

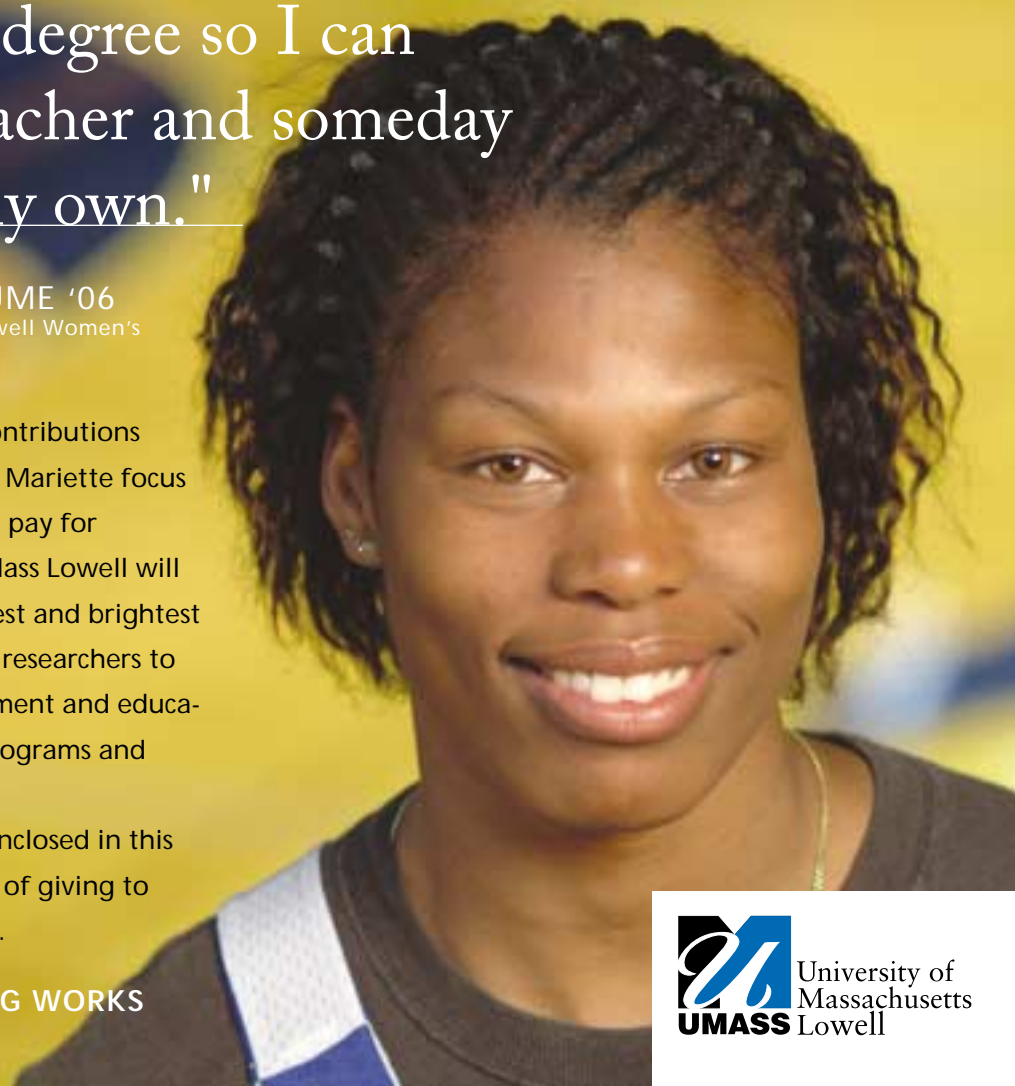
" I want to get my degree so I can become a teacher and someday coach a team of my own."

MARIETTE GUILLAUME '06
Psychology Major, UMass Lowell Women's
Basketball Team Member

The Lowell Fund—created by generous contributions from alumni like you—helps students like Mariette focus on their studies rather than how they will pay for college. A strong Lowell Fund ensures UMass Lowell will continue to provide scholarships to the best and brightest students, recruit exceptional scholars and researchers to our faculty, purchase necessary lab equipment and educational materials, and support academic programs and activities.

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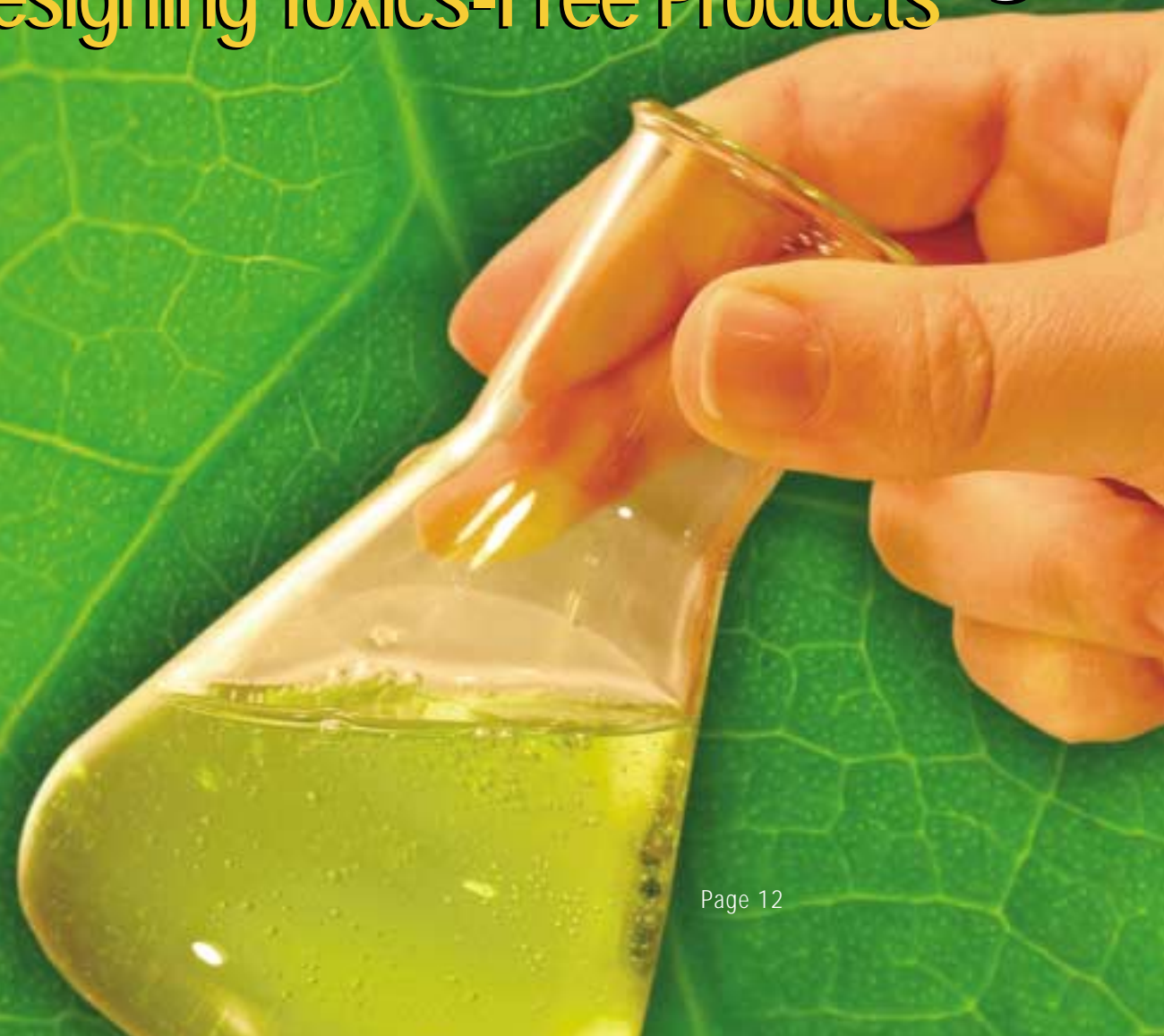
UMass Lowell

M A G A Z I N E

SPRING 2005
VOLUME 8
NUMBER 2

Green Chemistry

Designing Toxics-Free Products



Dear Alumni, Parents and Friends:

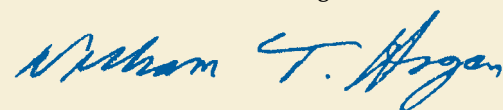
In the past issues of this magazine we have shared with you new developments on advances being made by our faculty in nanotechnology, especially in the area of nanomanufacturing, the scale-up process that has very significant potential for the technology sector of the Massachusetts economy. Another scientific frontier upon which the Lowell campus has distinguished itself is that of green chemistry. Simply put, the goals of those practicing green chemistry are to reduce or eliminate the use or generation of hazardous substances in the design, manufacture, and application of chemical products.

Our campus is fortunate to have green chemistry's leading academic voice in Dr. John Warner. In 1998, he co-authored the core text in the field, *Green Chemistry: Theory and Practice*. His work meshes well with UMass Lowell's commitment to sustainability, particularly in the integration of economic, environmental and health issues. The indicators within industry regarding green chemistry are encouraging. *USA Today* reported that green chemistry "has gone from a blackboard conjecture to a multimillion dollar business in 15 years." To compete worldwide, especially in European markets, industry is looking for cleaner and more superior technologies, ones that will prevent the generation of pollution from the start.

Green chemistry is one aspect of our holistic outlook concerning the links among personal health, safe workplaces and a high quality environment. Across the campus, faculty are involved in research projects and partnerships. The Massachusetts Toxics Use Reduction Institute (TURI) on the Lowell campus is in the forefront of statewide efforts. Since 1990, TURI has worked with more than 700 firms in the state to identify ways to reduce toxic chemical use, waste and emissions. The core group of firms filing annually in accordance with the state's Toxics Use Reduction Act decreased its toxic chemical use by more than 40 percent since 1990. TURI's work is a key element of our mission to assist sustainable development in the region and beyond.

In all these endeavors, UMass Lowell needs the generous support of its alumni and friends. We are serious, enthusiastic and optimistic about the prospects for a high quality of life for this generation and those to come. Please join us in meeting the challenges and achieving our common goals.

William T. Hogan



Chancellor



May 26 **15th Annual UML Golf Tournament**
Sky Meadow Country Club, Nashua, N.H.

June 5 **Commencement Ceremony**
Tsongas Arena

June 23 **UMass Lowell Night at the Spinners Ballgame**
LeLacheur Park
For tickets, contact the Spinners ticket office at 978-459-1702 or visit www.lowellspinners.com

September 22 **Annual Circle of Distinction, Donor Recognition Reception**
American Textile History Museum, Lowell

October 14-15 **Fall Festival/Reunions/Homecoming 2005**
Classes of 1955, 1965 and 1980

October 14-15 **Sound Recording Technology All Class Reunion**
If you would like to participate as a presenter, panelist, mentor or in the planning process, please e-mail William_Carman@uml.edu

November 5 **Francis Cabot Lowell Alumni Awards Dinner**
American Textile History Museum, Lowell

For more information on these and other alumni activities, please check our Alumni Web site Calendar: www.uml.edu/Alumni or call the Office of Alumni Relations toll free (877) UML-ALUM or 978-934-3140.

For more information on Athletics, go to www.GORIVERHAWKS.com or call 978-934-2310.

For information and reservations on the Family Discovery Series, please call the Center for the Arts at (978) 934-4444. Hours: M-F 10 a.m. – 3 p.m. and one hour before shows.

For information and reservations on the SMARTS Program, please call 978-934-4452.

Interested in subscribing to *The Connector*, UML's student newspaper? Please call (978) 934-5009 or e-mail your request to connector@uml.edu

Come back to campus to reconnect with your alma mater! Reminisce with your friends and classmates, create some new memories, visit your old haunts and see the fabulous changes to campus facilities.

Fall Festival '05

October 14-15, 2005

Reunions for 1955 (50th) Lowell Tech and State Teachers, 1965 (40th) Mass State College at Lowell and Lowell Tech, 1980 (25th) University of Lowell

Some highlights include:
Golden Alumni Reception
Campus Tours
Mill and Canal Tours
Class Reunion Dinners

We have reserved a block of rooms at the Doubletree Hotel in Lowell for \$82 plus tax per room per night. Make your reservations as soon as possible (no later than September 10th) by calling 978-452-1200. You must identify yourself as a UMass Lowell alumnus/a to receive the group rate.

For more information, call the Office of Programs and Alumni Services, toll free 1-877-UML-ALUM or e-mail us at alumni_office@uml.edu.



www.uml.edu/alumni

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Write to us using this form with news about your family, career or hobbies. If you send us a photo we will gladly include it and return it to you after it appears. This form may also be used for updating a new business or home address or phone number.

Be sure to give us your e-mail address so you can receive our e-newsletter.

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What topics would you enjoy reading more about — Alumni, Students, Faculty, Campus?

News about you:

Please check the activities with which you would like to help:

- Alumni Relations Council
- Regional Events
- Career Services
- Community Service
- College/Departmental Activities
- Regional Chapters
- Class Reunions

Please send me a copy of the latest Lowell Alumni Handbook, which includes information on all alumni benefits, services and activities.

Thank you!

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Lowell Technological Institute • Massachusetts State College at Lowell • Lowell State College • University of Lowell

Sherwood's Pitch: World Series Balls Hit the Target

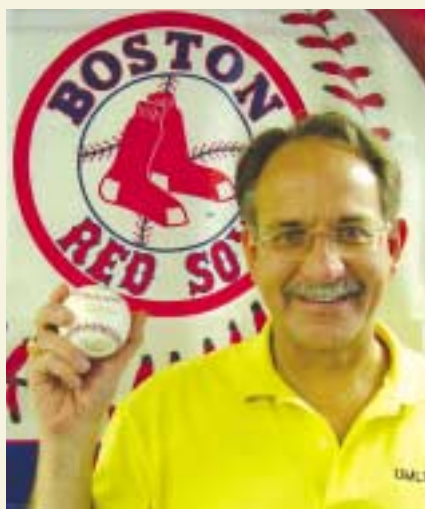
One could say that Mechanical Engineering Prof. James Sherwood had his fingerprints on all the baseballs pitched in the last World Series.

As director of the University's Baseball Research Center, Sherwood tested the balls for liveliness and hardness at the request of Major League Baseball and the manufacturer, Rawlings. The verification was initiated to avoid the repeat of claims in 2002 that baseballs in that Series were harder than those used in the regular season.

The process involves using the center's specialized machinery to squeeze and dissect the balls, then collecting and analyzing the data.

"We take it apart layer by layer and measure the size and shape to make sure it conforms to Major League Baseball's specifications," Sherwood said.

