Chancellor Jacquie Moloney Accepts Honor on Behalf of University

In its first appearance on the list, UMass Lowell is ranked No. 4 among the Top 100 Women-Led Businesses in Massachusetts in 2017. The top college or university on the list, UMass Lowell is positioned ahead of institutions such as Harvard University (No. 7), Bentley University (No. 8) and Worcester Polytechnic Institute (No. 49).

The recognition from The Commonwealth Institute (TCI), in partnership with The Boston Globe Magazine, honors the top 100 among thousands of organizations led by women executives in private and nonprofit organizations.

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In addition to looking at each organization’s impact on the region, TCI also reviewed number of employees, revenue and diversity statistics, as well as the number of women on each board of directors and upper management team. Among UMass Lowell’s achievements were nearly $920 million in economic impact in 2016, increasing diversity across gender, race and ethnicity groups and an executive cabinet that is 60 percent women.

“UMass Lowell is successful because of the culture all of our employees have built and continue to strengthen,” says Chancellor Jacquie Moloney. “Our achievements have been made possible by the commitment to excellence by faculty, staff and students on campus, as well as the support of our alumni and friends around the world.”

Among UMass Lowell’s achievements:

• Named New England’s fastest-growing public doctoral university by The Chronicle of Higher Education;
• Grown enrollment by 53 percent since 2007;
• Increased the percentage of students from underrepresented populations by 148 percent since 2007, to 34 percent of the total student body;
• Grown faculty and staff diversity by 75 percent since 2010;
• Ranked No. 1 among public research institutions in New England for starting and mid-career salaries of graduates;
• Ranked as one of “25 public institutions that are worth the money” by CNBC.

The Top 100 ranking was announced at an Oct. 27 breakfast honoring the winning organizations. The top three women-led businesses ahead of UMass Lowell were Brigham and Women’s Health Care, BMC Health System and Boston Children’s Hospital.
Autism Studies Wins Grant to Create Virtual Child

Training Tool Will Help Address Shortage of Behavioral Technicians

Nearly one in 50 children in the United States is diagnosed with autism spectrum disorder, usually before age 3, according to the U.S. Centers for Disease Control and Prevention.

But the number of people trained to help them isn’t keeping pace with the demand for services. A professor in the Autism Studies Program is developing a technology to help change that: immersive, interactive software that helps professionals learn a technology to help change that: immersive, interactive software that helps professionals learn skill or desired behavior.

Serna is collaborating with Assoc. Prof. Charles Hamad, a UMass Medical School psychologist, to develop the new training tool. The software will feature a virtual child, programmed with learning difficulties associated with ASD, who can interact with people training in behavioral intervention techniques.

“The software will be useful in college classrooms, for new employees of agencies, special education teachers, paraprofessionals in the schools and even parents,” Serna says.

Serna and Hamad will start with a virtual boy in a simulated environment, since boys are diagnosed with ASD at four or five times the rate of girls. The virtual boy will present common learning difficulties, and the software user will practice applying the best behavioral intervention technique to help the boy learn a new skill or desired behavior.

New Sensing Fabrics Will Help Keep Bridges, Roads and Buildings Safe

Researchers Hope to Prevent Catastrophic Failures and Minimize Costly Uptkeep

Last year, the American Society of Civil Engineers gave America’s infrastructures an overall grade of D+, indicating that they urgently need major repairs and improvements to make them safe, sustainable and economically efficient. A team of UMass Lowell researchers has answered the call; it is developing effective and inexpensive ways to monitor the safety of structures like bridges, tunnels, railway tracks and skyscrapers.

Prof. Pradeep Kurup and Assoc. Prof. Tzuyang Yu of the Department of Civil and Environmental Engineering and Prof. Xingwei Wang of the Department of Electrical and Computer Engineering are collaborating with researchers from Saint-Gobain, a multinational corporation with an R&D center based in Northborough, to develop fabrics integrated with optical fibers and sensors.

These fabrics can be applied to existing structures to monitor strain or detect cracks in their early stages, thereby minimizing maintenance costs, environmental impacts and disruptions to the people’s lives and businesses.

