Vitae:

The magazine of the University of Massachusetts Medical School

Fall / Winter 2000 Vol. 23 No. 1

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

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EDUCATOR, CLINICIAN, PARTNER

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:

On the cover:

The UMMS Department of Physiology didn't know it was beginning a 30-year tradition when its faculty first posed for a photo in 1970. As the department grew and the tradition continued, a method of photo identification via numbers keyed on the backs of the photographs kept track of who was whom. The method also intrigued our designer, who was inspired by the ethereal image reproduced in the cover.

News & Notes:

• Michael Czech, PhD, (center) director of the Program in Molecular Medicine with Adilson L. Guilherme, PhD (left), Joanne M. Buxton, Andrew D. Cherniack, PhD, and Sarah M. Coulter Nicolaro

TENTH ANNIVERSARY OF AN INNOVATIVE PROGRAM

What started with a "cadre" of eight UMMS scientists representing six different academic departments and a range of disciplines is now a program of renowned reputation, encompassing 16 laboratory groups with personnel numbering nearly 250. The Program in Molecular Medicine celebrates its 10th anniversary this month, commemorating the innovative concept of collaborative research endeavors by clusters of scientists, rather than through individual departmental labs that were the norm for medical school researchers.

The program's scientists study how biological systems work at their smallest level—the molecule. Because certain diseases can be caused in humans by molecular defects in genetic material, studying the biology of these disorders at the molecular level could enable Molecular Medicine scientists to take aim at cancer, AIDS, diabetes and other diseases, thereby converting discoveries to therapies.

Achievements over the decade include publication of the researchers' studies in the most widely read and recognized journals, in turn attracting millions of dollars in funding from the NIH, prestigious foundations and private industry. For example, all three of the Medical School's faculty members named as Howard Hughes Medical Institute Investigators are Molecular Medicine scientists (see related story, page 3), contributing to UMMS' position of number two among the country's 125 medical schools in the rate of research growth.

• The Eunice Kennedy Shriver Center in Waltham

SHRIVER CENTER MERGES WITH UMMS

In a move that will strengthen research into mental retardation and enhance the commonwealth's education, training, research and service missions in important areas of human development, the Eunice Kennedy Shriver Center has merged operations with UMass Medical School.

"The Shriver Center has an important and distinguished history as an independent research and educational enterprise," said Chancellor and Dean Aaron Lazare, "We are extremely pleased that the scientists and educators at the center will join forces with the Medical School's researchers to accomplish the shared goal of understanding, treating and curing mental retardation."

Founded in 1969 and located on the grounds of the Department of Mental Retardation's Fernald School Campus in Waltham, the center was named in honor of Eunice Kennedy Shriver for her lifelong commitment

to improving the welfare of persons with mental retardation. The center's mission has been to promote understanding of neurological and behavioral development, with special emphasis on meeting challenges associated with mental retardation and other developmental disabilities. Scientists at the center conduct basic research to determine the biological and environmental factors that influence development, while educators have provided programs that directly benefit individuals with developmental disabilities and their families.

With more than $8 million in scientific research funding and over 140 employees, the Shriver Center has been at the forefront of mental retardation research. "The Shriver Center has a continuing commitment to bringing the fruits of research to practice to benefit individuals with disabilities and their families, and this commitment is shared by UMass," said Charles Speleotis, chairman of the Board of Trustees of the Shriver Center.

• Craig C. Mello, PhD

ANOTHER UMMS RESEARCHER RECEIVES PRESTIGIOUS DESIGNATION

Craig C. Mello, PhD, a cell biologist whose research into the genetics of the roundworm *C. elegans* provides important insights into human development and cancer, has been named a Howard Hughes Medical Institute (HHMI) Investigator, one of the most prestigious and highly sought scientific awards in the world. Mello, a key investigator at the UMass Cancer Center and Program in Molecular Medicine, is the third UMMS scientist to be funded by HHMI, a medical research organization that uses its $13 billion endowment to support eminent researchers at medical schools, universities and research institutes worldwide.

"Designation as an HHMI Investigator is validation of the importance of Craig Mello's scientific work and an example of how UMass and its multidisciplinary programs continue on a trajectory of excellence," said Chancellor and Dean Aaron Lazare. Dr. Mello joins HHMI Investigators Michael R. Green, MD, PhD, professor of biochemistry & molecular pharmacology and director of the Program in Gene Function & Expression; and Roger J. Davis, PhD, professor of biochemistry & molecular pharmacology.

• Michelle A. Kelliher, PhD

NEWEST KIMMEL SCHOLAR RESEARCHES LEUKEMIA CAUSE

Michelle A. Kelliher, PhD, assistant professor of molecular genetics & microbiology, has been named a Cancer Scholar by the Sidney Kimmel Foundation for Cancer Research. Presented to just 10 accomplished researchers each year, the award supports outstanding young investigators in all cancer fields.

Dr. Kelliher will receive $100,000 for two years to pursue her research on how the tal-1 gene contributes to the development of leukemia. She said, "Tal-1 expression occurs in as many as 65 percent of patients with T cell acute lymphoblastic leukemia. The goal of my program is to assess how this basic protein contributes to disease development. Thanks to the Kimmel funds, our research may lead to the design of more effective therapies."

In 1999, Kai Lin, PhD, UMMS assistant professor of biochemistry & molecular pharmacology, was named a Kimmel Scholar. Said Sidney Kimmel, chairman of the Foundation, "I'm proud to support committed researchers who are our hope for saving the half million lives that are lost each year to cancer."

STUDENTS ENVISION FUTURE AT ANNUAL CONFERENCE

Some 160 middle school students from throughout central Massachusetts were inspired by women working in the science field this spring, as they attended workshops on public health, technology, engineering and biology at the Fourth Annual Women in Science Conference, sponsored by the UMMS Office of Science Education, the EcoTarium and Girls, Inc. of Worcester. The conference included a luncheon and keynote address by Carol Tucker, an engineer with the Environmental Protection Agency, whose presentation "In a Science Career You Even Get to Stomp Around in the Mud," further enabled the students to envision themselves as future scientists. "Meeting women scientists is very important for young girls. It gives them a chance to see themselves in careers that they might not have thought possible," said Tucker.

Sandra Mayrand of the Office of Science Education and Dolores Root of the EcoTarium coordinated the conference, which was funded by the Intel Foundation and the Massachusetts Cultural Council's Science in the Community Program.

• Doherty Satellite Middle School (Worcester) students Abigail Sullivan (standing) and Cathy Thompson examine microscopic organisms.

RESEARCHERS' FUNDING IS EXTENDED THROUGH MERIT AWARD

As part of a highly selective National Institutes of Health research grant program, Steven N. Treistman, PhD, UMMS professor of biochemistry & molecular pharmacology and Mario Stevenson, PhD, the David J. Freelander Memorial Professor in AIDS Research, were each awarded extensions on their research—Dr. Treistman into the molecular mechanisms of alcohol and drug addiction and Dr. Stevenson into the molecular biology of AIDS. Only a small group of highly regarded researchers are selected for these prestigious Method to Extend Research In Time (MERIT) awards each year.

Granted on the basis of the researchers' past accomplishments, professional competence, creativity and productivity, the MERIT awards allow Treistman and Stevenson to focus on their work for additional years without the distraction of seeking more funding. The principal feature of the program is the opportunity for such investigators to gain up to 10 years of support in two segments: the initial grant and the extension of that grant.

Treistman's research presumes that development of effective treatments for addiction, such as alcoholism, will be significantly speeded by an understanding of the molecular basis for drug craving and withdrawal. His work focuses on the molecular mechanism by which alcohol alters the function of brain cells.

Stevenson and his lab were the first to demonstrate that the AIDS virus is fundamentally different from other types of retroviruses due to its ability to infect non-cycling cells. This property is what enables the virus to infect macrophages, using them as a "transport" mechanism to disseminate the virus throughout the body; Stevenson believes that once this transport mechanism is better understood, a target to exploit for new drug therapies may be revealed.

UMMS AGAIN MAKES TOP TEN IN U.S. NEWS

For the fifth straight year, the University of Massachusetts Medical School has been ranked among the 10 best medical schools in the nation by weekly news magazine *U.S. News & World Report* in its annual review titled "America's Best Graduate Schools." UMMS is tied with the University of Iowa for sixth in the increasingly competitive "Primary Care" category. The rankings are based on measures of academic quality, which are weighted by reputation among medical school faculty and residents, research activity, student selectivity and faculty resources. Sixty-seven percent of 1997-1999 graduates of UMMS entered primary care.

The Medical School has also for the second straight year earned a top 50 ranking in the overall list of medical schools, sharing 44th with Brown University, Georgetown, the University of Florida and the University of Maryland.

The Graduate School of Nursing's new dean finds the interdisciplinary environment at UMMS to be just what she was looking for.

BY SANDRA L. GRAY

• Doreen Harper, PhD, CS, ANP, FAAN

Educator, Clinician, Partner

Even a brief encounter with the new Graduate School of Nursing Dean Doreen Harper, PhD, CS, ANP, FAAN, vividly depicts her love for nursing. While having a routine blood test, she began chatting with the phlebotomist. In the short time it took to draw her blood, Dr. Harper had discerned the technician's ambition, extolled to her the virtues of a nursing career—and vowed personally to help the young woman enroll in nursing school.

