

Hope for Healing



Crisis as Catalyst



Bearing the Battle

Vitae: L., the plural of life

The name of this magazine encompasses the lives of those who make up the University of Massachusetts Medical School 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.

As you read about this dynamic community, you'll frequently come across references to partners and programs of UMass Medical School (UMMS), the Commonwealth of Massachusetts' only public medical school, educating physicians, scientists and advanced practice nurses to heal, discover, teach and care, compassionately.

Commonwealth Medicine

UMass Medical School's innovative public service division that assists state agencies and health care organizations to enhance the value and quality of expenditures and improve access and delivery of care for at-risk and uninsured populations. www.umassmed.edu/commed

The Research Enterprise

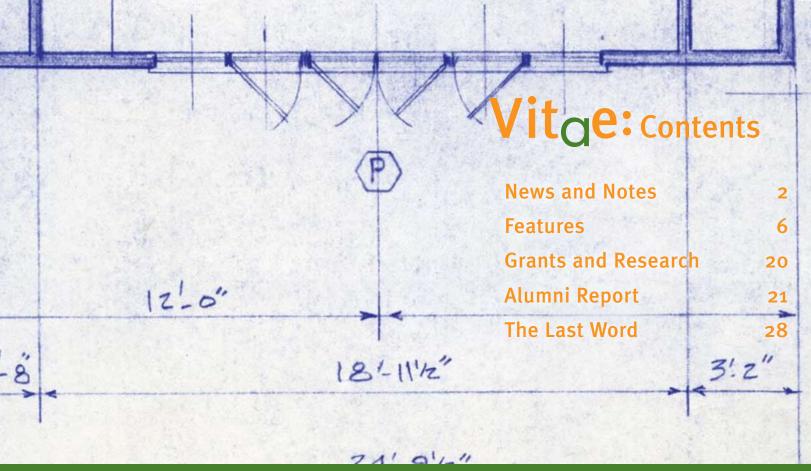
UMass Medical School's world-class investigators, who make discoveries in basic science and clinical research and attract more than \$174 million in funding annually.

UMass Memorial Foundation

The charitable entity that supports the academic and research enterprises of UMass Medical School and the clinical initiatives of UMass Memorial Health Care by forming vital partnerships between contributors and health care professionals, educators and researchers. www.umassmed.edu/foundation

UMass Memorial Health Care

The clinical partner of UMass Medical School and the Central New England region's top health care provider and employer. www.umassmemorial.org



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UMass Medical School builds the Advanced Therapeutics Cluster and with it, a promising future of new disease treatments.



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How UMass Medical School's clinical partner, UMass Memorial Medical Center, revitalized its cardiac surgery program.



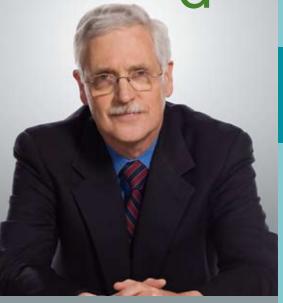
Bearing the Battle

UMass Medical School and the U.S. Department of Veterans Affairs expand their collaboration to care for and learn from injured veterans.

12

17

Vitoe: News and Notes



Robert Brown, MD, DPhil, joins UMMS and UMass Memorial on October 1, 2008.

Robert H. Brown Jr., MD, DPhil, an internationally known researcher and physician who has led the quest to cure neuromuscular diseases like amyotrophic lateral sclerosis (ALS), has accepted the appointment of chair of the Department of Neurology at the University of Massachusetts Medical School and UMass Memorial Medical Center.

"This appointment has the potential to be truly transformational to our clinical and research missions and has broad institutional implications," said Terence R. Flotte, MD, UMMS executive deputy chancellor and provost and dean of the School of Medicine. "Dr. Brown's outstanding international stature and vision, which bridge translational research and clinical care, are emblematic of how our academic health sciences center is capitalizing on the life sciences moment in Massachusetts."

Brown comes to UMMS and UMass Memorial from Harvard Medical School and Massachusetts General Hospital, where he has been professor of neurology and director of the Day Neuromuscular Laboratory and of the Muscular Dystrophy

Renowned Neurologist Robert Brown Joins UMMS and UMass Memorial

Association Clinic. Brown founded the Day Laboratory in 1984 to investigate neuromuscular diseases, and it has become internationally recognized for its research and clinical care programs. Brown is renowned for his work on the inherited basis of neurodegenerative and neuromuscular diseases and has a record of significant discoveries in ALS and neuromuscular disorders, including some types of muscular dystrophy.

In 1993, Brown and colleagues defined mutations in a gene as one cause of familial ALS. He has collaborated with UMMS Professor of Biochemistry & Molecular Pharmacology Zuoshang Xu, MD, PhD, in his work to develop an RNA interference-based approach that may herald a treatment for certain neurodegenerative diseases. (RNA interference, or "RNAi," is a gene-silencing mechanism for which UMMS Professor Craig C. Mello, PhD, shared the Nobel Prize in Physiology or Medicine in 2006.)

"I am thrilled that Bob Brown has chosen to bring his research group to UMass Medical School," said Dr. Mello. "In addition to being a truly outstanding scientist who has made seminal discoveries relating to the genetics of neurodegenerative disease, Bob is one of the most dedicated physicians I have ever met. Having identified the genetic basis for familial ALS, he could simply wait for others to develop therapies based on his discoveries. But Bob knows that his patients don't have the luxury of time. He comes here with one clear purpose

in mind, to develop advanced therapies for ALS and other devastating diseases. We are honored to welcome Bob and his colleagues to this community and we are eager to redouble our own efforts to further his important work."

Brown graduated from Amherst College, Harvard Medical School and Oxford University, where he received a doctorate in neurophysiology. He has received many honors for his extraordinary commitment to finding cures for neuromuscular diseases, including induction into the Institute of Medicine.

"Dr. Brown's work as a physician and researcher has had a major impact in the field of neurology, so the opportunities for advancing research and treatment by joining this scientific community are immense," said Michael F. Collins, MD, interim chancellor. "UMass Medical School is at the center of a revolution in the life sciences, and leaders like Dr. Brown are a key reason why we'll be successful."

"Dr. Brown's extraordinary experience at a prominent academic medical center makes him a superb choice for this position," said John G. O'Brien, president and chief executive officer of UMass Memorial Health Care. "UMass Memorial, in addition to providing great patient care, is poised to be a leader in clinical research, and Dr. Brown is extremely enthusiastic about the opportunities awaiting him here. This is an important moment in the history of this institution."



Earlier this year, Phillip Zamore, PhD, was named among the top 25 authors of high-impact papers in molecular biology and genetics.

"I'm ecstatic about this. My
lab and I can pursue ideas that
interest us even if they might
not meet our NIH criteria...with
the HHMI backing, now we can
run with [them] to see where
[they] lead."

-Phillip Zamore, PhD

Leader in RNAi Research Becomes Hughes Investigator

Phillip D. Zamore, PhD, the *Gretchen Stone Cook Chair in Biomedical Sciences* and professor of biochemistry & molecular pharmacology at UMass Medical School, has been named an investigator of the Howard Hughes Medical Institute (HHMI), one of the most prestigious and sought-after scientific awards in the world. HHMI named 56 of the nation's most innovative scientists to its new class of investigators on May 27, 2008, committing more than \$600 million to supporting their work.

HHMI is a \$13 billion medical research organization that employs more than 350 eminent researchers at 72 medical schools, universities and research institutes worldwide. Established in 1953 by the aviator and industrialist Howard Hughes, its charge is the "promotion of human knowledge within the field of basic sciences and the effective application thereof for the benefit of humankind."

Dr. Zamore is an international leader in the science of RNA interference (RNAi), a naturally occurring gene-silencing process recreated in laboratories worldwide as scientists explore ways to "turn off" disease-causing genes. His experiments have shed light on how RNAi works at the molecular level, identifying the small double-stranded RNA that precisely guides the silencing reaction. He focuses his investigations on applying the RNAi phenomenon to mammalian cells and, eventually, human disease.

Zamore joins UMass Medical School HHMI Investigators Michael R. Green, MD, PhD, the *Lambi and Sarah Adams Chair in Genetic Research;* Roger J. Davis, PhD, the *H. Arthur Smith Chair in Cancer Research;* Craig C. Mello, PhD, the Blais University Chair in Molecular Medicine and Nobel Laureate who discovered RNAi with colleague Andrew Fire, PhD, of Stanford University; and Melissa J. Moore, PhD, professor of biochemistry & molecular pharmacology.

"The Howard Hughes Medical Institute recognizes creative thinkers and outstanding scientists whose pursuits add greatly to the body of scientific knowledge from which breakthroughs arise," said UMMS interim Chancellor Michael F. Collins. "For Dr. Zamore, this is an incredible moment: his research horizons are broadened exponentially. For UMass, it's an affirmation that our institution is strengthened by energetic and brilliant faculty who have remarkable potential."

Zamore was among more than 1,000 scientists nationwide who applied for the 2008 HHMI appointments. In describing the newly named Hughes investigators, Thomas R. Cech, PhD, president of HHMI, said, "These 56 scientists will bring new and innovative ways of thinking about biology to the HHMI community. They are poised to advance scientific knowledge dramatically in the coming years, and we are committed to providing them with the freedom and flexibility to do so."

"HHMI scientists are widely recognized for their creativity and productivity: 124 are members of the National Academy of Sciences and 12 have been honored with the Nobel Prize," said UMMS Provost and Executive Deputy Chancellor Terence R. Flotte. "We are incredibly pleased—but not at all surprised—that Dr. Zamore joins the HHMI ranks."

Vitoe: News and Notes



Victor Ambros, PhD, is a central figure in RNA biology for his discovery and continuing work with microRNAs, revealing a deeper understanding of complex biological processes.

UMass Medical School Professor of Molecular Medicine Victor R. Ambros, PhD, spent a busy week in April receiving two prestigious scientific accolades—the Canadian government's 2008 Gairdner International Award and the Benjamin Franklin Medal in Life Sciences—for his work in identifying microRNAs, the short, single-stranded RNA molecules that have been found to

Researcher Wins 2008 Gairdner and Franklin Awards

play a critical role in gene regulation. Ambros shared both honors with Gary Ruvkun, PhD, of Harvard Medical School; the Franklin Medal was also shared with David Baulcombe, PhD, of the Sainsbury Laboratory in England.

