

UML Shuttle

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Defense Budget Backs Nanomanufacturing

Congressional Delegation Secures \$2 Million

Big money continues to roll in for the engineering of the small. This time, the nanomanufacturing team has secured \$2 million in the federal budget due to strong advocacy from U.S. Rep. Marty Meehan and Sen. Edward M. Kennedy, both of whom play key roles in the defense appropriations process on Capitol Hill, with support from Sen. John Kerry. President Bush signed the funding bill in early October.

The funds will support research on the nanomanufacturing of multi-functional sensors and equipment, which could be used in the new advanced manufacturing building for which the state has provided \$35 million in construction money. The research will

be conducted by a number of faculty from the Mechanical and Plastics Engineering, Chemistry and Biology departments.

"The Nanomanufacturing Center is crucial to the technological and economic development of Lowell and the Merrimack Valley," said Meehan, in announcing Congressional approval of the funds. "The Center will strengthen

the academic-commercial relationships that UMass Lowell is fostering and will create quality jobs throughout the region."

"UMass Lowell is known for its ability to turn highly technical science into products that can be manufactured and, in this case, used in the battlefield," says Chancellor David J. MacKenzie. "Our nation's defense will be well-served by the nanomanufacturing team on this campus. I am pleased to see that

the Congress agrees and I am very grateful for the support of our delegation in Washington."

Louise Griffin, vice chancellor for Administration and Finance, says, "The nanomanufacturing research here is world class. We are grateful that our Congressional delegation has recognized that, and this support will significantly expand our nanomanufacturing research and our partnership with the Army."

Portable sensors could be used on the battlefield to allow quick assessment of battlefield environmental conditions and of the condition of infrastructure and mechanical systems, such as bridges and aircraft. Sensors could be used to detect chemical or biological agents, for example.

The research team is partnering with the Army, which has an interest in producing such sensors, not just studying them. The manufacturing research conducted here is expected to help overcome the barriers of rapidly reproducing reliable nano-sized devices, like sensors.

—RC



▲ U.S. Rep. Marty Meehan led the effort to secure \$2 million of funding from the U.S. House of Representatives for research on the nanomanufacturing of multi-functional sensors.

Martin Gets NSF CAREER Award

Aims to Transform Science Education

Fred Martin says science is messy and chaotic—and students should learn the truth about it.

"Traditionally, the scientific method is taught in middle schools as something orderly, and experiments are done simply as confirmation of known answers," says Martin, assistant professor of computer science. "Science is rigorous, but not orderly."

Now a \$600,000, five-year CAREER grant from the National Science Foundation will help Martin bring a little chaos to middle-school science education. (CAREER grants are awarded to promising pre-tenure faculty researchers to support their early work.)

Martin has been piloting his ideas with the Graduate School of Education, particularly with Prof. Anita Greenwood, science educator and chair. The GSE will continue as a partner on the grant.

So how does one transform science education? First step is to help teachers understand science by perceiving themselves as active learners. In teacher courses and workshops, Martin encourages participants to ask questions they're interested in, without a known answer. Using the technology of a Cricket processor (a device he co-invented at MIT), teachers can build light and temperature sensors—then put them to work. Does coffee with milk added cool more slowly than black? Which wetsuit insulates better? Does the new ceiling insulation really make a difference in heat loss?

Not the stuff of future Nobel prizes, perhaps, but a good beginning.

Building a community of practitioners is the second, equally important, step. Martin is developing embedded Web technology for programming and documentation of all projects, so that teachers can leverage each other's work. Says Martin, "When adopting new technology, it's not

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Catching Pods by the Classroom

New Technology Lets Students Download Lectures

Don't assume that students walking across campus with little iPod earphones dangling are listening to the latest tunes. They just might be listening to Prof. Ron Brent's calculus lecture.

That's what's made possible with new "podcatcher" software obtained for the campus under a partnership with Anystream, Inc. The software is free and downloadable for all students, although only certain classes are currently available for download.

"Anystream is providing UML with a pilot project to outfit either classrooms or faculty laptops so that they can capture their lectures," says

Michael Lucas, coordinator of distance learning. The University has an ongoing relationship with the company, and the software and licensing necessary for the pilot project is offered free of charge.

So far, two classrooms—Ball 214 and Weed Lecture Hall 1—are equipped with "full classroom capture," so that audio, video of the instructor and computer images, such as Power Point presentations, are captured.

