprise has always embraced the true meaning of the word research—studious inquiry and examination. Following are the reflections and accomplishments of three diverse research faculty, each celebrating 10 years with UMMS, who can attest to the breadth and success of the research mission here.

Research Associate Professor of Surgery Babs Soller, PhD, embodied collaboration between academia and industry long before such partnerships were common. Although hired to assist one surgeon, Dr. Soller's position in the Division of Cardiothoracic Surgery has grown to provide support to all members interested in developing their own research projects. In addition to day-to-day research program management, Soller maintains the division's cardiac patient database, a quality benchmarking tool that includes 13 years of pre-operative risk factors, operative conditions and outcomes, providing useful information for research.

Soller's most recent investigation involves the development and testing of sensors based on Near Infrared Spectroscopy (NIR), non-invasive devices that can assess blood and tissue chemistry—important indicators of shock or severe

blood loss—by using light to penetrate through skin and bones. A recent three-year, \$750,000 grant from the National Space Biomedical Research Institute, designed to promote the development of such devices for use during space flight, will help Soller and her team improve the current technology and pursue an industrial partner.

In reflecting on her 10 years at UMMS, Soller sees today's close collaboration with industry—as exemplified by the UMass/Smith + Nephew Center for Research in Endoscopic Surgery—as one of the most significant changes she's witnessed and one in which she feels like a pioneer.

“My corporate biomedical engineering experience didn't provide me opportunity to discover the types of devices surgeons need. The creation of the Smith + Nephew Center at UMass is unique, in that it pairs on-site engineers with surgeons, allowing insight into what tools surgeons

need for patient care.” In many ways, Soller feels that her position at UMMS was a precursor to this melding of academic medicine and industry. “By conducting such investigations at a medical school, I have clinical expertise and quality patient data at my fingertips—something quite unique for a person with my research background in chemistry.”



Marjorie Clay, PhD

EMBEDDING ETHICS

Professor of Medicine Marjorie A. Clay, PhD, was also somewhat of an enigma when she was hired to establish the Office of Ethics at UMMS. A professor of philosophy, Dr. Clay says that she was surprised and delighted to be hired to “parent” ethics at the Medical School, a decision she stresses is typical of the flexibility of the institution. And, over the last 10 years, she has worked to embed ethics into every basic science course and clinical encounter.

As an office of one, Clay focuses most on implementing rather than publishing her research. Any ethical correlation she deems “real and practical,” she develops as “Ethics Notes” which are integrated into the preclinical curriculum. She also creates cards that students can carry in their white coats, giving them tips to handle ethical questions during their rotations. “My mission is to ensure that physicians are equipped to deal with the ethical dilemmas inherent in medicine today. That’s what drives my research, and I don’t know of any other medical school that incorporates ethics so readily into every part of its curriculum.”

In addition to her contributions to the Macy Initiative in Health Communication, Clay is well known for her role in the end-of-life curricula, specifically the elective course, Promoting Excellence in End-of-Life Care. Initiated by students and developed with Professor of Medicine David M. Clive, MD, and Professor of Surgery H. Brownell Wheeler, MD, the elective is designed to pair students with terminally ill patients, helping them to accept the fact that people die—despite receiving the best medical care possible. A follow-up program is also offered as a third-year interclerkship to help fledgling physicians sensitively handle the clinical aspects of death, such as relieving pain and handling difficult topics, including autopsy request and organ donation.

Clay concluded, “The UMMS environment is one in which people feel free to explore, express and dream. The enthusiasm for using research to improve education made it easy for me to find room for my interests. I’ve never looked back.”

RESEARCH ENTHUSIASM EVER-PRESENT

Unlike Soller and Clay, Professor of Molecular Medicine Craig L. Peterson, PhD, is the quintessential wet-lab researcher. Dr. Peterson came to UMMS directly from his postdoctoral training at the University of California/San Francisco, and still speaks today of the unparalleled research environment and sense of excitement he felt during the interview process and upon his arrival. “In 1991-1992, UMass was still very young, and this youth was reflected in the vitality of its researchers and faculty. Time has not dampened that spirit.”

Peterson’s research addresses the basic questions associated with chromatin—the folding of more than five feet of DNA into chromosomes within the cell nucleus. Much of his work, performed in yeast, is focused on enzymes that

can unfold or remodel the chromatin to allow repair of damaged DNA and facilitate the reading of genetic material. Peterson’s lab has been investigating DNA repair and how these enzymes, which are important to cell growth and development, are the targets of many disease processes, including cancer. Currently, he is one of three principal investigators funded through a \$6.7 million National Cancer Institute program grant to study how genetic information inside the nucleus of the tumor cell is reorganized and redistributed and the consequences of that for cancer’s onset and progression.

“IN 1991-1992, UMASS WAS STILL VERY YOUNG, AND THIS YOUTH WAS REFLECTED IN THE VITALITY OF ITS RESEARCHERS AND FACULTY.”

Peterson noted UMMS’ recruitment within the last few years of over 30 new faculty to the basic sciences departments, huge growth considering the total number of department faculty equals about 175. Yet, more important than this quantity is the quality—UMMS is attracting top-notch faculty, post-doctoral fellows and students from premier institutions. “I attribute the success of my lab to the expansive research growth at UMass, part of Dr. Lazare’s effort to make it one of the top medical schools in the country in research. When you recruit and work with exceptional colleagues, it makes you a better scientist—you have to live up to everyone else’s standards, as well as your own.”

Grants & Research:

New and competitive renewal grants of \$50,000 and up are listed here according to broad areas of research and funding sources.

CANCER

AMERICAN CANCER SOCIETY

David A. Hill, PhD, a postdoctoral fellow in the laboratory of Anthony N. Imbalzano, PhD, assistant professor of cell biology: Effects of Specific Histone Phosphorylation on Human SWI/SNF Activity, three years, \$96,000.

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

Madelyn R. Schmidt, PhD, research assistant professor of molecular genetics & microbiology: A New Gene Therapy Approach for Prostate Cancer, one year, \$75,000.

NATIONAL INSTITUTES OF HEALTH

Theodore J. Koh, MD, assistant professor of medicine: HB-EGF's Role in Atrophic Gastritis and Gastric Cancer, one year, \$78,209; recommended for one more year, \$78,916.