"It's a wonderful honor and, indeed, a very pleasant surprise to receive these awards, and I am terribly grateful to the Gairdner Foundation and the Franklin Institute for the recognition," said Ambros. "These awards reflect my good fortune to have worked with fantastic mentors and wonderful students and collaborators. But more broadly, I see the awards as recognizing the vital importance of our continued support of basic research."

One of the most highly regarded international awards in medical research,

The Gairdner International Award, often called the "Canadian Nobel," was established in 1957 and is nationally sponsored by the Canadian Institutes of Health Research to recognize "outstanding contributions by medical scientists worldwide whose work will significantly improve the quality of life." The Franklin Institute Awards are given for "outstanding achievements that have directly and positively impacted and enhanced the quality of human life and deepened our understanding of the universe."

"Victor is an integral part of a remarkable group of RNA scientists here at UMMS who together are advancing our understanding of biological mechanisms and furthering the field of biomedical science," said Michael F. Collins, MD, interim chancellor.

New Degree Programs Address Educational Needs

The Graduate School of Biomedical Science (GSBS) and the Graduate School of Nursing (GSN) will introduce new degree programs in the fall of 2008. The new programs will support two significant expansions of the UMass Medical School educational mission.

The GSN Doctor of Nursing Practice (DNP) program is designed to build upon the successful master of science in nursing degree already offered by the school. As with other recent GSN initiatives, the DNP was developed in part as a response to the nursing

shortage. The doctoral program will prepare advanced practice nurses for leadership roles in clinical and academic settings through educational preparation in health systems leadership, research translation and advanced clinical knowledge. The curriculum includes core and specialty courses, a residency practicum and a capstone project, as well as a focus on collaboration to improve the quality of care for patients in hospitals and community-based settings.

The GSBS Master of Science in Clinical Investigation (MSCI) degree supports

UMass Medical School's mission of accelerating translation of scientific discoveries to clinical treatments and is also intended to address growing national concerns over the shortage of trained clinical and translational researchers. The program will include a two-year master's program, as well as a one-year certificate of advanced study in clinical investigation, both designed to prepare MDs, DNPs and PhDs to quickly transition to a career in clinical research. The master's program includes two tracks: population-based clinical research and bench-to-bedside translational research.



The UMass Medical School and UMass Memorial Medical Center communities marked the first day of tobacco-free campus environments on May 27, 2008. The institutions currently offer free support services to employees, faculty, physicians, students and volunteers who wish to quit smoking, as well as support groups for those who refrain from smoking while on campus. Patients are supported by a Tobacco Consultation Service, and visitors are encouraged to contact the Department of Public Health's Ouitworks program.



Patricia Franklin, MD, MBA, MPH, is the second Joy McCann Professor at UMMS, recognized for her leadership in medicine, research and service.

In 2004, UMass Medical School was selected by the Joy McCann Foundation to receive a \$500,000 gift to establish the Joy McCann Professorship for Women in Medicine. The endowment was created to reward a new female faculty member every three years who has demonstrated leadership in medical education, research, patient care and community service.

Joy McCann Professor Appointed

Linda F. Weinreb, MD, professor of family medicine & community health, was invested as the first incumbent of the Joy McCann Professorship for Women in Medicine in 2005. In May, Patricia Franklin, MD, MBA, MPH, became the second Joy McCann Professor. Dr. Franklin, an associate professor of orthopedics & physical rehabilitation and family medicine & community health, has served as a role model to medical students, faculty members and residents. Since joining UMMS in 2004, Franklin has successfully mentored junior faculty and residents, while developing and directing a clinical and outcomes research program for the Department of Orthopedics & Physical Rehabilitation.

Franklin has secured a \$1.7 million
National Institutes of Health grant to
evaluate strategies to improve patient
function after orthopedic surgery and
two Robert Wood Johnson Foundation
eHealth grants to test electronic decision
support tools for adults with advanced

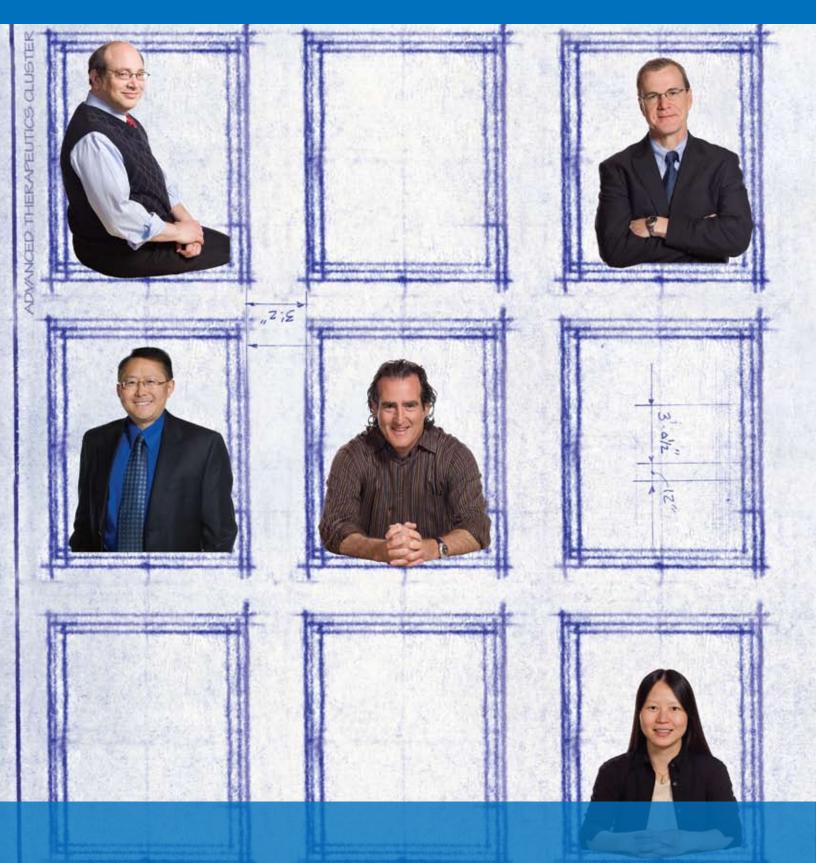
osteoarthritis. She has also developed patient data registries designed and integrated with the clinical information system to support outcomes research in knee and hip osteoarthritis, degenerative spine disease and carpal tunnel disease. Along with David C. Ayers, MD, the *Arthur M. Pappas, MD, Chair in Orthopedics* and professor of orthopedics & physical rehabilitation, Franklin received The Knee Society's 2008 Chitranjan Ranawat Award for their research, which focuses on total knee replacement and patient traits that may affect functional outcomes after surgery.

With Rosemary Theroux, PhD, assistant professor of nursing, Franklin co-chairs the UMMS Women's Faculty Committee and has played a key role in the Women's Leadership Committee, which has proposed three strategic initiatives to advance women's careers at UMMS and UMass Memorial Health Care.

Walk to Cure Cancer in 10th Year

Robert Haynes, president of the Massachusetts AFL-CIO, and its members joined forces ten years ago with Dottie Manning and UMass Medical School to establish the Walk to Cure Cancer. Manning lost both her 21-year-old son and her husband to cancer, and the event inspired by them has since grown into the largest fundraiser in Central Massachusetts. In its first decade, the Walk to Cure Cancer raised over \$5 million to support research and laboratory facilities at UMMS, and this year's event—with its goal of \$1 million—will take place on September 28, 2008, at the UMMS campus. Visit www.walktocurecancer.com for information.





Hope for Healing

UMass Medical School builds the Advanced Therapeutics Cluster and with it, a promising future of new disease treatments.



Imagine generating new insulin-producing cells to treat diabetes; or stopping the toxic proteins that cause Alzheimer's, then growing replacement nerve cells to reclaim memory and restore cognitive function. Cancer could be attacked from within by robbing tumor cells of their deadly ability to multiply unchecked. Stem cells could be grown into cardiac cells to repair a damaged heart. Cystic fibrosis, hemophilia and other diseases could be cured by adding back working copies of the missing genes whose absence gave rise to the illness.

These are the kinds of new therapies envisioned by UMass Medical School, which is embarking on a major new initiative that will dramatically expand the school's research efforts and focus some of the best minds in the world on creating new therapies for many debilitating diseases.

The initiative is called the Advanced Therapeutics Cluster (ATC), and its mission is to apply the knowledge flowing from the latest biomedical discoveries, develop new ways to treat disease, and then drive those therapies into clinical trials.

"It is very clear that now is the time to translate the incredible basic science discoveries we've seen in the last few years into new treatments for patients," said Terence R. Flotte, MD, dean of the School of Medicine and executive deputy chancellor and provost at UMMS. "UMass Medical School is now poised to play a leadership role in translational research in the United States and around the world."

The ATC will have three integrated research programs: the Gene Therapy Center, RNA interference (RNAi) Therapeutics Institute and Center for Stem Cell Biology and Regenerative Medicine. The components of the ATC will work closely together and in collaboration with the existing basic science and clinical programs at the Medical School to attack old diseases in new ways, aiming for treatments that until recently were the stuff of science fiction, not clinical care.

"What I hope will come from this are cures for diseases like type 1 diabetes, which afflicts my daughter," said Nobel Laureate Craig C. Mello, PhD, Howard Hughes Medical Institute Investigator, *Blais University Chair in Molecular Medicine* and professor of molecular medicine and cell biology, who helped conceptualize and launch the ATC. "Right now, people are suffering with diseases that could be treated, at least in principle, by the advanced therapeutics we're contemplating. So I feel that we have to do this—it's like a moral obligation to intervene when you see something wrong and you have an opportunity to help."

Dr. Mello will not direct the RNAi Therapeutics Institute at the ATC; the Medical School is currently recruiting for that position. Mello will stay focused on basic science research, but like many of his colleagues, he expects to collaborate closely with the faculty at the ATC. "The Medical School and the clinical system are all one machine," Mello said. "I hope the basic science discoveries will feed the new translational research, and the

insights of clinicians will help us focus on disease processes and direct the clinical trials. It's all one integrated effort."