“Optical fiber sensors are very suitable for structural health monitoring for their light weight, low cost, survivability in harsh environments and immunity to electromagnetic environments,” says Wang. “More importantly, they can provide fully distributed sensing information about an object’s structural integrity. Combined with novel textile technology, the sensing fabrics will be relatively easy to install and maintain. They will be very useful for long-distance sensing applications.”
Honors student Brianna Atwood grew up in Andover with a nun for a neighbor, first in the other half of her family’s duplex and then down the street.

When Sister Joanne Sullivan, the principal of the St. Patrick School in Lowell’s Acre neighborhood, found out Atwood was coming to UMass Lowell for plastics engineering, she asked her to help out at St. Patrick’s, which serves children in preschool through eighth grade.

Then Julian Zabalbeascoa, Atwood’s professor for the First-Year Seminar in Honors, told his students community service would fulfill an assignment to explore Lowell. Atwood called Sullivan and asked what kind of help she needed at St. Patrick’s. Within a couple of weeks, Atwood had found more than a dozen UML students, mostly freshmen, to volunteer at the school.

The volunteer program is now entering its third year, bringing about 20 UML students to St. Patrick’s each semester who commit to working two hours a week, every week, at the same time. The undergraduates tutor and translate for parents who don’t speak English, and they also provide general classroom help.

“The kids love having the one-on-one attention and help, and they look forward every week to the college students coming,” Sullivan says.

Although St. Patrick’s is a Catholic school, it is very diverse. Sullivan says 90 percent of her students come from immigrant families that span continents and religions. Once Atwood realized how many languages the children spoke, she found an equally diverse group of UML volunteers who were happy to work with children who didn’t yet speak English well—or at all.

“We’ve had a lot of international students who volunteer, and they’re able to tutor and translate for the kids,” she says. “In one case, a Brazilian child hadn’t shown up for two weeks, and the school didn’t know what had happened. One of our volunteers, Manny Campos, who’s from Brazil, called the parents, spoke to them in Portuguese and found out that the child was really sick.”

Student Researchers Win Tech Hackathons at MIT

Projects are Designed to Assist in Disaster-Relief Efforts

Two UMass Lowell graduate students were part of the teams that recently won top prizes at two “hackathons” organized by MIT, the U.S. Department of Defense MDS program and the Naval Postgraduate School. The competitions were held on the MIT campus in Cambridge.

During the hackathons, participating teams were given 72 hours to come up with a technological solution to help during natural disasters. Each team then presented its best idea to a panel of judges over the course of several rounds, and the team that garnered the highest cumulative score won the competition.

Rashmi Sharma, a Ph.D. candidate in chemistry, and her team won $15,000 in funding from MDS with their concept called “Security Blanket,” a multipurpose, advanced functional fabric that can be used by disaster survivors. In addition to keeping people warm, the blanket is designed to carry the injured and also for collecting firewood and supplies. “Since the blanket glows in the dark, it can offer some measure of safety and security by making the user highly visible at night,” notes Sharma.

She adds that the blanket’s outer layer is waterproof so it can be used as a raincoat, while its inner layer has antimicrobial properties to help prevent the spread of diseases in confined, overcrowded places like storm shelters and refugee camps.

Omkar Bhandakkar, who is pursuing a master of science degree in energy engineering, and his team were awarded a cash prize of $1,500 by the NPS for developing the idea for a virtual command center that the Navy could use to help coordinate disaster-relief operations following a hypothetical earthquake-triggered tsunami. The team used augmented reality, virtual reality and consolidated data technologies to help the Navy improve its disaster response.

“We developed a voice-automated virtual command center that could be employed by the Navy commander using hand gestures and voice commands to coordinate operations,” explains Bhandakkar. “A finger swipe would allow a commanding officer to zoom in and rotate maps and make other changes that would be visible to officers in the field.”

Chemistry Ph.D. student Rashmi Sharma and her team won first place at this year’s MDS hackathon, which was sponsored by MIT and the U.S. Department of Defense.