U.S. ARMY MEDICAL RESEARCH ACQUISITION ACTIVITY

Robert E. Carraway, PhD, professor of physiology: Prostate Cancer Cell Growth: Role of Neurotensin in Mediating Effect of Dietary Fat and Mechanism of Action, one year, \$189,034; recommended for two more years, \$395,250.

Stephen J. Doxsey, PhD, associate professor of molecular medicine and German A. Pihan, MD, assistant professor of pathology: Centrosome Defects, Genetic Instability and Prostate Cancer, two years, \$777,154.

CELL BIOLOGY

NATIONAL INSTITUTES OF HEALTH

Stephen J. Doxsey, PhD, associate professor of molecular medicine: Centrosome Assembly and Function, one year, \$280,800; recommended for three more years, \$842,400.

Elizabeth J. Luna, PhD, professor of cell biology: Cytoskeleton/Membrane Interactions, one year, \$265,460; recommended for three more years, \$1.1 million.

Paul R. Odgren, PhD, research assistant professor of cell biology: Trance Regulation of Chondrocyte Maturation, one year, \$253,890; recommended for four more years, \$1 million.

DIABETES & METABOLISM

NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES

Anthony Carruthers, PhD, professor of biochemistry & molecular pharmacology: Glucose Transporters Structure and Function, one year, \$195,000; recommended for four more years, \$780,000.

FACULTY DEVELOPMENT

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Mark E. Quirk, EdD, professor of family medicine & community health: Faculty Development in Primary Care, one year, \$633,322; recommended for two more years, \$1.3 million.

GENETICS

NATIONAL INSTITUTES OF HEALTH

Rachel M. Gerstein, PhD, assistant professor of molecular genetics & microbiology: Diminished V(D)J Recombination During B Cell Development, one year, \$78,000.

Michael R. Green, MD, PhD, Howard Hughes Medical Institute Investigator and professor of molecular medicine: Mechanisms of Eukaryotic Transcriptional Activation, one year, \$192,200; recommended for three more years, \$576,600.

Maria L. Zapp, PhD, assistant professor of molecular genetics & microbiology: Novel Inhibitors of HIV-RNA Protein Interactions, one year, \$273,000; recommended for three more years, \$819,000.

GERONTOLOGY

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Jerry H. Gurwitz, MD, the Dr. John Meyers Professor of Primary Care Medicine: Reducing Adverse Drug Events in the Nursing Home, one year, \$590,747; recommended for two more years, \$1.1 million.

HEART DISEASE

NATIONAL INSTITUTES OF HEALTH

James G. Dobson Jr., PhD, professor of physiology: Adenosine A1 and A2 Receptors in the Myocardium, one year, \$348,211; recommended for three more years, \$1 million; Mechanism of Aging-Enhanced Heart Adenosine, one year, \$274,166; recommended for three more years, \$833,584.

David S. Newburg, PhD, professor of biochemistry & molecular pharmacology: Endothelial GB3 Species Involved in HUS Pathogenesis, one year, \$136,523; recommended for three more years, \$409,569.

HUMAN DEVELOPMENT

AMERICAN CANCER SOCIETY

William E. Theurkauf, PhD, associate professor of molecular medicine: Cytoskeletal Function in Embryonic Axis Specification, three years, \$750,000.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Charles D. Hamad, PhD, assistant professor of pediatrics: CED/Distance Learning, one year, \$147,000; recommended for one more year, \$149,900.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Peter J. A. McCaffrey, PhD, assistant professor of cell biology: The Effect of Hypergravity on Retinoic Acid Signaling in the Developing Embryo, one year, \$138,413; recommended for two more years, \$297,795.

NATIONAL INSTITUTES OF HEALTH

Joel D. Richter, PhD, professor of molecular genetics & microbiology: Cell Biology of Development, one year, \$128,292; recommended for four more years, \$513,168.

INFECTIOUS DISEASES & IMMUNOLOGY

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Donna M. Gallagher, MSN, instructor in family medicine & community health: National AIDS Education and Training Center Grants, one year, \$936,001; recommended for one more year, \$890,434.

NATIONAL INSTITUTES OF HEALTH

Diane R. Blake, MD, assistant professor of pediatrics: Non-invasive Chlamydial Screening for Adolescents, one year, \$131,490; recommended for four more years, \$525,960.

Sharone Green, MD, associate professor of medicine: Human Immune Responses to Yellow Fever Virus, one year, \$117,450; recommended for four more years, \$470,470.

John E. Herrmann, PhD, professor of medicine: Development of Rotavirus DNA Vaccines, one year, \$337,920; recommended for two more years, \$641,120.

Katherine F. Ruiz de Luzuriaga, MD,

associate professor of pediatrics: Virus-Host Dynamics in Early Vertical HIV-1 Infection, one year, \$76,438; recommended for three more years, \$250,652.

Mario Stevenson, PhD, the David J. Frelander Professor of AIDS Research: Analysis of Covert Viral Replication During HAART, one year, \$273,000; recommended for four more years, \$1.2 million; Role of HIV-1 Gag MA in Viral Entry, one year, \$312,000; recommended for four more years, \$1.2 million.

Raymond M. Welsh Jr., PhD, professor of pathology: Regulation of Natural Killer Cells, one year, \$264,626; recommended for four more years, \$1.07 million.

NEUROBIOLOGY

NATIONAL INSTITUTES OF HEALTH

Athena Andreadis, PhD, associate professor of cell biology: TAU in Fronto-temporal Dementia: Regulation of Exon 10, one year, \$275,050; recommended for four more years, \$1.1 million.

Jose R. Lemos, PhD, professor of physiology: Depolarization-Secretion Coupling in Nerve Terminals, one year, \$310,880; recommended for three more years, \$936,000.

Richard B. Vallee, PhD, the H. Arthur Smith Chair in Cancer Research: Mechanism of Action of the Lissencephaly Genes Lis1, one year, \$320,760; recommended for four more years, \$1.1 million; Training Grant in Cellular and Molecular Neurobiology, one year, \$158,143; recommended for four more years, \$632,572.

PHARMACOLOGY

NATIONAL INSTITUTES OF HEALTH

Steven N. Treisman, PhD, professor of biochemistry & molecular pharmacology: Alcohol Action on Nerve Terminals and Cell Bodies, one year, \$326,378; recommended for four more years, \$1.4 million.

