

## Students Will Get Paid for Learning

*Nuclear Engineering Company Sponsors Scholar-Interns*

**E**ight engineering students will have monetary support, mentoring and meaningful work experience through a new Scholar-Intern corporate partnership agreement with the Francis College of Engineering. Shaw Stone & Webster Nuclear, a subsidiary of The Shaw Group Inc., will support the program with grants of about \$20,000 annually—providing scholarships for as many as eight students. The program will offer students tuition assistance and opportunities to gain practical engineering experience and access to mentors throughout the company. The state will match the cost of tuition: about \$1,500 annually for each student.

The agreement is part of a strategic hiring plan by Shaw Stone & Webster Nuclear in support of their expanding nuclear engineering and design operations in Massachusetts. Scholar-interns will be selected from the nuclear engineering program, as well as from mechanical, electrical and computing, chemical and civil engineering.



▲ From left, Dave Barry, president of Shaw Stone & Webster Nuclear, and Engineering Dean John Ting signed a partnership agreement for scholar-internships for up to eight students. With them are Rep. Stephen Lynch and Shaw Group CEO Jim Bernhard at a ribbon cutting for an expanded nuclear facility in Stoughton.

The sponsorship agreement was announced at a press conference marking the company's opening of a new facility in Stoughton to better accommodate the company's expanding nuclear workforce. The new Shaw Stone & Webster Nuclear office expects to hire an additional 400 professionals at this location over the next few years.

Shaw is a pioneer in the nuclear industry and recently announced that it

has joined Toshiba Corporation in acquiring Westinghouse Electric Company, the world leader in nuclear fuels, services and pressurized water reactor technology. Shaw holds a 20 percent ownership in Westinghouse and the two companies have a long history of working together; with the acquisition, Shaw now has a stake in every aspect of the nuclear industry.

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## Kennedy, Meehan Deliver for Nanomanufacturing

**C**all it a special delivery. Rather than put the check in the mail, U.S. Sen. Edward Kennedy and U.S. Rep. Marty Meehan decided to hand deliver an oversized one, in the amount of \$2 million, to be used for UMass Lowell's nanomanufacturing research.

The funds were obtained in the FY07 Defense Appropriations Act, which was signed in early October by President Bush.

Meehan and Kennedy, who was joined by wife Victoria Reggie Kennedy, first were briefed on the promise of nano-sized products; the challenges of producing them at a high rate, at a high volume, but at a low cost; and on the specifics of a collaboration with the Army to produce multi-functional sensors. The sensors are expected to aid detection of threats to a soldier's environment.

Later, in the Trustees Room, the congressmen presented the check to the University's lead nanomanufacturing researchers, Carol Barry and Joey Mead, professors of plastics engineering, and Julie Chen, professor of mechanical engineering, at a press conference.

Kennedy praised the University for its leadership in the field. "You are where it's at, he said. "It is important that the state catch up with you. It's important that the nation catch up with you. Ensuring that those fighting will have the best technology—that's being done here at UMass Lowell.

Meehan said, "UMass Lowell, because of its rich history in manufacturing and polymers, is uniquely positioned to become a world leader in nanomanufacturing. The Nanomanufacturing Center will bring thousands of jobs to the region and keep Massachusetts on the cutting edge of this important technology.

Chen, who received the check, addressed the federal and state legislators, saying, "You are helping us to push the turbo button so we can accelerate the work that is being done here."

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## Prime Proposes Fun and Games, Seriously

*Noyce Foundation Funds new DesignLab Initiative*

**D**oug Prime is a man with a plan—a big, bold plan to transform science and technology education, everywhere.

The plan took a step closer to reality recently with an 18-month, \$130,000 grant from the Noyce Foundation. The trustees voted the funds to help Prime, director of K-12 educational outreach for the College of Engineering, to spread his highly successful DesignLab after-school engineering workshops.

"Schools are very interested in expanding their after school offerings, especially science and technology programs," says Prime, "but they face several obstacles—they need help training

teachers; they need high quality, easy-to-use curricula; and they need relief from the time-consuming effort of collecting materials."

