


UML

UMASS LOWELL MAGAZINE

THE WEATHER ISSUE



WHAT'S UP WITH THE WEATHER?

**UML RESEARCHERS ON THE SCIENCE BEHIND
THE RISE OF EXTREME WEATHER EVENTS**



OVER THE HILLS AND FAR AWAY

Digital media major Megan McCarthy gets the shot at Caldeira das Sete Cidades in São Miguel, Portugal, during a recent study abroad trip. Instructor Anna Isaak-Ross—who co-led a photography class on documentary image with Director of Digital Media Pavel Romaniko—took this photo of McCarthy while leading a group of students on a photo tour of the Azores.

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'Go Forth and Serve'

Jeanne D'Arc Credit Union has a history in Lowell almost as long as that of UML—and the relationship between the two has deepened.

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The Kindness of Strangers

Generous donors helped Alan Desrochers '72 earn his bachelor's degree. Now he's doing the same for UML students.



A MESSAGE from the CHANCELLOR

Dear Alumni and Friends,

The phrase “some weather we’re having” has taken on a whole new meaning lately. Between hurricanes, wildfires, tornadoes and flooding (and that’s just for starters), extreme weather is on the rise—and in this issue, UML researchers weigh in on the science behind what’s driving it.

Meanwhile, our alumni are doing amazing work across multiple fields to predict it, protect against it and build resilience following extreme weather. We’ve profiled several of them in these pages; in fact, you’ll see weather-related content in every section.

The rest of the fall issue is packed with stories about the good work being done in many other fields, by students and faculty, and by alumni and partners.

And as we start a new academic year, I’m confident the UMass Lowell community will continue to find new ways to triumph and inspire people.

Turn the page to see how we already are!

Sincerely,

Julie Chen

DEPARTMENTS >

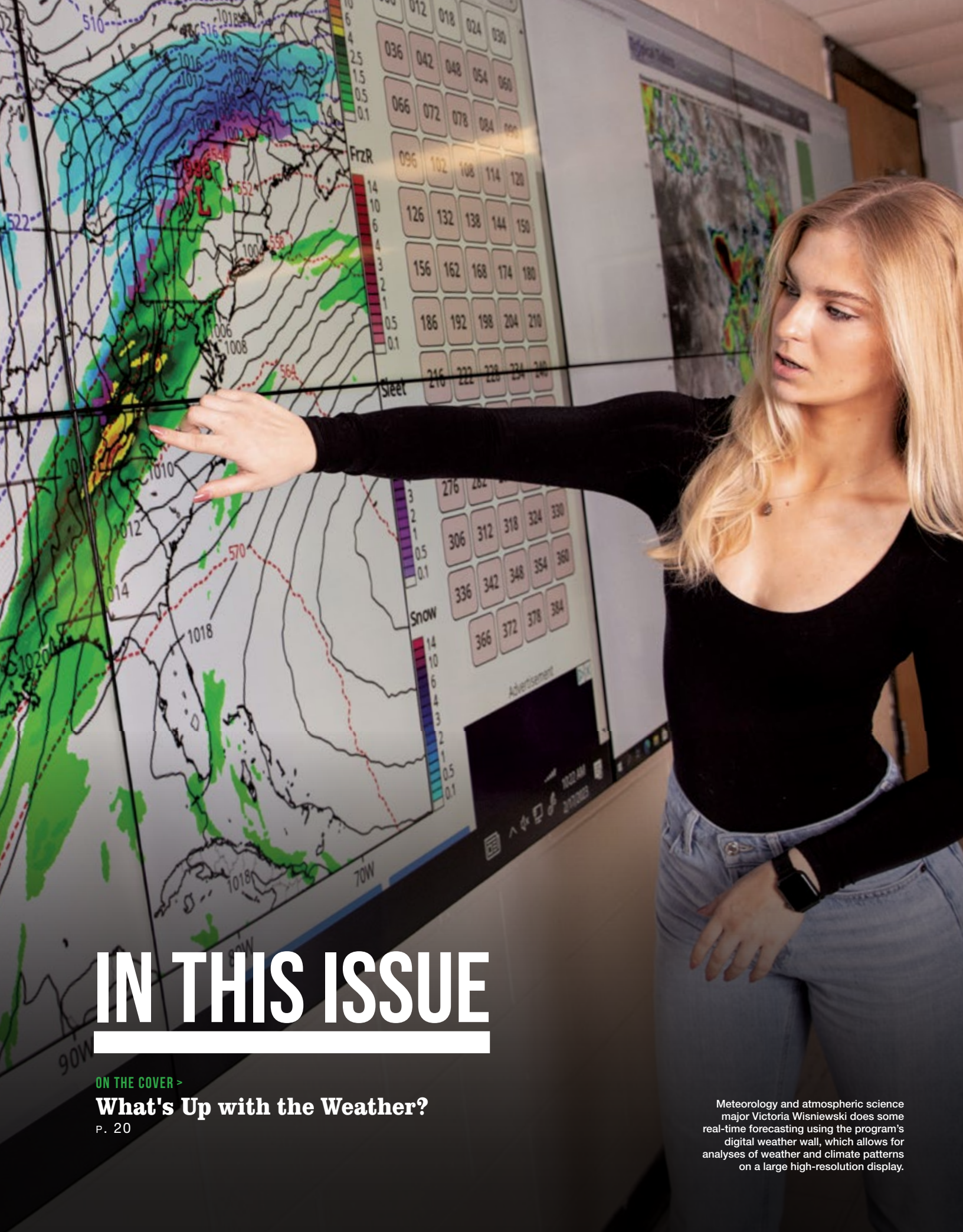
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UML Magazine has been honored with multiple awards, including nods from APEX Awards for Publication Excellence, Bell Ringer Awards, CASE Excellence Awards, Collegiate Advertising Awards, Hermes Creative Awards, Higher Ed Marketing Awards, PR Daily Awards and PR Daily Nonprofit PR Awards.