SMOKELESS TOBACCO RESEARCH COUNCIL

Paul D. Gardner, PhD, associate professor of psychiatry: Regulation of Nicotinic Acetylcholine Receptor Gene Expression, one year, \$66,713.

PHYSIOLOGY

NATIONAL INSTITUTES OF HEALTH

Lawrence J. Hayward, MD, PhD, assistant professor of neurology: Molecular Physiology of Hyperkalemic Periodic Paralysis, one year, \$25,452; recommended for two more years, \$208,448.

Mitsuo Ikebe, PhD, professor of physiology: Molecular Regulation of Smooth Muscle Actomyosin, one year, \$365,021; recommended for four more years, \$1.6 million.

Carol L. Miller-Graziano, PhD, professor of surgery: Training in Mechanisms of Trauma Pathophysiology, one year, \$47,753; recommended for four more years, \$391,221.

PSYCHIATRY

NATIONAL INSTITUTES OF HEALTH

Kenneth E. Fletcher, PhD, assistant professor of psychiatry: Outpatient Treatment of Juvenile Sexual Offenders, one year, \$193,352; recommended for two more years, \$383,436.

RADIOLOGY AND DIGITAL IMAGING

NATIONAL INSTITUTES OF HEALTH

Walter A. Carrington, PhD, associate professor of physiology: High Resolution 4-Dimensional Fluorescence Microscopy, one year, \$269,806; recommended for two more years, \$545,505.

Andrew Karellas, PhD, professor of radiology: High Resolution Cardiovascular Flat-Panel X-ray Imager, one year, \$623,666; recommended for three more years, \$1.2 million.

Michael A. King, PhD, professor of radiology: Digital Restoration of SPECT Images for Tumor Detection, one year, \$345,113; recommended for four more years, \$1.4 million.

Alumni Report:



A MESSAGE FROM THE CHANCELLOR / DEAN

Each day, our students, faculty and staff strive towards national distinction in education, research and public service. Because of this, UMMS is continually recognized for numerous accomplishments—this spring, UMMS ranked fourth in the nation in *U.S. News & World Report's* list of the Top Medical Schools—Primary Care. Our medical students continue to excel; this spring at Match Day, 63 percent of students received their first choice of residency; 90 percent one of their top four choices. Our innovative faculty lead America's medical schools in curriculum and educational research, as exemplified by the highest aggregate number of presentations of any school at last fall's annual meeting of the Association of American Medical Colleges.

In the field of research, the National Institutes of Health granted our investigators an additional \$13 million in funding over last year to advance their research into the causes of and cures for disease. With this 22 percent increase, we have surpassed the \$100 million mark in overall research funding.

All members of the UMMS community, both internally and externally, through our alumni, are committed to the public service component of our mission. We see the results of their commitment to improving their cities and towns for schoolchildren, the underserved and the homeless every day.

Many of our alumni have shown distinction in their own careers, and I am pleased to introduce you to three who are serving as inspiration for all of us to continue to carry our mission to its fulfillment:

Shan Lu, a 1991 Graduate School of Biomedical Sciences alumnus and associate professor of medicine at UMMS, is on the threshold of developing a vaccine strategy for HIV. Dr. Lu is just one example of the caliber of researchers at the Medical School and the exceptional education students receive here, which lays the foundation for potentially life-saving breakthroughs.

Elizabeth McGrath, Graduate School of Nursing class of 1999, is a tireless advocate for the health of the homeless members of her community, serving as the Providence Traveler's Aid Society staff nurse while continuing her surgical intensive care nursing career at Rhode Island Hospital and her nurse practitioner position in private practice. Her dedication to caring and support for those in need is a source of pride for the GSN and the entire UMMS community.

Mary Jean Stempien, School of Medicine class of 1988, is a physician in industry, designing development programs for potential new medicines and then facilitating the clinical trials required to bring those promising drugs to market. At Roche, she has helped to establish drugs that treat infections in AIDS and transplant patients, ensuring the future health—as Lu and McGrath do—of people within our neighborhoods and across the globe.

Aaron Lazare, MD

RESEARCHING THE PROMISE OF AN HIV VACCINE

Ten years ago, **Shan Lu, MD, PhD**, was speaker of his graduating class at UMMS' Graduate School of Biomedical Sciences (GSBS). A decade later, he is still at UMMS—with an international reputation for his pioneering work in the search for an HIV vaccine.

His achievements had their roots in China.

Dr. Lu was a resident in the Department of Medicine of the First Affiliated Hospital at Nanjing Medical College in the mid-1980s when his native country's new open-door policy afforded him an opportunity to study abroad. A PhD candidate, Lu enrolled in the GSBS in 1985, earning his doctorate in immunology in 1991.

“My wife and I planned to return to China when I completed graduate school,” said Lu. “But then the Tian'anmen Square Student Movement happened, and we decided to stay here for my post-doctoral work.” It was a life-changing decision.

Lu joined the UMMS Department of Pathology as a post-doctoral research fellow in 1991. In 1992, he was awarded a prestigious Howard Hughes Medical Institute Post-doctoral Fellowship to develop novel HIV vaccines. In the following years, he and his then mentor, Dr. Harriet Robinson, demonstrated the feasibility of a whole new vaccination technology which is becoming the main tool many HIV vaccine researchers are currently using.

When his fellowship ended in 1995, Lu sought a way to connect his basic research to people, applying vaccines to healthy populations. He entered the Clinical Scientist Pathway residency program at UMMS, spending three years in clinical training in internal medicine while building his own lab and later conducting research that captured attention in the HIV vaccine field.

Today, Lu bridges the worlds of patient care and cutting-edge biomedical research. He is associate professor of medicine at UMMS and attending physician in the Division of Primary Care & General Medicine at UMass Memorial Health Care. He and project partner Advanced BioScience Laboratories recently were awarded an HIV Vaccine Design and Development Team (HVDDT) research contract from the NIH. The NIH has committed approximately \$70 million over the next five years to just four public-private partnerships worldwide to help accelerate the development of promising HIV vaccines.

Lu also is directing a two-year multi-center human clinical trial at UMMS, in conjunction with clinical partner UMass Memorial Health Care, to test an experimental HIV vaccine developed by Merck & Co., and its ability to stimulate protective immune responses in the body. UMMS is one of 12 sites taking part in this landmark study.

