UMass Lowell has been recognized as a leader among colleges and universities nationwide for its promotion of economic development through robust community engagement. The Association of Public and Land-Grant Universities (APLU) named the campus an Innovation and Economic Prosperity University, a designation that acknowledges universities working with public and private sector partners in their states and regions to support economic development through activities that include innovation and entrepreneurship, technology transfer, talent and workforce development and community development.

“UMass Lowell’s economic leadership dates to its earliest days more than a century ago when we prepared managers and other leaders for the textile industry,” says Steven Tello, associate vice chancellor for entrepreneurship and economic development. “Today, our researchers, students and faculty engage business and community leaders to create a diversified global economy by producing a skilled workforce and innovation in fields like life sciences, nanomanufacturing, biotechnology and more.”

“Public universities serve as economic engines for their local communities and states by conducting cutting-edge research to reach new breakthroughs and by developing the talent to help existing businesses grow stronger and enabling new ones to develop and thrive,” says APLU President Peter McPherson.

Applications for the designation were scored by a panel of reviewers representing other universities and also national partners, including the Association of University Research Parks, the University Economic Development Association, the Ewing Marion Kauffman Foundation, the National Association of System Heads and the National Collegiate Inventors and Innovators Alliance. Scoring was based on a range of criteria emphasizing universities’ development of their economic engagement enterprise, their planning efforts around economic engagement, strategic communications about these efforts and participation in encouraging economic engagement among peer institutions.

APLU is a research, policy and advocacy organization representing 234 public research universities, land-grant institutions, state university systems and affiliated organizations.

Gov. Deval Patrick announced $1 million funding for the university’s new Innovation Hub. The Hub—which will provide space for up to 40 entrepreneurs at a renovated mill in the city’s emergent Hamilton Canal District—is one of the many economic development initiatives undertaken by UMass Lowell.
Colleges and universities are brimming with great inventions and new ideas. How can they leverage these innovations to create more economic vitality for themselves, their students and the community?

That was the hot issue addressed at UMass Lowell’s Third Annual Deshpande Symposium for Innovation & Entrepreneurship in Higher Education in June.

Entrepreneurship not only creates wealth and security for individuals, but also jobs for graduates, and it empowers a new workforce no longer tied to a single employer for life, said Raj Melville, executive director of Deshpande Foundation, at the opening reception.

Some 250 attendees from 80 colleges and universities across the U.S., Canada and India attended the event, which featured keynote speaker Mary Sue Coleman, outgoing president of the University of Michigan, whom Time magazine dubbed “one of the 10 best college presidents.”

Coleman took the reins of University of Michigan just as the bottom fell out of the region’s economy. A million jobs vanished, Detroit crumbled and institutions perished.

“Out of adversity comes new thinking,” said Coleman, adding that entrepreneurship was an avenue “to prepare our graduates for economic survival. ... We had to become the innovators we were teaching our students to be.”

She said the university had to become “a catalyst for deeper connections with industry.” The campus removed institutional barriers to student ownership of intellectual property, added entrepreneurship to curriculums and “developed a vibrant, campuswide ecosystem.”

Now, she said, “one in seven Michigan students participate in some form of entrepreneurial classes and activity.”

**I Spy with My Little Eye**

Wearable Devices Can Read Passwords, Study Shows

Beware: Thieves and hackers can use video from wearable devices such as Google Glass to spy on you, learning your passwords and PINs, say researchers at the university’s Cyber Forensics Laboratory.

Google Glass is a hands-free, head-mounted computer that allows the wearer to capture high-definition video via voice command. This makes the device discreet and stealthy to use, notes computer science Assoc. Prof. Xin-wen Fu, who led the study.

Fu and his team also conducted experiments using other video-recording devices such as a Logitech webcam, an iPhone 5 camera and a Samsung smartwatch.

The researchers developed video-recognition software that tracks the movement of a victim’s fingertip and uses the fingertip’s relative position on the touch screen to recognize the touch input.

**Music Grant to Explore Cultural Identity**

Lowell’s Cambodian-American Heritage Celebrated

Cambodian-American teens can explore their cultural and artistic heritage thanks to a creative economy grant awarded by the UMass President’s Office to two UMass Lowell professors.

Music Assoc. Prof. Alan Williams and Music Education Coordinator, Prof. Gena Greher, were awarded $40,000 to develop a program to be implemented at Lowell’s Stoklosa Middle School, drawing together elements from Lowell’s community of Cambodian artists and students and faculty from the university. The city is home to the nation’s second-largest Cambodian-American population.

Initially, three afternoons a week, one hour will be dedicated to traditional Cambodian music, with members of the World Music Ensemble as instructors. The second hour will be spent on traditional dance as facilitated by members of the Angkor Dance Troupe. And the last hour will involve the university’s Art Department and a video program in which students will create self-portraits by talking into cameras about their lives as Cambodian-Americans in Lowell.