Nine classes in those rooms are now captured for students to download to their computers. Audio-only of another



▲ Michael Lucas, coordinator of Distance Learning

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UML Alcohol Awareness Efforts Boosted by Grant, Selection as Pilot Site

Students Have Multiple Opportunities to Get the Message

UMass Lowell has been selected as one of seven campuses nationwide to pilot "Back on Track," an alcohol education and mentoring program developed by the National Judicial College, the educational arm of the U.S. judicial system.

"I think they selected us because we already have momentum in helping our students

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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

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Catching Pods by the Classroom

five classes is available via faculty laptops and selected classrooms that are outfitted to capture their lectures.

Lucas said five additional faculty members are working with the Instructional Network team—Lucas, Andy Alfano and Bill Suppa—to equip their laptops and gain instruction. “The easier we can make it for the faculty to capture their lectures, the more likely it will be used,” says Lucas.

The company is interested in expanding the reach at UMass Lowell. “They want to look at different ways of licensing the software so we can potentially move it into every classroom,” Lucas says.

To access the lectures, students need only download free software such as iTunes or myPodder. Students then subscribe to the podcast using the RSS (Really Simple Syndication) feed information available on the course website. After subscribing, the podcatching software will then search for and auto-

matically download lectures from any class the student has signed up for. Those lectures can be heard, and, in some cases, watched, from the computer. If the student owns an iPod or an MP3 player, the lectures can also be downloaded to the device for listening anytime, anywhere.

The original call to begin exploring downloadable lectures came from the Council on Teaching and Learning’s Teaching with Technology task force, says Lucas. It was considered another way to help students learn.

Lucas says a research opportunity exists for faculty interested in studying the impact of downloaded lectures on student learning, funded by Anystream. Any faculty interested in learning more about that opportunity or about podcasting their lectures are encouraged to contact Lucas at ext. 4681.

—RC

iPods Show Instructional Videos

While podcasting of 15 or so classes is now available to students, other students in physical therapy and chemistry classes are receiving iPods with instructional video loaded on them.

Mitchell Shuldman, director of Media Services, has received a professional development grant from the UMass President’s Office to test the feasibility of using pre-loaded instructional videos in portable iPods or similar devices as a classroom aid. He is working with Susan O’Sullivan, physical therapy professor, and David Ryan, chemistry professor. The videos—available for many years in various formats and considered beneficial by those who viewed them and their faculty—will now be portable. “This project offers...one further enhancement—the ability to have these digital resources with them while engaged in the course-related clinical internships for consultation and review,” says Shuldman.

The devices were distributed to 20 students in September and will be returned at the end of the semester or year, with the idea of redistributing the devices to the following year’s classes.

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Martin Gets NSF CAREER Award

about the technology itself, but asking the question, ‘What can we do with this technology?’ “

The award will support two graduate students to work on extending the technology and investigate educational research. Projects are being integrated into three education courses at the GSE, one of them online. Teachers participating in workshops will receive stipends and materials for classroom use.

—SS



▲ Fred Martin

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UML Alcohol Awareness Efforts Boosted by Grant, Selection as Pilot Site

understand the issues surrounding drugs and alcohol,” says Annie Ciaraldi, associate dean of students.

Ciaraldi and Nancy Quattrocchi, executive director of University Health Services, are coordinating the prevention programs being launched by the Alcohol and Other Drugs Task Force (AOD). Activities are being conducted collaboratively by the Dean of Students, Campus Conduct, University Health Services, Counseling Services, Athletics, Residence Life and Student and Multicultural Activities offices, student leaders and University Police.

The reinvigoration of AOD two years ago was motivated, in part, by a campus-based report on student health that clearly identified the links between use and abuse of alcohol and other drugs and poor academic performance.

In September, AOD also received a \$40,000 grant from the Governor’s Highway Safety Board to support the wide-ranging activities scheduled for this academic year. Those activities address three goals: the on-going collection of reliable data, educational programming for students and outreach to the community.

Until this fall, the University had sporadically collected data on alcohol and drug use by undergraduates. Students will now have the opportu-



▲ Key participants in the campus’s alcohol and other drug educational initiatives are, from left, Associate Dean of Students Annie Ciaraldi, Nancy Quattrocchi, executive director of University Health Services, and Susan Pulido, a health educator primarily concerned with substance-related issues.

nity to participate in three national surveys annually. All three report UML student responses and compare them with responses from students across the country.