Lu attributes UMMS' commitment to biomedical research to helping make his achievements in the field possible, noting how the institution's recruitment of top-notch researchers continues to attract many talented scientists. “Every time I invite a speaker here, they're amazed at the caliber of the team UMMS has assembled.” — RJ



Shan Lu, MD, PhD '91

'A LITTLE ADVOCACY' GOES A LONG WAY

Most days, you might have a hard time tracking down **Elizabeth McGrath, RN, ANP '99**.

She works 24 hours a week as a surgical intensive care nurse at Rhode Island Hospital, and part-time as a nurse practitioner in the Providence office of a physician who specializes in cardiology and geriatrics. Every Friday, however, you'll find her at the soup kitchen run by the Providence Intown Churches Association, where she cooks dinner for as many as 200 people struggling with homelessness, poverty, mental illness and what McGrath calls "inner loneliness."

McGrath has been a nurse "for more years than I care to admit." She worked full-time at Rhode Island Hospital until 1987, helping to launch an open-heart unit there, which she headed for several years. "The job was all-consuming; I never saw the light of day," she recalled, but she did find time to volunteer in a free medical van that traveled the streets of Providence.

Her volunteer work increased her awareness that there was much to do in order to help address the health care needs of the homeless. McGrath cut back to part-time hours at the hospital and began work with the Travelers' Aid Society, which provides a full range of health and social services, as well as information and referral, for homeless persons. In the early 1990s, she became the society's staff nurse.

McGrath's work—and the needs of the population she worked with—spurred her to go back to school to become a nurse practitioner. In 1999, she received her degree from the Graduate School of

Nursing. Today, she juggles her two part-time jobs, devotes every Friday to the soup kitchen (where she's been a volunteer for more than 25 years, and its cook for the last 10), and spends a good deal of time helping to arrange doctors' appointments and find housing, even distributing items from her car to the homeless.

"These people have no health insurance, no money for medications, no phones to make doctors' appointments," she explained. "Advocacy is important for them; just imagine being put on hold at a pay phone. Twenty-five cents doesn't last too long. And there's nowhere to call them back.

Accompanying someone to a doctor's appointment can be incredibly helpful.

"This is a population that can really use nurses," she continued. "And in their own way, they seem to respond to people who care about them.

It's about so much more than the material things; it's about the marvel of discovering who each individual truly is inside, and how a little advocacy can help them become more fully aware of their place in the world." — RJ



Elizabeth McGrath, RN, ANP '99

HELPING PATIENTS ON A GLOBAL SCALE

“When I started working in industry, it wasn't a popular choice,” said **Mary Jean Stempien, MD '88**, director of medical research for Roche Pharmaceuticals in Palo Alto, Calif. “But these days I find more physicians are looking at the opportunities that industry offers.”

At Roche since 1992 (then Syntex Research), Dr. Stempien helps design clinical development programs for potential new medicines. “I have the opportunity to interact with basic science researchers who are looking for new molecules for potential drug development,” she explained. As the physician member of a cross-functional project team, she then helps design and supervise the clinical trials required to establish safety and efficacy and bring a promising new drug to market.

Stempien's achievements include the successful development of two drugs used to treat cytomegalovirus (CMV) infections in AIDS and transplant patients: Ganciclovir and Valganciclovir. “I'm very proud of Valganciclovir,” she stated. “It has recently been approved in the U.S. and is the first oral agent effective as initial treatment of AIDS-related CMV retinitis.” She also was involved in the clinical development of Mycophenolate, a drug used to prevent acute rejection in transplant recipients.

Stempien began her career as a hospital pharmacist, which included a pharmacy supervisor position at Brigham & Women's Hospital. “My hospital work and interactions with physicians increased my interest in clinical research, drug development and medicine. I thought

I would get a PhD in pharmaceutical science, and went to graduate school for a couple of years. But I found myself drawn to the clinical side.” She decided to go to medical school.

A self-proclaimed “product of public education,” Stempien zeroed in on the state's only public medical school, UMMS, which provided her with an exceptional education and the flexibility of completing her fourth-year electives in California, where her physician husband had secured employment following completion of his surgical training at Boston University and Lahey Clinic.

After serving her own residency in internal medicine at the California Pacific Medical Center in San Francisco, Stempien faced a choice between going into practice or research. “I could have been happy in practice, but I was still intrigued by the clinical research area, so I decided to explore that first.”

Nine years later, Stempien says of her decision, “In clinical practice, a physician has individual interactions with patients, and that's very rewarding. You can still maintain that good feeling working in industry; it's just on a more global level, since you can work on something that can ultimately benefit many thousands of patients around the world.” — RJ



Mary Jean Stempien, MD '88

Class Notes:

1978

Ethan Russo, MD, recently published the *Handbook of Psychotropic Herbs: A Scientific Analysis of Herbal Remedies for Psychiatric Conditions*, available from Haworth Press. A neurologist in Missoula, Mont., Dr. Russo also serves as the editor-in-chief of the Haworth Integrative Healing Press, a book program dedicated to the scientific investigation of alternative and complementary medicine.

1979

Robert M. Haddad, MD, is president of St. Elizabeth's Medical Center in Brighton, Mass. St. Elizabeth's is the flagship institution of Caritas Christi, a Catholic health care system that runs six hospitals in the Boston area. Prior to his appointment, Dr. Haddad was senior vice president of clinical practice and business strategy at Geisinger Health System in Danville, Pa.

1980

Michael J. DeLeo Jr., MD, and his two partners at Berkshire Hematology Oncology opened their new cancer care center in Pittsfield, Mass. in June 2000. A significant portion of the center is devoted to chemotherapy infusion and research. Dr. DeLeo lives in Pittsfield with his wife Marka and their four children.

1981

Tania Lingos, MD, is medical director of the South Suburban Oncology Center in Quincy, Mass. and is on the staff of South Shore Hospital, Quincy Hospital, Good Samaritan Hospital and Massachusetts General Hospital.

1983

Howard N. Fixler, MD, is chief of internal medicine at Fairlawn Rehabilitation Hospital in Worcester, where he previously served as medical director. In addition to his position at Fairlawn, Dr. Fixler is associate chief medical officer for post acute care for UMass Memorial Health Care.

