One-year-old Raytheon, University Partnership Hits Its Stride

Raytheon and UMass Lowell are wrapping up a successful first year of their unique research partnership with celebration of a new grant that will help bring the future of 3-D-printed flexible electronics one step closer to reality.

Researchers at the Raytheon-UMass Lowell Research Institute (RURI) recently received a $1 million grant from America Makes, an initiative of the National Additive Manufacturing Innovation Institute.

Additive manufacturing—more commonly known as 3-D printing—is one of the fastest-growing and most technologically advanced industries on the planet. Additive manufacturing is now expanding beyond printing mechanical objects to producing functional electronics. Its potential to impact our daily lives and our world is practically limitless, from smart appliances and product packaging that “talk” to wearable electronics that monitor a person’s health and diagnose diseases. In the defense industry, these applications include 3-D-printed components for aircraft, guided missiles and radar systems.

RURI’s multidisciplinary project will help optimize and streamline the design process and make it easier for engineers and technicians to develop and fabricate customized engineering products through 3-D printing.

RURI is based in the Mark and Elisia Saab Emerging Technologies and Innovation Center, an $80 million state-of-the-art research facility on North Campus that is also home to the university’s Printed Electronics Research Collaborative (PERC).

Since RURI’s launch in October 2014, a number of developments have taken place, including:

• In January, PERC was formally launched with Raytheon as a founding member of the collaborative. PERC members now include seven other companies—BAE Systems, Rogers Corp., S2 Technologies, Triton Systems Inc., Microchem Corp., Creative Materials Inc. and FLEXcon Co.—and its membership is expected to continue to grow.

• In June, the Associated Industries of Massachusetts honored RURI with the 2015 Next Century Award, which recognizes the institute’s contribution to fundamentally influencing the course of economic development in the region.

• RURI has applied for a patent for a new ferroelectric ink, which will enable the fabrication of tunable printed, flexible microwave communications systems. The technology has attracted the attention of one of the PERC companies in commercializing the material.

• RURI will add a new electrical and computer engineering faculty researcher in January. In addition, the institute has nine PERC-affiliated faculty members from various departments who will work on RURI/PERC projects.

• RURI is in the process of installing a Doppler radar system donated by Raytheon that will provide a test bed for new weather-related research and development.
Margala Named Fulbright Distinguished Chair at Czech University

Professor to Spend a Year in Prague Teaching, Doing Research

Prof. Martin Margala of the Department of Electrical and Computer Engineering has been awarded the Fulbright-Czech Technical University Distinguished Chair in Electrical Engineering. Margala’s one-year fellowship in Prague started in September.

Each academic year, the Fulbright international educational exchange program—which is supported by the United States government and partner countries—chooses approximately 40 awardees from all over the world as distinguished chairs to teach and/or conduct research in North America, South America, Europe, Asia and Australia.

“The award is humbling and I feel very privileged,” says Margala, who serves as department chair in the Francis College of Engineering. “I’m glad our work is attracting international attention.”

While in Prague, Margala will teach one advanced undergraduate and one graduate course, advise Ph.D. students and conduct research. He will also counsel the dean and the rector on various aspects of higher education and assist the department with curriculum development and help identify funding opportunities.

In 2011, UMass Lowell and the Czech Technical University signed a memorandum of understanding to foster cooperation between the two institutions. Under the agreement, the schools will promote faculty and student exchanges as well as research collaboration.

Yanco Named University Professor

Robotics Expert Earns Top Faculty Honor

Prof. Holly Yanco of the Computer Science Department has been named University Professor, the highest distinction bestowed on faculty members.

Yanco, a leading researcher and authority on robotics, will serve from September 2015 through August 2018. The appointment recognizes exemplary contributions to teaching, research and service.

“Over the past 15 years, Prof. Yanco has consistently demonstrated outstanding teaching, research, scholarship and service to the University,” says Provost Donald Pierson.

Yanco has obtained more than $7 million in external grants from agencies like the National Science Foundation, the Defense Advanced Research Projects Agency and the Army Research Office. She has also authored more than 120 research papers.

As founder and director of the New England Robotics Validation and Experimentation Center, Yanco is a nationally recognized leader in her field. She has taken an active role in the economic development of the region and state, working with leaders at the Devens Inter-Operability Playground and Joint Base Cape Cod to create a robot-testing ecosystem to support Massachusetts companies and researchers.

Yanco joined UMass Lowell’s faculty in 2001. She holds bachelor’s degrees in computer science and philosophy from Wellesley College and a master’s degree and Ph.D. in computer science from the Massachusetts Institute of Technology.

Salameh Receives Award for Renewable Energy Research

Professor’s Research Spans Three Decades

For the past three decades, Prof. Ziyad Salameh’s research has focused on power electronics and the development and testing of batteries, electric vehicles, hybrid wind/photovoltaic power systems, super capacitors and fuel cells. He has written three textbooks on the subjects, has published 135 papers in professional journals and has been invited to speak at conferences all over the world.

Now, the IEEE Power & Energy Society has recognized Salameh, a UMass Lowell electrical and computer engineering professor, with the 2015 Ramakumar Family Renewable Energy Excellence Award for his “outstanding contributions in the field of developing, utilizing and integrating renewable energy resources in the national and global energy scenarios.”

Salameh, who co-directs the university’s Center for Electric Car and Energy Conversion, was awarded $1,000 during a ceremony in July in Denver. He joined the faculty of the Francis College of Engineering in 1985. He received his Ph.D. in electrical engineering from the University of Michigan in Ann Arbor in 1982.

