

UML Shuttle

A PUBLICATION OF THE UNIVERSITY OF MASSACHUSETTS LOWELL

Meehan Announces Commencement Speaker

U.S. Rep. John Lewis, Civil Rights Leader, will Speak at LeLacheur

U.S. Rep. and incoming Chancellor Marty Meehan announced that U.S. Rep. John Lewis will be the speaker at commencement ceremonies at LeLacheur Park on Sunday, June 3. Lewis's participation comes as the result of a personal request that Meehan made to his colleague in the House.

Meehan made the announcement at a public forum to students, faculty and staff who packed O'Leary 222. He showed a video clip from PBS's "Eyes on the Prize" depicting Lewis's role as a student civil rights activist who, with Dr. Martin Luther King, Jr., led the march across the Edmund Pettus Bridge in Selma, Ala. That event helped secure passage of the 1965 Voting Rights Act.

Lewis, now serving his eleventh term as a congressman from Georgia,



▲ Marty Meehan announces that U.S. Rep. John Lewis will give the Commencement address.

has been described as "one of the most courageous persons the Civil Rights Movement ever produced." He has dedicated his life to protecting human rights and securing personal dignity. He is the recipient of numerous awards, including the prestigious Martin Luther King, Jr. Non-Violent Peace Prize.

"My friend John Lewis is a civil rights leader and an American hero. I cannot think of a better role model for today's students, who are entering a nation facing challenges on many fronts—in the areas of civil rights, global warming, and the war in Iraq, to name just a few," Meehan said.

Meehan also announced a change in venue for commencement. Originally planned for UML

South, the event was moved to the Edward A. LeLacheur Park to better accommodate guests of graduates. As a result, graduates can invite an unlimited number of guests to the 5,000-seat stadium. Nearly 2,000 graduates are expected to receive

bachelor's, master's and doctoral degrees.

UMass Lowell will award honorary degrees to Jack Kerouac (posthumously), L. Donald Latorre and Philip Leder. Kerouac, an American literary icon and Lowell native, was the author of more than 30 books. Latorre is President of L&G Management Consultants in Holmes Beach, Fla., the former president and COO for Englehard Corporation and a 1960 graduate of Lowell Technological Institute. Leder is a professor and chair of the Department of Genetics at Harvard Medical School.

The commencement ceremonies also recognize students for outstanding academic and service achievements. This year's valedictorian will be named, along with recipients of the Chancellor's Medal for Distinguished Academic Achievement.

Following the University-wide ceremony at the ballpark, master's and bachelor's degree candidates will receive their diplomas at individual college ceremonies, which will take place at noon at various locations on campus. Doctoral degree candidates will receive their diplomas at the university-wide event.

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UML to Increase Financial Aid by 3.4 Percent

Increase Matches Fee Bumps Approved by Board of Trustees

U Mass Lowell will increase need-based financial aid to students by 3.4 percent for the coming academic year. That percent matches the increase in fees approved by the UMass Board of Trustees at its March meeting.

The fee increase adds \$287 to the annual cost of an in-state undergraduate student.

"The campus committed to the financial aid increase," says Vice Chancellor for Administration and Finance Louise Griffin, "because we know that even this modest increase could be difficult for some of our students."

The percentage increase in aid translates to a total campus financial aid allocation of \$3,805,120 in fiscal year 2008, compared to \$3,680,000 in FY07.

"We have reapportioned campus-based financial aid for next year to effect some significant benefits for students," says Thomas Taylor, dean of Enrollment Services and Student Success. "We will be reducing the number of hours a student can work, especially during his or her first year, but increasing need-based grant money. This means that students will generally receive the same amount of aid but work less."

The system-wide fee increase was recommended by UMass President Jack M. Wilson, who sought to keep increases in tuition and fees at or below the rate of inflation. The current rate of inflation, as measured by the Consumer Price Index for the Northeast Urban Region, is 3.6 percent.

Gov. Patrick Pledges 'Unwavering Commitment' to New Building

Campus Tour Highlights Nano- and Bio-manufacturing

Gov. Deval Patrick's lesson in advanced technologies—offered by engineering faculty—earned him an "A" from all who saw him on campus Tuesday.

"I must come to Lowell more often" he exclaimed, as he took in the jubilant crowd of faculty, staff, students, community and business

leaders assembled in the Nypro Injection Molding Lab in Ball Hall for a press conference following a lab tour.