The verdict: the 2004 World Series balls were created by Rawlings in the exact image of their regular season counterparts.



As director of the Baseball Research Center, Prof. James Sherwood tested the balls used in the World Series for Major League Baseball and Rawlings.

University Awarded \$323,000 in DOE Grants

The Department of Energy (DOE) has awarded UMass Lowell \$323,000 in several grants to researchers in the Radiation Laboratory, the Radiological Science Program and the Nuclear Engineering Program.

The grants were part of a larger package that included researchers at MIT for work "to support nuclear energy technology education and infrastructure."

Profs. John White of Chemical Engineering and Gunter Kegel of Physics, and two members of the Radiation Laboratory – Reactor Engineer Thomas Regan and Reactor Supervisor Leo Bobek – received a \$103,000 grant from the DOE Nuclear Engineering and Education Research program for an investigation of radiation energy conversion in photocatalytic materials.

Chem Department Gets an 'A' from Alums

For science majors, they had a lot to say.

They reminisced about favorite faculty and difficult labs.

They reported on doctoral degrees, professorships and jobs in industry.

They commented on coursework, applauded improvements and suggested new curricula.

An alumni survey went out to Chemistry Department graduates from the past 35 years, and more than 200 responded—many with extensive comments or attached letters. Alums were asked to rate their overall experience at the University, their education in chemistry, preparation for employment compared to peers and preparation for graduate school. They were also asked to pick the two most positive factors from faculty, courses, labs or faculty advising.

Department Chairman Gene Barry was most gratified with the level of response and the survey results.

"About 46 percent gave the highest possible ranking to their overall experience in chemistry," says Barry.

Many wrote about specific classes, like this one to Barry: "I was a sophomore when you first came to Lowell. I was in your first analytical class and was often late, since it was first thing Monday mornings. Of all the courses that I took, your course uniquely prepared me for industry and I will even say was solely responsible for several job offers when I graduated."

Or this one: "I was fortunate to have Doc Scattergood as my mentor—that was a once in a lifetime opportunity. It made all the difference in my career. Profs. James and Bechler, Isaacs and Lamprey were also wonderful faculty."

Several transfer students valued the close contact with faculty at UML. After being one of hundreds sitting in classes at another university, this alum wrote about UML, "I cannot think of a better choice in undergraduate or graduate training and interaction."

Colleges - Engineering

State Awards \$5 Million for Center of Excellence in Nanomanufacturing

The Massachusetts Technology Collaborative (MTC) has granted its first award for university-based technology research — \$5 million to UMass Lowell for a Center of Excellence in Nanomanufacturing.

"This is just the kind of strategic investment we intend to make. This is the model," said Mitchell Adams, executive director of MTC, at a press conference announcing the award.

Initial funds will be used to hire someone to work with industry, pur-



UMass Lowell researcher Prof. Julie Chen, second from right, and Chancellor William T. Hogan, left, receive a \$5 million check for a nanomanufacturing Center of Excellence. They are joined by, from left, State Reps. David Nangle and Thomas Golden; Mitchell Adams, MTC executive director; State Sen. Steven C. Panagiotakos; and Lowell Mayor Armand Mercier.

chase equipment, fund student projects, and to work with the Museum of Science in Boston on an educational museum component. Additional funding, up to the \$5 million total, will arrive from the state as matching funds flow in for the project. Already, the NSF has awarded a five-year \$12.4 million NSF grant to UMass Lowell, Northeastern University and the

University of New Hampshire for nanomanufacturing. "We're very excited," said Prof. Julie Chen, lead researcher on the nanomanufacturing team. "We see this Center of Excellence as a way to bring together what we need to make things happen." Assoc. Profs. Carol Barry and Joey Mead round out the team.

"We're here to talk about the biggest

Raytheon Makes Gift to Mechanical Engineering

The machine shop in the Mechanical Engineering Department will be upgraded thanks to a \$10,000 gift from Raytheon Company. Mark Russell, right, vice president of engineering for Raytheon Integrated Defense Systems, presents the check to John McKelliget, chair of the Mechanical Engineering Department, joined by Michael Kizner, program manager of Raytheon's International Integrated Air Defense. The gift is the latest in Raytheon's support for engineering programs, which this year includes \$30,000 to teacher training for DesignCamp; \$10,000 unrestricted to the College; and \$10,000 to the Electrical and Computer Engineering Department for its microwave lab, along with \$100,000 in microwave equipment.



little thing in the world," said State Sen. Steven C. Panagiotakos of Lowell, who played a key role in securing university research funding. "A lot of times we work on legislation and we never get to see its impact locally. Here, they're going to try to commercialize the research — and that's where the jobs are."

"Development of nanomanufacturing processes has the highest potential to drive significant commercial activity in Massachusetts," said Chancellor William T. Hogan.

Other members of the Lowell legislative delegation, Lowell Mayor Armand Mercier, and other state and regional officials also joined Chancellor William T. Hogan and other campus representatives at the announcement.

Water + Gravity + Anything Else ~ [Random Teams] ~ Small Light On and Off> = Seven Winners of Rube Goldberg Competition

Say "Rube Goldberg" and almost everyone knows what you mean, although the master cartoonist himself died more than 30 years ago.

Goldberg drew a series of wacky "inventions" that used the most convoluted and absurd methods to complete simple tasks. He described his cartoons as symbols of man's capacity for exerting maximum effort to accomplish minimal results.

Rube Goldberg's roundabout approach to problem solving recently inspired some remarkable inventions, created by UMass Lowell freshman engineering students. Seven are now on permanent display in the Tsongas Industrial History Center's inventions lab.

"I set the students an open-ended problem to turn a small light on and off," says Plastics Engineering Assoc.



Jason Galda and teammate Matt Durette (not pictured) created this contraption to turn a small light on and off. Behind Jason is one of the posters created by Plastics Engineering Prof. David Kazmer to explain the engineering design process.

Prof. David Kazmer, who teaches the Introduction to Engineering course to about 200 students. "I assigned them to random teams, because that's the way you work in industry."

Kazmer saw the project as an opportunity for students to apply the engineering principles they are learning, to be creative and have some fun. The project also is part of Service Learning at the college, since the inventions were created for a community client.

Beverly Perna, museum education specialist at the Center, is delighted with the display of inventions.

"Teachers demonstrate them to the students in the Invention Factory program," she says. "Here we have seven different approaches to the same problem. It brings the engineering design process to life and reminds people that UMass Lowell has a famous engineering school."

Grammar 'Curmudgeon' Robert Fiske Is New Writing Workshop Director

Robert Fiske, publisher of a widely read Web-based magazine on the state of the English language, became the new director of Technical Writing Workshops in the College of Engineering this academic year.

A former development editor for the college division of Addison-Wesley Publishing Co., he has, for the last 16 years, owned *Vocabula Communications Co.*, an editing and writing service.

For the last five years, he also has edited and published *The Vocabula Review* on-line (www.vocabula.com) and has written and published four books—the most recent being *The Dictionary of Disagreeable English*, *A Curmudgeon's Compendium of Excruciatingly Correct Grammar*.



Robert Fiske

In succeeding Len Meuse as director of the workshops, Fiske's main responsibility will be the supervision of the students' report writing process.

"I plan to make some changes in the way the program works," Fiske says. "I think the focus should be less on what the workshop is about than on how to write well."

His idea is to offer a lecture on the workshop, another on concise writing, and two on grammar.

He said he also plans to vary the format in which students must write their reports, instead of using the single format that has been the standard because it was considered typical of what the students would later encounter in

industry. Report formats vary from company to company and industry to industry, he says.

Campus - Health

Seminar Series Explores Environment—Health Links

Why is it that the city preschool asthma rate of 13 to 18 percent is double the rate for non-urban preschoolers? Why is it that low-income women's children show biomarkers for certain chemicals? Are these health care issues, environmental issues or both?

As UMass Lowell researchers in both areas have come together in the new School of Health and Environment, Asst. Prof. Joel Tickner of the Department of Community Health and Sustainability has set out to explore the links in an Environmental Health seminar series.

Six faculty associated with the School, with the Center for Sustainable Production, and with the Center for Family, Work and Community, have presented their findings of the research to date. Among them:

- Lowell's ethnic communities present challenges for educational outreach efforts, and innovative efforts for asthma and other health education must be devised;
- UMass Lowell's students have high rates of depression among those with asthma;
- It looks as if there is no link between vaccinations and asthma.

Studies are beginning, as well, on the links between chronic disease and environmental exposure and on endotoxins and childhood asthma.

Growing Shortage Means Even Greater Career Opportunities in the Lab

A popular television series, of all things, is raising awareness of and interest in a health field career that offers great opportunities but is in desperate need of new practitioners.

Thanks to CSI (and its spin-offs, CSI-Miami and CSI-NY), potential students have become acquainted with the work of medical technologists.

"There has been a shortage of medical technologists for at least the last three or four years. At the very least, it's equivalent to the shortage in nursing," says Prof. Kay Doyle, chair of the Department of Clinical Laboratory and Nutritional Sciences.

"We've done a lot of recruitment here at the University. We have it in the catalog, we have a great Web site, we have brochures..."

"One of the things that has helped us recently is CSI because it's about the laboratory. It's forensics—and forensics is a division of laboratory medicine."

Doyle says more than 70 percent of the current lab force is over the age of 40 and the majority is nearing retirement age.

Massachusetts, which used to have 15 to 20 medical technology programs, is now down to four, according to Doyle. The only institutions offering the programs now are UMass Lowell, UMass Dartmouth, Northeastern University and the Brookshire Medical Center in Pittsfield.

UMass Lowell graduates 10 to 15 students each year in the medical technology option of Clinical Lab Sciences, but, says Doyle, "We have room for more." She urges anyone interested in learning more about the program to contact her for more information.

\$2M SHARRP Grant Takes Aim at Home Health Care Hazards

With the potential of spreading HIV or hepatitis, needlestick injuries can no longer be shrugged off by health care workers as "part of the job." And with the number of Massachusetts home health care workers expected to nearly double between 2000 and 2008, School of Health and Environment researchers believe the time is now to get a handle on their job-related risks from such injuries.

The National Institute of Occupational Safety and Health (NIOSH) agrees, and has awarded a team led by Prof. Margaret Quinn \$2 million over four years to investigate, and help solve, the problem.

Named Project SHARRP—Safe Homecare and Risk Reduction for Providers, the grant was one of four awarded nationwide.

The funds will be used to research the number of injuries, identify risk factors, and develop tracking and analyzing systems—all to develop prevention methods to improve the way home health care is delivered and to

attract practitioners to the field. UMass Lowell will partner with industry, labor and state government to reach home health care workers throughout eastern and central Massachusetts.

"By forming diverse partnerships within our community and by combining scientific research with education, we'll be able to help the growing population of home health care providers lead safer, healthier and more productive lives," says Quinn.

The research team includes Prof. Stephanie Chalupka of the Department of Nursing, Assoc. Prof. David Kriebel of the Department of Work Environment and Letitia Davis, director of the Occupational Health Surveillance Program at the Massachusetts Department of Public Health (DPH).

"This puts together two projects within the School of Health and Environment—Healthy Hospitals and Healthy Homes," says the School's Dean, David Wegman. "Here we see the marriage of this in a way that identifies where we go in the future. We'll be able to advance safety and quality of work life in the fast-growing home



SHARRP research team members, taking part in a kickoff meeting for its program to track and prevent injuries in the home health care industry, are from left, Catherine Galligan, project manager; Provost John Wooding; Prof. Margaret Quinn; School of Health and Environment Dean David Wegman; Prof. Stephanie Chalupka; and Letitia Davis of the Massachusetts Department of Public Health.

health care industry, thus helping to reduce the shortage of these professionals.”

Provost John Wooding says, “At UMass Lowell, we want to help the economy thrive, not just by adding jobs, but by making sure they are jobs people want to have. That’s what a sustainable economic future is all about.”

Campus - Management

Games Used to Study Global Haggling

Michael Kraten, an assistant professor in the College of Management, has conducted complex simulated negotiation “games” to teach negotiation skills and to more accurately predict negotiation outcomes in a business setting. Kraten uses advanced internet-based communication technologies to conduct these simulations with hundreds of business professionals around the globe.

“By analyzing the statistical results of these activities, I can put the latest academic theories to the test,” says Kraten. “Then we can modify these theories to really reflect the realities of the business world.”

Kraten had over 400 business professionals pair up and negotiate a labor outsourcing agreement for a simulated firm with two divisions.

Half of them were permitted to haggle face to face. The other half were required to use a proprietary internet-based price bid/ask system that was designed to accept and transmit numbers only.

Contrary to expectations, personality factors had little or no impact on final negotiated outcomes. Nor did emotionality have much impact. Rather, Kraten found that the negotiators’ levels of “comfort” with the communication

medium (face to face or via internet) had the most significant impact on a variety of measurement scales.

Based on his findings, Kraten contends that individuals negotiating against more powerful adversaries should avoid internet-based communication media and should try to engage in face to face haggling instead. On the other hand, negotiators in a power position should wait out initial aggressiveness, secure in the knowledge that this tactic should backfire for negotiators in weak positions.

Weber Seeks Solutions to ‘Virtual Team’ Problems

In a global economy where different skills sets can become suddenly necessary at any given moment, the use of virtual teams collaborating around the world through the latest in computer mediated technology is no longer a luxury, but a necessity.

However, virtual teams are not without drawbacks. Many may see them as poor substitute for the age-old conference room collaboration.

College of Management Asst. Prof. Sheila Weber is conducting research to solve the inherent problems of virtual teams.

“The purpose of the study is to examine the impact of time, task and communication medium on the effectiveness of computer mediated teams,” says Weber. “The study reviews the research on computer-mediated work teams across the psychology, management information systems and organizational behavior disciplines.”

Virtual teams, regardless of field or discipline, are groups of people who carry out interdependent tasks using technology to communicate rather than traditional face-to-face contact. They are used by organizations to compensate for scarce resources or to carry

out projects that involve multiple locations. Vital as they are, they are not without their problems.

“The biggest problem with virtual teams is that it is more difficult to communicate in the way we’re accustomed to,” says Weber. “Social cues that we take for granted and which are so vital for communicating, such as eye contact, humor, tone, gestures, and all the other non-verbals are often lost through mediums such as e-mail and instant messaging.”

Campus - Outlook

O’Leary Library Makes the Move from Vinyl to Digital

O’Leary library is undertaking a massive project to convert its vinyl record collection into a digital format from which they will be transferred to a more convenient and accessible Compact Disc format.

The move was prompted both by space needs and the educational needs of the student community. CDs have 50 percent more recordable space than an LP and are 75 percent smaller, allowing for more efficient use of space in the library audio holdings. The CD is also a format much more familiar to students.