Using the Noyce grant and an additional \$95,000 in private donations, Prime's team will develop 10 different invention kits that teachers can use to run hands-on, design-based workshops. The primary goal of DesignLab activities is to engage students in authentic problem-solving activities that stimulate creative thinking and an interest in science and technology.

Prime plans to offer graduate education courses to prepare teachers to run workshops. Also, a set of instruction videos and project guides will help teachers and students get started on their own. Also, the project plan includes a comprehensive website for

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## UML's Pumpkins Extravaganza a Smashing Success

*Kennedy, Meehan, Wilson and Mackenzie Get in on the Action*

**U**Mass Lowell's pumpkin extravaganza was supposed to go for two days. By the end of the first day, however, faculty, staff, students and some high-profile guest carvers had blown through all 1,280 pumpkins assembled for the event.

Chancellor David J. MacKenzie kicked off the activities by carving the first pumpkin of the day. U.S. Sen. Ted Kennedy, U.S. Rep. Marty Meehan and UMass President Jack

See photos and the rest of the story on page 2

### IN OTHER NEWS

**Critical Issues Sessions** — Vice Chancellor Diana Prideaux-Brune says Critical Issues sessions have been "very useful."

**Student Group Receives National Excellence Award**—The Collegiate Chapter of MENC received the MENC National Collegiate Chapter of Excellence Award

**Online Auction**—Bidding has been fast and furious during the online auction to benefit the Costello Gym renovations.

To see these and other stories, go to UMass Lowell's new online eNews Web site at [www.uml.edu/enews](http://www.uml.edu/enews)

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## UML's Pumpkins Extravaganza a Smashing Success

Wilson, all on campus for another event, each took a turn with the carving knife.

The pumpkins—and buses full of UML students—were transported to Boston Common on Oct. 21 for the Fourth-Annual Pumpkin Festival. The festival was hosted by the Life is Good company, whose optimistic brand can be found on t-shirts, coffee mugs, footwear and jewelry. All proceeds from the festival were donated to Camp Sunshine, a retreat for children with life-threatening illnesses. Life is Good co-founder Bert Jacobs spoke at the campus's convocation in September and asked that his appearance fee be paid in pumpkins for the festival.

At the close of the festival in Boston, UML's contribution of carved pumpkins totaled 1,393.

The festival resulted in 30,128 carved and lit pumpkins on Boston Common. The number broke the Guinness Book of World records' previous total of 28,000, and raised a total \$250,000 for Camp Sunshine.

Pumpkins carved on campus were judged as scariest, most original, best UMass Lowell theme,



▲ UMass President Jack Wilson, left, and U.S. Rep. Marty Meehan flank U.S. Sen. Ted Kennedy as he contributes his efforts to the pumpkin carving marathon.

funniest and celebrity look-alike categories. Carvers of the selected pumpkins, all UMass Lowell students, were: Scariest: David Pepin; Most Original: Soe-eum Kim; Funniest: Rob Swift; Best UML Theme ("Ode to Fox Hall"): Ryan Fung; and Celebrity Look-Alike ("Eric Cartman"): Ryan Grant.

—EJ



▲ Chancellor David J. MacKenzie and some of the UML students who pitched in, kicked off campus activities by carving the first pumpkin.



▲ The fun of pumpkin carving drew a wide range of staff, faculty and students. Intent on their carving are, from left, graduate student and student trustee Heather Makrez, Donna Grzyb of the Provost's Office, Vice Chancellor for Administration and Finance Louise Griffin and Prof. Robert Gamache of the Environmental, Earth and Atmospheric Sciences Department.

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## Kennedy, Meehan Deliver for Nanomanufacturing

University of Massachusetts President Jack Wilson said, "We have four world-class scientists right here—three women and a man. You have helped make Massachusetts the 'nano' capital of the world."

Chancellor David J. MacKenzie also thanked the congressional delegation and lauded the researchers.

Also on hand to lend their congratulations to the research effort were Lowell's mayor, William Martin, and its State House delegation: Sen. Steven C. Panagiotakos and Reps. Thomas Golden, Kevin

Murphy and David Nangle. The delegation helped secure \$35 million of an \$80 million UMass Lowell Advanced Manufacturing Facility in this past legislative session. A portion of the \$2 million in federal funds can be used toward completion of the facility.