1986

Anne Cushing-Brescia, MD, is a member of the Department of Emergency Medicine at Saint Anne's Hospital in Fall River, Mass. A diplomate of the American Board of Internal Medicine, Dr. Cushing-Brescia is also a clinical instructor in medicine at Brown University School of Medicine.

1987

Murray C. Norcross Jr., MD, is a family practice physician in the U.S. Navy, stationed at the Naval Hospital in Yokosuka, Japan. "I serve as director of clinical services for a 95-bed community hospital which supports the United States Seventh Fleet and its families. My wife Ann and children, Monika and Nathaniel, have joined me here for this assignment."

1988

Nathaniel G. Clark, MD, an adult and pediatric endocrinologist, was awarded the Vermont Dietetic Association Pyramid Award in July 2000 for his contribution to nutrition education in the state. As a new member of the staff at Falmouth (Mass.) Hospital, Dr. Clark has a special interest in adult and pediatric diabetes, thyroid disorders and growth disorders in children.

Kim D. Houde, MD, served as Master of Ceremonies at the second annual Native American Health Conference, "Closing the Circle." The conference, developed for health care professionals who serve the Native American community, featured workshops on specific issues affecting Native American health, as well as combining Western medicine with traditional healing practices. Dr. Houde is a member of the Seneca Tribe and an assistant professor of family medicine & community health at UMMS.

1990

Tad Baum, MD, opened his new practice in Groton, Mass. A board-certified ophthalmologist and LASIK surgeon, Dr. Baum completed his residency at the New York Medical College, earning a fellowship in LASIK Vision Correction at the Massachusetts Eye and Ear Infirmary.

Susan A. Mangini, MS, RN, NP, is vice president of patient care services at Milton (Mass.) Hospital, responsible for managing all aspects of nursing services. Prior to her current position, Mangini served as the nursing director of perioperative and ambulatory care services at Day Kimball Hospital in Putnam, Conn.

1991

Stephen J. Barr, MD, was inducted as a fellow of the American Academy of Orthopaedic Surgeons during ceremonies at the academy's 68th annual meeting in San Francisco. Dr. Barr practices with Maine Orthopaedic Center and specializes in general, hand and spine orthopedic surgery.

Kelton Burbank, MD, has joined the Heywood Hospital staff after completing his residency in orthopedic surgery at UMMS. Prior to becoming an orthopedic surgeon, Dr. Burbank practiced family medicine at the Winchendon (Mass.) Health Center.

Brian P. Sutton, MD, was named the Hamden County EMS, "Physician of the Year," for his outstanding achievement in emergency medicine at Noble Hospital in Westfield, Mass.

1994

Kristen Lee Dardano, MD, assistant professor at Tufts University School of Medicine—Baystate Medical Center, was one of 20 scholars selected for the Associate of Professors of Gynecology and Obstetrics/Solvay Pharmaceuticals Educational Scholars Development Program. The program is the first-ever, comprehensive educational curriculum designed to improve education in obstetrics and gynecology. Dr. Dardano, inducted in January as a member of the 2001-2002 class of scholars, will take part in the program designed to help obstetricians and gynecologists become better scholars and leaders in the field of women’s health. She was selected from a group of applicants from across the U.S. based on her credentials and demonstrated commitment to women’s health education. Program graduates are expected to share the knowledge gained from this program within their communities. Dardano develops the primary care curriculum for residents at Baystate Medical Center in Springfield, Mass. In addition, she is the clerkship director for medical students and assistant medical director for midwife practice.

1996

Joseph Bouvier, MD, is a pediatrician in Mesa, Ariz. He is married to Andrea (Masiero) Bouvier, whom he met while on rotation at Berkshire Medical Center. The Bouviers celebrated the birth of their first child, Samantha Michelle, in the fall of 2000.

Jose Guerra, MD, is a member of Winchester (Mass.) Family Physicians. After completing his residency in family practice at the University of Washington-Providence in Seattle, Dr. Guerra served as a clinical instructor in family medicine at Boston University and Boston Medical Center before joining Winchester. His areas of interest are sports medicine and pediatrics.

Laurie A. Gumuchian, MD, is medical director of the Women’s Health Network of Hallmark Health, acting as a resource for the network’s program staff and physician providers, and serving as a facilitator for a number of Women’s Health Network programs, including the Well Women’s Project and the Breast and Cervical Cancer Initiative. In addition to her duties as medical director, Dr. Gumuchian provides comprehensive medical care at her practice, Family Healthcare Associates of Everett, Mass.

1997

Brian Dalton, MD, is a member of the staff of Jordan Hospital in Plymouth, Mass. as a specialist in internal medicine.

Lisa Noble, MD, practices family medicine, with a special interest in women’s health and complementary medicine, with the UMass Memorial Medical Group in Worcester.

Gregory K. Steinberg, MD, joined the emergency medical team at Milford-Whitinsville Regional Hospital, after completing his residency at UMMS, where he served as a LifeFlight physician since 1998.

Stephanson Bernard Tobierre, MD, is a family practice physician at the Joseph M. Smith Community Health Center in Allston, Mass. In addition to seeing patients at the center, Dr. Tobierre plans to participate in a number of youth programs, including the Keep Teens Healthy Project, which aims to provide education and services to at-risk teens in Allston, Brighton and surrounding communities.

ALUMNI AND PARENTS RELATIONS: UPCOMING EVENTS

AUGUST
13
*Parents of Medical Students
Orientation Luncheon and Program*

SEPTEMBER
15
*Reunion for 5, 10, 15 and 20-year
School of Medicine classes*

OCTOBER
13
*25-year School of
Medicine Class Reunion*

ALUMNI ASSOCIATION SCHOLARSHIP DINNER

Kristin Farrell '03, recipient of the Linda Goudey, MD, Memorial Scholarship, and Marguerite Rafuse, Dr. Goudey's mother

V-P/ Treasurer Andrew J. Miller '79 and his wife Tina

Hoagland-Pincus Center

October 2000



IN THE PAST 18 YEARS, THE ALUMNI ASSOCIATION HAS AWARDED OVER \$375,000 IN SCHOLARSHIPS AND LOANS TO DESERVING UMMS STUDENTS.