In her new role as dean and professor of the GSN, the indefatigable Harper will continue to weave together the major themes of her many accomplishments as a clinician, educator and leader. Her career has encompassed advancing the nursing profession, educating advanced practice nurses, forging interdisciplinary educational and clinical partnerships, shaping nursing policy and practice and, above all, caring for patients.

Harper brings her vast knowledge, experience and enthusiasm to UMMS for the unparalleled opportunities she sees here for interdisciplinary collaborations. She looks forward to fostering even more collaboration among the three schools at UMMS, the UMass Memorial clinical system and the communities of central Massachusetts. She delights in the fact that the GSN is the only graduate nursing school in Massachusetts based at an academic health center; that there exist rich and as yet untapped opportunities for collaboration statewide; and that UMass Memorial boasts a significant cohort of advanced practice nurses in its system. "The opportunity to develop and test models of interdisciplinary education, practice and research are unlimited and unique among academic health centers across the country," noted Harper. "Faculty and students in the Graduate School of Nursing are afforded the benefits of an environment dedicated to quality health care for our communities and research programs that improve outcomes for persons affected by such diseases as cancer, HIV, cardiovascular disease and diabetes."

"I thrived on the caring aspect of nursing, helping patients find meaning in whatever experience they were having."

Harper's goal for the GSN is simple but ambitious: to be in the top 50 percent of graduate schools of nursing in the country by 2005. She maintains that the essentials to move the GSN forward are espoused in its mission to make practice and research the keystones of education. Her tactics to grow the student body and faculty strategically in fulfillment of this mission are concrete: enhance the research agenda and increase research funding; promote faculty publications in scholarly journals and appointments to national boards; support faculty practice to strengthen education and research; expand linkages between the Worcester and Amherst campuses, as well as other health sciences programs statewide; develop curricula that are responsive to changing health care workforce needs; and link with UMMS initiatives such as Commonwealth Medicine and the Center for Health Policy & Research.

In the face of nurse practitioners' evolving scope of practice and declining nursing school enrollments, Harper steadfastly believes that graduate nursing education is directly related to clinical excellence in nursing. "Graduate education lays the foundation for the clinical infrastructure for excellent nursing care, both hospital- and community-based," she maintains. "The model is the same as for graduate medical education: new clinicians learn by being surrounded with clinical experts." With clinical nursing experts virtually removed from hospitals over the past 15 years in the wake of managed care, Harper sees graduate nursing education, in partnership with other health professions, as the one sure path to restoring the clinical infrastructure for all nurses in the hospital setting. "Fortunately, UMass Memorial, in partnership with UMMS and the GSN, has managed to prepare and maintain a critical number of highly competent advanced practice nurses, continuing to develop interdisciplinary practice models for care delivery," Harper stressed. "The GSN faculty, all of whom are strong practitioners and excellent teachers, have been able to generate 'real world' education and research programs based on these partnerships and their involvement in practice."

And when Harper talks about partnerships, she means on a large scale. As National Coordinator for the Community Partnerships in Graduate Medical and Nursing Education Initiative (CP-GMNE), a W. K. Kellogg Foundation Initiative in Health Professions Education, Harper has brought together multiple institutions with diverse missions and cultures around their common goals to train clinicians in community settings to deliver primary health care to vulnerable populations.

In addition to serving as national coordinator, a role she will continue here, she also co-directed the Washington Regional Academic and Community Consortium (WRACC), one of just six CP-GMNE partnership sites nationwide. "It was a real challenge to get two health systems, two universities, six community clinics and five residency programs to work together. My job was to balance the agendas of community and academic medicine and nursing to benefit patients in the community." Harper was invigorated by the huge task at hand. "It has been so rewarding to lead six national projects all clearly focused on one single great mission!"

Serving the underserved has been the driving force behind all Harper's achievements. "My first nursing assignment included alcoholics on the Bowery in Manhattan's lower East Side, and from there I moved to working with poor mothers and children in the South Bronx. Right from the start I was where I wanted to be," she recalled. "I thrived on the caring aspect of nursing, helping patients find meaning in whatever experience they were having." Even as her life in academe took center stage, Harper continued in clinical practice, working part-time at the

George Mason University Student Health Services during the same years she was building the school's nurse practitioner program in partnership with George Washington University School of Medicine and Health Science. Most recently, volunteering on the Family Health Connections Mobile Van in Woodbridge, Virginia, has kept her face-to-face with patient needs in the community.

Harper's own earliest muse was her mother, a dedicated nurse in the Rhode Island community where she grew up. "I remember sitting around the card table with my mother and her friends. They were all nurses and all leaders." She earned her BSN from Cornell University in 1971, her MSN from Catholic University in 1974 and her PhD in human development and gerontology from the University of Maryland in 1980.

In the early 1980s, Harper was a faculty member at George Mason University and young mother of two toddlers when she unintentionally catapulted herself into the national limelight as an advocate for nurse practitioners. When the Gemenac Report proposed that there was an excess of physicians and, therefore, no need for nurse practitioners, Harper co-authored and published with friend and colleague Molly Billingsley, "The Extinction of the Nurse Practitioner: Threat or Reality?" in *Nurse Practitioner Journal*. "The article struck a chord. People either loved or hated it, and it was seen as a call for solidarity. It marked my identity as a political activist," she recalled with pride. She and Billingsley published a sequel titled "Organizing for Power" that garnered support from nursing leaders nationwide and forwarded the nurse practitioner organizational agenda for unification.

Harper also became a founding member and president of the National Organization for Nurse Practitioner Faculty (NONPF) with the mission of providing leadership to promote quality nurse practitioner education. Both Harper and NONPF have focused on fostering the development of community-based clinical curricula along with didactic learning. She led the organization to conceptualize and develop its *Curriculum Guidelines and Program Standards for NP Education*. This work was recognized in 1994 when Harper was elected as a fellow in the American Academy of Nursing.

Influencing public health policy is a logical extension of all Harper does, with her reach extending ever wider. This spring she was chosen by Secretary of Health and Human Services Donna E. Shalala as the only nurse nationwide to serve on the Advisory Committee on Interdisciplinary Community-based Linkages of the Health Resources and Services Administration. Harper is thrilled as well as honored with this opportunity to shape public health policy at the highest level. "A focal point of my work with the Kellogg Foundation has been to develop national policy objectives to support interdisciplinary community-based health care," she noted.




Today, Harper stands at the crossroads between the pioneers of higher education in nursing of the 20th century, and the future of advanced nursing practice in the 21st century, with her sights set firmly on building the model for how medicine and nursing will work together in the next century. "We've got to explore and analyze how to best merge expertise from multiple disciplines to do our best for the patient. At UMMS and UMass Memorial, we've got the critical mass of clinical experts and researchers to do this."

Clinical research trials conducted at UMMS reveal how years of bench study can lead to effective treatments at the bedside.

Disease on Trial

BY MARK L. SHELTON

When President Clinton issued an executive order in June for the federal Medicare program to provide coverage of the routine costs incurred by beneficiaries enrolled in clinical trials, he called attention to a little-known facet of one of the greatest success stories of modern medical research: the sometimes humble, sometimes epic "clinical trial," a type of research study that allows people to help doctors find ways to improve health and medical care.

• Pamela Becker, MD, PhD

A research study that tries to answer scientific questions and to find better ways to prevent, diagnose or treat disease must sooner or later find ways to methodically determine if a proposed treatment works for real people. (That's the "clinical" part of clinical trials, as compared to "basic," laboratory-based research.)

At the University of Massachusetts Medical School, clinical trials test new drugs, compare two or more drugs, evaluate new procedures or new technologies (such as surgical instrumentation) and herald a new world of potential benefits. At any given time, there are as many as 300 different clinical trials being conducted by UMMS faculty clinicians, and more are on the horizon: so many more, and so many with such potential, that UMMS recently developed a new Clinical Trials Office.

Investments made in support of basic biomedical research continue to pay off in new discoveries and new treatments: a generation ago, an understanding of disease at the cellular level changed medicine; today, the molecular basis of cellular activity is leading scientists on thousands of new investigative paths. This new understanding of what happens deep inside cells, and how molecular processes can be affected, means that scientists are looking for and finding individual, molecular targets that can change what happens inside a cell, and by extension, inside a human body. A new clinical trial at UMMS, one ready to begin testing an innovative method of gene therapy, illuminates the excitement and promise of medical research with a human impact.

Gene therapy has always proven to be astonishingly complex, although it's understandable that it would be. The principle of gene therapy is to alter, supplement, repair or replace a gene that causes an illness or one that isn't functioning normally. One of the major challenges of gene therapy is the process of implanting a particular gene into cells and having it "express," or do what it's supposed to do. Yet, of the gene therapy trials that have been effective thus far, most have the ultimate aim of replacing a gene gone wrong with one that functions normally.

A new clinical trial underway at UMMS, a trial whose concept was conceived and developed here, hopes to add a normally functioning gene to bone marrow cells to help the cells survive the impact of chemo-therapeutic drugs. Pamela Becker, MD, PhD, associate professor of medicine and chief of the Division of Gene Therapy, and her colleagues, including Peter J. Quesenberry, MD, the Eleanor Eustis Farrington Chair in Cancer Research, and former UMMS professor F. Marc Stewart, MD, now at the Fred Hutchinson Cancer Center in Seattle, have—after an exhaustive review and approval process by the FDA and the NIH—received approval to begin the innovative trial.