Following the official ceremonies, Kennedy and Meehan joined students who were carving pumpkins for the Life is Good jack o'lantern extravaganza.

—RC



▲ Gathered around a \$2 million check for Nanomanufacturing are, from left, UMass President Jack Wilson, U.S. Sen. Edward M. Kennedy, U.S. Rep. Marty Meehan, Profs. Julie Chen, Carol Barry and, at far right, Joey Mead. In the back row, Profs. Susan Braunhut and Ken Marx are visible, as is Chancellor David J. MacKenzie at right. State and local officials also joined in the ceremonies.

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## Prime Proposes Fun and Games, Seriously

teacher support and exchange of ideas.

The need is critical for high quality STEM (science, technology, engineering and mathematics) enrichment programs in Massachusetts. Between 1999 and 2005 the percentage of SAT test takers in the state indicating interest in science, technology or engineering fields dropped from 26 percent to 19.6 percent, despite a 21 percent increase

in the number of test takers.

Prime credits Dr. Pendred (Penny) Noyce, a trustee of the Noyce Foundation, for her interest and encouragement; and Deborah Finch, assistant director of DesignCamp, for her work on the grant application. The Noyce Foundation is dedicated to stimulating ideas and supporting initiatives designed to produce significant

improvement in teaching and learning in mathematics, science and literacy in grades K-12.

—SS



▲ Doug Prime, director of K-12 educational outreach for the College of Engineering, is ready to put a Noyce Foundation grant of \$130,000 to good use for after school programs.

## Accolades for O'Connell: Tsongas Center Director Retires

Those gathered at a retirement celebration pointed out that Tsongas Center Director Peter O'Connell's ability to connect—UMass Lowell with the National Park Service, students with curriculum frameworks, people with place—led the Center to a decade of success. It is also clear that those he has touched will miss him.

"His integrity, decency and the way he treats people—I want to recognize him for that," said Provost John Wooding.

Niki Tsongas, whose late husband's name the Center bears, said simply, "Everything that Peter has done has brought great honor to that name and to the City of Lowell."

O'Connell took some ribbing about his sometimes lengthy e-mails and unusual approach, while in the next breath speakers would extol his leadership. Donald Pierson, dean of the Graduate School of Education, said "His wise counsel made him a strong choice for the search

committee when he was named director. The rest is history—amazing Tsongas Industrial History Center history." He described O'Connell as a "prototype 'out of the box' guy."

Lowell National Historical Park Superintendent Michael Creasey said "You continuously drive for excellence. I appreciate that."

When O'Connell arrived in 1996, roughly 40,000 visitors passed through the Center's doors to take part in its exhibits and workshops. By 2004, the number was 64,000—a 60 percent rise. A successful grant writer, O'Connell helped secure an average of \$400,000 a year in grant monies.

O'Connell is retiring after 10 years at the helm. He will continue to work part-time for the Center, and a search for a new director is underway. The Tsongas Center is a collaborative project of the UMass Lowell Graduate School of Education and the National Park Service.



▲ Peter O'Connell, center, director of the Tsongas Industrial History Center, was feted at a retirement celebration. Among the speakers were, from left, Lowell National Historical Park Superintendent Michael Creasey, Provost John Wooding, Middlesex Community College's Niki Tsongas, and Dean of the Graduate School of Education Donald Pierson.

## Campus Diversity: It Gets People Talking—and May Keep Students Enrolled

### 'Culture Shock' Festival Joins Students of Many Races, Backgrounds

Two years ago, on a Friday afternoon in September 2004, the quad on UML South was the scene of a party the likes of which had seldom been seen on this campus before. Costumes of every type in every conceivable color; music that was loud, soft, lulling or percussive; food from a dozen restaurants and as many private kitchens, booths tented in festive banners, statues, paintings, pendants, ornaments—a loud, chaotic, hyperkinetic, multicultural fest.

It was the first annual Culture Shock festival, designed to bring together students of all faiths, races and nationalities, to break down separateness through the common links of food, music, color and art. It did all that—and it was fun. So a year later they held another. And yet another this fall.