Alumni Association award recipients join President Irvin Heifetz, MD '79 and V-P/Treasurer Andrew Miller, MD '79. They are, from left to right: Kathleen McGraw '01; David Carlson '03; William Porcaro '02; Cynthia L. Walenziewicz '04; Carole Smith '01; David Dredge '04; Daniel Osuch '04; Meaghan Connors '03; Payal Patel '04; and Kristin Farrell '03.

25-YEAR SCHOOL OF MEDICINE REUNION



October 2000
Higgins Armory Museum



Mary Tse, MD '77 and Lorraine Bello, MD '77

Muriel Sawyer, retired UMMS Alumni Affairs director; Frank Chlapowski, PhD, and his wife Susan; and Theodora Christopher, MD '75



Craig Van Roekens, MD '90; Adam Altman, MD '85; Barry Malloy, MD '85; and Anthony Wilson, MD '90

Nada and Chris Wheelock, MS '04, and their son, Ryan



October 2000
Hoagland-Pincus Center
and UMMS campus



REUNION FOR 5, 10, 15 AND 20-YEAR SCHOOL OF MEDICINE CLASSES AND FAMILY DAY

Development Update:



This section's stories represent snapshots of people from all walks of life, who have given of themselves through their support of the UMass Memorial Foundation. We are grateful to these remarkable individuals for the character they have shown, often in the face of adversity, to bring hope to those who battle the devastating diseases of our time.

Kevin G. Courtney
Associate Vice Chancellor for Development



Lisa Ling and Tony Saizon at the Boston Marathon

Mary and Gene DeFeudis, right, tour the atrium construction area with Chair of Medicine Robert Finberg, MD, and Chancellor Aaron Lazare.

MARATHON EFFORT BENEFITS PEDIATRIC CANCER RESEARCH AND TREATMENT

A test of the will to endure, when pain and the mind join forces to bring about surrender. The Boston Marathon is not about life and death—not like cancer can be—but the battle to conquer the most famous run in the world and the world's most treacherous disease was the focus of a dedicated group who raised over \$100,000 for the Ali Pierce Endowment Fund.

Lisa Ling, Tony Saizon and members of Ali & Dad's Army completed the 26.2-mile marathon with a purpose that drove them to the finish line and to a new level of contribution to the fund, which supports pediatric cancer research at UMass Medical School and cancer care programs at UMass Memorial Health Care. Ling, a popular daytime talk show co-host, ran as the honorary "Ali" of the 10-member team. Saizon ran as "Dad." "From the day my cousin Ali died of liver cancer, I wanted to do something," said Ling. "When Ali & Dad's Army secured slots in the Boston Marathon, I had my calling. I determined that whether I had to run, walk or crawl, I was going to finish the job."

Saizon spoke of his inspiration to complete the grueling course—Ali's father, John Pierce. "John's idea to run the Marathon to raise funds for Ali's endowment continues through us after his untimely death less than a year after Ali's," said Saizon, whose mother and father succumbed to cancer, as did his sister. Now, his focus is on the battle his brother is waging against the disease.

Experts at the UMass Cancer Center are focused on improved means of detection, therapy and cure for afflicted children. The fund supports the Ali Pierce Integrative Treatment Program, comprised of four components: non-traditional treatment, experimental treatment, professional health care staff training and Project Hope, which addresses the psychological and behavioral issues that may arise in families when a child is in remission or suffers a relapse, by providing professionally guided parent support groups and resource materials.

For information on supporting the Ali Pierce Endowment Fund and pediatric cancer research at UMMS, contact Jenique Radin at (508) 856-2553, or log on to www.umassmed.edu/foundation/alianddad.

DEFEUDISES CONTRIBUTE MAJOR LEADERSHIP GIFT

The atria in the new research laboratory building are designed to connect lab floors, promoting collaboration and community, or "research neighborhoods," to use the architect's phrase. In honor of their major leadership gift to the Campaign for Research, the Grand Atrium, which connects floors 1 through 3, has been named in honor of Gene and Mary DeFeudis.

Collaboration, community and neighborhood are words that are at the foundation of the DeFeudis Family's philanthropy.

Gene DeFeudis was born and raised in Worcester and played just a stone's throw from the present site of UMass Medical School. He met Mary Streeter, also a Worcester native who grew up in Sterling, and together they raised their son and daughter in Northborough, appreciating the sense of community that resides in Central Massachusetts.

Mr. DeFeudis founded and successfully guided lending and real estate development firms, including Forward Financial Company and his current firm, Ellsmere Investment Company. And, both he and Mrs. DeFeudis struggled with the impact of cancer, which stole the lives of his brother and her father.

(continued next page)



Gala Emcees Peter Mehegan
of WCVB Channel 5 and
Lisa Ling of ABC daytime television

(DeFeudises, continued)

Their major leadership gift to the Campaign for Research will significantly influence the future of cancer investigations at UMMS, the institution that grew out of the playing fields of Mr. DeFeudis' youth. With their generous contribution, the DeFeudises bring their financial support, their dedication to their community and their determination to finding a cure for cancer. "This horrible disease of cancer touches so many families, so many lives, and we feel fortunate to be able to offer our support," said Mrs. DeFeudis. Her husband added: "It is vital to us that a cure is found for this dread disease. We have very strong feelings for this community and want to give back."

OUR TIME TO LEAD

Amidst the lights, music and celebratory handshakes of friends and colleagues, the Gala for the Campaign for Research served to honor the exceptional growth of the UMass Medical School basic and clinical research enterprise, the leaders and scientists that laid forth the vision that has hastened its growth, and the donors whose unselfish desire to bring an end to disease will help put it in its proper place—the new research laboratory building.

The Campaign for Research, designed to accelerate the growth of the biomedical research enterprise through the recruitment of 100 new research faculty and the construction and outfitting of the Medical School's research building, moved into its public phase on May 5 with the Gala Celebration at Worcester's Centrum Centre.

Until May, campaign efforts had focused on securing the leadership gifts that are critical to achieving the campaign's \$38 million goal. With the May kick-off, the public at large was invited to participate in the campaign.