When complete, the ATC will include some 80 new faculty researchers with 700 scientific and support staff, most working in a new 500,000-square-foot facility to be built on the Worcester campus. "UMass Medical School has established itself as one of the world's leading research institutions. I am confident that it is now poised to open a new chapter in its history, a chapter where it will lead the way in converting pioneering discoveries such as RNAi into important new therapies for diseases like cancer, diabetes, ALS and many others," said University of Massachusetts President Jack Wilson.

Convergence of thought

The idea for a new therapeutics program at UMMS began to percolate around the time Mello received the 2006 Nobel Prize for his co-discovery of RNAi, which is a natural mechanism for blocking gene activity. Beyond its revolutionary impact on biomedical research, scientists soon realized that if the tools of RNAi could be used to shut down disease-causing genes, then RNAi could create a new class of drugs. "The beauty of RNAi is that there isn't a disease you can name where it doesn't have some application," said John L. Sullivan, MD, vice provost for research and professor of pediatrics, molecular medicine, molecular genetics & microbiology and pathology. "We have the best concentration of RNA biologists in the country right here at UMass Medical School, so as we began to grow our clinical and translational research programs, we wanted to take advantage of the RNAi discovery and see if we could create new drugs with that technology."

Events in early 2007, however, prompted UMMS leadership to broaden their vision for an RNAi therapeutics program into something more comprehensive. First, newly inaugurated Governor Deval Patrick called for expanding embryonic stem cell research in Massachusetts. Patrick also proposed the ambitious Life Sciences Initiative, a 10-year \$1 billion program to support biomedical research and product development in

the commonwealth. (At press time, the life sciences proposal had just been signed into law by the governor.) Then, Dr. Flotte came to UMMS, bringing his internationally renowned research program in gene therapy. With those developments, the seeds of the ATC began to germinate. "It was a natural progression to bring the elements of gene therapy, stem cells and RNAi into one therapeutics cluster, because they fit together beautifully," Dr. Sullivan said.

construct a building, workers with specialized skills must read the appropriate pages of the blueprints and then do the tasks specified by those instructions. Similarly, in human development biological tools read the genes' instructions then assemble specific materials to make the cells and tissues that build and regulate the body.

Genes are read by molecules of RNA which carry instructions to the parts of the cell that assemble proteins, the workforce of

"When you have an institution with the depth of intellectual and scientific resources that we have, and when these discoveries offer so much hope, then the only responsible way to behave is to take advantage of this moment and try to make a global impact on patients."

-Michael F. Collins, MD

The three elements of the ATC are interrelated because they all function at the genetic level of biology, and have different but complementary capabilities for targeting the underlying causes of disease. "Diseases often have complex roots, not just a single genetic mutation. With the Advanced Therapeutics Cluster, we will have the ability to mix and match these technologies and apply them as appropriate for a particular disease," Flotte said.

Digging deeper

The human genome contains three-billion bits of information, written in the chemical code of DNA. The genome is often called the "blueprint" of life, and that analogy makes sense. Like a set of blueprints that contains the instructions for building, say, a research facility, the human genome has all the information required for a person to develop from a single cell. The genome is divided up into sections called genes, which store information for particular functions, much like blueprints contain individual pages focused on specific elements of a building.

Also like blueprints, the genome doesn't actually do any building—it just stores information and instructions. To

human development. To do their jobs, proteins are specialized in shape and composition. If there is a mistake or "mutation" on a gene, then the RNA message will carry bad instructions and the resulting protein won't work properly and may cause disease. Sometimes a gene is completely missing, or is so badly damaged that it can't be read at all, so no RNA message or protein is created, again potentially causing disease.

Until recently, the details of the information in the human genome were unknown and clinical medicine had no ability to intervene therapeutically at the gene or RNA-message level. Over the past ten years, however, the sequencing of the human genome, the isolation of human embryonic stem cells and the discovery of RNAi, which allows scientists to manipulate any gene they wish, has so dramatically expanded the scope of biomedical research that the idea of an initiative like the ATC came into focus. "What we are looking at today, I think, can appropriately be characterized as an explosion in technology and an explosion in opportunity," said Gary S. Stein, PhD, the Gerald L. Haidak, MD, and Zelda S. Haidak Professor of Cell Biology and professor and chair of cell biology, who directs the ATC's Center for Stem Cell Biology and Regenerative Medicine

on an interim basis while he leads the search for a permanent director. "We now have the opportunity to develop new ways to target human diseases that we have been minimally successful at, or in some cases unsuccessful at targeting, using traditional drug discovery processes."

If a disease is caused by a protein that should not be produced, or one that is produced in excessive amounts, then an RNAi-based drug could intercept the flawed message, prevent protein production and cure the disease. If a severe mutation erases a gene's information and a disease arises, then gene therapy tools could insert a good copy of that gene back into the body and fix the problem. If part of the body is damaged by trauma or disease, then stem cells could be manipulated (using RNAi, gene therapy or other techniques) to re-grow the damaged tissues, perhaps even a whole organ, and restore the lost function.

All of these therapies are now theoretically possible, but to advance from proof-of-concept studies at the lab bench to new treatments ready for people will require an enormous amount of translational research and pre-clinical testing. "We all have to work together as a research community to get this done," said Guangping Gao, PhD, a pioneer in gene therapy technology recently recruited from the University of Pennsylvania to be the founding director of the ATC's Gene Therapy Center.

Building for the future

The new research facility for the ATC will cost approximately \$449 million and will be built on the northwest corner of the

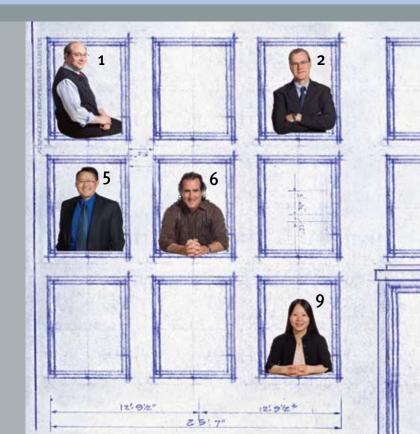
Worcester campus. The facility is scheduled to open by 2012, but the work of the ATC has already begun. Dr. Gao arrived on campus in March and directs the Gene Therapy Center at Biotech Five.

The ATC's new stem cell bank and registry is being built at the UMMS Shrewsbury Campus. And UMMS leadership is now working aggressively to recruit new faculty researchers and support staff to the ATC.

"We already have, and we will continue to recruit, outstanding clinician-scientists to our campus," said Michael F. Collins, MD, interim chancellor at UMMS and senior vice president for the Health Sciences for the University of Massachusetts. "There is a tremendous desire among investigators to come to Worcester—they know what's happening at this medical school and they want to be part of this community. The big challenge for us is to identify research space, which is why we are working so hard on this new facility."

In addition to his leadership role at the Medical School, Dr. Collins also oversees health sciences for the five-campus UMass system. He sees many opportunities for the work of the ATC to connect with research teams across the university, especially in the areas of nanotechnology, stem cell biology, medical device development and health care policy. "There will definitely be interactions with other UMass campuses," Dr. Collins said. "We're stronger through collaborative efforts then we would ever be as separate institutions. My role will be to bring people together, facilitate their conversations, then enable the scientists to do what they do best."

Although the Advanced Therapeutics Cluster is still in the "blueprint" stage, UMMS leaders and scientists are already contributing their vision and expertise to ensure its potential for discoveries related to RNAi therapeutics, stem cell research and gene therapy: Top row, left to right:
(1) Neil Aronin, MD, professor of medicine, cell biology and physiology;
(2) School of Medicine Dean Terry Flotte, MD, professor of pediatrics and molecular genetics & microbiology;
(3) Phillip Zamore, PhD, Howard Hughes Medical Institute (HHMI) Investigator and professor of biochemistry & molecular pharmacology;
(4) Professor of Molecular Medicine Victor Ambros, PhD; middle row:
(5) Guangping Gao, PhD, professor of molecular genetics & microbiology;
(6) Nobel Laureate Craig Mello, PhD, HHMI Investigator and professor of molecular medicine;
(7) Professor of Biochemistry & Molecular Pharmacology and HHMI Investigator Melissa Moore, PhD;
(8) Gary Stein, PhD, the Gerald L. Haidak, MD, and Zelda S. Haidak Professor of Cell Biology and professor and chair of cell biology;
bottom row:
(9) Professor of Biochemistry & Molecular Pharmacology
Zhiping Weng, PhD;
(10) interim Chancellor and Senior Vice President for the Health Sciences Michael F. Collins;
(11) newly appointed Chair of Neurology Robert Brown, MD, DPhil



While much of the current work around the ATC is focused on budgets, programs, buildings and technology, Collins said he believes the driving motivation for the initiative comes down to a most important pursuit: healing patients. "I believe we have an incredible opportunity, and responsibility, presented to us," Collins said. "When you have an institution with the depth of intellectual and scientific resources that we have, and when these discoveries offer so much hope, then the only responsible way to behave is to take advantage of this moment and try to make a global impact on patients. We are compelled to act."



Targeted for Cure:

An Advanced Therapeutics Approach to Lung Disease

As many as 12 million Americans have a genetic defect that can lead to lung disease, though its name is not widely known. It's called alpha-1 antitrypsin (AAT) deficiency, and it is often the underlying cause of emphysema and chronic obstructive pulmonary disease (COPD). "This is a much more important disease than people realize," said Terence R. Flotte, MD, executive deputy chancellor and provost and dean of the School of Medicine, who is a pioneer in gene therapy research aimed at diseases like AAT deficiency. "This is one of only a few single-gene disorders for which we have a strong trajectory toward a clinical product."

AAT is a protein created in the liver, which then travels through the blood stream to the lungs where it helps maintain healthy function. If there is a mistake on the gene that directs production of AAT, then the protein will not form properly and it can get stuck inside the liver cells.

Without enough AAT, lung tissues are damaged by other naturally occurring proteins, which are usually kept in-check by proper levels of AAT. Furthermore, some people afflicted with this disease also suffer severe liver damage from the build-up of the malformed proteins. "This is a case where we want to add back gene function, to create the beneficial protein for the lungs, and also down-regulate gene function in the liver, to block production of the toxic protein," Dr. Flotte said. "It's exactly the type of strategy that fits into the Advanced Therapeutics Cluster."