Using a portion of a retrovirus as a vehicle, or "vector," to move a gene into a patient's cells, Becker will attempt to deliver a gene, MDR1, to initiate a complex cellular process called multi-drug resistance. MDR1 helps essential cells in the bone marrow survive chemotherapy: if multi-drug resistance is increased, conceivably chemotherapy doses aimed at stopping otherwise intractable cancers can be increased. For example, for those patients with a cancer called lymphoma, which can be aggressive and intractable because it grows rapidly and doesn't respond to conventional levels of chemotherapy, increased drug resistance could mean that higher doses of chemotherapy might stop the lymphoma without stopping healthy cells in the patient's body.

"This clinical trial, which we hope will demonstrate that this method of gene delivery and this vector model works, has been very carefully developed here at the UMass Cancer Center," explained Dr. Becker. "The idea, the basic science research, the development of the protocol, and the extensive refinement necessary to meet the stringent approval process of the NIH and the FDA, all happened at UMMS."

"The first phase of this trial is solely aimed at determining if the vector we've chosen will work, allowing the genes we deliver to be picked up by the cells and expressed. That would be a huge accomplishment in the ultimate story of gene therapy, and we will have taken a step forward not only toward treating cancers, but also toward treating genetic disorders."

Because of the rapid progress and the potential for harm in the field of gene therapy, the FDA and the NIH have instituted strict and exhaustive scrutiny of all such clinical trials. Becker can point to a mountain of paper on her desk that includes the formal application and months of questions and answers between her office and the federal Recombinant DNA Advisory Committee, which must approve all gene therapy trials. As a result, the UMMS trial has been designed with extensive safeguards and painstaking care, so that the outcome will point toward some future therapeutic path.

"We'll first look to see if the retroviral vector works and then see if the cells pick up MDR1," said Becker. "The purpose of a phase one trial such as this is to answer the question, 'can it be done?' We're not looking, necessarily, for this to be a cure. But this is a necessary step toward that."

• Shan Lu, MD, PhD

VACCINATING AGAINST HIV

A key step toward the NIH's goal of developing a vaccine for HIV by 2007 is the award of an HIV Vaccine Design and Development Team (HVDDT) research contract to Shan Lu, MD, PhD, associate professor in the Department of Medicine, and project partner Advanced BioScience Laboratories, of Kensington, Maryland. The NIH has committed approximately $70 million over the next five years to just four public-private partnerships worldwide, in an effort to accelerate the development and testing of promising HIV vaccines.

"Our laboratory has been focused on novel vaccine development for the last eight years," said Lu. "The HVDDT program is the result of a year-long international search to build a consortia of scientists with development expertise from industry and academia who have identified promising HIV vaccine concepts. The awards are aimed at vaccine candidates in the middle of the development process—those that will lead to clinical trials."

What's so promising about Lu's HIV vaccine concept? The use of DNA itself as an immunization tool—a vaccine that consists only of a particular strand of DNA that would enter an organism's cells and begin making a protein that stimulates the immune response—is a scientific principle developed in part at UMMS over the past decade: the HVDDT program support will move this research forward, ever closer to an actual vaccine for a virus that has proven to be as scientifically vexing as it is deadly.

Physiology marks 30 years with UMMS, celebrating parallel progress as both department and institution moved 'from scratch' to success.

BY ALISON M. DUFFY

Leading the Way

What began 30 years ago with a newly recruited department chairman and three young assistant professors in a former tobacco warehouse has steadily evolved into one of the most integral and well-respected departments at the University of Massachusetts Medical School.

1981

1993

• Joshua J. Singer, PhD | H. Maurice Goodman, PhD | John V. Walsh, MD

H. Maurice Goodman, PhD, professor and founding chair of the Department of Physiology, recalled the excitement and challenge he and those first faculty members faced in 1970—the late Fred Fay, PhD, John Walsh, MD, and Joshua Singer, PhD—as they began building a department that has come to exemplify the success of the entire institution.

"We started everything from scratch," said Dr. Goodman, who was recruited from Harvard by founding Dean Lamar Soutter, MD. Goodman in turn recruited Drs. Fay, Walsh and Singer from Harvard and set up shop in the Shaw Building while the Medical School building itself was still under development and construction, and the administration scrambled to organize.

"We needed to create a whole teaching program, get research underway and develop the labs," Goodman recalled. "The Medical School had at that point no rules of governance, no policies of any kind, really. Chairs for second-year departments hadn't even been recruited yet. But there was a feeling of destiny, of challenge. The shakiness of the early years necessitated support and a spirit of cooperation. Anyone who didn't feel that either didn't stay or got scared away before they even got hired. This was a new adventure."

And, in the fall of 1970 when the first class of 16 medical students arrived, "we felt more like colleagues than anything else, and we weren't that much older than they," said Goodman. "The students were in their mid twenties and the faculty were all in their late twenties or early thirties. It was fun. There was great camaraderie among faculty and between faculty and students."

Dean Soutter relied on his newly recruited chairs to establish their departments and help build parts of the school's infrastructure. (Goodman recalled with a laugh, however, that the dean scrutinized every purchase. "He returned a purchase order for a book I wanted for the department library we were trying to compile. He had written across it, 'But, you bought a book yesterday.'") The pioneers quickly realized the need for an office to handle research grants, both financially and administratively. Goodman helped established the Grants and Contracts Office, which has evolved into the UMMS Office of Research, currently overseeing an annual research budget of more than $93 million.

As he contributed to the growth of the Medical School in general, Goodman—who filled over the years the positions of acting provost, acting chancellor/dean and associate dean for scientific affairs, among others—from the start saw the Department of Physiology become a special place to work because "people were willing to work together. There was no room for

2000

• Fred Fay, PhD

internal competition, a feeling we've been able to preserve." He is quick to point out that the ongoing success of the department is still fully attributable to its people. "It is so gratifying to realize that most of our senior faculty came to the department right out of post-doctoral positions and now have earned international reputations."

"We started in another era," said Peter Grigg, PhD, who joined the faculty in 1972 and is now vice chair. "We used equipment and methods that seem, in retrospect, to be pretty archaic. Now, the future seems like it will make the present seem archaic in even less time.

"But the highlights of the history of the department are mainly told in the stories of the careers of individual scientists. Science is, after all, an endeavor of people working on their own projects in their own labs. The way has been paved with plenty of hard work and frustrations, but it is not without notable successes." Grigg himself may hold a record for the University's longest running research grant, a National Institutes of Health grant in its 27th year that's approved through early 2004.

The department can boast the Medical School's first grant, awarded to Goodman in 1970 from the NIH: $98,000 for three years to study growth hormone and fat metabolism; by 1973, before the Medical School's first commencement, extramural funding for the department had exceeded $50,000. By 1975, the figure topped $150,000 and by 1977, it climbed to $250,000. Funding surpassed the million dollar mark by 1982 and two million just six years later. Today, the Department of Physiology ranks 11th of all physiology departments nationwide in terms of NIH research support alone—approximately $6.5 million.

In addition to an excellent track record for winning research funding, the department can also claim an impressive publication record, beginning with Fay's "Reversible Disaggregation of Myofilaments in Vertebrate Smooth Muscle," published in 1973 in the *Journal of Cell Biology*, the department's first publication of research completely performed at the University. Contributions to the prestigious *Handbook of Physiology* by both Goodman and John Fray, PhD, professor of physiology, followed, and by 1979, the department had published 50 research papers in scientific journals. Today, that number exceeds 1,000.

Other UMMS firsts to come out of the department? The first career development award, which went to Fay, who also earned the first grant awarded to UMMS junior faculty, followed by an NIH grant which was repeatedly renewed and remained in force throughout Fay's career. Former professor Susan Leeman, PhD, was the first member of the UMMS faculty elected to the American Academy of Arts and Sciences; two years later she was similarly honored with election to the National Academy of Sciences, another Medical School first.

The department has, of course, had its losses, most notably the death of Fay in 1997. Faculty have come and gone, but, as Goodman said, "People tend to stay and, more importantly, stay productive. We've been a successful department in terms of research and teaching and contributing to the school, and we can be proud of that.

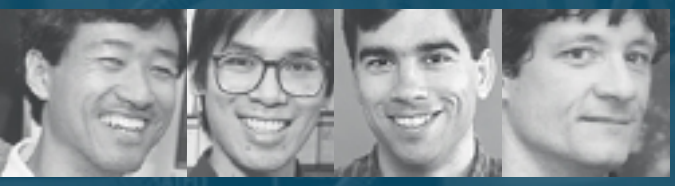
"Our charge in the beginning was to develop a Department of Physiology that would be second to none in New England, in terms of both NIH grant funding and reputation. And we've certainly done that."

Early Investments Lead to

Impressive Returns

Annual Research Fund enables scientists to launch studies that gain the attention of prominent funding sources.

BY LYNN C. BORELLA



• Zuoshang Xu, MD, PhD | John Leong, MD, PhD | Dannel McCollum, PhD | William Theurkauf, PhD

The Worcester Foundation for Biomedical Research is investing in UMass Medical School researchers and producing high yields.

With its Annual Research Fund (ARF), WFBR trustees have directed philanthropic donations to award 30 investigators over the last three years with "seed" grants totaling close to $1 million, funding that has resulted in some promising discoveries, and in millions of dollars of subsequent extramural funding for UMMS.