Emcees Peter Mehegan of Channel 5's "Chronicle," and father of School of Medicine graduate Kathryn Mehegan, MD, and Lisa Ling, popular daytime talk show co-host and niece of Anna Ling Pierce, founder of Ali & Dad's Army, introduced speakers and honored guests to the approximately 300 attendees. "The incredible generosity of our donors ensures the ultimate success of the Campaign for Research," said Campaign Chair Nancy Edman Feldman. "I am pleased to report that \$22 million has been raised over the past 22 months—58 percent of our goal. It is all of you who have made this possible." Mrs. Feldman acknowledged leadership donors Sarah M. Adams, Gene and Mary DeFeudis, Barbara and Nathan Greenberg, the late Milton P. and Alice C. Higgins, Dr. and Mrs. Arthur M. Pappas, the H. Arthur Smith Charitable Foundation and Jack and Shelley Blais, who that evening made a surprise announcement that they were contributing an additional \$2 million to the Campaign, bringing their gift to \$5 million.

Mrs. Feldman also recognized Robert J. Haynes, president of the Massachusetts AFL-CIO, which has made a pledge to raise \$5 million through the annual Walk to Cure Cancer held each Labor Day, raising funds to construct and outfit the UMass Cancer Center that will be housed on two floors of the research laboratory building and be designated as the Massachusetts AFL-CIO Cancer Research Center upon its completion.

Chancellor and Dean Aaron Lazare remarked: "Our donors' major support for the cutting-edge work done by UMass Medical School investigators will have a direct and immediate impact on our mission of curing disease and alleviating suffering through research." John L. Sullivan, MD, director of the UMMS Office of Research, described the work to be done in that regard by such eminent scientists as Robert W. Finberg, MD, the Richard M. Haidack Professor of Medicine; C. Robert Matthews, PhD, chair of the Department of Biochemistry & Molecular Pharmacology; Edward I. Ginns, MD, PhD, director of the Irving S. and Betty Brudnick Neuropsychiatric Research Institute; and Steven M. Reppert, MD, the Higgins Family Professor of Neuroscience. Sullivan also praised the over 175 UMMS researchers who have succeeded in attracting total research funding to the institution of more than \$100 million annually, and who have spearheaded a 22 percent increase in NIH funding over FY '99.

For information about contributing to the Campaign for Research, contact Campaign Director Pat Bartram at (508) 856-6515.



Sarah Stone, MD

**PROFESSORSHIP
HONORS THE MEMORY
OF GIFTED FACULTY
MEMBER**

Sarah L. Stone, MD, 44, professor of medicine at UMass Medical School and a general internist at UMass Memorial Health Care, died at home in Natick, Mass. on February 5, 2001, of ovarian cancer.

Dr. Stone joined the UMMS faculty in 1986 and had a distinguished career as a leader in medical education and clinical care. She served as the director of the Division of Primary Care and General Medicine in the Department of Medicine and as associate chair of the Department of Medicine. Dr. Stone was director of the Center for Community Faculty Development, and creator and director of the courses Medical Interviewing and Clinical Problem Solving, and The Physician, Patient and Society. As a board member of the Medical School's Robert Wood Johnson Generalist Physician Initiative, she collaborated to create a new curriculum that helped establish UMMS as a national leader in primary care medical education.

UMass Medical School has established the Sarah L. Stone, MD, Professorship in Medical Education to honor Dr. Stone and to establish an endowed professorship for the advancement of medical education.

Contributions may be sent to the UMMS Office of Development, Four Biotech, Suite 315, 377 Plantation Street, Worcester, Massachusetts 01605.



UMMF INITIATES LEAVE A LEGACY™

What percentage of Americans have created a will or trust that leaves bequests to the charitable causes they support? Though an estimated 70 percent of households nationwide contribute to charity each year, just under six percent of them grant a charitable bequest through planned giving. This small percentage of bequests is mirrored by the relatively few dollars bequeathed—less than eight percent of total gift amounts nationwide.

In an effort to educate current and potential donors about the advantages of charitable giving through bequests, the UMass Memorial Foundation has become a member of Leave A Legacy™, a community-based program that advocates charitable giving through a will or from an estate. The nationwide program is a cooperative effort of a variety of nonprofit groups, including educational and health care institutions, social service and cultural organizations and churches. The Leave a Legacy™ program was initiated in Central Massachusetts through the work of a committee of representatives from local foundations, including the UMMF, colleges and universities, civic organizations and service agencies, joined by professional financial advisors.

At events in May surrounding implementation of the Leave A Legacy™ program, donors learned of the critical role nonprofit groups play in the community. Charitable bequests through a will or trust aid the mission of the UMass Memorial Foundation, the fund-raising advocate for the research and educational programs at UMMS and the quality clinical care UMass Memorial Health Care provides the region. Donors learned that by making “planned gifts,” they can continue to help foundations and agencies make a difference in their community.

The UMass Memorial Foundation plans additional Leave A Legacy™ educational programs. Call the foundation at (508) 856-5520 or (508) 334-8055 for information on dates and times.



Campaign for Research Chairwoman Nancy Feldman and Chancellor Lazare at the Campaign for Research Gala. Funds raised will help construct the research laboratory building, where the Mass. AFL-CIO Cancer Research Center will be housed.

WALK TO CURE CANCER CONTINUES TO AIM HIGH

Motivation. It springs from many sources and drives the success of the Walk to Cure Cancer, now in its third year. This Labor Day, September 3, some 8,000 motivated walkers

are expected to raise an unprecedented \$750,000 for the Massachusetts AFL-CIO Cancer Research Center, to be housed on two floors of the new research laboratory building.

At last year's walk, for example, members of the UMMS School Fiscal Department were inspired to create Walk to Cure Cancer buttons that staff sold for \$1 each. Proud of their fund-raising accomplishment, “Team Fiscal” is challenging departments from both the Medical School and UMass Memorial Health Care to participate in 2001. According to walk organizers, if half of all employees walked, 5,000 pairs of feet would be traveling around the banks of Lake Quinsigamond—and into the hearts of cancer victims and their families.

Each year, the number of businesses that have sent teams to the walk has increased. From small operations, like Paul's Center Bakery in Millbury, to Fortune 500 corporations like EMC, front and center on the world economic stage, the incentive to help is easily tapped.