Flotte is the principal investigator of an early stage clinical trial that may help patients with the lung manifestation of AAT deficiency by putting a functional copy of the gene into their muscle tissue, where it goes to work pumping out properly formed proteins to protect the lungs. In May, Flotte was awarded a grant from the Alpha-1 Foundation for a research project to combine gene therapy and RNAi therapy to treat both the lung and liver manifestations of the disease—work to be done in collaboration with Phillip D. Zamore, PhD, Howard Hughes Medical Institute Investigator, the *Gretchen Stone Cook Chair in Biomedical Sciences* and professor of biochemistry & molecular pharmacology, and Christian P. Mueller, MD, assistant professor of anesthesiology.

"It is very clear to me that if we can prove that gene therapy is safe and effective for a disease like AAT deficiency, then it would serve as a spring board to apply the technology to many other diseases, for which we have no other effective treatments," Flotte said.



Crisis as Catalyst

How UMass Medical School's clinical partner, UMass Memorial Medical Center, revitalized its cardiac surgery program.



Medical professionals face a variety of

emergencies daily and particularly with critical cases, a positive outcome hinges on a swift response. In September 2005, UMass Memorial Medical Center faced such an emergency, not involving an individual, however, but its cardiac surgery program on the University Campus in Worcester. The Massachusetts Department of Public Health (DPH) had released its report on statewide adjusted mortality rates by hospital for isolated coronary artery bypass graft (CABG) surgeries performed in 2003. The UMass Memorial rate was the highest in the state. An unprecedented voluntary suspension of the program ensued, as did extensive media coverage, a painful decrease in staff morale and significant financial losses.

"Statistically, our program was right in line with national measures. But compared to the state average, which was superior to the national norms, we were really stumbling," said Walter H. Ettinger Jr., MD, MBA, the Medical Center's president. "Needless to say, the DPH's report was an alarming wake-up call."

But what could have been the program's demise was instead a catalyst for changes that drastically improved cardiac surgical outcomes, resulting not only in the dramatic reinvigoration of the staff and the program's successful reopening in just six weeks, but also the receipt of the Society of Thoracic Surgeons' highest ranking for cardiac surgery in January 2008. The following is a chronological account of how this was achieved, as recalled by the key players in the turnaround.

September 16, 2005 Paul Dreyer, PhD, director of the DPH's Division of Health Care Quality, phones Dr. Ettinger to inform him of the hospital's outlier status regarding riskadjusted cardiac surgery mortality and expresses concern about the quality of care provided by the program. "He [Dreyer] wanted to know what our data was for year 2004 and the first nine months of 2005 in terms of mortality," recalled Ettinger. That data indicated an unadjusted mortality rate of approximately four percent for the time frame; the statewide rate was approximately two percent.

Convening an emergency meeting of top hospital administration, Ettinger and others decide to close the program to elective procedures and make a public commitment to correct its problems. "We felt the right thing to do, and the DPH agreed, was to suspend doing elective cardiac surgery—but not catheterizations or emergency cardiac surgery—and bring in outside experts to evaluate the program," said Ettinger.

That weekend, Robert Phillips, MD, PhD, a nationally recognized cardiologist and expert in hypertension and

cardiovascular disease and the hospital's incoming director of its Heart and Vascular Center of Excellence, is informed of these developments.

Week of September 20, 2005 The program's suspension is announced and reported in bruising local and regional media reports. A panel of outside experts—four cardiac surgeons and one cardiac anesthesiologist—arrive and begin interviewing physicians, staff and senior management; reviewing procedures, protocols and performance improvement initiatives; and examining all 2003-2005 patient mortality records and cardiac catheterization films of the cardiac surgery program. Simultaneously, hospital administration assembles an executive leadership team to oversee improvements that will be made based on the results of this external evaluation.

Early October 2005 The panel submits a written report to the hospital and the DPH indicating that while "no one 'smoking gun' was responsible for the majority of the divergent results," there were many red flags—including lack of effective cardiac leadership and elimination of dedicated ICU and telemetry floor areas for cardiac surgery patients—that collectively became the basis for inferior performance. Sixty-eight recommendations are made for improvements, including more careful consideration of preoperative factors that could impact outcomes; more effective communication and standardized procedures; a nursing structure that re-established unity between postoperative care teams and surgical teams; and formal monitoring protocols.

Dr. Phillips joins the Heart and Vascular Center of Excellence and the executive leadership team in developing an improvement plan. "We took the recommendations they gave us, plus some things we already started doing ourselves, and put together a work group and a timeline to implement those changes," said Ettinger. More than 40 physicians and staff participate.

As the report also indicates the need for strong and effective leadership in the cardiac surgery division, UMass Memorial accelerates its search for a replacement for the prior chief, who resigned some months earlier.

October 31, 2005 Having implemented aggressive corrective actions, and with DPH approval, the program reopens after a six-week hiatus and begins taking low-risk elective cases. All aspects of care, from pre-operative evaluation to post-discharge care, have been upgraded.

UMass Memorial contracts with Massachusetts General

Hospital to provide two cardiac surgeons onsite for five months to oversee patient care and provide daily guidance, as recommended by the review panel. Indicating a positive ripple effect of the self-evaluation and the resulting improvement in cardiac surgery, the hospital also performs a comprehensive internal assessment of its overall approach to patient care.

January 2006 UMass Medical Center's new \$129 million Lakeside Wing opens, expanding the emergency department, adding new surgical suites and intensive care beds, and updating radiology services. Phillips, Jay Cyr, RN, vice president of the Heart and Vascular Center, and one of the surgical consultants from Mass General lobby successfully to have the intensive care unit on the wing's third floor, called Lakeside III, dedicated to cardiac surgical and cardiology patients.

Following an extensive search, Lynn Harrison, MD, FACS, a nationally recognized cardiac surgeon, is appointed chief of the Division of Cardiac Surgery.

The hospital's broadened internal assessment results in the formation of the Clinical Performance Council (CPC) to concentrate on patient safety and quality of care by examining data measuring clinical performance and assuring accountability for improvement projects. The Department of Quality and Patient Safety is also restructured to enhance its support of clinical departments and programs; its resources are centralized and the number of full-time staff is increased by 50 percent.

Early 2006 Dr. Harrison reviews patient satisfaction surveys generated by Press Ganey, a nationally recognized source for health care quality information. The UMass Memorial Medical Center telemetry unit is ranked at the bottom of the clinical

enterprise in patient satisfaction. The unit is populated by 11 different medical and surgical services, including cardiac services.

Harrison urges Andrew Sussman, MD, MBA, executive vice president and chief operating officer for UMass Memorial, to institute cohorting of patients on the University Campus, as it does on the Memorial Campus. Cohorting involves concentrating patients with related pathologies and treatment programs within a particular medical discipline in a single unit. On the Memorial Campus, this method has garnered a high patient satisfaction ranking. "I told Dr. Sussman that we would not succeed in elevating our position in the estimation of our patients and their families until we got back to cohorting patients," said Harrison.

Despite facing a potential nurses' strike and a significant first quarter deficit, Dr. Sussman agrees. "The Press Ganey scores went up like a rocket, putting us at the top by that summer," said Harrison.

Spring/Summer 2006 Improvements continue as program staff members collaborate on drafting and implementing uniform protocols for managing a variety of post-operative conditions, such as atrial fibrillation, to further increase efficiency and quality of care.

Stanley Tam, MD, a specialist in minimally invasive cardiothoracic surgery, who received his medical degree and completed his internship and residency at UMMS, joins the division. "Dr. Tam was the only outlier in Massachusetts in 2005 on the *good* side of the line," said Harrison. "Attracting him was a significant coup."

"I value the history I have here, and it meant a great deal to me to be able to return to the school and medical center that gave me so much," said Tam.

"The strategies we developed to ascertain our problems...have served as models for quality improvement and sustainability within the organization."

-Robert Phillins MD PhD



Melinda Darrigo, NP, CCRN-CSC, is hired as a clinical coordinator for the unit to oversee management of all aspects of patient care within the Division of Cardiac Surgery. "My role is tiered including administrative responsibilities, clinical responsibilities as needed, supporting research and providing education," said Darrigo. "I help our patients and families get what they need, from the initial pre-surgical consultation through the patient's discharge post surgery."

Despite the reopening of a completely revamped program, area cardiologists are hesitant to refer patients to UMass Memorial for surgery. Prior to the suspension, UMass Memorial surgeons performed an average of 41 cardiac surgeries per month. By the summer following the reopening, surgeons are performing an average of 20 per month. Harrison, Phillips, Cyr, O. Nsidinanya Okike, MD, a surgeon with the program since the early 1980s, and Louis M. Messina, MD, chief of the Division of Vascular Surgery, visit cardiology practices throughout the region in an effort to win back confidence and increase referrals. "It was basically a *mea culpa*," said Harrison. "We acknowledged the reasons for closing the program, detailed the steps taken to ensure the safety of future patients, and showed them the results of our efforts that, by summer, were starting to look very good."

Fall 2006 The number of isolated cardiac surgeries increases to 35 to 40 per month; the mortality rate indicates marked improvement. "By the end of that calendar year, we had gone from a mortality rate for coronary artery bypass grafting (CABG) of almost 4.5 percent to 0.4 percent—a ten-fold reduction," said Harrison. However, the program continues to refer non-emergent, complex valve/coronary procedures and other highrisk cases to other hospitals until late 2006.

January 2007 The Lakeside III ICU dedicated for cardiac surgical and cardiology patients opens. Nursing staffs for both disciplines have been cross trained and provide care for all patients within this unit.

March 2007 The unadjusted mortality rate for 322 CABG cases performed within 18 months of resuming elective surgery is 0.6 percent. The expected mortality rate calculated using the European System for Cardiac Operative Risk Evaluation (EuroSCORE) is 4 percent.

June 2007 The ventricular assist device (VAD) program is instituted. The VAD—a temporary mechanical pump that assists the patient's heart in pumping sufficient blood throughout the body—is used to support recovery for complex patients and for patients awaiting heart transplantation.