Raising student awareness of alcohol and drug-related issues can be as simple as making sure they know UML’s expectations and rules regarding those substances—explained in residence hall meetings the first week of school—to encourage students to watch out for each other.

For the full story go to www.uml.edu/enews

Spin-Off Polnox Wins Wall Street Journal Award

Cholli Invented Anti-Oxidant Technology

The Wall Street Journal recently announced the winners of the 2006 Technology Innovation Awards, now in their sixth year. The awards recognize novel technologies that are true breakthroughs in 12 fields: materials, environment, medical devices, software and others.

In a field of 600 nominees that included such industry giants as Sun Microsystems, Siemens and Pfizer, Polnox Corporation of Lowell was named first runner-up in the category of Materials for the invention of antioxidants that extend the life of organic materials by slowing the degradation process.

Polnox is a start-up company employing technology developed in UMass Lowell’s Center for Advanced Materials by Dr. Ashok Cholli, founder and chief technology officer (CTO) of the company.

Says Cholli, “We are very pleased to receive this prestigious Technology Innovation Award from The Wall Street Journal. This is well-deserved recognition for the University and its administration where my work started and a great honor for the Polnox team of dedicated researchers.”



▲ Ashok Cholli

Says UMass President Jack M. Wilson, “We are encouraged by this award, which has been won in such a highly competitive field as it is additional recognition of the high caliber of research being performed on our campuses and our ability to convert this research into innovative and commercially important products.”

William Rosenberg, executive director of Commercial Ventures and Intellectual Property (CVIP) for UMass, adds, “CVIP recognized the value of the technology and worked closely with members of the venture capital investment community to bring this start-up into existence.”

For the full story go to www.uml.edu/enews

Parking Garage Could Open by the End of November

New Facility Will Accommodate 630 Cars

If all goes well, the parking situation on UML East could be resolved in the very near future, possibly as early as the end of next month.

Project Manager Hector Valdes says the contractor has estimated that work on the garage itself could be finished by the third week of this month. However, it will take at least another two or three weeks to complete site work, which includes the installation of lighting, a security system, an emergency telephone system, and the construction of sidewalks.

"We don't want to open the garage until all these safety features are in place and working," Valdes says.

The original expectation was that the garage would be ready by January, but Valdes says an optimistic view is that it could be open "sooner," possibly by the end of November.

The \$13 million, multi-story structure, for which ground was broken last December, will accommodate 630 cars.



▲ The new parking garage on UML East could open as early as the end of November.

Year Two of Transformation Project Begins

10 Teams Review Achievements, Outline Future

More than 70 faculty and staff involved with the Transformation Project joined Chancellor David J. MacKenzie and Provost John Wooding for a dinner at the Revolving Museum on Sept. 21 to kick off the second year of the Transformation Project.

The chairs of the 10 Implementation Teams said they were unanimously proud of the work ethic and energy displayed by their fellow team members. Each spoke glowingly of the cooperative efforts made by faculty and staff to continue the momentum gained during the first year of the Transformation Project.

Much like the kickoff dinner in last November, this fall's event demonstrated a tremendous energy among the participants. The International Programs and Research Team is the first to complete its effort and is currently preparing a full report with recommendations for the campus. The Communications Team distributed preliminary results of the faculty survey conducted during the past summer. Several other teams spoke of surveys

and research conducted during the past year, detailing the accomplishments of their teams to this point.

The Transformation Project is creating new methods of gathering and delivering knowledge, engendering focused research, and establishing a new image of the campus. Those involved in year two will continue to seed, grow and showcase innovations now underway on campus, while providing students with the most innovative and dynamic curriculum possible. Academic, social and interdisciplinary interests are being examined and improved upon as the Transformation Project continues through the fall and spring semesters.

As the next phase of the Transformation Project develops, details and updates may be found at Intranet.uml.edu/transformation.

For the full story go to www.uml.edu/enews

Rep. Murphy Tours Bookstore



▲ Rep. Kevin Murphy of Lowell, center, House chair of the Higher Education Committee, recently toured the UML North bookstore. He is joined here, from left, by Glen Hoyle and Joe Belanger of Barnes and Noble; Karen Moynihan, Murphy's district director; and Joe Ricca of Barnes and Noble.