Two of many success stories are those of Zuoshang Xu, MD, PhD, assistant professor of biochemistry & molecular pharmacology, and John Leong, MD, PhD, associate professor of molecular genetics & microbiology.

Dr. Xu used his 1998 ARF grant to shift the entire focus of his research. Previously involved in researching the structure and function of filamentous proteins in nerve cells, Xu wished to pursue more disease-relevant investigations. Thanks to the grant, Xu was able to hire a postdoctoral fellow and begin working on the puzzle of ALS, or Lou Gehrig's Disease, "much earlier than I would have been able to otherwise."

Since then, Xu was awarded an NIH grant of approximately $1 million based on preliminary data and published articles completed with the help of the ARF funding. He has also recently applied for several additional grants to continue his work studying how the mitochondria, the "powerhouse" of the motile cell that provides the energy necessary for the cell to function, is negatively impacted by the mutant enzyme that causes ALS.

Dr. Leong used his 1999 ARF funding to pursue the development of a small molecule that would block intestinal colonization by entero-hemorrhagic *E. coli*, the strain of *E. coli* responsible for numerous deadly outbreaks in recent years. His research generated the preliminary data needed to enable him to submit and receive a $1.2 million NIH grant over five years to pursue a related *E. coli* project.

"There are very few funding sources that will award grants for projects without some preliminary data and documentation to support the premise," said Leong. "These ARF grants are indispensable when it comes to starting research from ground zero."

Molecular Genetics & Microbiology faculty Dannel McCollum, PhD, assistant professor, and William Theurkauf, PhD, associate professor, are among the most recent group of grant recipients. And, although it is yet unclear if the team will be another success story for the program, both believe the research they plan is highly fundable if successful.

Knowing that a hallmark of cancer is rapid cell division, Drs. McCollum and Theurkauf will use their $30,000 funding to devise and implement a methodology for screening 30,000 to 50,000 small molecule agents, compiled in a data bank of random regenerated synthetic drugs, to see their affect on inhibiting cell division. Since both investigators work in different research models—McCollum with yeast and Theurkauf with fruit flies—they teamed to offer the research strengths of both, including the knowledge of genetic make up, to the testing.

All concur that it would be impossible to conduct new avenues of inquiry without funding sources like the ARF grant. Leong said, "These grants are an invaluable investment by the Medical School in its faculty. The WFBR provides scientists with the monies to get a research idea off the ground and hopes that this research will lead to more lucrative funding from NIH and other sources."

Grants & Research:

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

Donors to the Annual Research Fund concur with researchers, that the potential for life-altering research breakthroughs often comes from modest beginnings. Worcester Foundation Trustee Mel Cutler and his wife Sandy were so impressed when they reviewed the grant requests to the Annual Research Fund that they made a donation of $36,000 from the Melvin S. Cutler Charitable Foundation to support an additional project in 2000. "Members of my family, as is the case with many other families, have been ravaged by the diseases being studied in the various requests," Cutler said. "Accordingly, I would like to help in some small manner."

"From its beginnings over a half century ago, the Worcester Foundation has always been about two things: recognizing scientific talent and taking risks," noted Thoru Pederson, PhD, director of the WFBR. "How fitting that in our new role as part of UMass Medical School, the WFBR's donors can not only continue this philosophical tradition, but also, more pragmatically, catalyze the work of some of the school's talented risk-takers in research."

CANCER

AMERICAN CANCER SOCIETY

Charles G. Sagerström, PhD, assistant professor of biochemistry & molecular pharmacology: Analysis of oncogenic homeodomain proteins, three years, $375,000.

NATIONAL INSTITUTES OF HEALTH

Timothy F. Kowalik, PhD, assistant professor of molecular genetics & microbiology: E2F and apoptosis, one year, $286,010; recommended for four more years, $1.1 million.

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.

Donald Hnatowich, PhD, professor of radiology: Improving the properties of technetium-99m labeled angiogenesis antagonist polypeptide for the detection of breast cancer by external imaging, two years, $211,804.

DEVELOPMENTAL BIOLOGY

NATIONAL INSTITUTES OF HEALTH

Jeanne B. Lawrence, PhD, associate professor of cell biology: Nuclear & chromatin packaging of mammalian X chromosome, eight months, $177,906; recommended for three more years, $759,593.

William C. Okulicz, PhD, associate professor of obstetrics & gynecology and physiology: Regulation of endometrial response, one year, $383,695; recommended for three more years, $1.1 million.

DIABETES & METABOLISM

AMERICAN DIABETES ASSOCIATION

G. Wayne Zhou, PhD, assistant professor of biochemistry & molecular pharmacology: Structural determination of the PX and C2 domain of CPK PI-3 kinase, one year, $100,000.

JUVENILE DIABETES FOUNDATION INTERNATIONAL

Kai Lin, PhD, assistant professor of biochemistry & molecular pharmacology: Smad3-SARA interaction in TGF-b signaling as a target for treating diabetic nephropathy, one year, $200,000; recommended for two more years, $400,000.

NATIONAL INSTITUTES OF HEALTH

Dale L. Greiner, PhD, professor of medicine: Human hemopoiesis in new SCID mouse models, one year, $241,654; recommended for three more years, $724,773.

Richard W. Lambrecht, PhD, research assistant professor of medicine: A uroporphyrinogen decarboxylase knockout mouse, one year, $77,966; recommended for one more year, $77,975.

Aldo A. Rossini, MD, the William and Doris Krupp Professor of Medicine: Diabetes-Endocrinology Research Center, one year, $1.2 million; recommended for four more years, $4.6 million.

END-OF-LIFE CARE

FAIRLAWN FOUNDATION, INC.

H. Brownell Wheeler, MD, the Harry M. Haidak Distinguished Professor of Surgery, *Emeritus*: Early intervention in planning end-of-life care, one year, $60,000; recommended for one more year, $60,000.

INFECTIOUS DISEASES & IMMUNOLOGY

NATIONAL INSTITUTES OF HEALTH

Leslie Berg, PhD, associate professor of pathology: Immunobiology of JAK3-deficient mice, one year, $257,458; recommended for four more years, $1.1 million.

Robert W. Finberg, MD, professor and chair of medicine: CAR protein and autoimmunity, one year, $156,000; recommended for two more years, $312,000.

Rachel M. Gerstein, PhD, assistant professor of molecular genetics & microbiology: Regulation of V(D)J recombination in B cell development, one year, $273,000; recommended for four more years, $1.1 million.

Ronald M. Iorio, PhD, associate professor of molecular genetics & microbiology: Paramyxiovirus receptor recognition and membrane fusion, one year, $300,800.

Y. Tony Ip, PhD, assistant professor of cell biology and biochemistry & molecular pharmacology: Molecular mechanisms of drosophila immune responses, one year, $265,200; recommended for three more years, $795,600.

John M. Leong, MD, PhD, associate professor of molecular genetics & microbiology: Host cell interactions by pathogenic borreliae, one year, $312,000; Host cell signaling by ehec intimin protein, one year, $297,597; recommended for four more years, $1.2 million.

Katherine F. Ruiz de Luzuriaga, MD, assistant professor of pediatrics and medicine: Killer cells & viral load in vertical HIV infection, one year, $298,000; recommended for three more years, $819,000.

Liisa Selin, PhD, research assistant professor of pathology: Immunity in systemic and mucosal virus infections, one year, $273,000; recommended for four more years, $1.1 million.

Janet M. Stavnezer, PhD, professor of molecular genetics & microbiology and pathology: Molecular basis of immunoglobulin heavy chain switch, one year, $312,000; recommended for four more years, $1.2 million.

MOLECULAR GENETICS

AMERICAN HEART ASSOCIATION

Andrea J. Perreira, PhD, research assistant professor of cell biology and molecular genetics & microbiology: Genetic analysis of a microtubule motor, one year, $71,500; recommended for two more years, $143,000.

NATIONAL INSTITUTES OF HEALTH

Allan Jacobson, PhD, professor and chair of molecular genetics & microbiology: Nuclear role of yeast poly(A)-binding protein, one year, $240,326; recommended for three more years, $736,863.

Michelle A. Kelliher, PhD, assistant professor of molecular genetics & microbiology: Anti-apoptotic signals mediated by RIP, one year, $114,600; recommended for four more years, $670,800.

NEUROSCIENCE & PSYCHIATRY

NATIONAL INSTITUTES OF HEALTH

Craig Ferris, PhD, professor of psychiatry, cell biology and physiology: Adolescent stress and neural plasticity, one year, $237,510; recommended for four more years, $924,172.

Lawrence J. Haywood, MD, PhD, assistant professor of neurology: Molecular physiology of hyperkalemic periodic paralysis, one year, $25,452; recommended for two more years, $208,448.

PHARMACOLOGY

U.S. ARMY MEDICAL RESEARCH ACQUISITION ACTIVITY

Zdenka Matijasevic, PhD, assistant professor of biochemistry & molecular pharmacology: Protection against the acute and delayed toxicities of sulfur mustard, three years, $729,946.

PHYSIOLOGY AND MOLECULAR BIOLOGY

AMERICAN HEART ASSOCIATION

Roger Davis, PhD, Howard Hughes Medical Institute Investigator and professor of biochemistry & molecular pharmacology: Structural Organization of Signaling Pathways, one year, $268,320; recommended for four more years, $1.1 million.

Eric W. Dickson, MD, assistant professor of emergency medicine and physiology: Characterization of preconditioning induction, two years, $78,718.

