UMass Lowell Returns to Legacy as Textile Innovator

State Awards $11.3 Million for Advanced Textile Manufacturing

Can the university help launch a 21st century textile boom of smart fibers and wearable electronics?

That’s what the state is banking on with Governor Charlie Baker’s May 31 announcement of $11.3 million for UMass Lowell to establish a Fabric Discovery Center and to support its industry partnerships.

“Massachusetts is a competitive player in the global innovation economy because of our leadership in technology, strong workforce and educational institutions,” Baker said. “This investment will ensure we continue to see that success and growth outside of Greater Boston, and that Lowell will have an opportunity to return to the center of the textile industry.”

It’s been decades since the city’s mills hummed, but the state award—$10 million to create a hub where researchers and industry can collaborate on next-generation smart fabrics and $1.3 million to support a trio of projects with industry partners S12 Technologies and Raytheon—sets the stage for Lowell’s emergence as a 21st century textile powerhouse.

The funding will allow UMass Lowell to acquire the specialized equipment to develop materials that can be used in flexible, hybrid electronics. Combined with over $2 million in federal and industry funds, the investments will help spur innovations and provide the resources to bring new technology from concept to commercialization.

Baker made the announcement at the university’s Innovation Hub at 110 Canal St., a renovated manufacturing building in downtown Lowell. The building’s third and fourth floors now house the university’s two business incubators—the Innovation Hub and the Massachusetts Medical Device Development Center. The state funding will be used to transform the first and second floors of the building into the Fabric Discovery Center.

There will be room for prototyping and testing next-generation materials, a start-up incubator for emerging businesses and space for workforce development efforts. The space-age fabrics that officials envision are largely smart fabrics, with sensors and communications features, says Julie Chen, vice chancellor for research and innovation. The high-tech inventions can be woven into designs to do everything from detecting dehydration in soldiers to monitoring buildings for leaking pipes, she says.

At the announcement event, UMass President Marty Meehan pointed out that the university’s roots date back to 1895 as the Lowell Textile Institute, an institution founded to educate workers who came to the Mill City for the textile boom.

“It takes partnership, and there’s not a community that does partnership the way Lowell does,” said Meehan, noting the “innovation ecosystem”—a critical mass of entrepreneurs, startups, university researchers and creative talent—that has developed in the city.
Learning with Purpose

Emerging Energy Initiative Powered Up by President’s Office Grant

Seed Funding will also Foster Research on Biomechanics, Medical Imaging and Biomedical Informatics

UMass Lowell’s role as a leader in the emerging energy industry got a lift from a recent $95,000 grant from the UMass President’s Science & Technology Initiatives Fund.

Prof. Christopher Niezrecki, who chairs the Department of Mechanical Engineering, will use the funds to establish a new Emerging Energy Innovation Institute in Lowell. Plans call for the proposed institute, which will allow university researchers to work closely with companies to develop, validate, advance and license clean-energy technologies, to be based in the city’s Hamilton Canal District.

“The Emerging Energy Innovation Institute will generate economic growth in the Commonwealth and foster scientific advancement by leveraging the university’s expertise in wind turbine technology, solar energy systems, nuclear energy, biofuels and energy storage,” says Niezrecki.

“These science and technology funds empower our faculty, strengthen our research enterprise and spur breakthroughs that boost the economy and improve lives,” says UMass President Marty Meehan.

Two other projects led by UMass Lowell faculty also won S&T grants.

Chemistry Assoc. Prof. Matthew Gage was awarded $25,000 to form the UMass Movement Research Center. Gage is collaborating with researchers from UMass Amherst and UMass Medical School to study the mechanics of movement and muscle function as people age.

Electrical and computer engineering Assoc. Prof. Hengyong Yu, working with Prof. Michael King of UMass Medical School, received $25,000 to create a new UMass Consortium for Research on Imaging and Informatics.

Innovation Institute in Lowell. Plans call for the proposed institute, which will allow university researchers to work closely with companies to develop, validate, advance and license clean-energy technologies, to be based in the city’s Hamilton Canal District.

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“Climate Researchers Win $454K NSF Grant to Study Extreme Rainfall in the Northeast

In May 2006, an unusually strong low-pressure system stalled over the central United States, bringing torrential rains to the Northeast. Up to 17 inches of rain fell over Lowell, causing the Merrimack River to overflow and inundate low-lying neighborhoods. The event has been described as the region’s worst flooding since the great flood of 1936.

