Urban Agriculture Greenhouse Sprouts on East Campus

Site Will Be Testing Ground for Sustainability Research

The university’s new 1,800-square-foot Urban Agriculture Greenhouse on East Campus will be more than a place to grow fresh vegetables. The structure will serve as a laboratory for faculty researchers and as an extension of the classroom for nutritional science students.

UMass Lowell Associate Director of Sustainability Ruairi O’Mahony helped secure $145,000 in grants from the Massachusetts Department of Agricultural Resources to fund the “demonstration sustainability site.” The funding helps put into place the infrastructure for hands-on faculty research, he says.

“We’re trying to identify issues in urban agriculture and use our academic expertise to find solutions in a real-world setting,” he says.

“This is a space where we can think about innovation in urban agriculture,” notes Lydia Sisson ’12, whose organization Mill City Grows is partnering with UML’s Office of Sustainability to help run the new greenhouse.

Sisson, a UMass Lowell alum and founding co-director of the Lowell-based urban farming nonprofit, says the greenhouse has the potential to become a testing ground where university researchers and students, along with members of the community, can develop new and efficient ways to use water and energy to grow sustainable crops year-round.

According to O’Mahony, the first year will be spent studying how to maximize the greenhouse’s production while using as little energy and water as possible. The greenhouse, which was constructed over the summer behind Donahue Hall, will initially be heated by passive solar energy (direct sunlight), although solar panels could be added later to power heating mats or germination boxes.

He will be working with engineering faculty members Prof. Christopher Niezrecki and Asst. Prof. Juan Pablo Trelles and their students on designing the power source for the building.

To maximize water efficiency, the greenhouse will collect rooftop rainfall in a 1,300-gallon subterranean tank connected to its downspouts. The stored water will be used to irrigate the indoor crops.

Mill City Grows will manage the agricultural production inside the greenhouse (and on an adjacent outdoor garden space beginning next summer). Twenty percent of the produce grown will be donated to nonprofit organizations in the city—including the student-run Navigators Food Pantry. Mill City Grows, which runs two other urban farms in Lowell, will sell the remainder of the produce back to the community.

The 30-by-60-foot polycarbonate structure replaces a smaller greenhouse and community garden that opened in 2012. As part of the new greenhouse project, the community garden has moved to a university-owned parcel on Dane Street, near University Crossing. The new garden, also run in partnership with Mill City Grows, features a half-dozen raised beds available to students, faculty and staff, as well as members of the Acre neighborhood.
Learning with Purpose

Computer Science Prof Helps Middle Schoolers Develop Apps for Social Good

**NSF-funded Program Reaches More Than 1,200 Schoolchildren**

Nearly 60 schoolchildren in Everett and Medford learned programming skills at a camp conducted by computer science Prof. Fred Martin and graduate student Chike Abua. The initiative, which is part of the “Pathways in Computer Science” project funded by the National Science Foundation (NSF), teaches kids how to create mobile device apps that can help their communities.

“The collaboration is based on a three-year NSF grant, which launched in 2014,” notes Martin. “This year is the third and final grant-funded camp. We’ve managed to reach more than 1,200 kids during our partnership with the two school districts.”

Among the apps that the young programmers in Medford developed is a tool for finding the Medford Arts Resource Vehicle, or MARV, a bright blue school bus that is driven around the city to encourage participation in the arts. The students developed apps for booking MARV for an event, tracking the bus location via GPS and displaying its events calendar.

In Everett, students created apps to teach others about the city’s history. The apps use location tracking and sensors to give users photos and descriptions of what happened at various historical sites around the city. Another Everett team made an app to help residents and visitors find the location of trash bins in a local park.

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**Science Prof Wins $340K NSF Grant for Sustainability Research**

**Project Will Study College Students Across the Country**

UMass Lowell Climate Change Initiative Director Juliette Rooney-Varga received a three-year $340,000 grant from the National Science Foundation to study whether college students who are exposed to the World Climate Simulation exercise are more likely to become engaged with sustainability issues on campus.

Rooney-Varga will introduce World Climate Simulation, which she co-developed, to college students around the country. The simulation is a role-playing exercise in which people learn the complex dynamics of United Nations climate change negotiations by haggling over issues like reducing greenhouse gas levels and who will pay for the related necessary changes.

In the past two years alone, 35,000 people in 74 countries—including corporate executives and government leaders—have participated in the simulation exercise. With the grant, Rooney-Varga will begin bringing it to college students this fall.

Her goal is to reach at least 3,000 students over the course of the grant. Outcomes for students who participate will be tracked and measured against those who do not.

“We know people say they want to learn more and do more, but we don’t know if they actually follow through,” says Rooney-Varga, an associate professor in the Department of Environmental, Earth and Atmospheric Sciences. “Our hypothesis is that simulations can motivate action informed by science across political divides.”

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**UML and Raytheon Partner on Flexible Hybrid Electronics Manufacturing**

**Engineers to Develop Next-generation FHE Devices and Antennas**

NextFlex, America’s Flexible Hybrid Electronics Manufacturing Institute, has awarded three projects with a contract value of $4.4 million to researchers from the UMass Lowell Nanomanufacturing Center, defense contractor Raytheon and S2J Technologies. The goal is to develop new manufacturing processes that will advance the country’s capability and leadership in flexible hybrid electronics (FHE).

FHE combine ultrathin silicon components, conductive and active inks and high-precision printing technologies to fabricate sensors that are lightweight, low-cost and can conform to irregular shapes. By printing electronic circuits on bendable, stretchable substrates, the devices can be applied to almost any surface or object—from medical devices, tents and backpacks to cars, jet engines and buildings—for wireless monitoring. The real-time monitoring can lead to improved health, safety and efficiency.