NATIONAL INSTITUTE OF ARTHRITIS AND MUSCULOSKELETAL AND SKIN DISEASES

Mitsuo Ikebe, PhD, professor of physiology: Molecular regulation of smooth muscle actomyosin, one year, $365,021; recommended for four more years, $1.6 million.

PRIMARY CARE

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Jerry 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.

RESEARCH RESOURCES

NATIONAL CENTER FOR RESEARCH RESOURCES

Craig L. Peterson, PhD, associate professor of biochemistry & molecular pharmacology: Beckman XL-1 analytical ultracentrifuge, one year, $271,346.

Alumni Report:

A MESSAGE FROM THE CHANCELLOR/DEAN

Many of you have come to know Sandra Beling as an exceptional professional who, up until three years ago, single-handedly orchestrated alumni and parents programs for UMass Medical School. But earlier this year, I could not pass up the opportunity to have Sandra join my office as executive assistant.

In order to continue our commitment to responsive service for our growing number of graduates of the School of Medicine, Graduate School of Nursing and Graduate School of Biomedical Sciences, Karen Shea, who joined Sandra in the Alumni and Parents Relations Office three years ago, and Charlene Nemeth, formerly director for development relations, are now your primary points of contact for all events and issues impacting alumni and parents. You are in great hands.

Karen, as director of alumni and parents giving, and Charlene, as director of alumni and parents relations, will expand programs already in place and continually assess the need for additional ones, both based on your invaluable feedback. Their goal is to create consistent and focused opportunities for alumni and parents of future graduates to communicate with each other and UMMS. More regional alumni receptions, reunions that include continuing medical education sessions, a revamped Web presence, and a new alumni directory are just some of the methods Karen and Charlene will employ.

Please contact **Karen** at **(508) 856-3372 (karen.e.shea@umassmed.edu)** and
Charlene at **(508) 856-5863 (charlene.nemeth@umassmed.edu)** with your latest news and ideas.

Now allow me to bring you up-to-date on three of our alumni, profiled in more detail on the following pages:

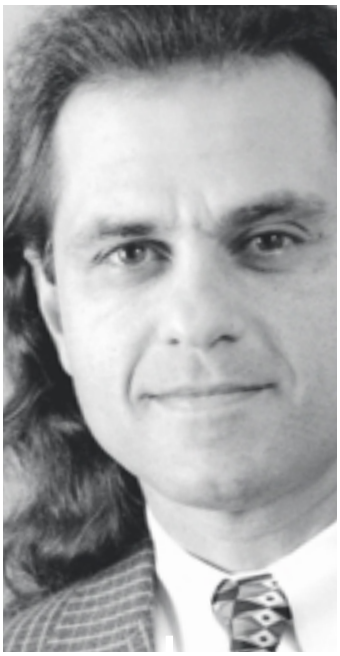
Robert Spiro,
GSBS class of 1984, is director of Bone and Cartilage Research for California-based Orquest, Inc., where he develops therapies to encourage the natural regeneration and repair of bone, cartilage and other skeletal tissue. Spiro finds that research "never dead-ends; it just keeps moving in new and unexpected directions."

Mary Ellen Foti,
a 1983 School of Medicine alumna and UMMS assistant professor of psychiatry, advocates for the severely and persistently mentally ill of our state, by providing proactive treatment based on data collection, evaluation and outcomes analysis. Foti uniquely utilizes quality control measures to "help clients realize their potential for a semi-independent life outside the hospital setting."

Neil Goldstein,
School of Medicine class of 1979, is always open to new challenges. "I've maintained the mindset that the greatest value of a medical degree is its ability to open up a myriad of opportunities." Goldstein has molded his medical degree into entrepreneurship, overseeing clinical trials for pharmaceutical companies as president of Precision Research, Inc., a company he co-founded.

Aaron Lazare, MD

RESEARCHER'S OPTIONS ARE LIMITLESS



Robert C. Spiro, PhD '84

In 1979, **Robert C. Spiro, PhD,** didn't get into medical school. But that was, he said, a good thing. An alumnus of the Graduate School of Biomedical Sciences class of '84, Dr. Spiro is director of Bone and Cartilage Research for California-based Orquest, Inc. Since 1994, he has been on the cutting edge of orthobiologics—the development of therapies to encourage the natural regeneration and repair of bone, cartilage and other skeletal tissue.

Spiro was always drawn to the sciences and initially believed that becoming a medical doctor was the only way to reach the pinnacle of a scientific profession. Instead of the bedside, he found his passion at the bench. "Research was the ultimate scientific challenge I was looking for."

His path to Orquest was charted through a mix of talent, mentoring and serendipity. After graduating from McGill University in 1977, Spiro came back to his native central Massachusetts to take a job as a research technician in the pharmacology department at UMMS, a position he hoped would prepare him for admittance to medical school. At the urging of his mentor, Robert Humphreys, MD, PhD, he entered the PhD program instead and found his calling in research.

Spiro's appetite whetted, he signed for his post-doctoral studies and became a faculty member at the Scripps Research Institute in California, where he continued his work on the characterization of proteins produced by cancer cells. "This eventually brought me into the extracellular matrix field," he said.

That matrix—the scaffold or template that serves as the foundation for almost all tissues of the body—is critical in guiding both the development as well as the repair or regeneration of damaged tissue, Spiro explained. As luck would have it, the mid-1980s were watershed years for the extracellular matrix field—and Spiro caught the wave. After leaving Scripps in 1991, he joined Telios Pharmaceuticals in San Diego as principal scientist and then Orquest in 1994, a start-up in Mountain View, California.

At Orquest, Spiro worked on the development of Healos®, a bone grafting matrix for patients suffering from degenerative disc disease and severe back pain requiring spinal fusion. Rather than the traditional therapy, which required harvesting material from a patient's hip, Healos® is a mineralized collagen matrix that mimics the properties of natural bone and guides the healing process. The product is approved for use in bone grafting implications in Europe and is currently in trials in the United States.

Orquest has two other projects either in or about to begin clinical trials, both using similar principles to accelerate the repair and regeneration of bone and bone fractures. After that? Tendons, ligaments, soft tissue defects, blood vessels, nerves? The options are as limitless as the composition of the human body.

And that's the beauty of research, according to Spiro. It never dead-ends; it just keeps moving in new and unexpected directions. – KSR

QUALITY CONTROL BRINGS QUALITY OF LIFE

UMMS Assistant Professor of Psychiatry **Mary Ellen Foti, MD** '83, always knew that she wanted to be a doctor. Her steps never faltered on this career path, but during the journey she discovered that quality control management—the career field chosen by her father and two pharmacist brothers—was also in her blood. Today, this physician is an advocate of proactive treatment for the severely and persistently mentally ill (SPMI) based on data collection, evaluation and outcomes analysis.

Dr. Foti is the medical director for the Massachusetts Department of Mental Health's MetroSuburban Area, a geographic service delivery designation encompassing 58 cities and towns from Wilmington in the north to Southborough in the west, Scituate in the south and east to Boston. In this role, Foti oversees the clinical management of some 3,000 individuals with SPMI who reside in the area's two state hospitals, a community mental health center, or in communities where they receive DMH-funded residential and psychiatric case management services.

"My staff and I strive to help clients realize their potential," said Foti. "Our daily agenda is guided by our ultimate goal for each individual: a semi-independent life outside the hospital setting. We achieve this by implementing quality control—a process of ongoing data collection, evaluation and modification of individualized treatment plans based on the evidence."

It is this dedication to improving circumstances for her clients supported by fastidious attention to detail that garnered Foti a unique opportunity to help them. In 1998, she became principal investigator of the Robert Wood Johnson Foundation's "Promoting Excellence in End-of-Life Care" grant. Among 800 applicants, Foti's project was one of 22 selected for funding.

"The data show that even for the general population, end-of-life care is inadequate. Considering the added burden imposed by SPMI, which isolates its sufferers from mainstream health care initiatives, and the disturbing fact that these individuals also die far younger than the general population, I knew this was something I had to pursue."

Foti's approach to this grant uses principles of quality management and evidence-based treatment planning to design and implement end-of-life care services for the mentally ill. Along the way, she hopes to identify factors related to this population's health care utilization and early mortality and incorporate this data into a health and wellness campaign and smoking cessation program that she has independently initiated for this group with experts from other health care fields.

"The mentally ill have been traditionally excluded and stigmatized in society," Foti concluded. "I'm promoting collaboration in all fields of health care to improve their quality of life." – LCB

Mary Ellen Foti, MD '83

WHEN OPPORTUNITY KNOCKS...

Neil H. Goldstein, MD '79

Neil H. Goldstein, MD, has never been so wedded to a particular path that he's closed his eyes to new challenges. "The greatest value of a medical degree is that it will open up a myriad of opportunities," he said. "I've always maintained that mindset."

Dr. Goldstein has molded his medical degree into entrepreneurship, serving as president of Precision Research, Inc. (PRI), the company he and his partner Donald H. Paris founded in 1997. The evolution was a natural one, he said. It was a simple case of opportunity knocking, and Goldstein answering the door.

After graduating from UMMS in 1979 and completing his postgraduate work at George Washington University Hospital in Washington, D.C., Goldstein went into practice, serving as chief of infectious diseases at a new community hospital in Pennsylvania. Then in 1987, the headhunters came knocking, looking for a specialist to oversee clinical trials for a pharmaceutical company. Did Goldstein know anyone? His response: "Maybe me."