"It works because it breaks down barriers," says Brenda Evans, director of the Office of Student Activities and Multicultural Affairs. "The Vietnamese students talk to the African American students, the African Americans talk to the Indians, who talk to the Muslims, who talk to the Southeast Asians—'Let's get to know each other' is the driving idea. And it's fun."

It hasn't always been this way, Evans says: "The students used to band together more, to stay within their own [ethnic or cultural] groups. But the focus has expanded. They're talking to each other more than ever. It's really exciting to see."

Culture Shock is only one of scores of events that have contributed to this intercultural bonding. There is Black History Month, Latin American History Month—with its movies and dances and salsa lessons—talent shows, conversation dinners and sexual awareness forums. A year ago, in the spring of 2005, a multi-ethnic fashion show—the first annual "Fashionably Loud"—featuring clothes by local designers, as well as booths featuring recipes from every region of the globe, drew more than 500 students to the Campus Recreation Center. It was even more successful this year. Nearly every month, says Evans, there is something going on:

"We have about 20 cultural/religious organizations on campus—the Vietnamese Student Association, the Southeast Asian Students Association, the Muslim Students Association, the Association of

Students of African Origin, about one-fifth of the student body identifying themselves as non-white—and in October alone, we probably had 60 percent of these groups putting on some major event on campus. They come to my office asking for help with planning, sometimes with money—although the groups have some funds of their own—and we do what we can to make [the events] happen...

"But we don't initiate anything. They come because they want to. That's what makes my job so much fun. Building relationships—it's the best job on campus."

There may be a second, less-understood benefit of campus diversity. According to Nicole Champagne, co-chair of the Council on Diversity and Pluralism, a diverse and openly welcoming student body may play a role in keeping students enrolled.

"Diversity as it relates to retention—we're just beginning to take a look at this," Champagne says. "It was the focus of the Council at our last meeting, and will probably remain on the agenda for two or three years: the whole issue of how students of color, disabled students, whatever, might be more inclined to stay in school if the environment is one of diversity, if they're made to feel welcome here..."

"We're going to research the question and look at the numbers, then see what steps or programs we might need to launch to improve things. Because everybody's goal, in the end, is the same—to keep as many students as we possibly can in the classroom."



▲ At last spring's "Culture Shock" festival, students came together to share in the food, music, crafts and art of a myriad of nations.

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## Students Will Get Paid for Learning

Prof. Gilbert Brown of the Chemical and Nuclear Engineering Department, and coordinator of the Nuclear Engineering Program, says, "Shaw Stone & Webster's growth is part of the renaissance of nuclear energy engineering options in the power industry. I especially want to thank Dave Barry, president of Shaw Stone & Webster, and Michael O'Connell, who is a project manager with the company and a member of our departmental advisory board, for their work in developing this partnership. It will benefit our students and the company."

At the press conference, T.M. Bernhard, Jr., chief executive officer of

the Shaw Group, said, "We are especially pleased to participate in the UMass Lowell scholarship program, which reinforces our commitment to supporting educational opportunities in the markets we serve and allows us to nurture young nuclear professionals as the industry grows."

The Shaw Group is headquartered in Baton Rouge, La.; with over \$4 billion in annual revenues, Shaw employs approximately 22,000 people at its offices and operations worldwide.

—SS

# Lab Beams Up a Cool \$27 Million

## Funding Goes to Submillimeter-wave Technology

Out on the battlefield, the radar shows you something's there. But what is it? You should know before you shoot.

Answering the question, what is it, is where the Submillimeter-wave Technology Lab (STL) makes itself useful—so useful that the U.S. Department of Defense has appropriated \$27 million to fund its research over the next five years.

"We and our government sponsors are the only research program that uses terahertz frequency measurement systems to collect real-world radar signature data," says Dr. Robert Giles, STL director and professor of physics, in explaining the lab's unique position.

The STL is a member of the Expert Radar Signature Solutions consortium, developed by the Army's National Ground Intelligence Center. Radar signatures collected at STL are high quality and low cost. But "low cost" is a relative term when dealing with sophisticated equipment and extraordinary precision.