The first NextFlex project, a $1.9 million contract, will support the development of new manufacturing processes for next-generation devices required for GPS navigation and ground-based radar systems for military applications.

The second project, a $1.1 million contract, will support research on methods for testing the electrical and mechanical durability of FHE devices. A third project, a $1.4 million contract led by S2J Technologies, will support development of deployable FHE antenna arrays.

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**Associate Professor Juliette Rooney-Varga will be introducing the World Climate Simulation to 3,000 college students nationwide.**
UMass Lowell Wins National Award for Fundraising

UMass Lowell was recognized by the Council for Advancement and Support of Education (CASE) with one of its 2017 Educational Fundraising Awards.

Nearly a thousand of CASE member institutions were evaluated on criteria including growth in fundraising support, breadth of program areas and level of alumni participation. UMass Lowell, which was cited for overall improvement, was the only public research university in the Northeast to be honored, and one of just 16 in the entire country. The other Massachusetts schools singled out were Harvard, Smith, Wellesley and Williams.

“We are deeply honored by this recognition, and incredibly proud of the thousands of UMass Lowell donors who made it possible,” says John Feudo, vice chancellor for advancement.

“It reflects the excitement alumni and other supporters feel about our university’s mission, their confidence in our chancellor and academic leaders and, most of all, their commitment to our students.”

The past year was the seventh straight year of record fundraising at UMass Lowell, with gifts and pledges totaling more than $22 million. Giving for the university’s first-ever comprehensive fundraising campaign, Our Legacy, Our Place, now stands at more than $111 million.

Our Legacy, Our Place was initiated to raise $125 million to support student scholarships, faculty recruitment and research, campus improvements and the Division I athletics program. For more information, please visit www.uml.edu/ourlegacy-ourplace.

In Memoriam: Christine Dunlap

Former UML Communications Exec Recalled as Gifted Writer and Editor

Christine “Chris” Dunlap, UMass Lowell’s former executive director for strategic communications and the founding editor of NewsLine, died in September after a brief battle with pancreatic cancer. She was 67.

Dunlap’s career at UMass Lowell spanned nearly 30 years. She joined the university in the late 1980s as a writer and went on to serve as director of communications and marketing and executive director of the Student Broadcast Media Center. In that job, she was credited with turning the Sunrise public affairs program on WUML-FM into a smart and popular radio show.

Dunlap was named the university’s executive director of strategic communications in 2008. She retired from that position in 2013, but continued working at the university part-time.

“Chris was a valued colleague, a talented professional and an incredible person,” says Patricia McCafferty, vice chancellor of university relations. “Her love of learning and her passion for knowledge were a perfect match for the higher education career path she chose. Her many contributions to UMass Lowell will be always appreciated and remembered.”

A former journalist with the Lowell Sun and The Boston Globe, Dunlap was a gifted writer and editor. She co-authored the book “To Enrich and to Serve: The Centennial History of the University of Massachusetts Lowell.”

Dunlap sat on the boards of the Pollard Memorial Library in Lowell, the Lowell Arts Council and the Lowell Telecommunications Commission and participated in Jericho Road, a Concord-based nonprofit that provides professional services to organizations in Lowell and Lawrence.

The Christine Dunlap Endowed Scholarship Fund has been established in her memory. To donate, contact Steven Rogers, senior director of development, UMass Lowell, 1 Perkins St., Lowell, MA 01854.

A scholarship fund has been established in memory of Christine Dunlap, NewsLine’s founding editor.
Event Immerses UML Community in City’s Cultural Riches

New and returning students, faculty and staff celebrated all things Lowell during the third annual Welcome Back Night. The event highlighted the city’s historical destinations and vibrant cultural district, located just minutes from campus, and featured food, music and giveaways from local businesses.

Held at Mill No. 5, a renovated mill in the heart of downtown Lowell, the event was just the latest of the city’s and the university’s collaborative efforts, which encompass everything from economic development to infrastructure improvements. Representatives of the university, City Hall and local civic and cultural organizations were on hand to greet the students.

A festive atmosphere took hold at the mill’s retail stores, theater, market and coffee shop. The Party Band, a Mill City staple that got its start at UMass Lowell, provided a raucous welcome. Inside, campus mascot Rowdy the River Hawk greeted visitors, high-fiving and posing for pictures. Hawkapella, the university’s all-male a cappella group, entertained the crowd, and two DifferenceMaker teams showed off their projects. Students enjoyed complimentary food supplied by University Dining Services.

Steven Tello, the university’s senior associate vice chancellor for entrepreneurship and economic development, encouraged students to take advantage of the city’s rich arts and cultural resources.

He noted how the fortunes of the city and the university are entwined and that everyone benefits from the strong partnership that exists between the two. For instance, UMass Lowell delivers more than $921 million in positive economic impact to the region annually.

Lowell Mayor Edward J. Kennedy told students to “take time to go downtown and see what the city has to offer, in terms of restaurants, shops and cultural events.”

The city’s Department of Planning and Development was on hand to distribute informational materials and offer expert guidance about how to take advantage of all Lowell has to offer.

“We’re here to promote the businesses in the city, as well as some of the events and partnerships we have with arts groups,” said Tom Lamond, an economic development assistant with the city. He wanted students to know that Lowell welcomes them.

“There are a lot of things available to them,” he said.

Welcome Back Night Celebrates Lowell as a College Town