November 2007 Board-certified cardiothoracic surgeon Joseph Arcidi, MD, joins the Division of Cardiac Surgery. According to Harrison, a team is now in place "that can do just about anything that a patient would require short of cardiac transplantation." The mortality rate for the program remains under one percent.

January 2008 The number of cardiac surgeries increases to 50 per month. The Society of Thoracic Surgeons (STS) awards the UMass Memorial cardiac surgery program its highest designation—three stars—ranking the hospital among the top 12 percent nationwide. The STS decision is based on an analysis of national data covering the period from July 1, 2006 through June 30, 2007. UMass Memorial Medical



Daily rounds on surgical patients being cared for on Lakeside III take an interdisciplinary approach and include Drs. Tam, Okike, Harrison (pictured left to right on page 12) and Arcidi, Melinda Darrigo, NP (left), nurses, physician assistants, residents, a clinical pharmacist and a respiratory specialist. Radiographic films are discussed first, then stats for each patient on activity, heart rate, blood pressure and medications. The team also meets with each patient to discuss concerns, which helps determine a plan of care for the day.

Center is also designated a UnitedHealth Premium Cardiac Specialty Center for 2007 to 2009 for meeting or exceeding extensive quality criteria in cardiac surgery, cardiac rhythm management and cardiac care (interventional and emergency services), based on nationally recognized medical standards.

February 2008 The American Heart Association notifies Phillips that it has accepted his proposal to present a symposium at the November 2008 national meeting of the American Heart Association on the effects of public reporting with DPH Director Dreyer. Ettinger, Phillips and Harrison et al's paper, "When Things Go Wrong: The Impact of Being a Statistical Outlier in Publicly Reported Coronary Artery Bypass Graft Surgery Mortality Data," is published in the *American Journal of Medical Quality*.

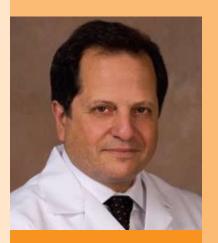
Keys to success Several factors contributed to the successful reconstruction of the program, not the least of which was accepting accountability at the start. "I think there was a lot of sadness and shame about what had happened, but we knew that to achieve an outstanding and consistent level of quality and safety, we had to be honest with ourselves," said Ettinger. In addition, hospital leadership made a commitment to transparency during the revitalization process and beyond. "The strategies we developed to ascertain our problems, identify them to the community, and get input from colleagues within and outside the institution have served as models for quality improvement and sustainability within the organization," said Phillips.

The objectivity provided by the outside review panel proved to be particularly beneficial. "Having people look at the entire program from a different perspective created an atmosphere of neutrality," said Dr. Okike. Extensive institutional support also played a vital role. "The hospital really stepped up, providing the infrastructure and personnel so we could accomplish the recommendations made by the reviewers," said Okike.

Ultimately, the hospital's response to the crisis served as a testament to the value of public reporting of mortality rates. "We had the opportunity to assess every aspect of our care process and design a program that's second to none," said Phillips. "That's one of the legacies of this—that quality was center stage."

Elevating the Level of Care: Heart and Vascular Center of Excellence

The Heart and Vascular Center of Excellence is a centralized program, coordinating the activities of the clinical and research teams providing care in congestive heart failure, electrophysiology, ischemic heart disease,



Robert Phillips, MD, PhD

stroke services,
vascular medicine and
surgery, and cardiac
surgery—and thereby
supporting the quality
and performance
improvements made
within the cardiac
surgery program. "One
of the review panel's
recommendations was to
improve communication

among the surgical team and with other disciplines," said the center's medical director, Robert Phillips, MD, PhD. "What became clear from this analysis was that working in isolation can lead to issues of suboptimal quality."

"In many ways the Center of Excellence provides a neutral third party able to identify and mediate issues that arise between departments, and then develop new strategies and programs that elevate the level of patient care," Phillips explained.

Since its inception, the center has made enormous progress toward development of integrated programs, such as the Coronary Artery Bypass Graft (CABG) surgery program, with new ones always under development. "Having input from cardiologists has helped make the CABG program a phenomenal one that is taking on the hardest cases it can and doing a great job with them," said Phillips.



Bearing the Battle

UMass Medical School and the U.S. Department of Veterans Affairs expand their collaboration to care for and learn from injured veterans.

By Sandra L. Gray

The United States Department of Veterans Affairs

(VA) provides comprehensive health care services to thousands of American military veterans at over 1,400 locations nationwide. Through affiliations with medical schools and universities, the VA has become the largest provider of health care training in the United States, with more than 90,000 students receiving clinical training in VA facilities each year. On December 31, 2007, UMass Medical School expanded its own long-established association with the agency by signing a new academic affiliation agreement with the Edith Nourse Rogers Memorial VA Hospital (VAMC Bedford) in Bedford, Massachusetts.

With complementary strengths and interests, particularly in psychiatry and geriatrics, practitioners and leaders at UMMS and VAMC Bedford are enthusiastic about the new affiliation. "Medical education, research and patient care are integral to the missions of both the VA and UMass Medical School," said VA New England Healthcare System Director Jeannette Chirico-Post, MD, at the official ceremony marking the agreement in March. "By forging a close relationship with UMMS, VAMC Bedford plays a leadership role in shaping the education of future health care professionals."

"Our partnership with the VA represents a tremendous opportunity for our students and residents to deepen their understanding of the specific health care needs of our veterans," said UMMS interim Chancellor Michael F. Collins. "Helping to care for these patients will expand their experience in critical areas of medicine."

The VA is particularly concerned with understanding and addressing the multiple and interrelated health problems veterans experience as a result of time spent at war, including psychiatric disorders. Many veterans—comprising an intergenerational population of elderly World War II and Korean vets, aging Vietnam vets and today's youngest combatants returning from Iraq and Afghanistan—require treatment for traumatic brain injuries, post-traumatic stress disorder, addictions to prescription and illicit drugs, and co-occurring mental illness and addiction. Related problems include homelessness and poor overall health. All are issues that dovetail with UMMS strengths in primary care, psychiatry and health care for the underserved.

"Although this is a campus-wide initiative, with any department able to partake in training and research opportunities, special thanks go to the leadership of the Department of Psychiatry and in particular, Chair of Psychiatry Douglas Ziedonis, who has a long history of collaboration with the VA," Dr. Collins said. Dr. Ziedonis, who served a component of his own residency at a VA medical center, played an instrumental role in securing the new agreement with VAMC Bedford, as well as increasing the

Department of Psychiatry presence at the VA Boston Healthcare System's (VA Boston) community-based outpatient clinic in Worcester, where medicine and now psychiatry faculty and residents work and learn, expanding on the academic affiliation UMMS has had with VA Boston for fifteen years. (VAMC Bedford and VA Boston are two of eight facilities in the VA New England Healthcare System, which comprises eight medical centers and 39 community-based outpatient clinics throughout the six New England states.) "The Department of Psychiatry is committed to improving the mental health and wellness of the citizens of Massachusetts and the veteran population is very important to include in our efforts," Ziedonis explained.

Through the affiliation, UMMS researchers will have access to extensive data housed on the VA's integrated health information technology system, the largest in the nation. In addition, the

David Smelson, PsyD (right), professor and vice chair of Clinical Research for the UMMS Department of Psychiatry, also serves as a director for the VA, a joint appointment that benefits both collaborators. Middle: Michael F. Collins, MD; Douglas Ziedonis, MD, MPH; Congressmen James McGovern and John Tierney; and Deborah DeMarco, MD, at the signing ceremony. Far right, memorabilia decorates the hallways of the Worcester VA clinic, reminders of battles fought then and now. Page 17: World War II veteran Frank Harvey is a patient of Tatyana Shteinlukht, MD, PhD (center), and the fourth-year psychiatry resident she is training, Margaret Balya (right).



Department of Psychiatry's Center for Mental Health Services
Research is compatible with VAMC Bedford's two internationally
acclaimed centers: the Center for Health Quality, Outcomes, and
Economics Research, established in 1990 as a multidisciplinary
health services research center, and the Geriatric Research,
Education and Clinical Center, which enhances the care
of aged veterans through basic and applied research. And,
the collaboration offers UMMS the potential to disseminate
translational discoveries nationwide through the VA's large
clinical network—with the prevalence of traumatic brain injuries
among veterans of the Iraq and Afghanistan conflicts making
neuroimaging a burgeoning field of inquiry for the VA, UMMS
investigators at the Center for Comparative Neuroimaging will
expand their work with numerous qualified research subjects.

"In turn, the VA is gaining the collective knowledge found at UMass Medical School, its strong Department of Psychiatry and its focus on primary care," said David Smelson, PsyD, director of translational research for VAMC Bedford and director of dual diagnosis for the VA New England Healthcare System. Appointed professor and vice chair of Clinical Research for the UMMS Department of Psychiatry, Dr. Smelson personifies the VA's support of joint faculty appointments to encourage collaboration with academic affiliates; Smelson and Ziedonis first joined forces on behalf of the VA in New Jersey, where they shared \$5.5 million in VA funding.

Ziedonis and Smelson detailed VA projects UMMS faculty are already involved in:

• Eric G. Smith, MD, assistant professor of psychiatry, is treating VAMC Bedford patients in person and using telepsychiatry with patients at the community-based outpatient clinics in rural areas.

- Smelson is applying for funding to replicate the SAMHSA program that he and Ziedonis developed in New Jersey for veterans with co-occurring mental health and substance abuse problems.
- Linda F. Weinreb, MD, professor of family medicine & community health, and an expert in health care for homeless individuals and families, is responding with Smelson to another SAMHSA effort addressing care for homeless veterans, who account for one-third of the homeless population.

In addition to placements for psychiatry residents at VA inpatient and outpatient facilities, UMMS strength in primary care coupled with the VA's model of integrated care at its community-based clinics offer educational opportunities for students and residents in family medicine & community health and other primary care and specialty disciplines. In her role as Associate Dean for Graduate Medical Education, Deborah



- Tatyana P. Shteinlukht, MD, PhD, assistant professor of psychiatry and director of geriatric psychiatry at the VA outpatient clinic in Worcester, conducts geriatric psychiatry teaching clinics with seven first-year psychiatry residents and a fourth-year psychiatry resident.
- To help the 40 percent of veterans living with mental illness, and the 75 percent of those with mental illness who smoke,
 Ziedonis and Smelson have secured funding to establish a
 Tobacco Quitline for Massachusetts veterans.
- William H. Fisher, PhD, professor of psychiatry, is responding
 to a Request for Proposal from the United States Substance
 Abuse and Mental Health Services Administration (SAMHSA)
 regarding programs for transitioning mentally ill veterans who
 have been incarcerated for non-violent criminal activity into
 community-based treatment.