 Assoc. Prof. Mathew Barlow of the Department of Environmental, Earth and Atmospheric Sciences is researching what causes such extreme rainfall events in the Northeast and how well current computer climate models are able to correctly reproduce those causes.

The three-year study is being funded by a $454,000 grant from the U.S. National Science Foundation.

“Understanding just how realistic the models are is important for improving our ability to predict such events, both in the short-term and long-term climate projections,” he notes.

Using observational data, the team will identify storm types associated with extreme precipitation by applying advanced analytic techniques. The researchers will also look for characteristic patterns in the jet stream and other storm features and investigate the physical processes by which extreme precipitation is generated within each storm type.

New Program Teaches the Business of Art

Mass Creative Economy Grant Funds Art-to-Work Incubator

Ellen Wetmore knows the difficulty artists face: it’s hard enough chasing a muse, let alone making a living at it.

Steve Tello knows what makes successful entrepreneurs tick.

The two—hepatitis A and Tello is senior associate vice chancellor of entrepreneurship and economic development—have teamed up to create the Art-to-Work Incubator, a program to mentor artists of Greater Lowell in making a business of their art.

UMass President Marty Meehan announced Art-to-Work as one of 10 faculty projects to receive a grant from the Creative Economy Initiatives Fund.

The incubator, one of three winning proposals from UMass Lowell, was awarded $26,650.

The Art-to-Work Incubator will be free and open to artists working in the community and will not be restricted to students or alumni.

Merrimack Valley artists and craftspeople participating in the Art-to-Work program will spend a year learning small business self-sufficiency from professionals. They’ll learn about finance and how to write a business plan. They’ll study product prototyping and research retail markets. And they’ll be eligible to earn matching grants to invest in their business.

Wetmore and Tello will begin taking applications for 10 to 15 artists in the fall. The program includes work with mentors, workshops and lectures and will begin in November.

(Torrential) Rain, Rain, Go Away

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“We are working to identify specific types of storms that are more likely to lead to heavy rainfall. At the same time, we are trying to figure out what’s different about those storms from ones that don’t cause heavy rainfall,” says Barlow.

“Understanding just how realistic the models are is important for improving our ability to predict such events, both in the short-term and long-term climate projections,” he notes.

Using observational data, the team will identify storm types associated with extreme precipitation by applying advanced analytic techniques. The researchers will also look for characteristic patterns in the jet stream and other storm features and investigate the physical processes by which extreme precipitation is generated within each storm type.

University faculty and students are conducting cutting-edge research on wind turbine technology, solar energy systems, nuclear energy, biofuels and energy storage.

Artists in the Lowell area may soon have a better understanding of how to market their work, thanks to the new Art-to-Work Incubator program.
Student Project Tackles ISIS Recruitment Efforts

Counterterrorism Plan Wins Top Prize in DifferenceMaker Competition

A program to educate schoolchildren, their parents and teachers about sophisticated online ISIS recruitment efforts won top campuswide DifferenceMaker honors and $6,000 in the fifth annual DifferenceMaker Idea Challenge.

Operation 250—named for the number of Americans known to have been recruited by ISIS—won a panel of seven alumni judges with a concise, polished presentation and a demonstrated passion for their work. The team of five, all but one of whom are criminal justice majors, plans to offer its website content and teaching guides free of charge to schools.

The evening was the culmination of the year’s DifferenceMaker events, rewarding 10 teams who pitched products and services they hope will make the world better. Teams were chosen from a field of 30 in a preliminary round and split the $50,000 in prize money.

This wasn’t the first honor for Operation 250. Earlier this year, the students won an all-expenses-paid trip to Washington, D.C., after advancing to the final round of an international contest—sponsored by the Department of Homeland Security and Facebook—that aimed to fight the influence of extremists and terrorists. Operation 250 took third place and a $1,000 prize.

In their presentation, members of Operation 250 laid out their case for the dangers lurking online. They told the judges that 63 percent of teenagers receive messages from people they do not know, 25 percent have visited hate group sites and 14 percent have visited sites that describe how to build a bomb.

Support from Alumni and Students is Strong

When UMass Lowell launched its first-ever donor challenge on April 25, the goal was simple: Attract 480 donors in the space of 48 hours and receive $48,000 in challenge funds from an anonymous donor.

But UMass Lowell has a way of exceeding expectations. When Days of Giving wrapped up on April 26, an astounding 2,286 donors had risen to the challenge, contributing a total of $288,729 to support student scholarships and their favorite colleges, clubs and athletics teams.