His decision to go corporate was met with incredulity by his colleagues. Goldstein laughs as he recalls one concerned physician asking him: "Are you okay? Did something happen? Do you think maybe you should get professional help?" Such a response was understandable, said Goldstein, noting that it wasn't until recently that pharmaceutical research was accorded the respect it deserves.

After 10 years working for progressively larger companies, Goldstein decided to set up shop on his own. He and Paris, who had 25 years of product development experience, founded PRI, which provides the range of services clients need to bring a project through conception to the marketplace, including protocol development, trial monitoring and medical writing. The company, which started out with just Goldstein, Paris and a secretary, has grown into a profitable business employing six staff people and the services of 25 clinical research associates and medical writers.

While PRI counts such industry heavy-hitters as DuPont and AstraZeneca on its client list, it has found its niche with smaller companies that don't have the on-staff capacity to develop protocols, monitor trials or even collect the data needed to attract investors. "The biotech work has been a whole lot of fun," Goldstein said. "It shows a completely different side of the business."

Goldstein's experience—he is board certified in internal medicine and infectious diseases—has provided PRI with the foot in the door it needed to get off the ground. The company's ability to adapt its scope and range of services to meet the specialized needs of its diverse client base has kept that door open.

Adaptability has been the key to Goldstein's success as well. His transition from practicing physician to businessman is nothing more than a matter of simple evolution, he said. "I always knew what I wanted to study, but I never had a complete idea of what I wanted to do with my medical degree." At PRI, he is still finding out. – KSR

Class Notes:

1975

Anita Karcz, MD, was featured in the "Movers and Innovators" section in an August 1999 issue of *Mass High Tech*. The founder of Health Opportunities, Inc. of Watertown, Mass., Dr. Karcz moved from emergency medicine to business management, receiving an MBA from Northeastern, becoming a consultant and entrepreneur. She has chaired the MIT Enterprise Forum, a volunteer organization providing education and networking opportunities to aspiring entrepreneurs.

1977

Bernard T. McNamara, MD, is a "happier" emergency medicine specialist in Encino, Calif. He writes: "In 1997, after being an AIDS specialist, I entered emergency medicine. I have two sons, Dylan Saabet, born in October 1994, and Brelan Danesh, born in February 1993. Both are tops in their classes, and neither one was named after characters in the TV series 'Beverly Hills 90210.'"

1983

Spencer Amesbury, MD, a board-certified geriatrician, is the medical director of the new Geriatric Care Center at the Hunt Center in Danvers, Mass., designed to provide comprehensive services to frail elderly. Dr. Amesbury, who serves on the faculty of the Family Practice Residency Program at the Hunt Center, practiced public health in the Midwest for four years. Upon his return to New England, he was a family practitioner in Ipswich, Mass. before joining the Hunt Center.

1984

John A. Salvato, MD, a Waterville pediatrician and medical director at Maine General Medical Center's Edmund N. Ervin Pediatric Center, has been named president of the American Academy of Pediatrics, Maine Chapter.

1986

Lynn Baden, MD, operates Centre Dermatology in Waltham, is on the staff of Brigham and Women's and Newton-Wellesley hospitals and serves as a clinical instructor in dermatology at Harvard Medical School. Dr. Baden has a master's degree in public health from Yale University School of Medicine and lives in Newton with her husband and two daughters.

Seth Bilazarian, MD, has been certified as a diplomate in interventional cardiology by the American Board of Internal Medicine. He practices with Pentucket Medical Associates in Haverhill, Mass.

1987

Charles Hemenway, MD, PhD, is an assistant professor of pediatrics at Tulane University. He and his wife Elizabeth have twins, Nicholas Samuel and Benjamin Francis, born in July 1992.

Peter C. Moran, MD, has a solo family practice in Haverhill, Mass. After serving as an Air Force physician at Loring Air Force Base in Limestone, Maine, Dr. Moran was transferred overseas to Japan's Misawa Air Base before landing at Hanscom Air Base in Bedford, Mass.

1988

John F. Aney, MD, chief of psychiatry and medical director of psychiatric outpatient services for HealthAlliance, has been appointed medical director of the Behavioral Medicine Department at the Burbank campus of HealthAlliance, where he is responsible for coordinating all psychiatric programs for HealthAlliance, including the mental health inpatient unit at Burbank, and the consultation program and outpatient unit at Leominster Hospital.

Debbie Williams-Herman, MD, writes: "1999 marked a big year for me. Shortly before celebrating our 10th wedding anniversary, Gary Herman and I welcomed Emily Breault Herman into our lives. She is the delight of her pediatrician parents who both, until now, have tried to balance clinical subspecialties with research in cell biology. After internship, residency, postdoctoral fellowship and two years as an assistant clinical professor, I am leaving UC/San Francisco to develop the Program in Clinical Immunology, Allergy and Rheumatology at Children's Hospital/Oakland. Although I leave academics with trepidation, I will continue as volunteer faculty and look forward to the opportunity to shape a new program. Best wishes to my UMMS family, which includes both friends and faculty. Gary, Emmy, Iris the pooch, and I live in the heart of San Francisco. Please contact me at debwh@cgl.ucsf.edu."

1990

Mary J. Lyons, MD, has joined Milford-Whitinsville Regional Hospital's medical staff as a pediatrician. Dr. Lyons previously worked for South Boston Community Health Center, where she supervised the teen health clinic staff, pediatric residents and medical students, in addition to her direct care responsibilities.

1993

Bruce Rosen, MD, has joined Tri-River Family Health Center in Uxbridge, Mass., after completing his internal medicine residency at the Carney Hospital in Boston. He has been in practice in the Boston area for the past three years.

Rosemarie Smith, MD, has been appointed attending geneticist and assistant professor of pediatrics at the Floating Hospital for Children/New England Medical Center and Tufts University School of Medicine. She and her husband Jonathan Smith, MD, live in Newburyport, Mass.

To submit a class note, send your news to:

Alumni and Parents Relations Office, University of Massachusetts Medical School | 55 Lake Avenue North | Worcester, MA 01655

or e-mail karen.e.shea@umassmed.edu call (508) 856 8300 or (508) 856 3372 fax (508) 856 5490

1994

Margarete O'Hagen, MD, is on the staff of Tri-County Medical/Blackstone Valley Family Physicians at the Whitinsville Medical Center. She joins **Elizabeth T. Siraco, MD,** who also holds a teaching appointment at UMMS. Certified in advanced cardiac life support and advanced pediatric life support, she is married and the mother of a baby girl.

1995

Joy Susan Spinner, MS, RNCS, ANP, an interventional cardiology nurse practitioner at UMass Memorial Medical Center, is engaged to Robert Scott Messick. An October wedding is planned.

Kathryn B. Wiseman, MD, and **Richard A. Wiseman, MD,** have joined Williamstown Medical Associates and the medical staff of North Adams Regional Hospital. The Wisemans were formerly at Strong Memorial Hospital in Rochester, N.Y., where Kathryn was chief resident in pediatrics and Richard was chief medical resident. In addition to their board certifications in their specialties, Kathryn is also certified in advanced pediatric life support, while Richard is certified in advanced cardiac life support. The Wisemans live in Williamstown with their son Matthew.

Katherine Atkinson, MD, has joined the Belchertown Wellness Center as a family practice physician. She attributes her years as a nurse with helping make her a well-rounded doctor. Dr. Atkinson recently moved to Amherst, after living in the Worcester area since 1992, with her husband Steve, daughter Chandler (6) and son Rollin (5).

Geoffrey Capraro, MD, was honored by the faculty at St. Christopher's Hospital for Children in Philadelphia with the Henry W. Baird Award for teaching, inquiry and compassion. He is an emergency department physician at St. Christopher's and an instructor in pediatrics at MCP/Hahnemann University School of Medicine.

Deanna Carty, MD, has joined the staff of Milford-Whitinsville Regional Hospital as an internal medicine specialist. She was honored by the hospital's Department of Medicine as "Outstanding Senior Medical Resident" and by the UMMS class of 1999 as "Outstanding Medical Educator." Dr. Carty lives in Uxbridge, Mass. with her husband James and her son Patrick.

1998

Deborah Boyle Kovacs, MD, received an American Medical Women's Association Award, given to the top 15 women graduates of UMass Medical School. She is currently a resident in internal medicine at UMass Memorial Medical Center.

IN MEMORIAM

Robert Gock-Lip Lee, MD '76, died June 23 at the Lahey Clinic Medical Center.

Dr. Lee was assistant professor of radiology at Harvard Medical School and associate chief of radiology at Newton-Wellesley Hospital. He was board certified in pediatrics and radiology with a sub-specialty certification in nuclear medicine and pediatric radiology. A resident of Winchester, Mass. for 22 years, Lee leaves his wife Susanna (Woo) Lee, MD, a 1978 graduate of UMMS; his two children, Allison and Andrew Lee; his mother Nuey Yon Yee of Boston; and a sister and two nieces in China.