Their enthusiasm is shared by the researchers and clinicians whose programs of investigation and treatment will be supported in part by funds raised at the walk. Robert Finberg, MD, the Richard M. Haidack Professor and Chair of Medicine, researches the connection between the mechanisms of infectious disease and the causes of cancer, and walks with cancer survivors and their families and UMass Cancer Center patients, investigators and staff. All are encouraged by the commitment of the Massachusetts AFL-CIO, which, under the motivating force of President Robert J. Haynes, pledged to raise \$5 million through the annual walk.

Members of unions within the AFL-CIO, such as Mailhandlers Local 301, rise to the Haynes challenge in increasing numbers each year. Mary Ellen Winkelman, a UMMS mailhandler who helps organize teams for the walk, finds that so many of her “brothers and sisters are touched by cancer in some way that it has opened their eyes to this cause.” Winkelman, a breast cancer survivor, believes she “puts a face” to the disease, encouraging participation in the walk. On Labor Day 2001, the numbers will back that up.

For more information about the 2001 Walk to Cure Cancer, contact Cathy LaRocca, event manager, at (508) 856-1634.

CANCER CENTER ADVISORY COUNCIL

Within 30 days of the groundbreaking for the new research laboratory building in December 1999, an advisory board of 12 members was established, with President Robert J. Haynes of the Mass. AFL-CIO as its chairman. The Massachusetts AFL-CIO Cancer Research Advisory Board advises Chancellor Aaron Lazare and the director of the UMass Cancer Center on policy matters concerning cancer research at UMMS and on the operations of the center.

The UMass Memorial Foundation thanks community and UMMS members of the advisory board for their commitment:

Robert Haynes, Chairman, of Medford
John “Jack” Blais of Framingham
Senator Harriette Chandler of Worcester
Gene DeFeudis of Northborough
Robert Finberg, MD, of Wayland
Richard Kronish of Newton

Cathy Maniero of Shrewsbury
Dottie Manning of Marlborough
Anna Ling Pierce of Princeton
Kenneth Rock, MD, of Chestnut Hill
John Sullivan, MD, of West Boylston
David West of Worcester

The Last Word:

A Decade of Distinction



As we acknowledge the 10th year of Aaron Lazare's tenure as chancellor/dean we look back on the many milestones that have defined the past decade. A period of tremendous achievement, the 1990s were marked at UMMS by great strides in research, significant academic progress and expansive change in the management of our clinical system.

1991

Aaron Lazare, MD, becomes chancellor/dean.

The Department of Psychiatry is awarded a \$1.6 million grant to evaluate the effectiveness of early school-based intervention for kindergarteners with ADHD.

1992

The Robert Wood Johnson Foundation grants UMMS funds to develop a plan to increase the number of generalist physicians educated at the Medical School. The Generalist Physician Initiative award qualifies UMMS to compete for a six-year, \$2.5 million award, which it received in 1994.

The Department of Psychiatry and the Worcester Area Community Mental Health Center agree to an affiliation to enhance the delivery of comprehensive mental health services to Worcester-area residents.

1993

The Massachusetts Department of Mental Health selects the Department of Psychiatry as one of only two Research Centers of Excellence nationwide.

The Office of Science Education is established to create and coordinate an array of programs and activities to promote science in the region's classrooms.

1994

UMMS is granted a \$10 million award from the National Institutes of Health to take part in the nation's first-ever, multi-center Women's Health Initiative.

The Graduate School of Nursing founds its Collaborative PhD Nursing Program with UMass Amherst.

1995

The Meyers Primary Care Institute is established as a research and educational partnership between UMMS and the Fallon Foundation.

The Medical School celebrates its 25th anniversary.

A new Medical School curriculum is unveiled, promoting collaborative teaching among clinical and basic research departments.

The Office of Commercial Ventures and Intellectual Property is established to assist in the transfer of technology from the lab to the marketplace.

1996

UMMS and Smith + Nephew Endoscopy of Andover announce a multimillion-dollar agreement to establish a research center.

The five-campus Center for Adoption Research is established.

The Association of American Medical Colleges ranks UMMS fourth nationally and first in New England in the percentage of graduates entering primary care.

1997

The New England Newborn Screening Program, which provides health screening for over three million infants throughout New England, joins UMMS.

The internationally renowned Worcester Foundation for Biomedical Research merges with UMMS, bringing 16 scientists and \$5.5 million in research funding.

The Massachusetts Biologic Laboratories join UMMS to become the only publicly operated, FDA-licensed vaccine manufacturing facility in the country.

1998

Memorial Health Care merges with the UMass Clinical System, creating the largest health care system in Central Massachusetts.

UMMS becomes one of only three schools nationwide to participate in the Macy Initiative in Health Communication, designed to enhance physician communication skills.

The Medical School is designated a federal AIDS research center, one of 12 nationwide.

1999

UMMS invests seven faculty members into named professorships, bringing the total named endowments to 17.

The first Walk to Cure Cancer, a collaboration of UMMS, UMass Memorial, the Mass. AFL-CIO and Our Danny Cancer Fund, is held, raising \$300,000.

Plans are announced to construct a 10-floor, 360,000-square-foot research laboratory building on campus that will house current and recruited researchers.

The Program in Gene Function and Expression is established to focus on the molecular and genetic basis of human disease.

2000

UMMS ranks 40th among medical schools nationwide in attracting National Institutes of Health funding.

The \$12 million Irving S. and Betty Brudnick Neuropsychiatric Research Institute opens.

UMMS and Advanced BioSciences Laboratories, Inc. are among four public/industry partners awarded nearly \$14 million from the National Institute of Allergy and Infectious Diseases to develop an HIV vaccine.

UMMS merges with the Eunice Kennedy Shriver Center to strengthen research into mental retardation and human development.

The Program in Molecular Medicine celebrates its 10th anniversary.

Five endowed chairs and professorships are established at UMMS, bringing the total named endowments to 22.

2001

For the sixth straight year, UMMS is ranked among the nation's 10 best medical schools in primary care education by *U.S. News & World Report*, coming in at fourth.

The National Library of Medicine designates the Lamar Soutter Library as the New England Regional Medical Library in the National Network of Libraries of Medicine.

UMMS experiences a 22 percent increase in National Institutes of Health funding over the prior year, attracting total research funding of more than \$100 million annually.

The research laboratory building opens in August. When fully occupied, it will house close to 1,000 scientists and staff.

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