“Most of this year’s class of incoming freshmen was born between 1985 and 1987,” says O’Leary Library Audio Technician Jyllian Thibodeau. “This means that it is unlikely that many of them are personally familiar with the turntable, much less knowledge about the proper care of an LP.”

Students with assignments that involve the use of equipment they are unfamiliar with may waste valuable time learning to operate it, argues Thibodeau. This can result in damaged equipment, frustrated students and incomplete assignments. Hence, the

library is working to move its wealth of audio archives from a relatively archaic and potentially problematic format to one that serves the larger needs of a wider audience.

“The old analog record is arguably a more technically accurate format for the storage of audio than its digital counterpart,” says Thibodeau. “But the fact remains that the popularity and prevalence of records has waned to the point where they have little to offer in terms of practical use.”

Campus - Outreach

UML Helps ‘Laptops for Lowell’

UMass Lowell has joined a city-wide effort to increase scholarship at Lowell High School by donating laptops to students who demonstrate near-perfect attendance in their senior year. The initiative reflects a nationwide concern with dropping student attendance in urban schools.

“On any given day, only 87 percent of the senior class is here,” says State Sen. and Laptops for Lowell Committee member Steve Panagiotakos. “This has to change and one way to encourage this change is with programs like this. It instills both the work ethic stu-

dents need in order to succeed and the education needed to succeed.”

Ten laptops have already been donated by UML along with five from Middlesex Community College and a \$2,500 dollar donation from Bank of America. Using last year’s attendance records as a guideline, about 85 seniors would have been eligible for the laptops last year. The program sponsors are hoping to get that number up to 100 or more.

The early buzz among students at the high school about the laptop program has been very positive. Attendance is already up 5 percent from this time last year.

“It’s awesome,” says Socheatta Yem, a senior who hopes to major in Communications at a college next fall. “I really do think that it will get students to come to school more.”

“I ask teachers, are the kids showing up? And they tell me ‘yes,’” says Lowell High Headmaster Dave Conway, who first conceived of the idea of Laptops for Lowell when he saw how poor attendance had become over the last few years. “When I ask the teachers why they think the students are showing up, they tell me it’s because the kids want to get a laptop.”



Participating in an event launching the laptop program were, from left, University Provost John Wooding, Vice President of Middlesex Community College Molly Sheehy, State Sen. Steve Panagiotakos and Lowell High Headmaster David Conway.

UML, MIT Sponsor Clean Energy Competition

UMass Lowell and MIT Enterprise Forum are launching a new business plan competition, awarding a total of \$50,000 in prizes. The winner will receive \$15,000 and a one-year membership in UML’s Commercial Venture Development (CVD) incubator.

The contest will highlight an ignored aspect of entrepreneurship: crafting the initial pitch. The sponsors hope to identify emerging entrepreneurs involved in developing the next generation of clean energy.

“A common complaint of venture capital investors and business analysts is that entrepreneurs’ presentations are disorganized, self-serving, jargon-filled, and irrelevant,” says Jim Walker, chair of the energy group of MIT’s Enterprise Forum.

Competition organizers are calling on all Massachusetts students, researchers, and entrepreneurs involved in emerging energy technologies to enter.

The competition aims to help new business leaders create a compelling story for raising funds from government sources, “angel” investors, and venture capital firms. The aim is to teach entrepreneurs superior presentation skills, and also to encourage networking among participants and industry leaders.



Teamwork Lauded at Partnership Celebration

Executive Vice Chancellor Frederick P. Sperounis, left, welcomes featured speakers Kendall Wallace, center, and State Sen. Steven Panagiotakos to the Partners in Progress luncheon held on campus last fall. Wallace is publisher of the *Lowell Sun*. The event recognized the important partnerships in the public and private sectors that have helped move UMass Lowell and the region forward.



U.S. Rep. Marty Meehan, left, State Rep. Tom Golden, center, and Lowell City Manager John Cox were among the featured speakers at the luncheon.

Students Prepare for College—With a Little Help From Nellie Mae

The University of Massachusetts Lowell and Lowell High School won a competitive grant recently to improve college preparation for all students. The Nellie Mae Education Foundation's Partnerships for College Success program awarded the project \$150,000 per year for five years.

Nellie Mae is New England's largest public charity dedicated to improving academic achievement. It provides grants and technical assistance to programs that concentrate on academic enrichment, college planning, advising, preparation and retention support for low-income, under-served students.

The grant program strengthens existing collaborations between universities and high schools. The Woodrow Wilson National Fellowship Foundation will provide technical assistance as the intermediary for the program.

"The University of Massachusetts Lowell and Lowell High School have a long history of highly collaborative work focused on improving academic achievement," said Blenda J. Wilson, president and CEO of the Nellie Mae Education Foundation.

"Our first task will be working on 'vertical math alignment'—a content alignment of the math courses in high school and college," says Prof. Linda Silka, director of the Center for Family, Work and Community. Silka leads the project along with Joyce Gibson, associate vice chancellor for academic services, and Norma Audy, head of guidance and special programs at LHS.

Future of Work Project Rides the Wave of Change

When it comes to rapidly changing working conditions, it feels like the future is now.

Outsourcing. Offshoring. Transforming. Reinventing.

How to make sense of it? How to survive?

The University of Massachusetts President's Office and the state legislature have funded a Future of Work project for the Labor Programs at the four undergraduate campuses. The project will build a picture of the changing nature of work, from the point of view of workers, and will explore ways to influence working conditions.

UMass Lowell's Labor Extension program held a regional meeting of union leaders and activists, along with community organizations, academics and others interested in workplace issues.

Three speakers drew on their own experiences for their presentations.

Darcie Boyer, an organizer with the Coalition for a Better Acre in Lowell, said, "You can't talk about work without talking about housing, transportation, healthcare and decision-making power."

Prof. Bill Lazonick of the Department of Regional Economic and Social Development and co-director of the Center for Industrial Competitiveness, described changes in the culture of finance capital that are taking down companies like Lucent and replacing them with a globalized, increasingly contingent workforce.

Ric Casilli, business manager of IUE-CWA Local 201 in Lynn and Wilmington, described managers who are pushing new technologies

and unions that are playing a delaying game while they build alliances outside the workplace that could change the rules.

STEM Fellows Bring Students Back to Math and Science

UMass Lowell and its affiliated partners recently launched its STEM Fellows Program to focus attention of STEM (science, technology, engineering and math) education in middle and high schools throughout the northeast region of the state.



Jolaine Muldoon and Jamie Merkle of Bedford are among the 40 public school teachers selected as STEM Fellows this year by the University's Center for Field Services and Studies.

Supported by the Massachusetts Board of Higher Education through its Pipeline Fund, the STEM Fellows Program's goal is to direct students toward professions in these fields.

"More and more we see that students are shying away from fields like math and science," says Marjorie Dennis, project coordinator for the STEM Fellows Program through the University's Center of Field Services and Studies (CFSS). "Why is this? The STEM Fellows hope to find that hook that gets students excited about studies in science, technology, engineering and math."

Scores released this fall by the international student assessment test administered by the Organization for Economic Cooperation and Development underscored this problem. Students from the United States had some of the poorest scores of any industrialized nation. A recent *Wall Street Journal* article, in particular, pointed to the link between these low numbers and the potential future dearth of professionals and researchers in this field and the resulting negative effect on the U.S. economy.

"The STEM Fellows Program represents a coordinated effort, among schools, colleges, and private industry in the northeast region of Massachusetts, to respond to the urgent need for more highly qualified people to enter the fields of science, technology, engineering and mathematics," says Don Pierson, dean of the Graduate School of Education and co-chairman of the STEM program.

Students Bring the Downtown to Campus

The first annual A Taste of Lowell event brought several dozen area restaurants, businesses and nonprofit organizations to the Campus Recreation Center recently for an afternoon showcase of local offerings. Mambo Grill, Second World, Mike's Restaurant, the Dubliner pub, Café Paradiso, the Revolving Museum, and many others set up displays and exhibits.

Student Government Association President Heather Makrez said, "This is a great beginning and we're committed to reaching out with more energy to the downtown and wider community. We want to help the students, staff and faculty to be aware of everything the city and surrounding area have to offer. There are lots of exciting new developments in the city, and they're adding to the vitality of life on campus."

The event was sponsored by the Student Government Association along with the offices of the Provost, Student Activities, Multicultural Affairs, and Communications and Marketing, and the Division of Student Affairs and Campus Recreation Center.



Alpha and Valerie Diallo of Second World added a mix of world music and culture to A Taste of Lowell.

Campus - Research

Shea Follows Idea to Possible Cancer Treatment

Tom Shea hadn't been planning to do cancer research. His field is Alzheimer's.

Years of studies have made Prof. Thomas Shea of the Biological Sciences Department an expert on the use of antioxidants in slowing the effects of neurological degeneration in aging.

Neuroblastoma, on the other hand, is the most common form of solid tumor cancer in newborn infants.

"Neuroblastoma is so hard to treat," says Shea. "Chemotherapy attacks fast-growing cells and, in infants, a lot of cells are fast-growing." Radiation poses similar problems and some neuroblastomas don't respond at all to classical treatments.

"I realized that even in our Alzheimer's studies, we have used tumors of brain cells that grow continuously and that's similar to cancer. A new idea: The antioxidants stopped neuron growth in our studies. Would it work for neuroblastoma?"



Prof. Thomas Shea of the Biological Sciences Department checks a mouse for signs of a cancerous tumor. Shea and colleagues are investigating the use of antioxidants encapsulated in nanospheres to treat neuroblastomas, a dangerous form of cancer in newborn infants.

This "revolutionary approach," says Shea, provoked interest at the National Institutes of Health (NIH) which awarded him a one-year pilot grant of \$170,000 along with co-investigators Prof. Emeritus Arthur Watterson of the Chemistry Department and Prof. Robert Nicolosi of Health and Clinical Sciences.

For the initial experiments, Shea turned to Watterson to see if an antioxidant formulation could be encapsulated in nanospheres that would "pop right into" the cancer cells.

"We've shown that nanospheres enter the cells easily and quickly. They can even deliver a substance that otherwise wouldn't penetrate the cell wall. They also are absorbed through skin."

The NIH grant will fund further exploratory research—multiple injections into tumors or rubbing into the skin, studies on absorption and uptake by the cells, and methods to target the nanospheres directly to the tumor cells in the living organism. Shea is also working with nanospheres developed by Prof. Stephen McCarthy of the Plastics Engineering Department, which have also been shown effective.

Professors Aim to Protect Mobile Homes from Hurricane Destruction

In a span of six weeks last year, four hurricanes ravaged parts of Florida and caused an estimated \$23 billion in damage. Residents saw their mobile homes literally disintegrate in high winds. The homes were torn apart and the debris became deadly shrapnel causing further devastation and loss.

To prevent such destruction of mobile homes, Mechanical Engineering Profs. Gene Niemi and Majid Charmchi are testing a new tenting modification that could possibly save these structures from windstorms and other severe weather conditions.

The two were approached by Stormshield, a Rochester, N.Y., company, which has a patent on an idea that may prevent or reduce such damage. The concept involves installing a "tent" over a single- or double-wide mobile home that can be deployed when warnings of approaching storms are issued.

To conduct their research, Niemi and Charmchi, along with graduate assistants



Prof. Gene Niemi, right, and graduate student Pradeep Govindaiah examine the subsonic wind tunnel they are using in their research to help reduce hurricane damage.

Pradeep Govindaiah and Linghua Chen, created a small scale model of a mobile home. Using a two-foot by three-foot, 200 m.p.h. subsonic wind tunnel, they placed the model on a rotating turntable to measure various force components when high winds come from different directions.

The tests continued through the winter and the team spent the spring semester studying and analyzing the data.

"I think this research has a lot of potential," says Niemi. "If all goes well, three or four years down the road it could be ready for the public to own."

Campus - Obituaries

Prof. Wen Tang, 83, Professor of Meteorology for 26 Years



Prof. Wen Tang, who taught meteorology at Lowell for 26 years, until his retirement in 1994, died at his Lexington home on Dec. 19 at the age of 83.

Prof. Tang joined the Lowell Technological Institute in 1968 to assist in the development of a then new major in meteorology. He taught upper level meteorology as a member of the Department of Environmental, Earth and Atmospheric Sciences and its predecessor departments.

A native of Nanking, China, he came to the United States after World War II and earned a doctorate in meteorology at New York University.

Known for his ability to mathematically model atmospheric phenomena, he held many contracts with the Navy, Air Force and other government and private funding sources.

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By Geoffrey Douglas

John Warner Knows It Isn't Easy Being Green,



Prof. John Warner

As a student at UMass Boston in the early eighties, John Warner was a music major. He played guitar and keyboard in a band called The Elements. When he wasn't studying or in classes or working his full-time job, he was mostly writing songs. His future, in his own mind, was never in question—"I wanted to be a musician," he says.

Then one day in early 1981, as he tells it, he followed another student named Paul into a chemistry research lab to oblige a professor who had asked for a volunteer. And over the course of the next hour or so, there occurred for him an epiphany that could only have been the product of a most unusual mind:

"It just came to me that designing the synthesis of a molecule was exactly the same as composing a song."

Green Chemistry

Designing Toxics-Free Products

But He Still Makes That His Mission.

Everything changed after that. The music major was traded for chemistry, as John began spending his free hours in the lab. The lab work led to published papers, then to lectures—almost unheard of for a UMass undergrad. The world began taking notice—in the spring of 1984, anointed as a member of "Boston's Best and Brightest," he appeared on the cover of *Celebrity* magazine.

From that point on, life's focus narrowed. But the bar remained high. From UMass he went on to Princeton—

changed again. His son, John, two years old, died after a long battle—and in his view, inexplicably—of a rare and poorly understood liver disease.

"It's hard to explain what happened in my head," he says today of that time. "I just started thinking things, asking questions—why he died, what might have caused it, whether there might have been something toxic involved. I'm really not sure what took me in that direction. When you're lying awake at night after your child dies, your mind goes to different places..."

"I just know that, at some point in there, I became aware that I had no idea what made a substance toxic—and that not many other people did, either. And over time, that thought just kind of took me over, it wouldn't let go."

— John Warner

where, as a Ph.D. student in the mid-'80s, his lab research led to a cancer drug that, 17 years later, would ease his own mother's pain in her battle with the disease ("It's amazing," he says, "the relationships things seem to have in life.")