Learning with Purpose
IT Keeps Campus Connected

Project Gives $3M Boost to Wireless Access, Academic Bandwidth

To stay ahead of growing classroom technology requirements as well as to meet students’ expectations for wireless connectivity, the university is completing a $3 million upgrade that will boost the speed and reliability of the campus data network.

Now in its final stages, the Information Technology Office’s three-year infrastructure improvement project has upgraded the fiber optic cabling backbone that connects the campus, created a new core network to satisfy bandwidth needs and vastly increased the number of wireless access points.

According to Steve Hall, director of network and communication services, there are now approximately 8,000 unique registered users on eduroam, the global secure wireless network used by the university. Those users have more than 40,000 different devices that can connect to the network.

“During the school year we may have more than 20,000 devices connecting on wireless at the same time, so it’s huge,” says Hall. “Students who come in today don’t even know what a network cable is,” he adds. “Why would I use that? It’s a wireless world and everything else is like a rotary phone.”

Richard Donahue Remembered as Great Friend of UMass Lowell

Presidential Aide and Corporate Leader Never Forgot His Roots

Last month, UMass Lowell said goodbye to one of its greatest champions, Richard K. Donahue ’91 (H), who passed away at the age of 88. Donahue served as a presidential aide and as president of one of the best-known corporations in the world, yet his commitment to his native city and its institutions was steadfast and lifelong.

Born and raised in Lowell, Donahue practiced law with the Lowell firm his grandfather founded, and became a highly respected adviser not only to President John Kennedy, but also to Robert and Ted Kennedy. In 1990, he was named president of Nike and served on the company’s board until 2008.

Throughout this high-powered career, Donahue and his wife, Nancy ’13 (H), were tireless advocates for the university, while also raising 11 children. Richard served as a university trustee from the mid-1970s until 1990, and was the board’s chair from 1987 to 1990. He was awarded an honorary degree in 1991, and in 1993 Donahue Hall was named in his honor.

The Donahues helped to underwrite many campus programs, including the UMass Lowell String Project and the Mary Jo Leahey High School Summer Band Camp. Most recently, they funded the Nancy Donahue Endowed Professorship of the Arts and the Nancy Donahue Endowed Fellowship in Values and Ethics. They also served as early supporters of Our Legacy, Our Place: The Campaign for UMass Lowell, joining the campaign’s task force in 2013.

“Over the years, Richard was an especially valued adviser to all the chancellors at UMass Lowell, including myself,” says Chancellor Jacquie Moloney. “We will always be grateful to him for the contributions he made to the university.”

New Business Prof. Excited about Latest Platform

Former Motorola Mobile VP Ready To Share Industry Experience with Grad Students

Elizabeth Altman, the former vice president of business development for Motorola Mobile Devices, has joined the UMass Lowell faculty as assistant professor of strategic management in the Manning School of Business. She is leveraging her 25 years of industry experience and research to give graduate students in the management program an unparalleled perspective on the future of the global economy.

After earning a mechanical engineering degree from Cornell University, Altman spent two years doing research and development in what was then the cutting-edge field of electronic imaging.

In 1990 Altman applied for a fellowship with MIT’s Leaders for Manufacturing program, which allowed her to earn dual master’s degrees in business and mechanical engineering in just two years.

The fellowship included a six-month industry internship at Motorola, after which she was hired and stayed with the company for 18 years. Her career took her from Florida to Japan and back to Boston, from designing and testing the plastic parts for pagers to manufacturing strategy to technology licensing. In 2001, Altman moved to Motorola’s mobile device division, where she became vice president of strategy/business development.

Over the years, Altman stayed connected to the world of academia by guest lecturing, serving on Cornell’s board of trustees and co-authoring the book “The Innovator’s Guide to Growth: Putting Disruptive Innovation to Work.”

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One Year Later, University Crossing Living Up To Promise

They’d thought of everything. Monorails. Cable cars. Even water taxis. When it came to brainstorming ways to bring the three campuses together, university leaders left no idea unturned over the years.

And yet, in the end, the solution was right there under their noses on the corner of Pawtucket and Merrimack streets, a six-acre parcel where St. Joseph’s Hospital once stood.

“When this property became available, it was a no-brainer,” says Assoc. Vice Chancellor Larry Siegel. “We talked about making it a residence hall, academic space, all of the above, and then we ended up doing this.”

“This” is University Crossing, the 230,000-square-foot, $95 million student-engagement center that opened one year ago. Designed to be many things to many different people, the bright and airy four-story building has quickly lived up to its billing as the heart of campus life.

For students, it’s a place to register for classes, pay a bill, buy textbooks, work on their résumé, grab some lunch and attend a club meeting—all in one visit if need be. For potential students and their parents, it’s a stunning first impression that sets the tone for their campus visit. For faculty, staff and administrators, it’s a central space for small meetings and major campus events.

“It certainly accomplished all the goals we set out to achieve,” says Siegel. “What is in this building today used to be in 11 different buildings on three different campuses. This created the central student space that became the living room for the students.”

From the River Hawk Shop, Solution Center and Crossroads Cafe on the first floor, to the Jacqueline and Edward J. Moloney Jr. Ballroom and Club Hub on the second and third floors, to the Chancellor’s Suite on the fourth floor, University Crossing has indeed become the campus’s town common.

For students, one of the biggest benefits of University Crossing is the Solution Center, the all-in-one, first-floor walk-in location that combines services for the offices of the registrar, financial aid and student financial services.

“If you build it, they will come" University Crossing After Dark, an opening week event hosted by the Office of Student Activities and Leadership.

“Today we’re getting a quicker turnaround and students are not being bounced from office to office.”

With its reflected natural light, green roofs and energy-efficient heating and cooling systems, University Crossing is a LEED-certified testament to sustainable construction.