Professor Wins Grant to Study Gender in Engineering Workplaces

Kacey Beddoes Awarded $508,000 NSF CAREER Grant

Sociology Asst. Prof. Kacey Beddoes won a prestigious National Science Foundation grant to study gender in engineering workplaces—and to find ways to promote a more inclusive and diverse workforce.

The $508,000 NSF CAREER grant builds on her two previous NSF grants: one on discourses in engineering education that looks at how engineering faculty think and talk about gender in their field, and the other on the dynamics of interdisciplinary teams.

Her latest grant will fund an in-depth, long-term study comparing the experiences of young women and men at the start of their careers in civil engineering.

“Nearly 40 percent of women leave science and engineering within their first five to 10 years on the job,” she says. “We need to better understand why they leave.”

Beddoes will recruit equal numbers of women and men as study participants this spring as they get ready to graduate from college. She will look at the workplaces where they start their careers and then follow them during their first four years in the workforce.

Beddoes says that while an enormous amount of time and money has been spent over the last four decades on attempts to get more women to pursue careers in science and engineering, equity is still elusive. In her view, that’s because nearly all the research on the topic focuses on women as the location of the “problem,” rather than on gender biases in institutional cultures and policies.

“Both the research and the interventions will be about men and masculinity as much as women,” she says.

Honors students Sherlin Thomas, left, and Qiana Cucuru are taking Asst. Prof. Kacey Beddoes’ class in Gender and Engineering.
River Hawks Past and Present Celebrate in Division I Style

On one end of Hawkey Way were alumni like Bill Cormier ’77, who traveled all the way from Seattle for his first Homecoming in 40 years. On the other end were future River Hawks like 10-day-old Logan Heffron, whose proud parents both played sports at UMass Lowell.

In between at River Hawk Homecoming 2017 were hundreds of alumni of all ages, reuniting and reminiscing on a perfect, summerlike October afternoon outside the Tsongas Center at UMass Lowell.

“It was the largest turnout we’ve ever had. We’re very happy,” says Executive Director of Alumni & Donor Relations Heather Makrez ’06, ’08, who noted that more than 500 alumni bought tickets for the weekend hockey games.

While guests munched on fried dough, sipped cold drinks and voted in a chili cook-off, student music groups the Hawkettes, Hawkapella, Vocality and Fermata Nowhere performed on the main stage along the Merrimack River.

Headlining act Bearstronaut, a synth-pop band formed by alumni Paul Lamontagne ’12, Philip Boisvert ’10 and David Martineau ’10 during their UML days, treated the crowd to an hourlong set to close out the afternoon. The band, which is managed by music business alum Morgan Milardo ’11, released its first album, “Telecoast,” in 2016. Bearstronaut appeared on “Jimmy Kimmel Live!” this summer and is nominated for Best Electronic Artist and Best Pop Artist at this year’s Boston Music Awards.

“This is awesome. I can’t imagine what it would be like to be a student here now with Division I athletics and all these new facilities,” said Cormier, an electrical engineering grad who moved to Seattle for a job at Boeing in 1977. The Fitchburg native has called the Pacific Northwest home ever since.

In addition to alumni and their families, hundreds of students, parents, faculty and staff soaked up the sun on Hawkey Way, a Homecoming tradition now in its fourth year. The family-friendly event featured pony rides and face-painting for the young, as well as an inflatable “sports zone” and carnival games for the young at heart.

“We’ve gotten to do a lot of amazing things, and we owe a lot of it to UMass Lowell,” said the band’s lead singer Martineau, who earned his degree in English.

This year’s Homecoming was the university’s first as a full-fledged NCAA Division I institution. To mark the milestone, more than 800 members of the UML community attended “Rise Up! A Celebration of Sport,” a gala event at the Lowell Memorial Auditorium that kicked off four days of Homecoming festivities.

“When we started doing Homecoming, we knew we were going to build toward being a true Division I institution,” Makrez says. “This year, we made it there.”

Warm Welcome (Back) for Alumni At Homecoming

Alumni, students, faculty and staff enjoyed summerlike weather on Hawkey Way at River Hawk Homecoming 2017.