Green Chemistry Research Wins 'Best Paper'

Society of Cosmetic Chemists Gives Award

Researchers and students in the Center for Green Chemistry presented a paper at the annual meeting of the Society of Cosmetic Chemists (SCC). The paper—"Water Soluble Photocrosslinking Materials in Cosmetics"—was judged the best paper presented.

The new technology is inspired by biological processes and extrapolated for commercial use. The polymer system could replace hair perming and dying with benign, water-soluble substances.

The award comes with a \$2,500 cash prize and will be presented at the annual Scientific Meeting and Technology Showcase of the SCC in New York in December.

Adjunct Prof. Amy Cannon made the presentation. Other authors were Prof. John Warner, director of the Center; Dr. Kei Saito, research scientist;

Dr. Sofia Trakhtenberg, research scientist; and student Justin Whitfield.

Cannon also has been asked to speak at the Natural Products Expo in Baltimore, this month, about the Campaign for Safe Cosmetics—a coalition calling for the elimination of potentially toxic chemicals used in the beauty industry.

"I am so very proud that our work is being recognized by both the environmental activist community and the industrial trade organizations," says Warner. "This is the whole point of green chemistry!"



▲ Amy S. Cannon



▲ From left, John Wooding, Louise Griffin, Chancellor David J. MacKenzie, Diana Prideaux-Brune, Joyce Gibson, Kristin Esterberg and Jeff Thompson.

Online Database Helps Companies Switch to Safer Chemistries

Marshall Helps Top-Flite Golf Company Transition

It's not easy to change. It's even harder in a manufacturing setting. The hazardous chemicals may be doing a good job. Switching may affect product quality. What if the alternative is even worse for the environment and workers?

This was the challenge that Jason Marshall took on when he created the Toxics Use Reduction Institute's Laboratory database called CleanerSolutions. The free database is available at www.turi.org.

"The reason I developed the database was because I couldn't imagine manufacturers taking the time to weed through mounds of data to find safer cleaning products," says Marshall,

TURI manager of Laboratory Testing. "If companies can view hard data on how safer industrial and janitorial products perform, then they are more likely to pilot test alternatives and replace the toxic chemicals they may be using."

The database provides access to the results of more than 10 years of cleaning performance testing conducted in the TURI Laboratory. This information is married with risk screening based on global warming potential, ozone depletion potential, volatile organic content, flammability/reactivity and acute toxicity. For manufacturers, this combination of data is the key to making a switch.

For the full story go to www.uml.edu/enews

Campus Community Carves for a Cause

Students Hope to Cut Up 1,250 Pumpkins for Camp Sunshine

Knives will be busy all over campus as students, faculty and staff race to carve as many as 1,250 pumpkins to contribute to the Life is Good Pumpkin Festival on Boston Common on Saturday, Oct. 21. The pumpkins will be delivered to campus from a local farm on Tuesday, Oct. 17, and the campus community will have two days to create as many jack-o'-lanterns as possible to be included in the festival's attempt to break the world record for lit pumpkins.

Mary Connelly, director of Student Development and Campus Conduct, says many carving parties are scheduled, including events at multiple locations on Wednesday and Thursday, Oct. 18 and 19. Carvers will gather in front of Cumnock Hall and Donahue Hall and in South Quad from about 10 a.m. to 4 p.m. to dig into their gourds. Parties will also be held at the Recreation Center both days, starting at 5 p.m., and will include food, music and contests.

On Wednesday night at the Rec Center, students will compete in a pumpkin carving contest to select two teams of 25 students from UMass Lowell to compete in the festival's carving contest on Friday, Oct. 20, at 4 p.m. UMass Lowell's teams will take on other college teams to carve as many pumpkins as possible in an hour, and the festival's winning team will win a trip for four to Cancun, Mexico.

A second contest, on Thursday night, will award prizes for scariest, most original, best UMass Lowell theme, funniest and celebrity look-a-like. All faculty, staff and students are invited to get involved in the on-campus effort.

On the day of the festival, five buses will leave campus at 3 p.m. and transport students to Boston Common. Students will be charged a nominal fee to ride the buses, which will return at 8:30 p.m., and that money will be donated to the festival. Students must sign up at the information center to reserve a spot, Connelly says.

The Fourth-Annual Pumpkin Festival is 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 are donated to Camp Sunshine, a renowned retreat for children with life-threatening illnesses. Life is Good co-founder Bert Jacobs spoke at convocation in September and asked that his appearance fee be paid in pumpkins for the festival.