In 1988, on the completion of his doctorate, came the next major turn in the road: a call from Polaroid, which wanted him to apply the same principles—of medicinal chemistry—to the field of photography. This led to an eight-year relationship, out of which grew yet another forward leap: an arcane but critical new process—known formally as "non-covalent derivitization," or more simply, "the Warner Complexes"—that controls the behavior of molecules in film.

Then, five years later, the real world intruded cruelly. And John's path

this time as a professor of chemistry—and, perhaps for the first time ever, with a clear and unshakable vision of his mission in the world: "I just wanted to teach students about toxicity as a part of the chemical learning process. It was really as simple as that."

That mission hasn't changed, though it has widened as the years have passed, and taken on urgency. John left his position in the Chemistry Department at the Boston campus earlier this year, after an eight-year teaching stint, to join the faculty of the School of Health and Environment at UMass Lowell—where, he says, "the right pieces and the right people were all committed and in place." (UMass Lowell, and its faculty, have been involved with Warner and his work since long before he came here from Boston. Chemistry Prof. Sukant Tripathy, who died in 2000, worked with him for more than a year before his death. The first Green Chemistry Conference, says Warner, was dedicated to his memory.)

But whatever the campus or particular emphasis, the priorities remain the same: the broad issue of chemical toxic-



Doctoral student Abby Johnson is designing titanium dioxide photo catalysts for arsenic removal in drinking water.

ity— where it is found, how best to avoid or prevent it, the ignorance that surrounds it across academia—has become, for John Warner, as much a signature as a cause.

“Do you know,” he says, “that when I was going for my [chemistry] doctorate at Princeton, I had to translate an article from French to English, but there was no requirement that I know what makes a molecule toxic? The same is true at every university in the country, as far as I know. That’s always seemed kind of backward to me.”

The longer he lingers on the subject—and it is a consuming subject for him, so the lingering comes naturally—the more passionate his delivery



Sophia Trakhtenberg, a postdoctoral research associate, is characterizing DNA mimic templated conductive films.

question—‘Is this molecule toxic?’...

“There’s a very good chance he wouldn’t begin to know the answer. And he might not even know where to go to find out. And it wouldn’t be his fault. That kind of information just isn’t part of our education today.”

It would probably be fair to say that, in the course of his quest to reverse the ignorance he sees around him, John Warner is on his way to redefining the field of chemistry. He is doing this through the propagation of a brand-new concept, a new ideology that could shake some assumptions as

Center’s mission statement—“will learn the skills necessary to design materials and processes with minimal or reduced environmental or toxicological impact.”

becomes: “If you drew the diagram of a molecule on a piece of paper, and you took that to the Chemistry Department of most any university in the country and knocked on the door of most any professor there, and asked him the

old as science itself. Known as Green Chemistry, it was developed jointly by Warner and an EPA scientist named Paul Anastas—the same Paul Anastas, as it happens, he followed into that UMass chemistry lab back in 1981—

then formalized in the seminal work, co-authored by Warner and Anastas, *Green Chemistry: Theory and Practice*, published in 1998 by Oxford University Press.

“A revolutionary new philosophy,” as defined by the UMass Lowell Green Chemistry Web site, its focus is “to unite government, academic and industrial communities by placing more emphasis on tending to environmental impacts at the earliest stage of innovation and invention.”

Or, as Warner puts it: “We’re not just studying the impact of industry on the environment—the environmental sciences have been doing that for years. We’re actually looking to find ways to create products that can be compatible



Research associate Kevin Dye assembling economic valuation models for industrial collaboration.



Catherine Yu, an undergraduate student, is seen here designing hands-on green chemistry learning modules for K-12 and community outreach.

TURI, Green Chemistry, Put UMass Lowell in the Vanguard in U.S.

On the first Thursday of last November, faced with mounting evidence that the chemicals used in flame retardants were showing up in the environment — especially in fish and human breast-milk — roughly 75 representatives from Massachusetts businesses came together at a hotel in Worcester to discuss ways to make their products safer. Mostly from the state’s electronics or wire and cable industries, they were being hosted that day by the UMass Lowell Toxics Use Reduction Institute (TURI), which, together with representatives of the Environmental Protection Agency (EPA) and others, was there to assist the companies in finding more compliant, less toxic ways to keep their products safe from flame. The mission of that day, says UMass Lowell Professor and former TURI Director Ken Geiser, today co-director of the Lowell Center for Sustainable Production, is fairly typical of the role in which TURI finds itself — and for which it was created: “Chemistry, as it’s evolved, is a pretty rigid science. It’s driven largely by costs, as well as by performance questions — What chemicals will retard flame? What particular molecular configuration will remove a fat globule from a surface? When things get this narrow and results-oriented, you can lose sight of a lot of other stuff. How do you make industry responsible? How do you recycle chemicals? What’s the best way to conserve for the next generation? — questions like these, most of the larger social questions, just get stripped away...”

“That’s a lot of what we’re about. We try, not only to come up with ways to



Prof. John Warner and Pam Cive of TURI

reduce [toxic chemicals] from the environment, but also, more generally, to keep some of those larger questions on the table.”

TURI came into being 16 years ago, as an outgrowth of the Toxics Use Reduction Act, passed by the Massachusetts state legislature in 1989 as a national model for reducing environmental pollution at its source. Since then, in cooperation with the EPA and other sources, it has worked with state businesses to help them reduce their dependence on toxic materials. In large part as a result of these efforts, Massachusetts businesses, over the past 10 years — even in the face of a 45 percent increase in production — have seen their use of toxic chemicals reduced by well over one-third.

“That’s the beauty of what TURI and the University are doing together,” says Karen Angelo, who works with TURI in developing community outreach. “It goes past the classroom and the lab experiments to provide practical solutions for industry, to create a real, vital linkage between the University and the community at large.”

And now, with the recent addition of John Warner and his Center for Green Chemistry (see accompanying

story) to TURI’s already-impressive results, the UMass Lowell environmental initiative has placed itself in the vanguard among U.S. academic institutions.

“Certainly now, with the work TURI has done to reduce the hazardous chemicals in production, and the addition of John [Warner] and the Center [for Green Chemistry] and their emphasis on finding alternatives — you’d have to say we’re among the leaders in this country, among the very few, really, in the field of sustainable chemistry,” Ken Geiser says.

“John is a frontier person. He sees the patterns in knowledge, the relationships among things that are not always obvious to the rest of us. That’s very attractive to students, I think, the social relevance of that.”

“Other chemists, some of them, are threatened by the idea of Green Chemistry. They see it as boundary-setting, as something that limits their work. The other sciences, too — like toxicology — can be just as narrow, just as reluctant to see the big picture. Because a lot of those people, the toxicologists, the industrial hygienists, the environmental scientists — they don’t talk to each other much, they just kind of exist within their own narrow spheres.”

“With Green Chemistry, though, what John is trying to do, what we’re all trying to do, is to go back to the way it was at the beginning, to reawaken that larger social conscience, where people see themselves as parts of a bigger whole.”



with the environment from the start. In other words, let's figure out how not to generate [pollution] in the first place, rather than just treating or disposing of it after it's created."

As a practical means to this, students of green chemistry—again, according to the Center's mission statement—"will learn the skills necessary to design materials and processes with minimal or



Doctoral student Vineet Dua is creating environmental benign coatings for the electronics industry.

reduced environmental or toxicological impact." Part of this process will be a mastery of "the entire molecular life-cycle of any commercial endeavor."

"My vision is that it will be a collaboration between the School of Health and Environment and the various [related] departments—Chemistry, Physics, Engineering, Work Environment, Psychology."

— John Warner

The concept of all this, says Warner, "sounds like the sort of thing that would have grown out of the environmental movement, then have been applied to industry. Actually, it's the other way around—it's been industry that's been behind it from the start."

As evidence, he cites the "many millions" being spent by drug and chemical giants Pfizer, Dupont, Rohm and Haas and others to fund research on developing toxic-free products—some of which has been allocated to the work of the Center. Pfizer, he says, "actually pays for

workshops that introduce students to the [principles and methods] of green chemistry. These companies really are interested in doing the right thing—we just have to find ways to make it possible."

The UMass Lowell program remains in a fledgling stage. While 12 UMass Boston students have transferred here to continue it under Warner's guidance—in addition to the students who started here new—the details, he says, have yet to be finalized.

"My vision is that it will be a collaboration between the School of Health and Environment and the various [related] departments—Chemistry, Physics, Engineering, Work Environment, Psychology. The idea is that a student in one of these can take a course in, say, toxicology or environmental law and policy that will supplement the work he or she is already doing. The aim is to

create a multidisciplinary student body—but one that understands and can anticipate the effect of industry and innovation on the environment. 'Multidisciplinary'—that's the key word in all this."

Meanwhile, while the precise shape and future of UMass Lowell's Green Chemistry program remain in the hands of the University's hierarchy, John Warner just keeps honing his message. In a recent, typical two-week period—in addition to teaching his classes—he headed an exhibition at the Boston

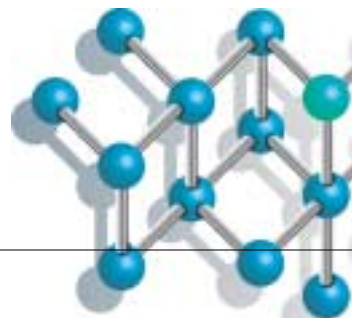


Prof. John Warner, right, observes while graduate students John Pyers, standing, and Rami El-Hayek evaluate data for dissolution kinetics for pharmaceutical formulations.

Museum of Science for 200 area high-school students, a second at the Leominster Plastics Museum, and made appearances at both Brockton and Dedham high schools. Over spring break, along with several UMass Lowell grad students, he served as guest speaker at a Green Chemistry conference in San Diego.

"We've got to get the word out, we've got to keep talking to people. If we keep on educating them the old way, we're going to keep on getting the old result. That's where you wait till 100,000 people have shown adverse effects, then the government decides to regulate, and the scientists—only then—start working on a plan to find a replacement.

"That system isn't going to work anymore. We need to start getting it right the first time. We need innovation. We need chemists talking to biologists; we need the 'idea-makers' talking to the 'thing-makers' about how to make better, safer things. We need a more diverse set of hands and eyes on the whole scientific process..."



UML Strives to Become the Country's 'Greenest' Campus

UMass Lowell is working on a number of fronts, says Diana Prideaux-Brune, to make this "the greenest urban campus in the country within 10 years."

"Green" in this case refers not to lawns and shrubbery but to buildings, laboratories and machinery that function in the most environmentally responsible way.

The "greening" of the campus is one part of the University's Transformation Project, which seeks to identify internal mechanisms to strengthen and promote the partnership between the University and the community.

The Transformation Project is an extension of the Realignment Program, a multi-year project that repositioned the campus and estab-

"Greening can be simply put as cutting pollution by reducing energy consumption and building with materials that can curb health problems."

— Mark Lukitsch

lished new priorities that have been supported by the reallocation of resources.

"Thanks to Realignment, we're now in an organizational and financial position to decide how to proceed with our environmental initiatives," says Prideaux-Brune, the vice chancellor of Facilities.

"We have organized a Greening of the Campus Committee — with representatives from Facilities, the office of the Provost, the Toxics Use Reduction Institute (TURI) and the Research Administration — to find



Diana Prideaux-Brune



Mark Lukitsch

out what technologies are available to us and to determine how to implement various initiatives," she says.

The first step will be to concentrate on a number of programs to help move the campus toward a greener future. These will include using green processes in construction programs and expanding on the work of Mark Lukitsch, the energy and utilities manager in the Office of Facilities.

Greening will be a prime consideration in two major projects now on the drawing board. One is the rehabilitation of the St. Joseph's Hospital building, which the University is acquiring, and the Nanomanufacturing Research building slated for construction on UML East across the street from Lelacheur Park.

The hospital project will be the more difficult of the two, Prideaux-Brune says, because buildings constructed when the hospital was built were not designed to be environmentally correct. On the other hand, the

nanomanufacturing building, which will be built from scratch, will be a "smart" building with maximum energy efficiency.

"The Olney Environmental System Management project has given us a lot of information that we can use campus-wide in this new program," says Prideaux-Brune. "The formal program lasted a year but we're still evaluating the results and implementing upgrades. Olney was ideal for this kind of project because the building contains both offices and laboratories."

One important factor in all of these greening initiatives is that they must be funded with savings the University can realize through increased efficiencies in the use of utilities.

That's why Mark Lukitsch's work is critical.

Lukitsch has identified five potential projects to continue moving the University toward the achievement of a green campus.

The five are an energy savings performance contract, an awareness campaign, the purchase of green power, the establishment of what the Environmental Protection Agency (EPA) calls Energy Star Facilities, and the support of other projects that involve both faculty and students.

The energy savings performance contract, says Lukitsch, "would be a contract on the order of \$10 to \$20 million to replace systems such as lighting, steam plants and chillers. And we'd add building management systems to control air conditioning and heating remotely. This lets us diagnose a building and reduce its energy usage by placing it on schedules so that heating and lighting, for

example, would be reduced when the building is not in use.

"This contract is a good way to achieve a lot of conservation fairly efficiently," he says.

The awareness campaign would be an informational project by which faculty, staff and students would be reminded to use energy wisely and be sensitive to the objectives of the program. The campaign would use University publications, signs, posters, e-mail and the UMass Lowell Web site.

Buying green power would be an initiative wherein the University would seek to purchase a certain percentage of its energy — say for electricity — from renewable sources, such as wind

power, rather than from nuclear, oil or natural gas sources.

The EPA recognizes Energy Star facilities as those buildings that keep energy use per square foot below a specific threshold.

"We want to have at least five of our buildings in this category by the end of fiscal 2008," Lukitsch says. "That's a reasonable goal."

And, finally, he says, "From time to time there will be projects that we'll support because they would provide energy from renewable sources. For instance, we're talking with Prof. Ziyad Salameh and the Massachusetts Energy Collaborative about installing photovoltaic cells atop one of our buildings

as a source of electrical power.

"As an example of a step toward greening the campus, Joe Caulfield (project manager in the Facilities Department) installed new high efficiency lighting and controls in the Olney building hallways, the O'Leary Library media center and several lecture halls in Weed Hall. This new lighting and its controls reduce electrical consumption by 50 to 60 percent, while producing the same or more illumination.

"Greening," Lukitsch concludes, "can be simply put as cutting pollution by reducing energy consumption and building with materials that can curb health problems."

Emeritus Prof. Dan Golomb of the Department of Environmental, Earth and Atmospheric Sciences, in an article about global warming published in the journal *Chemistry World*, contends that a process known as sequestering is "the only way forward" for reducing human-source carbon dioxide from the atmosphere.

Assoc. Prof. Caryn Cossé Bell of the History Department described the Haitian revolution's legacy in Creole New Orleans at a session of Salon, the faculty colloquium in fine arts.