The cause for celebration: Patrick's pledge of support for the new nano- and bio-manufacturing research and business assistance center.

"I give you my unwavering commitment to getting it done," he said. The administration has scheduled a transfer of \$4 million dollars for the current fiscal year and committed to

another \$31 million thereafter.

Patrick's tour of existing labs available to the two programs highlighted the University's commitment to providing space and securing equipment, while acknowledging the need for the new facility. "As you can see, we're a little constrained in here," said Assoc. Prof. Carl Lawton, director of the Massachusetts BioManufacturing Center, as Patrick, state legislators and media crowded into laboratory space on the fifth floor of Olney.

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Gov. Patrick Pledges 'Unwavering Commitment' to New Building

In shared research space on the ground floor of Olney, Patrick received a quick lesson in how to use a field emission scanning electron microscope from research assistant Harsha Jogdand and Earl Ada, manager of the materials characterization lab.

At a press conference following the tour, Chancellor David MacKenzie opened by pointing out that he wears two hats when it comes to the new building—as chancellor and as head of the UMass Building Authority, which has oversight of construction of the building.

Sen. Steven C. Panagiotakos, newly appointed chair of the Senate Ways and Means Committee, said "If we do [the center] right, Massachusetts will be recognized as an international leader in the field. And it's happening right here in Lowell, Massachusetts."

Patrick thanked Panagiotakos and area legislators who played a role in gaining state funds for the new facility: Reps. Kevin Murphy, David Nangle, Thomas Golden and Colleen Garry. "I just got to this party," he said. "The hard work on this issue has been going on for years."

Prof. Joey Mead, co-director of the Center for High-Rate Nanomanufacturing, said the manufacturing research moves the field of nanotechnology toward commercial products to benefit people. She said that UMass Lowell is doing this responsibly, considering the health and environment impacts of the new technologies. "We can help create



▲ In shared research space on the ground floor of Olney, Gov. Deval Patrick received a quick lesson in how to use a field emission scanning electron microscope from research assistant Harsha Jogdand. Looking on, from left, are Rep. David Nangle, Rep. Colleen Garry (over shoulder) and Sen. Steven Panagiotakos.

new products and new jobs," she said, after thanking the Governor for his strong support.

Rep. Murphy, chair of the Higher Education Committee, said "Gov. Patrick is a breath of fresh air in his commitment to the value of investing in public higher education."

While Patrick expressed an interest in visiting Lowell more often, UMass President Jack Wilson pointed out that Patrick has already been to the campus more times than his predecessors. "And that was before he took office," Wilson added. Patrick described his lab tour as "nanotechnology 102," having met with UMass Lowell's nanotechnology team early in the primary season in 2005. Last December, Patrick spoke at incoming Chancellor and U.S. Rep. Marty Meehan's Town Meeting in Durgin Hall, "Climate Change: Local Solutions to a Global Crisis."

—RC



▲ UMass President Jack Wilson, at the podium, noted that Gov. Patrick had been to campus many times. Looking on are, from left, Assoc. Prof. Carl Lawton, director of the Massachusetts BioManufacturing Center, Gov. Deval Patrick, Chancellor David MacKenzie, Prof. Joey Mead, co-director of the Center for High-Rate Nanomanufacturing, Rep. Kevin Murphy, Sen. Steven Panagiotakos and Rep. David Nangle.

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Peru Project Honored by Celtics, Carter Awards

Prof. John Duffy would say he's only a small part of the effort to supply remote villages in the Peruvian Andes with renewable and sustainable infrastructure.

And that's true. Nearly 100 students and volunteers, all told, have traveled with him twice yearly to install and maintain systems and listen respectfully as local people explain their needs and aspirations. And hundreds of college students have contributed through their engineering design work to the Peru project, now named the Village Empowerment Partnership.

It's also true that Duffy has organized design projects, planned and led two trips each year, and has inspired everyone—to stretch a little further, do a little more, dig deeper in their pockets, even change their career paths—to make a difference.

So the participants, contributors and well-wishers were pleased to see John Duffy stand for all their efforts as the project was honored recently, by both the Boston Celtics and by the Carter Partnership Foundation.

The Celtics presented Duffy with the Heroes Among Us award on court during half-time of the game on March 21, citing his "dedication to the health and well-being of those in need." The Heroes Among Us award is a program of the Boston Celtics, presented by the Mass State Lottery.