For 25 years under the direction of Dr. Jerry Waldman, now science advisor to the STL, researchers have engineered and constructed scale versions of all types of radar systems and models of actual targets, then measured and analyzed the radar scattering to produce the characterizing signatures of ships, tanks and other tactical vehicles. The submillimeter, or terahertz, wave is to the scale models as radar is to the real target in battlefield conditions.

The model fabrication operation, for example, converts tactical target photos and computer images into high fidelity scale models—with scaled welds, bolt heads, track links, lug nuts, rust and battle damage, and non-metallic parts like rubber pads, fiber-glass and canvas.

Similarly, terrain affects a vehicle's radar signature. STL has designed and made more than two dozen ground types that model the variety of reflections produced by desert, soil, asphalt, concrete and other terrains. New research involves techniques to model complex terrain including roughness, rocks, trees, vegetation, roots, and grass, as well as changes in moisture. In addition, the clutter of objects found in real operations—troop packs, ammunition storage crates, fuel containers, damaged vehicles, etc.—can be modeled.

At the heart of the facility, a 20-member research team, with the aid of several dozen graduate and undergraduate students, builds and maintains a variety of high-performance solid-state and laser-based measurement systems to generate the terahertz frequency radiation.

Besides its work for the Army, the lab has used its unique capabilities to fulfill radar measurement requests from agencies in all branches of the Department of Defense. The STL also conducts research for defense-related laboratories and companies, including MIT Lincoln Laboratory, Boeing Lockheed & Martin, and Raytheon.



▲ Guy Demartinis, one of STL's radar engineers, evaluates the high-resolution terahertz imagery of a scaled aircraft.

# River Hawk Runners Win New England

## Men's Cross-Country Captures Two Major Titles

The men's cross-country team won two major titles this season, including the New England Championships, becoming the first-ever Division II or Division III team to win the title in the race's 94-year history.

The New England Championships pit Division I, II and III teams against one another. UML raced to victory with only 31 seconds separating its top five runners. The team was led by Sophomore Ruben Sanca who finished the race in fifth place with a time of 24:51. The River Hawks defeated the likes of Boston College, Harvard University and Yale University to win the title. According to the Yale Daily News, the Ivy League team was "no match" for UMass Lowell.

"We were hoping to finish in the top four or five and hadn't really thought about actually winning," says Coach Gary Gardner. "In order to win, you need to be good and lucky and we were both. The chances of having all five guys who are competing run their best all on the same day are slim. It happened to us and we were able to win."

After their New England victory, the team then went on to finish first in the Northeast 10 Conference Championship race. This recent win gives the River Hawks their second major title in as many meets this season.

Next up for the team is the NCAA Championships in Florida in early November. This time, the runners have a new goal in sight. "Our goal for that race is to finish in the top eight," says Gardner.



▲ Members of UML's winning men's cross-country team include, from left, Steve O'Brien, Joey DeWitt, Rex Radloff, Jason Beausoleil, Jeremiah Karanja, Steve Plouffe, Josh Vance and Jason O'Connell.

# Trustees Are Coming to Town

## UMass Board Will Meet Nov. 8

Recently reconstituted University of Massachusetts Board of Trustees will meet on campus on Nov. 7 and 8. On Tuesday, Nov. 7, the Science and Technology Task Force and three committees will meet: the Development Committee at noon; the Academic and Student Affairs Committee at 1:30 p.m.; and the Committee of the Whole at 4 p.m. That evening, trustees will participate in a ceremonial opening of the new parking garage next to LeLacheur Park. On Wednesday, Nov. 8, the Board will meet in formal session starting at 9:15 a.m. in the Trustees Room, Cumnock Hall.

A special organizational meeting was held in late September during which Stephen P. Tocco was elected chair of the Board. The Lowell campus meeting will be the first under Tocco's leadership.



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Executive Vice Chancellor:  
Dr. Frederick P. Sperounis

Director of Communication:  
Patricia McCafferty

Editor:  
Mary Lou Hubbell

Staff Writers:  
Geoffrey Douglas  
Jack McDonough

Other Writers:  
Rena Lias Claffey  
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Jennifer Hanson  
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