Emeritus Professor Charles Levenstein of Work Environment and **Dean David H. Wegman** of the School of Health and Environment were named co-recipients of the Alice Hamilton Award for 2004 by the American Public Health Association's Occupational Health and Safety Section.

Louis DiNatale, formerly director of UMass Boston's Center for State and Local Policy, has been named executive director of Public Affairs at UMass Lowell where he is guiding public policy initiatives, providing marketing strategies, and researching and analyzing economic and social issues.

Susan Moir, a faculty associate of the Center for Women and Work, has completed research on women in the construction trades in preparation for outlining a plan for a pre-apprenticeship model to serve as a guide for women who want to enter the industry.

Krishna Vedula, former dean of Engineering, and **Prof. Julie Chen** of Mechanical Engineering have returned to the University classroom after having served with the National Science Foundation in Washington.

Science magazine recently published the research of **Prof. Jayant Kumar**, director of the Center for Advanced Materials, whose research team synthesized greatly improved flame-retardant materials.

Assoc. Prof. David Kriebel of Work Environment has co-authored a textbook, *Research Methods in Occupational Epidemiology*.

The National Institutes of Health has bestowed a \$15,000 Health Disparities Research Service Award on **Asst. Psychology Prof. Khanh Dinh** for separate studies involving Mexican American Women and Asian Americans.

Mechanical Engineering **Prof. Sammy Shina's** project to help companies in the Massachusetts Lead Free Consortium convert their operations to lead-free production was the subject of an article in *Surface Mount Technology* magazine.

Assoc. Prof. Paula Telesco of the Music Department has been appointed to the editorial board of the *Journal of Music Theory Pedagogy*, which has published several of her articles.

The latest book by the Music Department's **Prof. John Ogasapian**, *Music of the Colonial and Revolutionary Era*, has been published by Greenwood Press and is available, as he says, "in all the usual places."

Oneida Blagg, the former director of Student Services and an assistant to the dean of the College of Education at Northern Arizona University in Flagstaff, has been named director of UMass Lowell's office of Affirmative Action Compliance and Equal Opportunity.

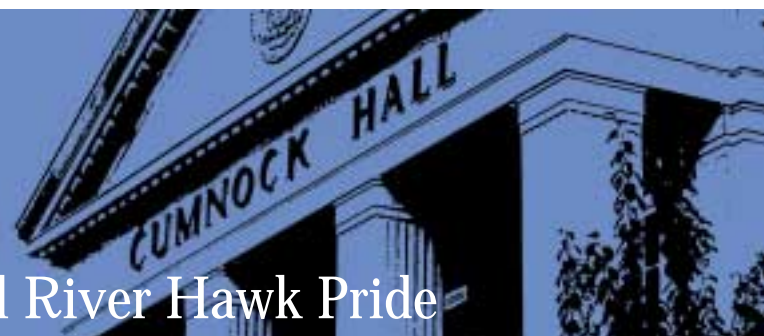
Asst. Prof. Chad Montrie of the History Department was named this year's Scholar in the City to complete a history of Lowell's Concord River corridor.

The Florida Department of Transportation invited **Prof. Sam Paikowsky** of the Civil and Environmental Engineering Department to provide assistance in designing plans to rebuild an elevated expressway in Tampa that was damaged during construction because of the failure of piers.

The photography of **Prof. Arno Minkinen** was featured in exhibits in New York and Paris this academic year and he was an invited lecturer at the Rochester Institute of Technology, Holy Cross College and Plymouth State College.

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- Cobblestone's Restaurant of Lowell
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- Doubletree Hotel
- Fortunato's Restaurant
- Goodyear Gemini Service Center
- Inizio Spa
- Java Room
- Merrimac Rug and Linoleum Co.

• Merrimack Repertory Theatre

- Nashoba Valley Ski Area
- Old Court Restaurant
- River Hawk Hockey Games
- Rainbow Art & Framing
- Welles Emporium Ltd
- Whistler House

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Turning 25: Community Social

Why is an anthropologist featured on the Welcome page of the Web site for the graduate program in Community Social Psychology? Read the words of Margaret Mead: "Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has." Her quotation captures the activist spirit and holistic world-view of people in the program and the discipline in general.

"Of our nearly 250 graduates in the past 25 years, the majority of them took on positions of leadership in our region, making real contributions to human betterment and social justice," says Prof.



Prof. Richard Siegel

Richard Siegel, coordinator of the graduate program. A social worker, a substance abuse counselor, a director of service learning in a community college, a police researcher, a coordinator of a local scholarship endowment program, a health outreach worker — these are the community psychologists in our midst.

Students in the program explore how individual, family, and community well-being interrelate within the larger contexts of living and working. As a field, community psychology arose from the community mental health movement of the 1960s, which was oriented toward providing services in community settings rather than in medical facilities. Advocates promoted the use of outpatient services and alternatives to

extended hospitalization. Community social psychology branched off this movement, building on the concept of community-level intervention. The objectives are to study the totality of community life, learn how best to effect positive change, and develop practices that will sustain a high quality of life.

Established in 1980, UMass Lowell's Community Social Psychology (CSP)

program is one of the few master's degree programs of its kind in the country. Typically, community psychology programs are clinically-oriented programs. "We hoped to create a program that would be distinctive," explains Siegel. "At the time, not many community psychology programs emphasized the social component. There was no graduate program in community

psychology offered within the public higher education system in Massachusetts. Also, we believed the program would help the new university in Lowell deliver real benefits to the city and area." With its focus on service learning, community partnerships, and strengthening town-gown relations, the CSP program has made an important contribution to the way UMass Lowell operates and how the community views the campus today.

Chath pierSath '00, a counselor at South Bay Mental Health Center in Lowell, says he was drawn to the program because it is not based on a



Chath pierSath '00

medical model: "It's holistic and outward looking and looks at larger interventions and prevention. The emphasis is on strengths, not deficits."

When pierSath came to Lowell in the 1990s, fresh from an undergraduate program in International Service and Development, he worked with the Cambodian Mutual Assistance Association and the University's Center for Family, Work and Community, where he heard about the program. The new center had emerged from the Department of Psychology and been shaped in large part by CSP program faculty.

"I was looking to improve my ability



Brenda Geoffroy Costello '68, '01

Psychology at UML

to write grants, develop programs, support community building, and strengthen health education in Lowell and Cambodia," explains Chath. "The graduate program was a great fit," he adds, so much so that in a year he will return to Cambodia to start a similar program at the University of Phnom Penh.

Brenda Geoffroy Costello '68, '01 directs the Campaign for Educational Excellence at Lowell High School—an effort to create permanent scholarships and endowed funds to assist college-bound students who may not be able to afford the college of their choice and for enrichment programs beyond services provided through public funding.

"The education I received empowered me tremendously," she says, "and I recommend it highly to those who have a common commitment to shared charitable interests in the community. The program is a perfect vehicle for those interested in better understanding the complex relationships of social organizations within a community."

Prof. Nina Coppens has recently been teaching the Practicum, the program's capstone course. "Our students learn how to analyze and solve human problems in a wide variety of community settings. The emphasis on facts, methods, values, and especially practical skills creates a dynamic learning experience," says Coppens.

During the two-semester, community-based, supervised practicum, students apply, integrate, and evaluate the information and skills they have acquired in academic coursework.

Most of the courses have an "applied" element, which accounts for the program's long list of partners, including schools, health centers, youth clubs, neighborhood groups, human services agencies, cultural organizations and businesses.

"The program opened my eyes to the complexity of social and public policies," says Brenda J. Bond '95, a police researcher at the John F. Kennedy School of Government at Harvard University. Having studied criminal justice as an undergraduate, Bond wanted to deepen her understanding of how communities can prevent crime. "The program was appealing because of its interdisciplinary nature and system-level application," she says. "I believed that a systems-level approach was necessary to truly impact the safety of communities."

These days she is also working on her doctoral dissertation research at the Heller School for Social Policy and Management at Brandeis University. "The important evaluation and research methodologies I learned in the program provided a foundation for my current work," says Bond. "Equally important are the lifelong relationships that I established during my time in the program. The community atmosphere provided an environment for exploration and furtherance of each student's goals."



Brenda Bond '95

Assoc. Prof. Emeritus Bill Berkowitz, who coordinated the CSP program for several years, says, "Our students are leveraging their community impact every day, especially in the Merrimack Valley, by strengthening the abilities of those they serve, by creating new programs, by building social networks, and ensuring the long-range vitality of our region."

The Department of Psychology and Alumni Relations Office are planning a special event this fall to mark the 25th anniversary of the CSP program. Organizers also hope to assemble an alumni advisory group that will help guide the program through the coming years.

For more information about the 25th anniversary plans, or if you would like to assist in the planning, please contact Prof. Richard Siegel, graduate program coordinator, at Richard_Siegel@uml.edu or call 978-934-3961. For details on the CSP program, visit the Web site at <http://www.uml.edu/Dept/Psychology/csp>.



More than 400 alumni and friends attended the annual Alumni Hockey Night at the Tsongas Arena on Jan. 28. Helping to cheer on UML's River Hawks to a game-winning victory are, from left, Richard Tremblay '78, Mary Tremblay '73, Tom Lumenello '64 and Carolyn Lumenello '63.



Enjoying an exciting night of Division I college hockey at the Tsongas Arena are, from left, alumnus and former math professor Tony Zona '83, Laurie Zona, Guy Girard '85, Charlene Girard, Kay Bourgaault, Renee Boucher, Mike Bourgaault '85 and Tony Boucher '85.



The fourth-annual Alumni Relations Council Wine and Dine Extravaganza was held at Ricardo's Cafe Trattoria in Lowell on Feb. 20. Among the alumni and guests who enjoyed the Spanish Epicurean Extravaganza were, from left, John Scannell, Ann Scannell '73 '03, Richard "Ricardo" Rourke, Peter Richards '79, Donna Richards, and Susan and Ronald Strauss '82.



Alumni and guests at this year's Wine and Dine event were served a five-course gourmet dinner, prepared by five local chefs, and complemented by wines specifically selected for each course. The diners included, from left, Barbara Danecki '80, Dan Danecki '81 '85, Colleen and Michael Carlson '77, JoAnn Nolan '71 '94 and Jim Nolan '71.



Florida alumni gathered for a dinner in Naples in early March, hosted by the Office of University Advancement. Pictured, from left, are Tom Greene '58, Hank Powell '55, Senior Director of Development John Davis, Student Government President Heather Makrez '06, Gladys and Richard Knight '38, Josephine and Charlie Hoff '66, Lyn and Everett Hilliard '53, and Executive Director for University Advancement Matthew Eynon.



Diana and Joe Day '66 graciously hosted an alumni gathering at the Mar-a-Lago Club in Palm Beach, Fla., on Mar. 3. It was an elegant evening enjoyed by guests who heard from campus and state dignitaries. Pictured with the Days are UMass President Jack Wilson, left, and Lowell Chancellor William T. Hogan, right.



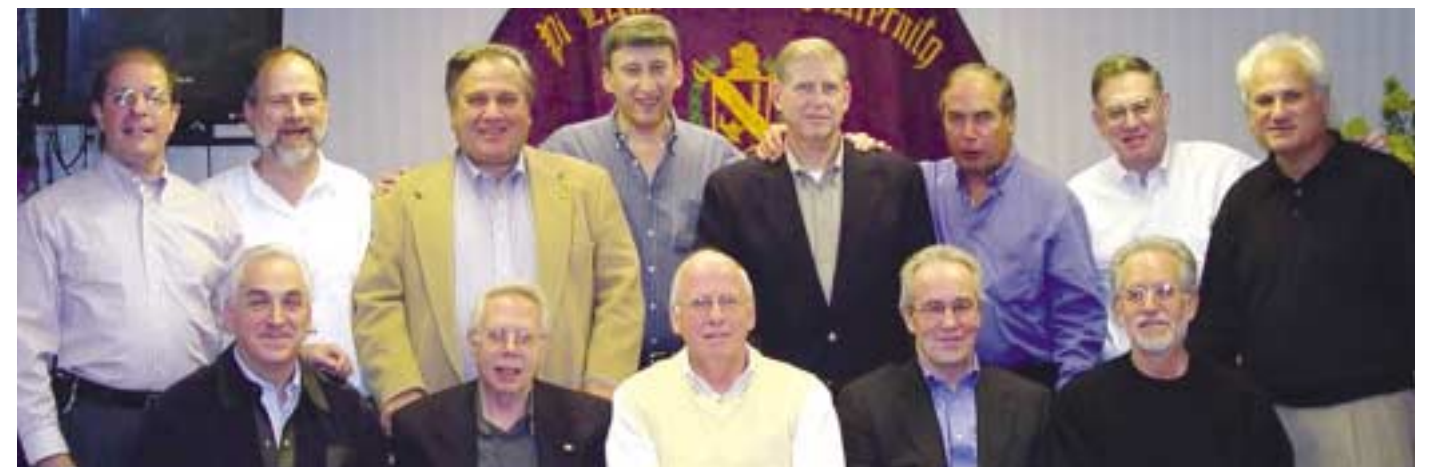
Alumni and guests enjoyed reconnecting with one another and meeting other alumni from UMass Lowell at the Mar-a-Lago reception. The participants included, from left, David Pernick '41, Frances Pernick, and Beverly and Mel Siegel '48.



Chancellor William T. Hogan greeted, from left, Richard Freeman '59, Muriel Freeman and John Santos '60 at the Palm Beach reception.



Alumni and friends enjoyed an elegant evening at the Mar-a-Lago Club. Pictured, from left, are Richard Bass, Kim Savage Bass '83 and Marialena Selvaggio Maughan '87.



Members of Pi Lambda Phi fraternity reminisce about their Lowell days at a recent reunion gathering. Standing, from left, are Al Brilliant '64, Dan Stern '66, Howie Blank '63, Ed Kaplan '63, Morris Frimmer '64, Earl Goldberg '65, Dick Shifman '64 '68, and Al Chernack '63. Seated, from left, Herb Zaritsky '62 '63, Artie Stein '64, Howie Hartley '63, Dave Hopwood '63, and Henry Alter '64. If you are a member who would like to reconnect with your old friends, visit the PiLam Web site at <http://www.websitespaces.com/pilam>.



Local-area alumni enjoyed a picnic gathering followed by a ballgame at the City of Palms Park where they cheered on the world champion Boston Red Sox at spring training. Pictured at the event are alumnus Dr. Jack Ryan '85 and his two sons — all big Red Sox fans!