On April 9, the Village Empowerment Project was honored as a finalist at the Jimmy and Rosalynn Carter Partnership Award celebration. The award, sponsored by the Massachusetts Campus Compact, encourages campus-community collaboration on critical social and economic issues, and is

given every three years. While the UMass Lowell—Peruvian Ministry of Health program did not win the award, standing as one of three finalists from a distinguished field of applicants was a signal honor.

The project engages students and volunteers in designing and installing sustainable energy systems that can function under harsh conditions. The 35 villages involved have had no electricity, telephone service or clean drinking water. The new systems have provided radio communication, lights, vaccine refrigerators and other medical devices for the clinics; pumped water supply, water purification and aquaculture for development; and laptops and science experiments in schools.

The engineering students have benefited as well. Says Duffy, "The project enhances the students' knowledge of their subject matter and commitment to service. It's a unique service-learning opportunity and 15 courses have had related service-learning projects."



▲ Prof. John Duffy is flanked by, from left, Sean Martin of the Massachusetts State Lottery, Gerald Wallace, captain of the Charlotte Bobcats, and Paul Pierce, captain of the Boston Celtics, as he is named a Hero Among Us for the project that brings sustainable energy systems to remote villages in Peru.

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Meehan Announces Commencement Speaker

"We are honored and very pleased to have such a distinguished leader as John Lewis serve as our commencement speaker," says John Wooding, UMass Lowell provost. "We also are pleased with our new commencement format, where diplomas will be awarded at the individual college ceremonies, allowing for graduation to be more focused on the students and their achievements."

The temporary closure this spring of the Tsongas Arena, the usual location for the University event, prompted the review of commencement activities.

For updated information, visit www.uml.edu/academicaffairs/commencement.

—RC

Two New Arts Venues Dedicated

Artistic Afternoon Celebrates the Spinola Art Gallery and Comley-Lane Theatre

Two important arts venues on campus will be officially dedicated on May 5 amidst an afternoon of artistic events. Ribbons will be cut for the Spinola Art Gallery, located in Allen House, both on UML's South campus, and for the Comley-Lane Theatre in Mahoney Hall across the street.

The afternoon will start with a reception with hors d'oeuvres at Allen House at 5 p.m. The Spinola Art Gallery will feature an art show titled "Selections by the UML Art Department Faculty," curated by Prof. William Kaizen. The Allen House Gallery will showcase "Landscape Paintings by Charles Herbert Allen (1848-1934)," courtesy

of the Whistler House Museum of Art. The ribbon cutting, scheduled for 6:30 p.m., will include expressions of appreciation to Mary Jo and Frank Spinola '66, the gallery's benefactors.

Following the Spinola Art Gallery ribbon cutting, participants will cross the street to the Comley-Lane Theater for a ribbon cutting at 6:45 p.m. Students will then take to the stage to perform a series of one-act plays, written by David Ives and directed by Paula Plum and Richard Snee. A question and answer period will follow with Bonnie Comley '81 and Stewart Lane, Tony-award winning producers from New York City, whose generosity helped fund the theater's makeover.

For more information, contact Jacqueline_Ledoux@uml.edu or visit uml.edu/advancement/calendar.

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Anna's Smile Begins a Journey

microprocessor, which sets it apart from typical voice-recognition devices that rely on a separate desktop computer.

Anna already was using a tiny infrared camera that followed a reflective dot stuck to the end of her nose that allowed her to move a cursor around a screen with head movements. This technology required her to master a complicated technique to click and drag, which was frustrating the 5-year-old. With Darish's device, she speaks into a small microphone to command the cursor to click and drag. After about an hour of practice, Darish says, Anna was successfully turning on a toy and playing a computer game that involved picking up balls and putting them into a box on the screen.

"We found out some words worked better than others," says Darish, although he emphasized that it didn't matter what language was used by the operator. He used his time with her to make subtle adjustments to his software, train Anna's parents—who do speak English—to trouble shoot potential future problems, and to show them other future capabilities. Fortunately, Darish says, both her parents are electrical engineers, and a family friend is a hardware and software engineer, so they easily understood the technical requirements.

Actually meeting Anna meant a great deal to Darish, who is a nontraditional student returning to school after working in industry for 20 years. Seeing the challenges the little girl and her family face on a daily

basis was sobering. Because Anna is on a respirator, she needs constant, attentive care 24 hours a day. Her lungs must be cleared up to 20 times a day, and if her respirator tube comes dislodged, her caregivers have only a minute to restore her breathing before her health is in jeopardy. The strain of responsibility was evident in the faces of Anna's parents, Darish says, but the family is blessed with a wide support system.