2000-01

Alumni and Parents Relations

Upcoming Events

November 2000

9 WCVB-TV Channel 5 Reception for Parents (of first- and second-year students)

March 2001

1-7 Florida Alumni Receptions

15 Match Day

28 Annual Parents Dinner

May 2001

3 Second-year Oath Ceremony

30 GSBS Alumni Association Breakfast

31 School of Medicine Alumni Association Breakfast

June 2001

1 GSN Alumni Association Breakfast

Medical School Commencement Cruise

3 Commencement and Reception

FLORIDA ALUMNI RECEPTION

John J. (Jack) Ryan, MD '91 *and his wife Liz Ryan* | Paul Hobaica, MD '99

Naples | March 4, 2000

PHILADELPHIA ALUMNI RECEPTION

March 16, 2000

Michael Conrad, MD '81 | Michael Cawley, MD '84 | Steven Kagan, MD '90 | Nicole Pensa Somuanshi, MD '91
and her husband Rahul Somuanshi, MD

ORIENTATION FOR PARENTS OF NEW STUDENTS

August 14, 2000

C. Wanda and Wit Busza, parents of Ania Busza, with Charlene Nemeth, director of alumni and parents relations

Elizabeth O'Shea, Class of 2004, with parents Arthur and Janet O'Shea
Elizabeth is the sister of Jennifer O'Shea, MD, UMMS class of 1994

Stacy Taylor, Class of 2004, with parents Harvey and Geraldine Taylor

HOSTED BY THE UMMS

ALUMNI ASSOCIATION

June 2000

CLASS OF 2000 COMMENCEMENT BREAKFASTS

Dean Doreen Harper (center) joined by GSN faculty, staff and alumni and former dean, Lillian Goodman, EdD (top row, third from left)

Irvin H. Heifetz, MD '79
Alumni Association President

School of Medicine graduates H. Jane Delima and Megan Schwarzman

GSBS graduates Christine Boyle (left), Sharon Hughes Tynan and Laurie Ann Boyer with GSBS Dean Thomas Miller, PhD

School of Medicine graduate and Chancellor's Award recipient Philip Bolduc with Vice Dean for Undergraduate Medical Education Michele Pugnaire, MD

Development Update:

SURVIVOR WALKS FOR CANCER CURE

• Susan Weagle (right) and team members Cathy Dion (left), Adele Smith and Justin Clapp

During the 1999 inaugural Walk to Cure Cancer, Susan Weagle started but could not complete the entire five-mile course due to the effects of chemotherapy. This Labor Day, Weagle joined her team of 75 walkers with the same mental enthusiasm as the first time, but with the added physical strength that allowed her to finish the walk and help raise approximately $5,000 toward finding a cure for cancer. Through the efforts of some 6,000 others like Weagle, the 2000 Walk to Cure Cancer raised over $500,000 for cancer research. "I am convinced that a cure is out there now," said Weagle. "If everyone participated in or donated to an event such as this walk, we'd be arriving at a cure sooner, rather than later."

Thankfully, Weagle realized her own cure sooner, rather than later. A participant in a revolutionary digital mammography clinical trial at UMass Medical School, the breast cancer survivor received treatment almost immediately after a growth was detected by the technologically advanced equipment. "My doctor told me that if I had received a traditional mammogram, treatment might not have happened for another year, allowing the growth to progress. Instead, I underwent a lumpectomy and lymph node dissection just weeks later." A nine-month chemotherapy protocol followed. Weagle completed radiation treatment this February and has seen such an improvement in her health that she frequently spends up to five hours a day campaigning for public office.

As members of Team Weagle passed the new research laboratory building on the UMMS campus September 4, the building's steel framework provided tangible inspiration to meet the Walk to Cure Cancer's goal of $5 million in five years for UMass Cancer Center facilities to be housed there. The research conducted in the labs may find the cure Weagle is convinced is waiting to be revealed. "We must find it," stressed Weagle. "Two of my friends who walked with me have been diagnosed with cancer."

For more information about supporting the UMass Cancer Center, contact the Development Office at (508) 856-5520.

COMMITTEE SET TO CAMPAIGN FOR RESEARCH

The Campaign for Research encompasses several critical goals: in order to accelerate advances in biomedical research, the campaign's efforts will help UMass Medical School recruit 100 new research faculty; construct and outfit the new 360,000-square-foot research laboratory building on its campus; enhance existing research programs; develop major new programs in genetics and neuroscience research; and increase its endowment to provide a stable base of support for the future of its research enterprise.

An exceptional group of individuals has been appointed to ensure the attainment of these goals—and they are up to the challenge. The members of the Campaign for Research Steering Committee, co-chaired by Robert M. and Nancy Edman Feldman of West Newton, are:

From Greater Worcester

Bruce Carlin, managing partner of the accounting firm Carlin, Charron and Rosen, LLP, and a director of the UMass Memorial Foundation

Matthew F. Erskine, Esq., partner in the Worcester law firm of Erskine & Erskine and chair of the H. Arthur Smith Charitable Foundation

Barbara Greenberg, former chairwoman and owner of Winter Hill Frozen Foods and a member of the boards of the Worcester Foundation for Biomedical Research and the UMass Memorial Foundation, and Nathan Greenberg, partner in the accounting firm of Greenberg, Rosenblatt, Kull & Bitsoli, PC, and a former trustee of the WFBR

Arthur M. Pappas, MD, world-renowned orthopedic surgeon and chair of Orthopedics & Physical Rehabilitation at UMMS and UMass Memorial

R. Norman Peters, Esq., partner in the law firm of Peters, Massad and Sowryda and a director of the UMass Memorial Foundation

Campaign for RESEARCH

From Greater Boston

John Buckley, executive vice president of the Boston Red Sox and co-founding member, along with his wife Nancy Buckley, of the UMMS Parents Council

Diane G. Dalton, an active volunteer with the Museum of Fine Arts, involved nationally with the Garden Club of America and a longtime trustee of the WFBR, and David F. Dalton, senior vice-president of Tucker Anthony in Worcester

Michael Foley, MD, trustee of the University of Massachusetts and a graduate of UMMS class of 1974

Robert J. Haynes, president of the Massachusetts AFL-CIO, a UMass graduate and former trustee of the University of Massachusetts. Under Haynes' leadership, the Massachusetts AFL-CIO has pledged $5 million toward the construction of the cancer research portion of the new research laboratory building.

Paul LaCamera, president and general manager of Boston's WCVB-TV Channel 5 and a director of the UMass Memorial Foundation, and Mimi LaCamera, an executive with the Massachusetts Tourism Council. The LaCameras are former co-chairs of the UMMS Parents Council.

Guy W. Nichols, former chairman, CEO and president of the New England Electric System, former chairman of the board of the Woods Hole Oceanographic Institute and a trustee of the WFBR since 1986

Louise C. Riemer, a trustee of the Elizabeth Taylor Fessenden Foundation and a trustee of the WFBR since 1996

From Greater New York

Helen H. Beekman, artist, philanthropist and a longtime trustee of the WFBR

Stephen R. Gorfine, MD, president of Neptune Pharmaceutical Corp. of New York, associate clinical professor of surgery at Mount Sinai School of Medicine and a graduate of UMMS class of 1978

John Herron Jr., chair of the educational software company, Zoologic, Inc., and a trustee of the WFBR

Nina Joukowsky Köprülü, director of the Joukowsky Family Foundation and a trustee of the WFBR

Bruce D. Minsky, MD, attending radiation oncologist at Memorial Sloan-Kettering, professor of radiation oncology at Cornell University Medical College and a graduate of UMMS class of 1982

From Other Areas

Monroe and Elise England of Lenox, Massachusetts, directors of the UMass Memorial Foundation

Salah Hassanein of California, president of the Variety Clubs International and of Todd/Day Studios, a longtime supporter of UMMS and a director of the UMass Memorial Foundation

The committee's goal to raise $38 million in private philanthropic support for medical research is boosted by fund-raising figures tallied at the close of fiscal year 2000; at the end of its first year, the Campaign for Research has garnered $14.89 million, or 39 percent of its overall goal. Cause for celebration, as the committee members joined together for the first time as a team on September 24 at Fenway Park. Planning begins for the kickoff of the public phase of the campaign in spring 2001, with members personally soliciting leadership and major gifts through this fall and winter.

UMass Memorial Foundation Director R. Norman Peters said that he and his fellow committee members will be emphasizing the potential for major scientific breakthroughs to come from the laboratories of the new research building. "The research that will be conducted in that building will have a major impact on the future," said Peters. "When it opens, it will be a great day for UMass Medical School and truly, for humankind."

DONORS RESPOND TO WFBR QUEST

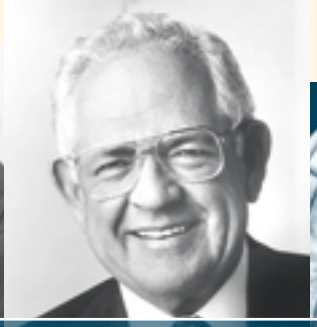
Research being conducted in the laboratories at UMass Medical School is fueled by the generosity of donors envisioning cures for disease. The Worcester Foundation for Biomedical Research, a nonprofit arm of UMMS that provides private philanthropic support for the research enterprise, experienced a record fund-raising year to continue to spur these visions toward reality. The WFBR raised $4.3 million for research from approximately 900 donors, doubling the amount raised last year.

"These funds will enable major progress to be made in our quest to better understand disease at its roots, leading to enhanced outcomes for those impacted by cancer, diabetes and other afflictions," said Mort Sigel, chairman of the Worcester Foundation Board of Trustees. "We are extremely grateful to our generous donors.