Pictured at an alumni dinner held in Plantation, Fla., are, seated, from left, Barry Small, Elisabeth Tasis-Small '78, Provost John Wooding and Nancy Sposato. Standing, from left, Dean of Sciences Robert Tamarin, Raymond Rondon '71, his mother Mrs. Rondon, Heather Makrez '06 and Bill Laudani '67.



The Department of Clinical Lab and Nutritional Sciences hosted an alumni gathering followed by a UML hockey game. Seen here with Prof. Kay Doyle, third from left, are alumni and faculty of the department. The group is looking forward to more events in the future.



The offices of Alumni Relations and Career Services recently held a career development event on campus for alumni. Following a presentation on situational leadership, alumni had an opportunity to network.



Rob Manning '84, CEO and president of MFS Investment Management, came back to campus to speak to students and faculty as part of the Senior Executive Forum. Seen with Mr. Manning, center, are his former professor, Bernie Shapiro '56, and Kathy Verreault '78, dean of the College of Management.



Margo Oge '72 '78, graduate of the Plastics Engineering Program and director of Transportation and Air Quality for the EPA, was back on campus this spring as a guest speaker at the Senior Executive Forum. Following her talk, Margo visited with her former professors and answered questions from students. The professors gathered with her here are, from left, Nick Schott, Steve Orroth, Steve Driscoll, Rudy Deanin and Amad Tayebi.

In Memoriam

1920 Evelyn L. Phetteplace	1941 Angus H. Roberts	1954 Jean T. Munro	1973 Russell E. Rakip, Jr.
1926 Isabelle A. Burns Gertrude A. Heron	1942 Katherine A. Brosnahan Elizabeth J. Herlihy Doris F. Murphy	1955 Paul F. O'Loughlin	1976 George V. Brown Regis J. Drakopoulos II
1927 K. Virginia Adams Harriet M. Dunn	1943 Mary C. Burns Alban G. Sheehan	1958 Margaret A. Fitzpatrick Lorraine Rauh	1978 Walter G. Nutter Charles W. Amos
1929 Ida M. Lunderville Arnold G. Stephens	1944 John T. Walwood	1959 Albertine E. Charron Kevin W. Flynn	1984 James C. Koumpouras
1933 Eugene F. Crane	1945 Ann R. Parke	1960 James C. Weatherbee	1987 Gary J. Morse
1935 John F. Bogdan Elizabeth Cox Eleanor E. Daniels	1948 Richard B. Simon	1961 Roy A. Spurlin	1992 Bonnie L. Crabbe
1936 Olive F. Eldridge	1949 Louis P. Deangelis	1963 Frank E. Cobleigh, Jr.	1998 Anthony W. Lennon Christopher J. Sullivan
1937 Alice Cameron Turner	1950 Albert R. Copp	1964 Fernand St. Germain	Faculty and Staff
1938 W. Hersey Howard	1951 Thomas J. McKone	1969 Richard Dolbec	Everett V. Olsen, President Emeritus
1940 Edith M. Riley	1952 Edward C. Fisher	1970 Lloyd H. Maranville, Jr.	Ira E. Over Jr. Mark Levine Joan Roberts Prof. Wen Tang
	1953 Frances A. Dooley	1971 Mary Moran Keon James F. Welch III	

UML Hockey Takes a Step Toward the Future

By Bob Ellis

“What doesn’t kill you is going to make you better.”

UMass Lowell hockey Coach Blaise MacDonald is fond of saying that. It reflects the reality of life in Hockey East, one of the most competitive conferences in the country, and makes clear the coach’s optimistic take on the future.

The River Hawks took a big step toward that future during the winter of 2004-05, compiling a record of 20-12-4. It was the school’s seventh 20-win season since joining Division I in 1983-84 and featured the school’s longest Division I unbeaten streak: 14 games.

The 12 losses were the fewest since 1996.

“We lost 12 games all year, which was terrific. Five of them were to the University of Maine, four of them were played in Maine, which, by anybody’s

“We had a tremendous year in a lot of aspects; there was a lot of growth, a lot of development.”

— **Coach Blaise MacDonald**

measure, is a tough place to play,” says MacDonald. “We had a tremendous year in a lot of aspects; there was a lot of growth, a lot of development.”

It was the type of year, despite a roller coaster of emotions, that gives rise to great expectations. The River Hawks peaked at number nine in the nation in the *USA Today* College Hockey Poll and number seven in the US College Hockey Pairwise rankings, a rating system that mimics the formu-

la used by the NCAA to pick the participants in the national tournament.

“We have one of the better teams in the country,” says MacDonald. “We could beat anybody on any given night. We proved that with wins against the University of New Hampshire and Boston College.”

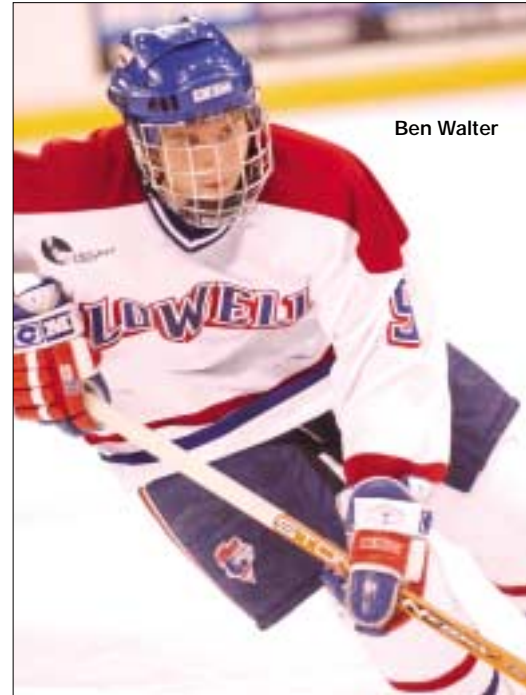
The UNH win came before a packed Tsongas Arena and a New England wide television audience and served notice, nationally, the River Hawks were joining the upper echelon in college hockey.

The River Hawks then added an exclamation point to the program’s growth with a weekend home-and-home sweep of what was college hockey’s top ranked team, Boston College.

The team played with the poise and confidence of veterans of the hockey wars, which they were and at the same time were not.

The team featured only two seniors, both important contributors, but neither a dominant player.

Most everybody will be back for the 2005-06 season.



Ben Walter

The River Hawks were led by Center Ben Walter. The junior finished the year with 26 goals and 39 points in 36 games played. The goal total put him third in the country and earned Walter second team All-Hockey East honors. Junior Elias Godoy also contributed 39 points, highlighted by 27 assists. He earned an Honorable Mention from the Conference.

A disproportionate share of the game of hockey falls on the shoulders of the goaltender — and freshman Peter Vetri displayed willing and strong shoulders. Vetri was honored by Hockey East as the Rookie of the Year.



Peter Vetri



Ben Walter

Playing in 25 games, he had a goals-against average of 2.52 and a save percentage of 91.2.

The team’s growth was clear both on and off the ice. Twenty hockey players made the Dean’s List at the year’s midpoint. Ten carried a 3.5 or better grade point average.

The hockey season did end abruptly. The River Hawks were knocked out of the Hockey East Tournament by perennial power UMaine in the first round.

“Whenever you lose a playoff series it’s very, very disappointing,” says MacDonald. “I really think we will take a lot of positives out of the season. Things happen for a reason. We will regroup a little bit and get better. This will make us a better club next year.”



Peter Vetri

Moragne Named All America

By Bob Ellis

Stacey Moragne never went looking for attention.

His performance demanded it.

The 6-foot-4-inch, 216 pound junior from Evanston, Ill., became the focal point of a UMass Lowell men’s basketball team that finished 18-10 during what was supposed to be a rebuilding year.

In the process, Moragne wrote his name clearly and distinctly into the UMass Lowell basketball record book and others penciled his name in for various awards.

Moragne was named the Division II Player of the Year by the Eastern Collegiate Athletic Conference and by

the Northeast-10 Conference. He was named All America by various organizations including the National Association of Basketball Coaches.

He is the fifth men’s basketball player to earn All America honors. He joins former teammate Elad Inbar (2003,04), Brian Parath (1990), Leo Parent (1987, 88, 89) and Bobby Licare (1987, 88).

Moragne’s performance may have surprised some, but not his coach.

“I am not surprised because I know



Stacey Moragne

what Stacey is made of,” says UML head coach Ken Barer. “I am pleased because he is being recognized for his consistent high level of play.”

Indeed, Moragne was the picture of consistency. He scored in double figures in all but one of the River Hawks games this season and compiled eight double-doubles. He was named the Northeast-10 Player of the Week in three successive weeks and was included as part of the conference honor roll five other times.

A southpaw with a soft touch from outside and a remarkable toughness under the basket, Moragne led the Northeast-10 in scoring with 22.7 points per game. Those numbers

ranked Moragne seventh in the nation in Division II. He was also among the Northeast-10 leaders in five other categories.

This year was just another step in the process, another stage in the evolution and maturation of Stacey Moragne. As a sophomore he had been the perfect complement to Inbar, the Division II National Player of the Year.

"Stacey bided his time to be the focal point of our offense and he has not disappointed," says Barer. "He is the hardest



Stacey Moragne

player in the league to guard because of his versatility."

And there is something else that Moragne brings to the floor as well.

"His competitiveness and desire to win and to get better are great attributes," says Barer. "When I first recruited Stacey, I saw enormous potential. He had something special that was uncommon. He had such efficiency to his game. He always seemed to be the guy taking the big shot."

Homecourt Advantage

We need to raise \$750,000 in private contributions to assure the excellence of the interior of the Costello Athletic Center, thus enabling UMass Lowell's athletic teams to continue their rich tradition of success in the highly competitive Northeast-10 Conference.

Show your pride in River Hawk athletics by helping to renovate the Costello Athletic Center. In the past seven years, the University has constructed a new outdoor complex for field hockey, soccer and track & field; a softball park; the Tsongas Arena; and Ed LeLacheur Baseball Park. The Costello Athletic Center is the only University athletic facility that hasn't been updated.

The project will include:

- A new floor
- New arena seating
- Interior painting
- New sound system
- New scoreboard



How can you help?

Make a donation.

The Costello Athletic Center serves the entire University and Greater Lowell communities. In addition to being the home of the basketball and volleyball teams, virtually all of the athletic teams use the facility as an indoor practice site. It is also used for youth tournaments, summer camps and clinics, and a host of non-athletic activities.

Help support the "Homecourt Advantage" campaign. Please mail your contribution to:

Department of Athletics
UMass Lowell
One University Avenue
Lowell, MA 01854

1950

With encouragement from Lowell Fund Director Kathrine Hastings, **Fred Hornyak** managed to track down a group of textile chemistry students in his class of 1950. For several decades, Fred taught chemistry at the University of North Carolina-Wilmington. "For 55 years, the initiative to reach out just wasn't there," he says.

Our Prof. Ernest James, now 85 and revered by all, also got into the action. He is a veritable treasure trove of recollections, and far superior to many of these "Find Anybody" Web sites.

The first target was **James E. Miller**, Fred's roommate in the Alphonse Fortier home on Crawford Street. Jim is retired from the Consumer Products division of Best Foods in Indianapolis. He formulated RIT dyes and other household items.

Allan Wirth taught high school chemistry, and served as chairman of the Science Department in Hudson, N.Y. At Lowell Textile, Allan was our chief consultant for tough homework problems in chemistry.

Contacted also were two chemist-cheerleaders, **Terry Commerford** and **Gabrielle (Lemire) Jussau**. In between football pep rallies, these girls conducted lab experiments. Check them out in the 1950 *Pickout*, page 60. Gabrielle's father was a mathematics teacher at Lowell High School. Her late husband, Bob Jussau, was president of Trust General in Montreal for 10 years. Terry worked in spectrophotometry at the Derby Company for about 25 years and is now with RDECOM, an Army research laboratory in Natick.

1951

Katherine Seidenberg enjoys working part-time as humanities secretary at Georgia Perimeter College, Dunwoody campus, in Atlanta, Ga. She and her husband, Phil, are proud to be first-time grandparents to Chip, 2, and 1-year-old Brooke. According to Katherine, the long wait for grandchildren was well worth it!

1956

David Killam has published his first book, *Fussin's, Cussin's and Chucklin's*, with more than 500 pages of Yankee humor and/or perspective. David also writes for music periodicals.

1961

Professor of Music Education **Deanna Dustin Kidd/Szymczak** is semi-retired, doing observations of student teachers with Berklee College of Music. Next year she will retire fully and live six months on Cape Cod and six months in their condo in Pompano Beach, Fla. She and her husband continue to entertain with several bands in the Florida area. Deanna also sings with the big band *Stage Door Canteen* on Cape Cod and in the Boston area.

1965

Betsy Moore relocated in November to Sun City Hilton Head, S.C., an "Active Adult" community. She is enjoying it, but says that it is a "jolt" after living in Massachusetts all her life!

1966

After retiring from the Commonwealth of Massachusetts and working in private special education schools for six years, **Charlene Spaulding** is a reading specialist for a Pelham,

N.H., elementary school. She is also working on her doctorate and preparing her dissertation on early literacy intervention with hopes of graduating in June 2006. Charlene lives in Pepperell, Mass., with her husband, Maurice. Their three sons, Maurice, Edward and Robert, are grown. Robert recently married and presented them with a granddaughter, Kaitlynn.

1970

John Parmentier is vice-president of Dunn McKenzie, Inc., in Norfolk.

1972

Paul "Fuffo" Faynor is the owner of *Stress Express*. His company, founded in 1986, repairs pre-stressed concrete structures, along with other projects. Paul and his family live in Dana Point, Calif.



1973

Jim Kozik is helping facilitate the production and delivery of recognition materials for the *Preserve America* program, chaired by Mrs. Laura Bush. Jim is a highway engineer with the USDA Forest Service.

1974

Donald Campbell and his wife are proud to announce that their daughter has recently become engaged and is planning an August wedding.

Besides wedding arrangements, they enjoy spending their free time boating on Lake Powell in Utah. Donald is vice president of Tetra Tech EMI and he and his family live in Evergreen, Colo.

Maureen Keefe Johnson is in her 31st year of teaching junior high instrumental music and band in Dracut. She and her husband, Mike, are the new owners of Johnson Music in Dracut. Maureen will be retiring this December and running Johnson Music full-time with her husband. Maureen is also church organist/choir director at Tyngsboro Congregational Church.

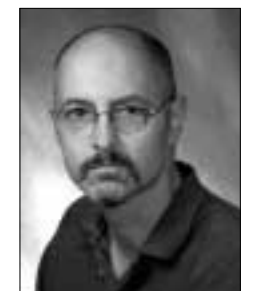
John Trejo writes to say that he "is loving the Florida Keys," especially the fishing and diving! He is the manager of Atlantic Davits and Boatlifts in Key Largo.