DeMarco, MD, professor of medicine, is confident that the new UMMS/VA affiliation will be viewed positively by potential applicants to all the Medical School's residency programs.

Dr. DeMarco has provided clinical care and training at the VA clinic in Worcester for fifteen years. Residents in the Internal Medicine and Dermatology training programs and fellows in Rheumatology and Cardiology who experience longitudinal ambulatory clinical rotations learn the value of teamwork because each patient at the clinic is assigned a medical team. "The VA is far out in front on issues of patient safety and quality and has a state-of-the-art electronic medical record system," Dr. DeMarco said. Also valuable to UMMS students, residents and faculty who will have the privilege to serve them are the veterans themselves. "There is something unique about this patient population," DeMarco emphasized. "Vets view participation in medical education as another way to serve their country."

Vitge: Grants and Research

New and competitive renewal grants of \$100,000 or more are listed here according to department and funding sources.

BIOCHEMISTRY & MOLECULAR PHARMACOLOGY

The Leukemia and Lymphoma Society

Lucio H. Castilla, PhD, associate professor: Mechanisms of Cbfb-MYH11 Mediated Acute Myeloid Leukemia, one year, \$110,000; recommended for four more years, \$440,000

NARR-Autism Speaks

Alonzo H. Ross, PhD, professor: *Mutant Forms of PTEN Linked to Autism,* two years, \$120,000

National Institutes of Health

Zuoshang Xu, MD, PhD, professor: Reverse Genetics Using RNAi, one year, \$166,563; recommended for one more year, \$199,875

CELL BIOLOGY

National Center for Research Resources

Roger W. Craig, PhD, professor: *Scanning Electron Microscope for Core EM Facility,* one year, \$498,166

EMERGENCY MEDICINE

National Institutes of Health

Edward W. Boyer, MD, PhD, associate professor: *Opioids, Internet Pharmacies, Self-Treated Chronic Pain and HIV/AIDS,* one year, \$283,468; recommended for one more year, \$154,153

FAMILY MEDICINE & COMMUNITY HEALTH

Robert Wood Johnson Foundation

Roger S. Luckmann, MD, MPH, associate professor: Supporting Patient and Provider Management of Chronic Pain with Personal Digital Assistant Applications Linked to Personal Health Records, 18 months, \$300,000

MEDICINE

Centers for Disease Control and Prevention

Doreen B. Brettler, MD, professor: Prevention of the Complications of Bleeding Disorders, one year, \$379,257; recommended for four more years, \$1.52 million

National Institutes of Health

Ricardo Gazzinelli, DSc, DVM, professor: Innate Immune Receptors for Toxoplasma Gondii, one year, \$467,997; recommended for four more years, \$2.32 million

Hardy Kornfeld, MD, professor: Antimycobacterial Mechanisms of Apoptosis in the Lung, one year, \$406,250; recommended for four more years, \$1.63 million

Aldo A. Rossini, MD, the William and Doris Krupp Professor of Medicine: Adaptive Immunity in Virus-Induced Diabetes in BBDR Models, one year, \$438,750; recommended for four more years, \$1.77 million

Neal Silverman, PhD, associate professor: Activation of Insect Immunity by Gram-Negative Bactria, one year, \$349,344; recommended for five more years, \$1.57 million

MOLECULAR GENETICS & MICROBIOLOGY

National Institutes of Health

Rachel M. Gerstein, PhD, associate professor: Regulation of V(D)J Recombination in B Cell Development,

one year, \$346,875; recommended for four more years, \$1.3 million

Ronald M. Iorio, PhD, associate professor: *Glycoprotein Interactions in Paramyxovirus Fusion*, one year, \$213,166; recommended for four more years, \$1.3 million

Peter M. Pryciak, PhD, associate professor: *Yeast Pheromone Signal Transduction,* one year, \$335,676; recommended for three more years, \$996,700

MOLECULAR MEDICINE

Muscular Dystrophy Association, Inc.

Laxman D. Gangwani, PhD, research assistant professor: Function of the Zinc Finger Protein ZPR1 in Spinal Muscular Atrophy, one year, \$138,842; recommended for two more years, \$276,380

PEDIATRICS

National Institutes of Health

Katherine F. Ruiz de Luzuriaga, MD, professor: Western New England Maternal Pediatric Adolescent AIDS Clinical Trials Unit, one year, \$886,491; recommended for six more years, \$3.3 million

RADIOLOGY

U.S. Army Medical Research Acquisition Activity

Yi Wang, PhD, research assistant professor: *Improving Breast Cancer Diagnosis by Antisense Targeting,* one year, \$121,875 Vitoe: Alumni Report

As part of an overall plan to help address physician workforce shortages in the Commonwealth of Massachusetts and consistent with the recommendations of the Association of American Medical Colleges (AAMC) that medical schools should increase class sizes where possible, we have begun a process of increasing the incoming class size for the School of Medicine, beginning this fall. This decision is consistent with our own discussions during the strategic planning process we have completed with our clinical partner, UMass Memorial Health Care, where it became clear that UMass Medical School is uniquely positioned to help build the workforce of the future—a workforce that will meet the needs of the commonwealth and the Worcester community.

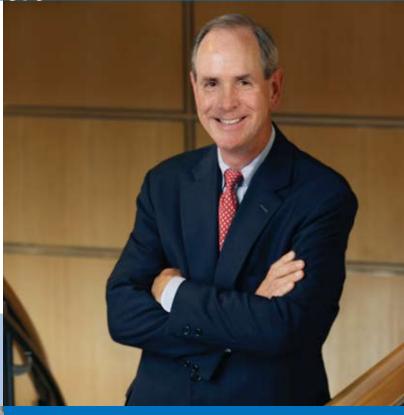
MESSAGE FROM MICHAEL F. COLLINS, MD



photo: John Gillooly

In order to expand enrollment in the School of Medicine, we have undertaken a process of examining the resource and facilities requirements necessary to accommodate incremental increases in class size over the next four to five years. As a first step, we will begin the expansion process this fall, admitting 110 in-state students (MD and MD/PhD) and up to four out-of-state students, for a total incoming class of 114.

This initial increase in class size is a significant commitment by UMMS to proactively address the anticipated health care needs of the commonwealth. In making this commitment, we are guided by the insight of national leadership from the AAMC and our own medical education leaders who, while recognizing the challenges of such an increase, also recognize the potential for even greater impact by a school created to be a key resource for the people of Massachusetts.



Graduates celebrated outside Worcester's Mechanics Hall on June 1, 2008, after Commencement ceremonies at which 220 degrees were awarded, including three honorary degrees. Interim Chancellor Michael F. Collins presented 104 doctor of medicine degrees, including five MD/PhD; 48 doctor of philosophy degrees; and, in nursing, 60 master of science degrees, two post-master's certificates and three doctor of philosophy degrees. Honorary degree recipients were keynote speaker Anthony S. Fauci, MD, director of the National Institute of Allergy and Infectious Diseases, Margaret Marshall, JD, Chief Justice of the Massachusetts Supreme Judicial Court, and Leonard J. Morse, MD, Worcester's Commissioner of Public Health.

UMass Medical School's impact is continually felt through the work of our remarkable alumni, three of whom you'll learn more about in the pages that follow. Susan Upton Lynch, MD '86, First Lady of New Hampshire, addresses the epidemic of childhood obesity publicly as well as with her patients. Steven Munevar, PhD '03, MBA, combines his research and business acumen to move life sciences technology from bench to bedside. And, Terri Reed, RN, MS '97, PhD '06, advocates for the arts and nature in hospital settings, citing a growing body of research that shows that patients recover better and more quickly when surrounded by beauty in all its forms.

Michael F. Collins, MD

Interim Chancellor, University of Massachusetts Medical School Senior Vice President for the Health Sciences, University of Massachusetts

Vitoe: Alumni Report



Susan Upton Lynch, MD, has driven a dog sled team, tapped a maple tree, delivered mail by boat on Lake Winnipesaukee and taken a Sno-Cat to the top of Mount Washington. These are just a few of the unexpected adventures she's had since becoming First Lady of New Hampshire when her husband, John Lynch, was elected governor in 2004. While she wasn't prepared for all of these chance opportunities, she has strongly embraced the chance to advocate for causes she believes in.

"The phone started ringing the day after John was elected and I was surprised to find that some of the calls were

Susan Upton Lynch, MD '86

for me," said Dr. Lynch, who met her future husband while they were both in high school and working at the local Friendly's. She had assumed that after the campaign, she would go back to her practice full time, but state and national organizations committed to improving the lives of children and families were asking for her time and her name to support their causes. "I realized that I could bring attention to issues that I was concerned about. I bring visibility and put people together to collaborate."

One of Lynch's top concerns is the epidemic of childhood obesity. As a pediatrician practicing at the Concord Hospital Cholesterol Treatment Center (founded by classmate and friend Mary McGowan, MD '87, who is also the medical director), she sees plenty of children and families struggling with obesity. In her public awareness campaign, as in her practice, she recommends making simple changes. "It's a big problem, but solutions don't

have to be complicated," said Lynch.
"Small changes can make a difference."
Among other initiatives, she has
partnered with New Hampshire public
schools to adopt programs that help kids
understand how obesity occurs and how
to prevent it. In particular, she supports
the "5-2-1-0" per day program—five
servings of fruits and vegetables, two
hours or less of screen time, one hour of
exercise and zero sweet beverages—and
is the spokesperson for the "Walk NH"
program that encourages residents to
have fun getting in shape by committing
to walk the width or length of the state.