The community’s identity can be, Williams says, an interesting and sometimes perilous tightrope walk between maintaining old-world tradition and Americanizing a population of young people surrounded by American culture.
$496K Grant will Advance Composites Manufacturing Industry in U.S.

Composite materials, such as fiber-reinforced polymers, can be found everywhere—from cars, airplanes, boats, appliances and sports equipment to roads, bridges, wind turbine blades, swimming pools and body armor. They are strong, durable and lightweight, and can be easily molded into various shapes. Currently a $20 billion global industry, composites manufacturing is expected to continue to grow over the next decade.

UMass Lowell has been recognized as a leader in advancing this industry: The National Institute of Standards and Technology (NIST), an agency of the U.S. Department of Commerce, has awarded the campus a $496,000 grant to help advance the manufacturing of polymer-matrix composite materials in the United States.

The UMass-led initiative—called FIBERS (Facilitating Industry By Engineering, Roadmapping and Science Consortium—will work with companies, universities and other organizations. The result will be a detailed technology road map that identifies shared technical obstacles and defines pathways toward manufacturing advances that will enable scale-up of cost-effective, high-volume production processes.

The NIST funds will be used to support consortium activities, including conducting workshops at national, regional and local levels; personnel exchanges; industry site visits and surveys and the benchmarking of international competitors.

Gamache Named One of the World’s Top Researchers

Brightest Scientific Minds Spotlighted in Thomson Reuters List

Prof. Robert Gamache of the Department of Earth, Environmental and Atmospheric Sciences was named one of “The World’s Most Influential Scientific Minds” by Thomson Reuters.

Reuters’ Intellectual Property & Science division—in partnership with China’s Shanghai Jiao Tong University, producer of the annual Academic Ranking of World Universities—compiled the list of researchers, whose work represents the top 1 percent of the most referenced papers for their subject published from 2002 to 2012, earning them the mark of “exceptional impact.”

“They are the people who are on the cutting edge of their fields,” says the company. “These researchers are, undoubtedly, among the most influential scientific minds of our time.”

“I’m very excited,” says Gamache, who also serves as associate vice president of academic affairs, student affairs and international relations for the UMass system. “To be included in such an elite company is quite an honor.”

Gamache is an expert in the spectral studies and modeling of molecules in the atmospheres of planets, including Earth, Venus and Mars. His work is funded by the National Science Foundation, and he is collaborating with a number of groups involved in satellite measurements, including those from NASA’s Aqua and Aura satellites, the Jet Propulsion Laboratory’s Mars Reconnaissance Orbiter and the Orbiting Carbon Observatory-2 and the European Space Agency’s IASI and Venus Express satellites.

Students Turn Trash to Treasure

To cut down on waste generated during move-out while helping local residents in need, the university this year set up collection bins for reusable items that students were discarding. More than 2,200 pounds of goods were delivered to the Lowell Humane Society, the Wish Project and the House of Hope. An additional 1,000 pounds of large electronics collected were recycled through Northeast Material Handling of Lowell. Bottles and cans collected were redeemed to benefit the new UMass Lowell Community Garden.

UMass Lowell will lead a new, NIST-funded consortium that will help advance polymer composites manufacturing in the United States.

University Crossing will serve as a hub for the UMass Lowell campus, at the crossroads of North, East and South campuses and the community.
Lights! Camera! Action!

Students Take Control of the Media in New Minor

Sean McCarthy directs camera operators, asks on-air talent to speak up and edits on the fly behind the controls of Mahoney Hall’s new TV studio. He’s worked in media for several years, but saw the new TV production class as an opportunity to improve his knowledge of the shifting field. Helping to build the studio was a bonus.

“We started with an empty room, blue walls and a desk,” says McCarthy, a philosophy major with a concentration in communications. “It’s cool to start at nothing and have a professional studio in just a few months.”

The groundwork for the new digital media minor has been in the works for some time. Director and lecturer Wael Kamal came to campus a few years ago focused on bringing media studies opportunities to students.

“With shows and advertising moving online, TV may seem like old media, but it’s still alive and it’s changing,” says Kamal.

The minor covers the changing media field including online multimedia production, TV and filmmaking. Students will also learn about the history, laws and artistic aspects of media by taking classes in several departments, capitalizing on the minor’s interdisciplinary nature.

Hands-on experience is a hallmark of the new digital media program.

The new digital media program gives students a look at journalism and media production as they exist now.

Students in the minor follow the life of a story or project from inception to publication, picking up writing, technology and communication skills along the way. Kamal feels the program gives students a look at journalism and media production as they exist now “almost like a one-journalist show” as one person is often responsible for writing, photography, video and promotion of his or her work.

“The hands-on experience I’ve gotten in this class helped me get a job as a technical representative for the company that makes some of our equipment,” says McCarthy, who has worked as assistant manager of the studio.