"It helps put life into perspective," says Darish. Despite some initial apprehension, the family embraced the visitor from the United States. "Her parents were happy, thrilled, with the experience. I'm planning to continue to develop things for her. She'll be my lifelong mission."

Clark says Darish was uniquely suited to this project. "Michael has a true sense of commitment and responsibility, and also an incredible work ethic. Everyone else wants it done yesterday—just give me a grade," says Clark.

Darish hopes to take his project to the next level, and perhaps develop a marketable device for the general public. He plans to attend graduate school next year, but already has ideas on how to improve Anna's device.

"I just can't let it go," Darish says.

—K.O'R.

Busy Conference Schedule Provides Promotional Opportunity for UML

Radio Spots Tout Wide-Ranging Research and Scholarship

Seven conferences sponsored by UMass Lowell in April created an unusually good opportunity to provide a snapshot of some wide-ranging expertise—and to tell the world about it.

During the first two weeks of the month, UML ran a promotional campaign on WBZ and WBUR radio. A combination of 15- and 30-second spots were aired throughout each day, with a concentration in morning drive time. Recordings of the ads can be heard at <http://www.uml.edu/Media/Video/default.html>.

The ads used the tagline "Where Research Becomes Reality," a slogan intended for research-related promotional opportunities. Advertising pointed listeners to www.uml.edu, where the front page "snapshot" feature linked to a page describing and linking to the seven April conferences as follows.

The **Nanotechnology Summit**, describes the work being done to bridge the gap from research to commercialization, from laboratory to high-scale, high-rate production.

At **Green Plastics Manufacturing: A Sustainable Materials Conference**, join industry leaders show how breakthrough advances are helping companies manufacture real-world plastic products from bio-based polymers—including corn.

Leading scholars and participants from around the world, join in the conference **Community**—

University Partnerships: How Do We Achieve the Promise? They explain why universities have become the prime drivers of economic development within their regions.

An invitational conference, **Intergenerational Voices on Women in Science and Engineering**, is funded by the National Science Foundation and organized by the Center for Women and Work to address issues changed for women working in science, technology, engineering and math over the past three decades.

Becoming an entrepreneur is the topic—at **I2V, the Invention to Venture** conference led by commercialization experts, business leaders and venture capitalists. This year's workshop is an introduction to technology entrepreneurship with a special focus on women in technology.

The Center for Atmospheric Research celebrates 25 years of prestigious research in radio sounding and plasma physics with a special Honorary Symposium, followed by the **Digisonde Forum and Workshop**. The Center's technology was a key element in the NASA IMAGE mission.

The **Third Annual New England Poetry Conference**, April 25-26, includes readings by W. D. Snodgrass and Major Jackson, as well as a keynote lecture by Linda Wagner-Martin, professor of English at UNC-Chapel Hill. The NEPC is sponsored by the Jack and Stella Kerouac Center for American Studies and the UML English Department.

Ways and Means Committee Hearing Held on Campus

State Court and Commission Heads Testify



▲ The legislature's Ways and Means Committee members, from left, Rep. Colleen Garry '85 of Dracut; Sen. Stephen Brewer of Barre; Sen. Steven Panagiotakos of Lowell, chair of Senate Ways and Means; and Rep. Theodore Speliotis of Danvers heard budget requests from state court and agency heads during a recent committee hearing at the Campus Recreation Center.

Engineering Adds Ph.D. Option

John Ting, dean of the Francis College of Engineering, announced recently that the College can now grant Doctor of Philosophy (Ph.D.) degrees, as well as Doctor of Engineering (D.Eng.) degrees.

The Ph.D. will be available in the following engineering options: chemical, civil and environmental, computer, electrical, energy, mechanical and plastics.

"While both programs have the same total number of credits required for thesis and coursework, the Ph.D. is a more recognized, traditional research degree," says Ting. The Ph.D. requires all 42 credits to be in approved technical courses, while the D.Eng. requires nine of the course credits to be in approved management or other non-technical coursework. Also, industrial design-oriented theses should be done in a D.Eng. degree, subject to approval by the thesis advisor.