Of her political life, Lynch said, "While I didn't ever expect to become a first lady, I knew there was a possibility [John] would someday run for public office." Despite her many public commitments, Lynch maintains her clinical practice. "My practice is my refuge," she confesses. "It's quiet and controlled and I'm comfortable with my goals here." –EC



Steven Munevar, PhD '03, MBA

With an undergraduate degree in bioengineering, Steven Munevar, PhD, MBA, came to the Graduate School of Biomedical Sciences to "better understand how the human body functions." Curious about the adaptability and diversity of organisms and the mechanics underlying their functions, he examined how polymer fibers might mimic skeletal muscle fibers to yield materials for prosthetics. While at the GSBS, Munevar found enough

life sciences-related questions to fill a lifetime of inquisitiveness, and the experience opened his eyes to unmet needs in health care.

Working in the laboratory of Professor of Physiology and Cell Biology Yu-Li Wang, PhD, Munevar's interests yielded a pre-doctoral National Institutes of Health grant and multiple publications. While completing his thesis, he began working toward his MBA at Worcester Polytechnic Institute. "My goal was to gain a business



When you walk in, the place just feels different; trees and trickling fountains in the lobby, artwork on the walls, soft music in the background that relaxes you a bit. Terri Reed believes this is how all hospitals should look and feel, and her research and career have led to a moment in time when she can have an impact on health through the creation of a more "natural" hospital environment.

Reed, an outpatient nurse practitioner at the Heart Center of Metrowest, frequents UMass Memorial Health Care—Marlborough Hospital through an office suite connection to the facility and

Terri Reed, RN, MS '97, PhD '06

its patients. The hospital is undergoing a master plan facility study and, according to Reed, when it is determined what kind of building will rise from the plan, she and administration hope to be able to incorporate nature and art for the health of patients, visitors and employees.

"Changing hospital environments has been one of my passions since my work in the GSN PhD program," said Reed. But, she admits, all the variables involved in such a complex undertaking as master planning must be weighed together. Reed, who is a member of the regional board of the international organization, Society of Arts and Health Care, is hopeful and prepared for this optimal environment. "Research proves this works." For example, studies show that when patients are exposed to natural settings, such as window views to nature, they often require less pain medication and their length of stay may be shortened.

"We have great clinicians and great technology, but I fear that we are starting to miss the whole patient," Reed said.
"Through evidence-based research, the
hospital environment and experience
may be viewed as healing and not merely
as services provided."

Reed has been working with cardiac patients for eight and a half years and her research dissertation at the GSN centered on understanding and changing behaviors in adult women at high risk for cardiovascular disease. Her study involved a tai chi intervention, but that wasn't the original plan; Reed was focused on lipid metabolism and quantitative research. But by staying open to the PhD process, she was able to use both quantitative and qualitative methods to explore the psychosocial and physical effects of the 10-week tai chi intervention.

"The faculty pushed me to new areas, and I discovered more about myself. If I didn't attend the GSN, I wouldn't have known all this was out there. This rings true with my spirit, and I can't imagine not doing this work." –ALB

background focusing on life sciences," Munevar said. He planned to combine his background in bioengineering and biomedical science with business management to move life sciences technology from bench to bedside.

Following his postdoctoral fellowship, Munevar worked as a life sciences consultant and observed numerous opportunities for innovation. In early 2008, he started Munevar & Associates, Inc. to develop and commercialize life sciences research. "My desire was to build a comprehensive technology development and commercialization service," said Munevar. "Currently, I'm preparing a market research report on stem cells and their impact on health care over the next several years. These types of projects highlight the potential of life sciences research to revolutionize medicine."

When not in the boardroom, Munevar is an adjunct professor at MassBay Community College and credits his diverse GSBS experience for providing the foundation to explore. "My comfort and experience speaking to different audiences about the life sciences was developed during my time at the GSBS," said Munevar. "It helped pave the way for the success I have enjoyed throughout my research career as well as my current endeavors, and it will continue to play a significant role in helping me realize my goals." –LRD



Alumni of the classes of the 1980s returned to the UMass Medical School campus on October 13 – 14, 2007. They gathered during the Reunion Celebration dinner at the Aaron Lazare Medical Research Building on October 13. First row: Lisa Levheim, MD '87, Gail Dickinson, MD '87, Barbara Stewart, MD '81, Julia Yoshida, MD '81, Martha Gallagher, MD '87; second row: George Stedman, MD '82, Carol Trask, MD '89, Paul Medrek, MD '87, Christopher Tromara, MD '82; third row: Cay DenHerder, MD '84, Diane Rich, MD '83, William Corbett, MD '83, Steven Shulman, MD '84, Mitch Gitkind, MD '85, Jay Sorgman, MD '87, Anthony Wilson, MD '90; fourth row: Thomas Lawlor, MD '82, Brian Dempsey, MD '82, Paul Conlin, MD '83, Kevin Twohig, MD '83, Paul Keough, MD '83, Paul Sedgwick, MD '84

The UMass Memorial Medical Center Department of Medicine recognized physicians for commitment to their patients and to quality care, including Andrew J. Miller, MD '79; Mary R. Hawthorne, MD '81; Scott E. Kopec, MD '94; and Amit Garg, MD '00.

The UMass Memorial Managed Care Network honored primary care physicians for their delivery of high-quality care and their engagement in improvement efforts sponsored by the network's Medical Management Department. Those recognized include Mary R. Hawthorne, MD '81; Steven R. Rozak, MD '83; Kathleen M. Cleary, MD '84; Clifford J. Behmer, MD, '85; Richard V. Marseglia, MD '95; and Deborah E. Francis, MD '96.

1974

Donald W. Abbott, MD, is founder and CEO of Professional Disability Associates, LLC, which provides a network of medical specialists for disability analysis and other related services.

1975

Stanley M. Cole, MD, reports that he is marking 34 years with a transplanted kidney. Dr. Cole has a private practice in psychiatry and is enjoying life with his wife and two children, Rachel and Scott.

1976

Christine K. Cassel, MD, president and CEO of the American Board of Internal Medicine, was named a member of the Alzheimer's Study Group, a new national task force co-chaired by former Speaker of the House Newt Gingrich and former Senator Bob Kerrey.

1979

Brian J. Battista, MD, was elected president of South Shore Hospital's medical staff, of which he has been a member since 1982.

Richard D. Zlotnik, MD, a board-certified general surgeon, joined Baystate Mary Lane Hospital as medical director after serving as chief of surgical services at the Shawano Medical Center in Shawano, Wisconsin.

1980

Paul S. Gerstein, MD, was appointed chief of the Department of Emergency Medicine at Holyoke Medical Center.

1981

Diane Bennett, MD, is a senior epidemiologist for the World Health Organization HIV Drug Resistance Program. Dr. Bennett lives in Geneva, Switzerland and says she would love to see alumni who travel through Geneva.

1983

Lorraine D. Barton-Haas, MD, and her husband plan to move in the fall of 2008 to the Tacoma-Olympia, Washington area.

James Fulmer, MD, has practiced in Jacksonville, Florida since 2000 and is active in clinical research. He has been listed in "American's Best Doctors" for the past three years.

1984

Gerald S. Gleich, MD, was appointed medical director of Hahnemann Family Health Center.

Stuart T. Higano, MD, and his wife, Karen, welcomed a son, Connor, on January 31, 2005. Connor joins siblings Stuart Jr., Alexander and Nara.

Leslie P. Shaff, MD, was appointed chief surgical services officer at Lahey Clinic. She received an MBA from Wharton in 2006.

1987

Gary Bubly, MD, serves as associate medical director of the emergency department at Miriam Hospital in Rhode Island.

Lisa M. Levheim, MD, joined Hampshire Family Physicians in Belchertown in November 2006. She had been medical director of the Rapid Care Clinic, a walk-in clinic affiliated with Baystate Medical Center. Dr. Levheim and her spouse, Deborah, have a son, Max.

1988

Sahira N. Kazanjian, MD, and her husband, Powel Kazanjian, MD, welcomed twin daughters, Louisa and Sarine, on October 6, 2006. They also have a son, Powel.

Michael S. MacVeigh, MD, lives in Portland, Oregon and keeps in close contact with classmates Sahira N. Kazanjian, MD, and her growing family, and Luis A. Sanchez-Maldonado, MD.

1989

Ronald N. Adler, MD, is director for primary care improvement in the Office of Primary Care at UMass Memorial Medical Center and UMass Medical School. He was formerly medical director of Hahnemann Family Health Center, where he will continue to see patients on a part-time basis.

Donna Jenkins, MS '89, RN, CNA, BC, was selected to join the American Organization of Nurse Executives inaugural class of Nurse Manager Fellows. She is currently nursing director of the Thoracic Surgery Unit at Massachusetts General Hospital.

1992

Jeannine R. Audet, MD, was appointed medical director of the Fernandes Center for Children and Families in Fall River. She is also the busy mom of Alexandre, Jacqueline and Josée. Dr. Audet has a first-degree black belt in Tang Soo Do.

Rebecca M. Jones, MD, recently opened her dermatology practice in Brattleboro, Vermont.

1993

Ronald S. Guibord, MD, is a pathologist with Spectrum Medical Group and is chief of the pathology department at Mercy Hospital in Portland, Maine. Maurissa A. Guibord, MD '92, has become a writer and is working on mystery novels for young adult readers. They live in Scarborough, Maine with their triplets, Luke, Genevieve and Danielle.

Christopher S. Joncas, MD, joined Millview Medical Associates in Fall River.

1994

Marcella W. Bradway, MD, was named chief of surgery at Griffin Hospital in Derby, Conn.

Jessica H. Harrington, MD, completed an MBA program at MIT's Sloan School of Management. She is currently on sabbatical from clinical practice and concentrating on management aspects of primary care.

1995

Michael J. Jaffe, MD, and his wife are the proud parents of Lillian Jaffe, their second child, born May 29, 2007. This was the same day that Vivek "Sunny" Chander, MD, and his wife welcomed their second child, Kuvi Chander.

Kathleen E. Kramer, MD, and her husband, Sven Thesen, welcomed their second daughter, Sophia, on June 23, 2006. Their first is Genevieve.

1996

Monica Gomez, MD, is an internist with Harvard Vanguard Medical Associates and is associate chief of medicine at the Concord Practice.

Vitee: Class Notes

James M. Hurley, MD, is a pediatrician at Monadnock Regional Pediatrics and is president of the medical staff at Monadnock County Hospital. He and his wife, Emily, have two daughters, Sarah and Rachel.