"This has been a record year, it seems, in so many ways," continued Sigel. "The Higgins Family Professorship in Neuroscience has been established through a charitable remainder unitrust by the late Alice C. and Milton P. Higgins at the WFBR." The professorship, which was approved by the University's

• Nathan and Barbara Greenberg have established an endowed chair in biomedical research.

• The joys of adoption were commemorated on a stamp and at a ceremony in June attended by USPS Marketing Manager Michael E. DiGregorio, Chancellor and Dean Aaron Lazare and Center for Adoption Research Director Peter Gibbs.



• Dave Thomas, adopted child and founder and CEO of Wendy's International, Inc.

• The center's free guidebook, *Adopting in Massachusetts*

trustees at their August meeting, will be held by the director of the new Neuroscience Program at UMMS.

Donor dollars have gone further this year due to a special endowment program developed by University of Massachusetts President William M. Bulger, in partnership with the Massachusetts House of Representatives. The House included in its fiscal year 2001 budget a $10 million endowment-matching fund that benefits each of the University's five campuses, including UMass Medical School. Pledges to the endowment by July 1, 2000 were eligible to be matched at $.75 on the dollar, up to the first $850,000 of the pledge.

As a result, three new faculty chairs were endowed at UMMS through the Worcester Foundation, capitalizing on the Bulger endowment-matching program. Leadership generosity from the H. Arthur Smith Charitable Foundation established the Gladys Smith Martin Chair in Gastrointestinal Cancer and the Barbara Helen Smith Chair in Preventive and Behavioral Medicine. WFBR trustee Barbara R. Greenberg and her husband, former WFBR trustee Nathan Greenberg, established the Barbara and Nathan Greenberg Chair in Biomedical Research. The three endowments are pending approval by the University's board of trustees.

Named in memory of the late sister of H. Arthur Smith, the Gladys Smith Martin Chair in Gastrointestinal Cancer will be held by Timothy C. Wang, MD, newly recruited to UMMS from Massachusetts General Hospital/Harvard Medical School, where he was associate division chief and associate professor in medicine. Dr. Wang is internationally recognized for his research, particularly in the area of colon cancer.

The Barbara Helen Smith Chair in Preventive and Behavioral Medicine, named in honor of a close cousin of the late H. Arthur Smith, supports the first woman to receive an endowed chair at UMMS: Judith Ockene, PhD, professor of medicine and director of the Division of Preventive and Behavioral Medicine within the Department of Medicine. Dr. Ockene's research interests concern the prevention of illness and disability and the promotion of health and quality of life. The recipient of numerous NIH and National Cancer Institute grants, Ockene is involved in funded research programs on topics ranging from smoking cessation to food and exercise habits to the effects of policy on patients and communities.

As the Greenbergs have agreed to provide flexibility in selecting the recipient, the Barbara and Nathan Greenberg Chair in Biomedical Research will be pivotal for UMMS in recruiting a high-level scientist-clinician to the faculty.

Altogether, five endowed chairs and three endowed professorships have been established at UMass Medical School through the Worcester Foundation since the two merged in 1997. "This is a tremendous achievement that speaks so well of the merger's outcome," noted Sigel. "Our donors have made fiscal year 2000 a stellar one."

ADOPTION RESEARCH CENTER RECEIVES DIVERSE SUPPORT

The diverse backgrounds of those stepping forward to support the Center for Adoption Research signal the breadth of interest in its mission. Established in 1996 to study issues relating to adoption and foster care, this first University-based center of its kind in the nation is located at UMass Medical School. Generous donors, entrepreneurs and government officials honored the center this year with their particular forms of support.

An executive advisory committee was established to provide volunteer leadership for the center's fund-raising strategies, building upon earlier gifts from the Kirby Foundation, Jacob Hiatt, Robert and Shirley Siff of Worcester and other friends of the University.

The first edition of the center's free guidebook, *Adopting in Massachusetts,* complements its mission with copies available from state agencies, libraries, medical facilities and nonprofit organizations across the state. Generous support from Helene R. Cahners-Kaplan and Carol R. Goldberg, trustees of the Sidney and Esther Rabb Foundation, made possible publication of the guidebook, which was unveiled at a statehouse ceremony in June. Deborah Rabb Goldberg and attorneys Paul D. Boudreau, Elizabeth D. Scheibel and Michael A. Gaffin also contributed to the guidebook's successful launch.

A special guest at a June dinner hosted by the center in "celebration of adoption" told his own personal story. R. David "Dave" Thomas was recognized by the Center for Adoption Research with a Chancellor's Award for his commitment to adoption and foster care and his work to improve adoption policies and practices. The founder of Wendy's International, Inc.—a tireless advocate who was adopted as child—received an honorary degree from UMMS at Commencement ceremonies the following day. Thomas stated, "I know I would not be where I am today if I hadn't been adopted."

For more information on how to support the center, contact Associate Director Diane Zapach at (508) 856-8514.

A Perfect Tribute:

The Sarah L. Stone Professorship

BY ANDREA L. BADRIGIAN

The evening of June 22 was a "perfect" one in the minds of those who attended a special occasion to honor an educator who forever changed the curriculum at UMass Medical School. Even nature contributed to the perfection, swirling winds and rain around the expansive white tent positioned outside the Hoagland-Pincus Conference Center in Shrewsbury only after the last guests had entered.

The event for Sarah L. Stone, MD—Teacher of the Year, developer of an innovative course in which medical students are taught how to talk and listen empathetically to their patients, director of the Center for Community Faculty Development, battler of cancer—brought forth some 350 admirers: family, friends, patients and colleagues, to celebrate her achievements and initiate the campaign for the Sarah L. Stone, MD, Professorship for Medical Education. The professorship will support a distinguished scholar, in perpetuity, who is dedicated to the same mission of learning, teaching and healing as Dr. Stone.

"The evening far surpassed our greatest hopes," noted David Giansiracusa, MD, professor and vice chair of medicine and Dr. Stone's husband. "The spirit and feeling of warm support from the diverse group gathered for the event was unique. So many came to me to express what a memorable, perfect experience it was for them."

Dr. Stone joined the UMMS faculty in 1986 and began a distinguished career as a leader in medical education and clinical care in her field of general internal medicine and primary care. "Sarah's interest in making health care services available to rural and urban patients through strong primary care systems certainly led to her success in educating community-based practitioners to function as teachers of medical students and residents," recalled Mick Huppert, UMMS associate dean for Community Programs, at the event.

Because of her ovarian cancer and its treatment, Dr. Stone has had to reduce her educational and clinical responsibilities and step down from her leadership positions. She continues her writing and her work with the Center for Community Faculty Development.

Bruce Weinstein, MD, director of general medicine for UMass Memorial, spoke at the event of the "creativity and generosity" Dr. Stone employs when pursuing her vision. "Another special quality of Sarah's is how she can just complete a complicated, intense negotiation with incredible skill and finesse, and then lock herself out of her office!"

As a member of the board of directors of the Medical School's Robert Wood Johnson Generalist Physician Initiative, Dr. Stone's collaborative efforts led to the formation of a new curriculum and culture that has helped to establish the Medical School as a national leader in primary care medical education. With encouragement from Chancellor and Dean Aaron Lazare, Dr. Stone developed one of the Medical School's most innovative courses—Medical Interviewing and Clinical Problem Solving, affectionately called "The Sarah Stone Course." This evolved into the Physician, Patient and Society (PPS) course.

In a tribute sent to Dr. Lazare prior to the event, Susan Gagliardi, PhD, professor and vice chair of cell biology wrote, "In developing PPS, Sarah fostered enduring collaborations among teachers of clinical medicine, basic science, ethics and behavioral medicine. It's not clear exactly how she accomplished this, but it had something to do with a big smile, endless patience and a lot of PPS curriculum grids! Whatever the method, the results have helped shape some of the best accomplishments in medical education at this school."

It was to honor this dedication to faculty collaboration and development and to acknowledge what Dr. Lazare always recognized in Dr. Stone's abilities, that Dr. Giansiracusa first approached Michele Pugnaire, MD, vice dean for undergraduate medical education, to discuss a fitting tribute. "We realized that in order to do something truly meaningful, we'd have to go for something big," said Giansiracusa. "An endowed professorship in medical education seemed perfect.

"When Aaron called Sarah to speak with her about the professorship, she was overwhelmed, but extraordinarily honored," explained Giansiracusa. "As the event unfolded, it reinforced the whole project for her.

"Sarah is very moved that Aaron and the Medical School community have been so enthusiastic," he continued. "And to have her parents at the event to share in the experience and feel everyone's response to her was particularly wonderful. Amazingly, Sarah says that the evening was so significant for her that she experienced no side effects following subsequent chemotherapy." Giansiracusa hopes the day will arrive soon when Dr. Stone can greet the first recipient of the professorship.

Gifts and pledges totaling a minimum of $1 million are being sought to establish the Sarah L. Stone, MD, Professorship for Medical Education. For more information, contact Karen E. Shea at (508) 856-3372.

Vitae: the magazine of the University of Massachusetts Medical School, one of five campuses in the UMass system. The magazine is distributed twice yearly to members and friends of the UMMS community. Published by the Office of Public Affairs & Publications, it is paid for out of non-state funds.

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Printing	Springfield Printing Corporation
Photography	Steve Gilbert Christopher Navin Larry Stein UMMS Biomedical Media Dan Vaillancourt Dennis Vandal

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