UMass Lowell will have a tent at the festival where all the campus-carved pumpkins will be located. To set the world record for lit jack-o'-lanterns in one place, the festival must break the record of 28,952 set in Keene, N.H., in 2003. Last year, participants fell just short, carving 24,541, but raised more than \$180,000 for Camp Sunshine.

For updated information about the campuswide efforts, check out the Student Information Centers, contact the Dean of Students office at x2100 or e-mail Mary_Connelly@uml.edu.

EEO Provides Broader Vision Than Ever Before

Office Works Toward Increased Diversity on Campus

The Equal Opportunity and Outreach office (EEO) was renovated in spring of '05 and resulted in a space that is more inviting, more comfortable and perhaps most importantly, more discreet. Curtains cover the front window to ensure the privacy of visitors. White noise is piped in overhead making certain that sensitive conversations are not overheard.

The new office provides a snapshot of some of the major changes the department has undergone recently. Leading the charge is EEO Director Oneida Blagg. She is quick to credit the accomplishments of the department to her entire team, all of whom have played integral roles in the office's recent initiatives.

The team consists of Hector Malavé, assistant director of EEO; Donna Vieweg and Rebecca Hall, EEO associates; and Bernice Murphy, office manager. Together, they have spent the past 18 months building infrastructure and moving towards a more customer service-focused model. As a result, EEO is providing more proactive methods and facilitating a broader vision for the campus, thanks to the support of University Administration. "We want people to understand that EEO is here to support all members of the UML community," says Blagg.

Diversity is something that affects the entire University. "In addition to a legal and moral obligation to seek diversity, it also makes good business sense," says Blagg. "Students won't come here if we are not a diverse campus."

Currently, the office is involved in campus hiring processes, but in a more integrated way than ever before. Rather than looking at hiring

practices after the fact, EEO is now part of the process. It offers guidance along the way to help search committees thoroughly review the qualifications of female and minority applicants before interviewing and making recommendations for hire.

Other highlights of recent EEO initiatives include a massive, campus-wide document retrieval of records containing sensitive information on employees. As part of its ongoing outreach and education efforts, the office participates in job fairs that focus on diversity recruitment and conducts on-campus training all year long. It also has started a newsletter that is distributed throughout campus.

Additionally, EEO has launched a program in which select faculty and staff were recruited as "diversity team members." They will serve as liaisons with minority organizations and offer an additional layer of resources on campus.

"Working in the EEO office has been a great opportunity that offers me the ability to grow as an individual while working towards a common goal of a more diverse community campus," says Vieweg. "I would not trade my time here for anything and look forward to the coming years of new experiences and challenges."

While the office has accomplished a great deal recently, the EEO team still sees more work ahead. Upcoming goals include further development of complaint management and additional training and outreach. And, of course, an overall increase in the diversity of our campus.

"We are emerging on the horizon of the diversity arena, but we don't have prominence there just yet," says Blagg.



▲ The EEO team members are, from left, Rebecca Hall, Hector Malavé, Oneida Blagg, Donna Vieweg and Bernice Murphy.

CITA Summer Research Engages Teens

'What's Art Got to Do With it?'

The city of Lowell is gaining a reputation as an arts community. A team of Lowell High School and UMass Lowell students, working out of the Center for Family, Work and Community (CFWC), set out to evaluate the impact of the arts on life in the region.



▲ Lowell High School senior Joel Morel conducts interviews on the arts in Lowell for the CITA Summer Research Team.

Development (RESD) Department. Over its eight years, the program has engaged young people in a variety of local research projects about life in Lowell.

This year's project was managed by Patty Coffey, RESD graduate student and associate of CFWC and the Lowell Center for Sustainable Production. Says Coffey, "Our charge was quite general—a few questions about the role of arts and events in city life, a few suggestions about sources of information and a required video about why people attend events in the summer—and the project was fun."

After more than 300 interviews—with artists, officials, community members and event participants—they have recommendations to make and a video to broadcast. They also have written an article that appeared in *The Sun*.

The CITA Summer Research Team is an annual opportunity for meaningful part-time jobs for Lowell youth, conceived of and directed by Prof. Linda Silka, CFWC director, and Prof. Robert Forrant, both of the Regional Economic and Social



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