1997

Kyneret Albert, MD, was named medical director of HospiceCare in the Berkshires, Inc. of Pittsfield.

Joyce A. Dietrich, MD, and her husband, Christophe Lanham, welcomed daughter, Sophie, on May 2, 2007. They also have a son, Mathieu.

1998

Saul L. Cohen, MD, and Jenai E. Beland Cohen, MD '99, welcomed a son, Joshua, on October 20, 2006.

Andrea A. Pettinato, MD, and Paul J. Pettinato, MD, have three children. Andrea finished her adolescent medicine fellowship at Children's Hospital in Boston, where she works part time. Paul practices internal medicine at Brockton Hospital Primary Care Affiliates in Bridgewater and pediatrics at Brockton Hospital. He is also studying for his MBA at Boston College.

1999

Dena M. (Niedzwiecki) Mechoso, MD, was married to **Diego Mechoso, MD,** in Newport Beach, California on September 2, 2006. **Nicole Wood Lazer, MD,** was her matron of honor. Dr. Mechoso is a pediatrician practicing in Arcadia.

Kerri E. Osterhaus-Houle, MD, was appointed by Governor Deval Patrick to the University of Massachusetts Board of Trustees.

Elizabeth S. Reardon, MD, married John Walsh in 2002 and lives in Rochester, New York with his two children, Emily and Tim and their daughter Amanda. Dr. Reardon enjoys private practice in western New York.

2000

Brett M. Carswell, MD, practices with Fallon Clinic specializing in adult and pediatric urology with an emphasis on robotic surgery and other minimally invasive techniques.

Jeremi M. Carswell, MD, completed her graduate fellowship and practices as a pediatric endocrinologist at Children's Hospital in Boston.

Karen M. Scott, MD, married James L. Bailey in New Orleans in 2003. She has two children, River Daniel Bailey Scott, born on September 30, 2003, and Willow Lucetta Bailey Scott, born on December 29, 2005. Since 2005, Dr. Scott has practiced as a hospitalist at Baystate Franklin Medical Center in Greenfield.

2001

Kerri L. Batra, MD, is completing a rheumatology fellowship at Brigham and Women's Hospital.

Bonnie F. Cohen, MD, recently traveled to Vietnam to provide rural medical care. She is a family physician with Cambridge Health Alliance.

Elisabeth G. Richard, MD, has lived in Guam with her family since summer 2007, where she is the primary board certified dermatologist in a community of 150,000 residents. Her husband serves as a radiologist at the Naval Hospital. Dr. Richard reports that the move has been a professional and personal challenge for them and their children, Madeline and Alex, but they are enjoying the experience and the tropical weather.

Gilberto Sustache Jr., MD, received several awards through his work at Methodist Sugar Land Hospital in Texas: Physician of the Quarter (Methodist Sugar Land Hospital), Outstanding Teaching Resident and Outstanding Senior Resident (Memorial Southwest Residency Program). He also welcomed a son on March 27, 2007—Gilberto Caleb Sustache III.

Matthew J. Velsmid, MD, and his wife, Kristen, have two daughters, Ashley and Kaitlyn.

2002

Peter J. Castaldi, MD, and his wife, Caroline Martinez Castaldi, live in Cambridge with their daughter, Sofia.

Bronson E. Terry, MD, and his wife, Eleanor, adopted a son, Nicholas, from Korea. He is "the greatest thing that has ever happened" to them.

Elizabeth Weinstein, MD, completed her residency in emergency medicine and pediatrics at Indiana University School of Medicine. She will divide her time between the emergency departments at Riley Hospital for Children in Indianapolis and Wishard Memorial Hospital of Indiana University.

2003

Tanya Lee Thomas Feke, MD, is a private family practice physician in Glastonbury, Conn. She and her husband, Gilbert Feke, have a son, Gilbert Aidon, born on March 3, 2006.

Glen D. Gaebe, MD, and Elizabeth A. Fray, MD, were married in 2005 and welcomed their first child, Ariana Gaebe, on January 29, 2007.

2004

Jaimee A. DeMone, MD, and Daniel B. Osuch, MD, were married on May 20, 2006, in Thompson, Conn. They reside in Worcester.



The School of Medicine All-Class Reunion on October 13, 2007, brought alumni from the Class of 2002 back to campus. Front: Cara Attanucci, MD; Jeffrey Gold, MD; Diana Kershaw McManus, MD; Allan Walkey, MD; Brenda Croce Walkey, MD; back: Elizabeth Frutiger, MD; Paul Frey, MD; David McManus, MD

Kevin P. Kent, MD, completed his emergency medicine residency at UMass Memorial Medical Center and was voted Teacher of the Year. Dr. Kent is serving a fellowship in medical toxicology, also at the Medical Center.

2005

Jennifer E. Austin Bram, MD, married Jonathan Bram on May 13, 2006.

Danielle A. (Dupont) Wyant, MD, married Ray Wyant on July 22, 2006, in Falmouth.

2006

Brian T. Bennett, PhD, is a scientist at Lake Placid Biologics in Lake Placid, New York.

In Memoriam

Sheila Porter, MS '89, APRN, BC, ANP, died in September 2007 after a brief illness. She was a nurse practitioner with UMass Correctional Health at MCI-Norfolk and a GSN affiliate faculty member. Porter mentored medical and nurse practitioner students during the annual Correctional Health Clerkship and was unanimously selected for the Excellence in Primary Care Award at the 2007 UMass Medical School Educational Awards ceremony.

Alumni of the School of Medicine, Graduate School of Biomedical Sciences and Graduate School of Nursing may send their latest news to alumni@umassmed.edu

CALENDAR

Annual Alumni Scholarship Dinner

UMass Medical School Worcester Campus Wednesday, September 24, 2008 — 6-8 p.m.

Dean's Breakfast

Sheraton Needham Hotel Friday, October 17, 2008 — 7-8 a.m.

School of Medicine Alumni Reunion

Celebrating the classes of 1978, 1983, 1988, 1993, 1998, 2003 UMass Medical School Worcester Campus Saturday, November 8, 2008

For more information on any of these events, contact the Alumni Relations Office at alumni@umassmed.edu or 508-856-1593.

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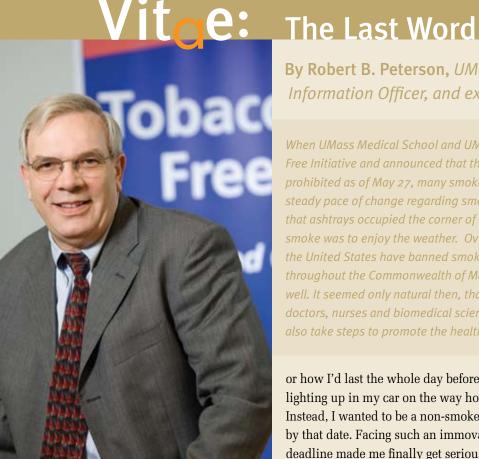
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By Robert B. Peterson, UMass Medical School Chief Information Officer, and ex-smoker

Free Initiative and announced that the use of tobacco products on campus would be prohibited as of May 27, many smokers, like me, were not surprised. There has been a steady pace of change regarding smoking in the workplace, though it seems only yesterday smoke was to enjoy the weather. Over the last decade, more and more companies across throughout the Commonwealth of Massachusetts and other states have gone smoke-free as well. It seemed only natural then, that, as health care providers and educators of tomorrow's doctors, nurses and biomedical scientists, the Medical School and Medical Center would also take steps to promote the health and well-being of employees, patients and visitors.

Smokers are always planning to quitsomeday. Intellectually, we know we shouldn't smoke, we know it's devastating to our health, and we know it's expensive in more ways than one. Nearly every smoker I know has tried several times to quit, usually with limited success. I smoked for 45 years and can't count the number of times I've tried to quit: I've tried going cold turkey, using patches and gum, hypnosis, acupuncture and even consulted the "Mad Russian," and afterward I found myself lighting a cigarette on the walk back to my car. All of these efforts failed, and each time I resumed my 2 1/2-packs-a-day habit. (The math is mind-boggling: 2.5 packs x 365 days x 45 years = a seriously expensive and damaging addiction.)

But last year, with the new tobacco-free campus deadline looming, I decided that I didn't want to spend time and energy figuring out where I would go to smoke,

or how I'd last the whole day before lighting up in my car on the way home. Instead, I wanted to be a non-smoker by that date. Facing such an immovable deadline made me finally get serious about quitting, and having the support of Administration was an important factor in my success. My staff was dubious and nervous when I announced I was going to quit—they walked on eggshells at first and initially avoided me, worried that I'd be a raving lunatic without my cigarettes. But using the drug Chantix, I was surprised at how little irritability I felt—and I'm sure those who work with me were equally appreciative.

It should be no surprise that the program was fueled in large part by Chair of Psychiatry Douglas Ziedonis, a recognized expert in addiction. The attitude of the Medical School and hospital leadership particularly interim Chancellor Michael Collins and Dean and Executive Deputy Chancellor Terry Flotte, and UMass Memorial's John O'Brien and Walter Ettinger—has been supportive, not punitive; understanding, not condemning; collaborative, not condescending. As medical professionals, the leadership recognizes that smoking is detrimental, and yet they also realize that it's a serious

addiction that can't be cured with a simple policy.

Through the Tobacco Free Initiative, which was implemented with the work of a dedicated group of people led by Thomas Hopkins of our Employee Assistance Program, the Medical School and hospital have provided more than 400 employees with the means to quit using tobacco: three-months of free medications and nicotine replacement therapy such as gums and lozenges; one-on-one counseling and coaching; and encouragement through support groups. Managers have been involved, too, and will help encourage employees to take advantage of the program. Patients and visitors are being offered nicotine replacement therapy and counseling, in addition to referrals for medications if they'd like help in overcoming this addiction. It won't be easy: smoking is a habit that's ingrained in daily life for many people, and it will take willpower and support to truly overcome the addiction. But the Tobacco Free Initiative and the institutional enthusiasm for this effort are infectious and invigorating.

As I said, nearly all smokers plan to quit—someday. For me, and I hope for many others, "someday" is here.

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