1975

Holly Trejo is enjoying the "mostly empty nest" syndrome. She writes that somehow the kids manage to pop in a lot! She teaches social studies in grades 5 - 8 in the Archdiocese of Miami. She and her husband, **John '74**, travel as much as time permits and says they are enjoying life in the "Conch Republic."

1978

Robert J. (Bert) Carrison, owner and creative director of Carrison Design, a full-service graphic design company, was awarded five graphic design



awards from the 2004 American Graphic Design Awards competition. The company is now in its 15th year of operation and specializes in the production of company logos, newsletters and brochures. Bert and his wife, Pam, and their two sons, Matthew and Dever, live in Norfolk.

1980

Catherine Moore has been enjoying a dual career. She became a certified nurse midwife in 1996 and practices at Brigham and Women's Hospital in Boston. She is also co-owner of The Goddess Dancing, a business that teaches and performs belly dance,

and which, in 2004, produced an instructional video for beginner belly dance. She also performs belly dance at such venues as The Athenian Corner Restaurant in Lowell.

Stephen F. Smith is a special agent in charge with the Naval Criminal Investigative Service's Greater Southeast Asia Field Office.

1983

Katherine Patton-Hall was recently honored with an Award of Merit for Group Achievement at the Naval Surface Warfare Center Dahlgren Division's (NSWCDD) Honor Award Ceremony. Her team was hon-

ored for developing a new technique for dissemination of chemical agent stimulant clouds over water for the testing of chemical agent detection systems. She's been employed with NSWCDD for four years.

1985

Maura Bolduc has been promoted to vice president in the marketing department at Banknorth Group, Inc., in West Falmouth, Maine. Bolduc joined Banknorth in 2001. She lives in Atkinson, N.H.

Stephen C. Desautel is a deputy science advisor with the HQ European Command, U.S. Armed Forces.

Sally Carpenter Nunn is a clinical manager of the Swedish Wound Healing Center in Redmond, Wash. She has worked for Swedish for 15 years, with the last seven as a wound care clinician. She and her husband, Bob, have been married for 17 years and have two children, Rob, 14, and Joe, 11. They are avid boaters and enjoy cruising Puget Sound and in the Canadian Gulf Islands.

Grace (Reidy) Girotti married Robert Girotti in 2002 and retired from programming in January 2003. In September 2003 she gave birth to their son, Thomas Anthony. She says that she has never been

Unexpected \$1 Million Gift Will Fund Student Scholarships

UMass Lowell has received one of the largest single gifts ever, and it comes from the estate of an alumnus who died more than 40 years ago.

The University recently received word from the lawyers of **Cheney Cook**, a 1905 graduate of the Lowell Textile School, that the University will receive \$670,000 from Cook's estate. With a matching gift from the state's endowment incentive program, Cook's legacy to UMass Lowell will total \$1 million, a portion of which will be designated for student scholarships.

Cheney Cook received his diploma in wool manufacturing from Lowell Textile School and went on to become president of Winslow Brothers and Smith Co., a tannery in Norwood. At the time of his death in 1961, Cook's will stipulated that part of his estate would transfer to Lowell Textile upon the death of his last heir. Mrs. Cheney E. Cook, his last heir, recently died, and the Cheney E. Cook Trust notified UMass Lowell that it will transfer the money as the will stipulated.

"This is a significant gift that provides great momentum to our fundraising efforts," said Matthew Eynon, executive director of University Advancement. "We hope other alumni and friends will see what an impact such a planned gift can make, especially given the state matching program. This sets an example for others to follow."

UMass Lowell students have been benefiting from Cook's generosity for years. The Cheney Cook Scholarship Fund, established in 1961, has made a \$2,000 scholarship available each year for an undergraduate or graduate student with demonstrated financial need. The fund is worth more than \$50,000 today.

Ram Sudireddy MSE '92, senior vice president of Engineering at Applied Micro Circuits Corp. (AMCC) in Andover, was the keynote speaker for the International Student Club's second annual banquet in April.

Having been an international student himself — he earned an electrical engineering degree from Nagarjuna University in Guntur, India — he also has agreed to serve as a mentor to international students.

He has worked with Prof. Kanti Prasad of Electrical and Computer Engineering, and has hired a number of UML students as trainees at AMCC.

Sudireddy was a co-founder and CEO of Cimaron Communications, an Andover-based framing and mapping company that was acquired by AMCC in 1999. Prior to Cimaron, he was founder and vice president of research and development for Siltek Corporation, and held various engineering positions at AT&T's Bell Laboratories.

Applied Micro Circuits, headquartered in San Diego, designs, develops, manufactures and markets high bandwidth silicon integrated circuits empowering wide area networks.

more satisfied with her life than she is now as a wife and mother! Grace and her family, which includes two cats, are happily living in Danville, N.H.

1986

Jeffrey Hanley recently formed Redfont Records, Ltd., and is happy to announce the release of the first compact disc, *What Have You Done to My Heart?*

Stacey West ('89) and Kevin Geary celebrated their 10th wedding anniversary in June with the birth of their fifth child, Josie Alexandra West Geary. Josie joins Emily, 9, Conor, 7, Riordan, 4, and Phoebe, 2. Stacey is a realtor with Century 21 Bridge Realty. Kevin is a special education teacher at Methuen High School.

1988

Bob Rauker relocated to Philadelphia recently to take a new position as vice president, chief patent counsel of Synthes, Inc., a \$2 billion orthopedic device company located in West Chester, Penn.

1989

Karyn Geary ('91) and Daniel MacDonald are pleased to announce the birth of their triplets, Mary, Jack and Max, in October. Daniel is a certified public accountant and attorney-at-law in Danvers. Karyn is a certified adult, geriatric and palliative care nurse practitioner for Hospice of the North Shore, also in Danvers. She recently co-authored a chapter on the end of life that will be published in a nursing textbook, *Geropsychiatric and Mental Health Nursing*, which is co-edited by UML Prof. Karen Devereaux-Melillo and Assoc. Prof. Susan Crocker Houde. Karyn, Dan and babies live in Salem.

Eric Hale has joined Quantapoint, Inc., as director of business development.



Quantapoint is a provider of the world's most trusted and accurate as-built documentation using laser scanning. Eric lives in Naperville, Ill.

Stacey West and Kevin Geary ('86) celebrated their 10th wedding anniversary in June with the birth of their fifth child, Josie Alexandra West Geary. Josie joins Emily, 9, Conor, 7, Riordan, 4, and Phoebe, 2. Stacey is a realtor with Century 21 Bridge Realty. Kevin is a special education teacher at Methuen High School.

1990

Margaret "Meg" Smith is editor of the *Billerica Minuteman* newspaper. She received a 2004 first-place award from the New England Press Association for coverage of religious issues, for an article about the Islamic community's observance of Ramadan. She shares a 2004 third place award for coverage of social issues as co-writer of an article series on homeownership. She is a widely published writer of fiction and poetry and serves on the board of directors for the annual Lowell Celebrates Kerouac! Festival. She is associate editor of *Middle Eastern Dance* in *New England Magazine* and a staff writer for *Jareeda* magazine of Middle Eastern music and dance.



1991

Karyn Geary and Daniel MacDonald ('89) are pleased to announce the birth of their triplets, Mary, Jack and Max, in October. Daniel is a certified public accountant and attorney-at-law in Danvers. Karyn is a certified adult, geriatric and palliative care nurse practitioner for Hospice of the North Shore, also in Danvers. She recently co-authored a chapter on the end of life that will be published in a nursing textbook, *Geropsychiatric and Mental Health Nursing*, which is co-edited by UML Prof. Karen Devereaux-Melillo and Assoc. Prof. Susan Crocker Houde. Karyn, Dan and babies live in Salem.

In December, **Daniel Rogers** was appointed vice president/project team leader of the Project Management

Office's operations support unit at Citizens Bank. He joined Citizens in July from Network Plus in Braintree. He lives in Lakeville.



Timothy Murphy became a partner in a law firm that has been around since 1937. The firm's new name is Stella & Murphy, LLC. He and his wife, **Lisa (Labrecque) '94**, are expecting their third child in April. Brother Devin and sister Lorelie are anxiously awaiting the new arrival.

1992

Peter Furlong of Palazzolo sull'Oglio, Brescia, Italy, has had a busy year. Peter returned to New York to perform as Pinkerton in *Madame Butterfly* and later in the year as Cavaradossi in *Tosca* to rave reviews. Also this year, the live-recording CD of the opera *Die Drie Pintos* on Naxos, in which

Peter plays the lead role of Don Gomez, was released.

Greg Vermette is senior editor at Center City Film & Video in Philadelphia. He and his wife, Jen, have three children.

Charles Potter of Sandia National Laboratories in Albuquerque, N. Mex., has been named a Distinguished Level of Technical Staff (DMTS). DMTS is awarded to 10 percent or less of the technical staff population and requires approval of a laboratory vice president. The individual conducts innovative engineering studies or scientific research and is recognized as an expert in the professional field. Charles has been employed by Sandia National Labs since 1992, serving as project lead for Radiation Protection Dosimetry since 2000.

1993

Timothy Kugal joined the U.S. Patent and Trademark Office in July as a patent examiner in the Chemical and Materials Engineering Tech Center. He and his wife, Tracey, relocated to the Washington, D.C., area.

1994

Lisa (Labrecque) Murphy and her husband, **Timothy Murphy '91**, are expecting their third child in April. Brother Devin and sister Lorelie are anxiously awaiting the new arrival. Timothy is a partner in the law firm Stella & Murphy, LLC.

1998

Capt. **Christopher J. "Sully" Sullivan** was killed in January while serving in Iraq when a bomb exploded next to his parked vehicle in Baghdad. Christopher joined the Army in 1998 and was a tank platoon leader.

2000

David Jasmin is a sales account manager with Innovatech Associates in Methuen.

Angela (Boucher) Ouillette married Raymond Ouillette in October and they enjoyed a fabulous honeymoon in St. Martin. Angela works at D'Youville



Senior Care Center as director of activities where she works with Asst. Prof. Pat Scollin on the Computer Camp program for the residents.

2003

Alysha Monfette has given birth to a beautiful baby girl, Liliana Jade. She is the assistant director of marketing design with the Greater Lynn YMCA.

Elise M. Schrieber is an after-school teacher with the Cohasset Enrichment Programs.

2004

Michelle MacInnis is the assistant fitness manager with Town Sports International – Boston Sports Club in Waltham.

Gina Morin is a crime analyst with the City of Lawrence Police Department.

Matthew Roddy is a loan originator with Hampton Bay Mortgage Co, Inc. in Lowell.

'98 Graduate, Chris Sullivan, Is the University's First Known Fatality in Iraq

Christopher J. Sullivan, class of 1998, was a husband, father, golfer and skier—and full-time soldier—who had completed a tour in Kosovo and was most of the way through another in Iraq, when a bomb explosion January 18 on a street in Baghdad ended his life at 29.

As far as the Alumni Office is aware, he was the first UMass Lowell alumnus to have died in the war in Iraq.

Sullivan, a resident of Princeton, who graduated with a major in mechanical engineering and was the father of a 19-month-old son, was a captain with the 1st Battalion, 5th Cavalry Regiment of the 1st Cavalry Division, based in Fort Hood, Texas. He was scheduled to return home three weeks after the explosion that took his life.

Two months before his death, on Veteran's Day of last year, Sullivan had spoken by satellite hook-up from Fallujah to a crowd gathered in Shirley, to commemorate the holiday. "We understand why we are here," he had assured the crowd. "We believe in what we are doing."

"He was just a terrific guy," says David Ducharme, '99, his roommate in Donahue Hall, who graduated a year behind him. "We both had the same major, and he was a year ahead—so he was always helping me out. We had some great, times those years. Then, instead of going into the world of work, he decided he'd rather go out and help protect America's freedoms. I'll always respect him for that."

Chris Sullivan came from a long line of career military men, according to family members. As a child, remembers his sister Jennifer, he used to play with the medals earned by his father, who had served two tours in Vietnam. Always resolute in his goal to be a soldier, he joined the Civil Air Patrol as a boy of 14.

"It's hard growing up knowing you have a little brother you want to keep safe from a world you can't control," Jennifer, 35, told the *Lowell Sun* the week following her brother's death. "But this was always something he wanted to do."

Sullivan had fond memories of his time at UMass, said his sister. He made several friends through the University's ROTC program, and spent much of his free time golfing at local courses.

"He really enjoyed his time in Lowell," his sister said.

The family has established a trust fund in Sullivan's memory, according to David Ducharme, to benefit his 19-month-old son, David. Those interested in contributing should contact the Clinton Savings Bank in Clinton.



Christopher J. Sullivan

"We understand why we are here, we believe in what we are doing."
— Christopher J. Sullivan

University Launches Jack and Stella Kerouac Center for American Studies

The University's new Jack and Stella Kerouac Center for American Studies "is, in some ways, a light bulb over my head," says Prof. Hilary Holladay,

"Hopefully the light bulb will brighten and shine over the whole program over time."

That light did, indeed, shine brightly this spring when a group of distinguished poets and scholars convened in Coburn Hall to participate in the first New England Poetry Conference, an event that introduced the new Center, named for Lowell writer Jack Kerouac and his wife, Stella Sampas Kerouac.

Starting in the fall, the Center also will bring scholars of American Studies

"There's still so much potential for deciding what American Studies is all about, and I think the Merrimack Valley is an ideal place to be making those decisions."

— Prof. Hilary Holladay

to the campus to speak on a variety of subjects, an initiative that Holladay expects will promote greater awareness as to what the Center is all about.

And, "down the road," she says, the hope is to introduce a master's degree program in English with a concentration in American Studies, or possibly a graduate degree in American Studies itself. Such a program would include other departments, such as history, philosophy, cultural studies, art, music and regional economic and social development (RESD).

"For a long time, we couldn't support a master's program because we didn't have the necessary library resources," says Holladay. "Today, with electronic resources, it's not the hurdle that it once was. You can get most of what you need online."

"Now the question is whether we have the population in the region to support a master's in English or history. I think we do. With so many students going on to teaching careers, I think they'd welcome a graduate degree in these areas. And I believe the Center can play a significant role in the development of a graduate program."

Holladay, who, in addition to being head of the Center is also a professor of English, says, "We saw the new Center as the way to go, given the movement within the University toward interdisciplinary education. And we saw it as a natural fit with the available resources, such as the Patrick Mogan Cultural

Center for the history of Lowell and the Merrimack Valley, and our proximity to the many literary and historical settings in places like Concord and Boston."