The Massachusetts Board of Higher Education approved the request based on the professional accreditation of the UMass Lowell

engineering programs by the Engineering Accreditation Commission (EAC) of the Accreditation board for Engineering and Technology (ABET), information regarding program need and demand, as well as the success of program graduates over the past two decades.

Students currently enrolled in the D.Eng. program may choose to switch to the Ph.D. program, if they will meet the technical course requirement.

"I've already signed several petitions for students who are switching from the doctoral to the Ph.D. degree, and who are planning on graduating this spring," says Ting.

The change offers an administrative benefit, as well. The existing doctoral degrees are based in three departments, with options extending to the others. The new D.Eng. and Ph.D. programs streamline the process, with approved options for all seven engineering specialties.

Anna's Smile Begins a Journey

Senior Capstone Project Gives Power to Paralyzed Girl's Voice

For Senior Michael Darish, it was her picture that sucked him in. Little 3-year-old Anna's expressive eyes and heart-melting smile spoke to Darish, inspiring him to perfect a senior project to improve the quality of life for this tiny stranger from Italy.

He heard the story of how she was paralyzed from the neck down in a car accident at the age of two, and how she must use a ventilator to breathe. He read e-mails from her father, who stumbled upon UML's assistive technology program through the Internet after scouring the world for help. Darish considered the father's request: create a device that would let Anna click and drag a cursor on her computer, using only her voice.

Darish jumped into the project immediately, spending three semesters and thousands of hours on his mission, well more than the typical senior electrical engineering capstone project requires. He drove himself with the thought, "I always knew that I was meant to do something. I've found what I've been looking for."

He successfully delivered his project to Anna, now 5, over spring break in March, traveling all the way to Italy to finally meet his inspiration and her family. He was not disappointed.

"She was cute as a button. Just like a typical five-year-old, a little apprehensive at first," said Darish. Over the course of the week, Darish spent an hour or two each day introducing her to the device, adjusting his software for unanticipated obstacles, and marveling at the resiliency of youth. Despite the language barrier, Darish understood Anna's message

when she asked to kiss him on the cheek as he prepared to leave.

"I've had a lot of great experiences in my life. This tops them all," he said.

Darish's project is just one of the 60 or so assistive technology projects that senior electrical engineering students complete each semester as a graduation requirement. These projects, delivered free of charge to clients, demonstrate what students have learned over three and a half years in the program. The projects help physically or mentally challenged people improve their quality of life, and can range from a simple toy to a complicated wheel chair depending on the commitment and skill of the student.

Prof. Donn Clark and Technical Support Associate Alan Rux, who lead the Assistive Technology Program, field hundreds of requests via local social service agencies, hospitals, schools and the Internet. They present these requests to their students at the beginning the senior year and allow the students to pick their own projects.

For Darish's project, he used a voice recognition chip and wrote software to create the stand-alone device that will also turn on three different toys and even allow her to use the telephone in the future. The compact box is smaller than the size of a toaster oven and houses its own

RandomArts Piece Moves, Clicks, Flashes and Fascinates

Walk down the hallway to the Southwick Food Court and you are likely to be surprised. Two wall-mounted boxes hold artwork that is faintly reminiscent of gears or molecules. But as you pass, gear arms move and click, points light up and the experience is suddenly interactive and fun.

The piece, named Uri—the Korean word for "we" or community"—is the first installation of RandomArts, an initiative to place visual arts on UML North. Michele Gagnon, Art Gallery coordinator, developed the RandomArts grant proposal for interdisciplinary works using innovative media. Work was funded by the Provost's Interdisciplinary Grant program.

Uri is the creation of Asst. Prof. Hyun Ju Kim of the Art Department, who teaches courses in animation and interactive media. Kim has worked extensively with the

Computer Sciences Department and the Revolving Museum of Lowell on Artbotics, engaging high school and college students in the creation of technology-based art. Kim's background includes a degree in industrial engineering and a master's of fine art in computer art.

Kim describes Uri as "an interactive, kinetic sculpture based on the nano-carbon structure." Sensors, controller and motors respond to the movement of passersby, opening and closing parts of the structures.



▲ Asst. Prof. Hyun Ju Kim has created an interactive, kinetic sculpture.



▲ Michael Darish, standing at left, visited Turino, Italy, over spring break to deliver his senior capstone project to Anna Magliano and her family. Pictured in front of Michael are Anna and her brother Davide. To his left are videographer Valerie Parker, who filmed Michael's trip for a documentary project, and Anna's father, Andrea.

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