“We were enormously gratified by this outpouring of support,” says John Feudo, vice chancellor for advancement. “It’s a real testimony to the loyalty of the UMass Lowell community and their commitment to making a lasting difference in the lives of our students.”

That support was both wide and deep, he noted, with donors from 40 different states, and gifts that ranged up to tens of thousands of dollars, including several challenge gifts. Alumni donors led the field with 37 percent of all gifts, followed by current students (33 percent), faculty and staff (13 percent), parents (9 percent) and friends (8 percent).

“I’m especially encouraged by the amazing support of our students,” adds Feudo. “Creating a culture of philanthropy during their student years bodes well for our future. It also shows that they sincerely believe in paying it forward.”

For more information on how you can give back to UMass Lowell, visit www.uml.edu/give.

Days of Giving Attract More Than 2,200 Donors in 48 Hours

One-third of all Days of Giving donors were students, who showed their support for their colleges, clubs and sports programs.

Perry, Pasteur Overhauls Begin This Summer

From Research Labs to Soccer Fields, the Facilities Team Gets Down to Work

Renovation begins this summer on Perry and Pasteur halls, where the university is creating modern research and instructional labs, as well as new administrative space, for the Francis College of Engineering and the Kennedy College of Sciences.

The $50 million Perry Hall project—which is being funded by private donors and corporate sponsors—will breathe new life into the 65-year-old engineering building. Expected to be complete in November 2018, the project will create labs in areas central to the Massachusetts economy, including biomedical, chemical and environmental engineering, as well as biomanufacturing and clean energy.

The $12 million Pasteur Hall project, scheduled to be completed in August 2018, will create modern spaces with glass walls and partitions. The building will house the deans’ suites and faculty offices for the Department of Mechanical Engineering and the Department of Computer Science.

The university is preparing to break ground on the new Aiken Fields on East Campus. When completed in August, the $6 million project will provide students with two new turf playing fields for club and intramural soccer, lacrosse, rugby and flag football, as well as two tennis courts.

Final touches are being made this summer to the university’s newest residence hall, the Perkins Complex on East Campus, a 780-bed dormitory complex where every unit will include a full kitchen and a washer and dryer.

The Hawk’s Nest Cafe at University Suites is being expanded and converted into a dining facility that offers grab-and-go options during the day and all-you-care-to-eat meals for dinner. The new facility is slated to open in January 2018.
Commencement 2017 Celebrates a Decade of University Growth

Record Number of Graduates Includes Recipients of First Doctorates from Manning School

Popping flashes, social media “Congratulations!” messages on the jumbotron, the university’s brass choir and proud family and friends greeted the UMass Lowell Class of 2017 as it marched into the Tsongas Center on Saturday, May 13, for its commencement, the largest in university history.

Commencement 2017 marked a decade of growth for UMass Lowell with 3,970 graduates, more than double the number of students who graduated in 2008. Chancellor Jacquie Moloney noted that nearly 1,200 students were graduating with honors and that 93 students had perfect 4.0 GPAs.

The graduates came from 44 states and 87 countries, a sign of the university’s growing national and international reputation.

Moloney asked this year’s graduates to bring the values of the university community into the world they are now entering—values of hard work, continual improvement, service and inclusion.

Much of that growth was overseen by UMass President Marty Meehan, who served as chancellor for eight years. After noting that he and Moloney both graduated from the university, he asked this year’s graduates to remain part of the university community, first by thanking their mentors and supporters and then by paving the way for the students who will follow them.

“When you get your first paycheck, take someone out to lunch or dinner who helped you get it,” he said. “And if there’s any money left over, contribute to scholarships at UMass Lowell.”

NBC senior political correspondent Steve Kornacki, who took classes at the university while a high school student in Groton, received an honorary doctor of humane letters degree and gave the keynote address at the morning ceremony to graduates of the College of Fine Arts, Humanities and Social Sciences, the Manning School of Business and the College of Education.

Edward Barrett ’58 of Naples, Fla., received the Distinguished Alumni Award for his lifelong dedication to education, first as a teacher and later as president of an educational publishing company. He has served as an adviser to the College of Education and established a scholarship for nontraditional students in memory of his mother, Margaret Holland Barrett.

Also receiving honorary doctorates of humane letters were Nobel laureate Steven Chu, a professor of physics and molecular and cellular physiology at Stanford University; Francis Spinola ’66, a Lowell native who founded INDSPEC Chemical Corp.; and Mary Jo (Roberto) Spinola ’66, a retired teacher. The Spinolas have supported the DifferenceMaker program and other university initiatives.