The plan, says Holladay, is to connect with museums and community organizations in the region and to explore the ties linking literature, history, politics and culture.

"One important thing about this Center is that it's not just about Kerouac. We named it after him because

he's the most famous native son we have — at least, so far. The Center's programs will be wide-ranging and will examine all periods of literature and history."

Programs like this fall's speaker series are made possible, in part, by a \$50,000 gift from Kerouac Estate Executor John Sampas, Stella's brother.

"This is exactly the sort of thing Jack would have been thrilled and honored to be associated with," Sampas says. "He was always enthusiastic about nurturing the humanities in Lowell."

While American Studies is an emerging field at UMass Lowell, it is not new. The program began in the early 1970s under the direction of Cliff Lewis, professor emeritus of English. Lewis shaped and guided the program through two decades before handing the reigns to English Prof. Melissa Pennell and, subsequently, to Holladay.

There are now about 20 undergraduates majoring in American Studies, which invites students to examine the development of American society and its culture.

"There's still so much potential for deciding what American Studies is all about," says Holladay, "and I think the Merrimack Valley is an ideal place to be making those decisions."

By Jack McDonough

George Sateriale '84 Engineers a Career in Magic

George Sateriale made his debut as a professional magician when he was 12 years old.

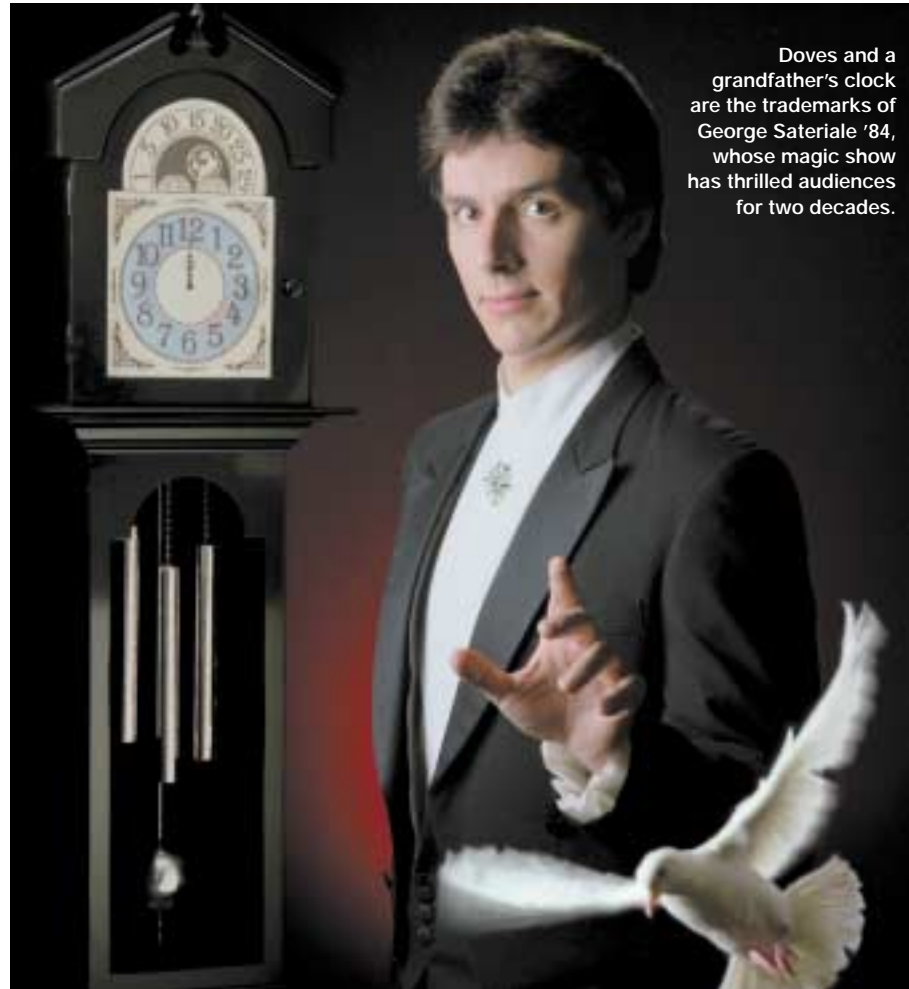
A woman who lived across the street from his parents' summer cottage in Wolfeboro, N.H., was having a birthday party for one of her grandchildren and she asked George to come over and do some magic tricks for the children. Afterward, she handed him five dollars and said, "Now, you're a professional."

But that was a long time ago — long before he graduated from the University of Lowell in 1984 with a degree in mechanical engineering, and long before he gained international recognition in the world of magic, becoming the only person in the industry to win two gold medals — one each at the annual conventions of the Society of American Magicians and the International Brotherhood of Magicians.

Sateriale became hooked on magic at the age of eight when his father showed him a couple of coin tricks he had learned from a co-worker. He soon began scouring the library for books about magic, and designing his own tricks using all manner of material, from his mother's pots and pans to stuffed animals like his sister's Raggedy Ann doll.

The hobby went on hold during high school, where Sateriale became more interested in athletics. But once in college, he took up magic again as a way of making extra money. He performed part-time at the Ground Round in Peabody and at parties and other events.

When he graduated, he went to work for a company that designed circuit boards but he continued to dabble in



Doves and a grandfather's clock are the trademarks of George Sateriale '84, whose magic show has thrilled audiences for two decades.

magic, wondering if he could make a living at it. He was getting offers to perform on cruise ships and do a lot of traveling, something that wasn't possible because of his job.

By this time he was planning to marry Holly Somerville, the cousin of his old college roommate, Ken Campbell. Holly encouraged George to give magic a shot.

His first jobs were on cruise ships but, he says, there was no big bolt out of the blue that catapulted his career.

"You just work hard," he says, "and it slowly sneaks up on you. Twenty years

later you look back and realize how far you've come."

Once having turned professional, George deleted the "e" at the end of Sateriale. He became George Saterial (rhymes with "material") because he felt it would be easier for people to pronounce.

He also began studying acting, voice and corporeal mime.

Acting lessons were important, he says, because "any kind of performing is acting. And it gives you more confidence on stage. The mime lessons taught me how to use my body to com-

municate. That's important because in some parts of my act I don't speak, and body language is important."

The voice lessons helped him to overcome his typical Boston accent so that now, no matter where he appears, people can't tell where he's from.

In the latter part of the 1980s, Saterial decided to add doves to his act — but he didn't want to use anything as mundane as a cage. Then one day, while wandering through a furniture store, he spied a grandfather's clock. At first he didn't think much of it, but the more he thought of it, the better he liked it. It could, he reasoned, become his trademark.

Using his engineering skills, he built a clock that was the centerpiece of his act when he won the two gold medals in 1999. In this performance, he makes doves appear on his fingertips and places them inside the face of the clock. He removes the sphere at the end of the pendulum and makes it multiply and then disappear. Another dove materializes and, when Saterial opens the face of the clock, the doves inside are gone, replaced by the clock's gears and cogs.

But all his magic is not performed on a stage. He once performed on a movie set.

When *Good Will Hunting*, starring Matt Damon and Minnie Driver, was being shot in Cambridge, Saterial was hired to play the role of a street magician.

But as is often the case with movies, his scene was cut in the final editing. The good news, however, is that he still receives royal-

ty checks for his work in the film.

The magician who started devising tricks with his mother's cookware says, "An engineer makes things that work in a certain way. When you design a magic trick, you engineer something that looks ordinary but does extraordinary things — or that does something completely different from what it appears intended to do."

Saterial says he doesn't have an agent but does work through several agencies. Whatever method he uses, it must be effective.

He has appeared in shows in New York, Los Angeles, Canada, Europe and Asia, and on trans-Atlantic cruise ships. The corporations for which he has performed read like a page from *Fortune* 500.

"I travel quite a bit," he says, "and Holly goes with me most of the time. We do a two-person act where she appears and disappears."

The part of the business he enjoys most, he says, is "creating that same feeling of amazement in others that I felt when my dad showed me that first coin trick. I remember it like it was yesterday."

Old friends and classmates may be able to catch his show this July when he performs at the annual convention of the Society of American Magicians at John Hancock Hall in Boston. Details may be found on his Web site: saterial.com.

Rock Plays a 'Role' in Popular Television Series

In a manner of speaking, Brett Rock '84 has played a role in the popular television series *CSI: Crime Scene Investigation*.

Rock is product manager for Thin Film and Applied Vision at BOC Edwards of Wilmington, a division of the multinational BOC Group. The British company transports gases, such as liquid oxygen.

But part of its business has to do with the industrial use of vacuum technology, and that's what BOC Edwards does. And one portion of that phase of the business serves law enforcement — particularly in the area of fingerprinting.

Police in many jurisdictions use their Identicoat 500, an industrial vacuum machine that lifts fingerprints off virtually any surface — such as plastic bags — more successfully than the traditional dusting with aluminum powder.

The *CSI* cast has used the Identicoat 500 twice. The first time, they just shoved a crumpled up plastic bag into the machine — not the proper procedure.

"We got a big laugh out of that," says Rock.

Before they used it the second time, the prop man for the show conferred with Rock to make sure they were doing it correctly.

"I suggested they fold the material before putting it in the machine. They ended up cutting it. That's OK but the danger in doing that is that you could accidentally cut through a finger print."

The Identicoat process uses gold atoms and zinc in a vacuum to bring out fingerprints, which can then be photographed.

Rock majored in political science with the idea of going to law school. But four years in classrooms, and the need to earn some money ("I was tired of being broke."), prompted him to go into the business world. He has been with BOC Edwards 14 years.

By Geoffrey Douglas

Lowell Tech Alumnus, an Industry Pioneer, Will Fund Plastics Scholarships as a Means of ‘Giving Back’

The concept of “lean manufacturing,” as Joe Day describes it, was a new one to Americans in the early 1990s. A somewhat complex, but highly effective methodology designed to lower a manufacturer’s costs, reduce waste, shorten delivery times and improve quality—all at once, ideally—it had been in use by the Japanese for some time already (notably at Toyota, but also elsewhere in Japan), but remained largely unknown by American industry. Until Joe Day, then CEO of Freudenberg-NOK (FNGP), a billion-dollar automotive supplier outside Detroit, made the introductions.

“I was recognized for installing the methods at our company, then teaching them to some of our customers,” says Day over the phone from his winter home in Palm Beach. “I guess you could say I Americanized the practice.”

Day, a 1966 graduate of Lowell Tech with a degree in plastics engineering, has been retired now nearly three years. From time to time as he

“I’ve been fortunate. I’ve had a great career. And now, being retired, I have an opportunity—to help prepare other students, through the same tools I was given, to create great careers of their own.”

— Joe Day

talks, he excuses himself to gently shush a grandchild—he has 10, the offspring of six daughters—who has turned the TV volume up just a bit too loud. Freudenberg-NOK, he explains, is the U.S. company that was created as a third partner to two other firms: the German Freudenberg and the Japanese NOK (the three, together, rank as the largest non-tire rubber fabricator in the world). “So, with the Japanese heritage we had already,” he says, “the introduction of lean manufacturing came pretty naturally to us.”

Day served for 14 years, from 1988 to 2002, as CEO of the American partner-firm, a maker of oil seals and



vibration-dampening devices—and widely recognized today as among the North American benchmark companies for lean manufacturing systems. Prior to that, for eight years, he was with the Dexter Group of Hartford, Conn., where he served as president of several of Dexter’s businesses. And for the 15 years before that—beginning just weeks after his graduation from Lowell Tech—he was with GE, where he worked his way through several sales and marketing spots to finish as general manager of a company-owned plastics firm.

Through every phase of his 37-year career, he says, from the earliest days as a sales trainee right through to the top job at Freudenberg, he was “wonderfully well served” by his four years as an engineering major at Lowell Tech.

“It gave me,” he says, “just a great technical basis for understanding the details of manufacturing, as well as a broad general grasp of what it takes to run a business.”

In gratitude for those early foundations, he has decided, he says, that the time has come to give back: “I’ve been fortunate. I’ve had a great career. And now, being retired, I have an opportunity—to help prepare other students, through the same tools I was given, to create great careers of their own.”

To this end, Joe Day has made possible a gift to the University: \$405,000, \$270,000 of his own funds, with the remainder as matching monies from the state. Half of this amount will endow UMass Lowell scholarships in the science tracks of plastics and rubber engineering; the other half will benefit the chancellor’s discretionary fund.

“This is an extraordinary gift,” says Executive Director of Advancement Matthew Eynon. “For Joe to show this level of generosity to the University is really indicative of his commitment—both to UMass Lowell and to the plastics and rubber industries. It also, I think, serves as a pretty great inspiration for any other alumni who might be considering how or whether to give.”

This is not the first time Day has been involved in the gifting of money to the University. As the Freudenberg-NOK CEO in the late 1990s, he oversaw the company’s funding of a professorship in rubber technology: “We saw the need for an increase in the number of rubber and elastomer (a synthetic rubber) engineers. So FNGP subsidized the hiring of a professor [Plastics Engineering Assoc. Prof. Joey Mead] to try to address that need.”

But that decision, he says, was more pragmatic than personal. Freudenberg-NOK had five factories in New Hampshire at the time, and UMass Lowell—“a source of both engineering talent and technical support”—was a logical choice for the company’s subsidy funds. “It was an easy decision,” remembers Day today. “The credit really goes to the University and Freudenberg-NOK.”

The more recent personal gift, though, is a different matter altogether:

“My entire career has been devoted to the plastics and rubber industries. That work has been my life. So really, to have the opportunity to give back this way—to be able to help prepare UMass Lowell students to succeed in the same fields—that’s a very special thing for me.”

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50/50 fleece hooded sweatshirt
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Champion Heavy Weight Sweatshirt
Screen-printed collegiate sweatshirt available in gray only. S-XXL. \$44.98 Item #3



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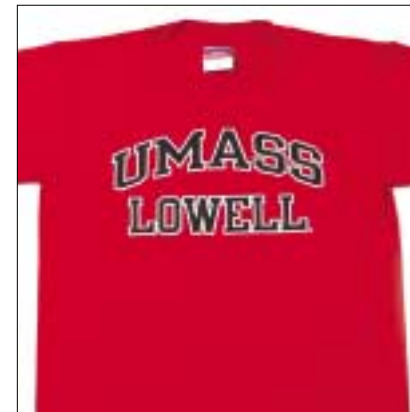
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Framed picture available with picture of Southwick, Cumnock or Coburn Hall. Available in 10x12 pen & ink style for \$85 or full color painted for \$140. Personalization is available on the pen & ink drawing for an additional \$10. Item #5



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