EDITOR'S NOTE: Please send comments to Editor Sarah McAdams Corbett at Sarah_Corbett@uml.edu. Submit class notes at uml.edu/updateyourinfo



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What's Up with the Weather?

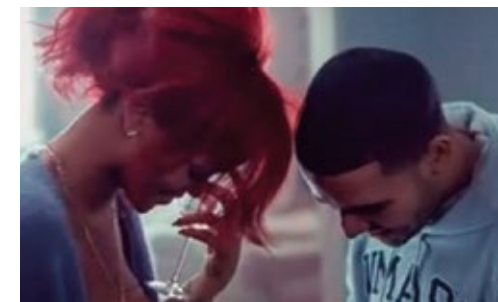
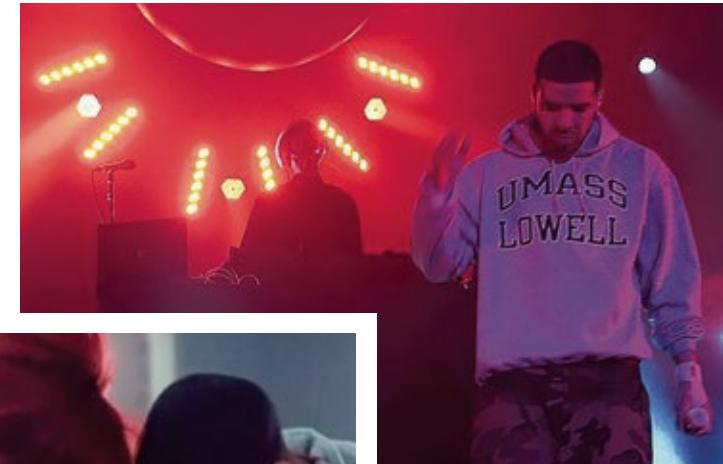
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Meteorology and atmospheric science major Victoria Wisniewski does some real-time forecasting using the program's digital weather wall, which allows for analyses of weather and climate patterns on a large high-resolution display.

TRENDING @UML

LIFE IS GRAND ...

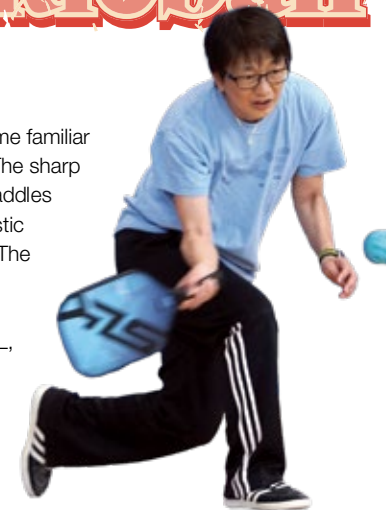
... when you're on a UML Outdoor Adventure trip. A group of students recently spent a week hiking, backpacking and camping in the Grand Canyon, including a challenging 5,000-foot descent on narrow trails.



Pickleball

It's a Big Dill

The sound has become familiar around the country: The sharp *thock!* of pickleball paddles hitting perforated plastic balls back and forth. The fastest-growing sport in the U.S., pickleball has caught on at UML, where students, faculty and staff play regular drop-in games at the Campus Recreation Center. Among the regulars in the kitchen (IYKYK)? Chancellor Julie Chen.



HATS OFF TO POETRY PROF

English Prof. Sandra Lim won this year's highly esteemed \$85,000 Jackson Poetry Prize, which recognizes American poets of exceptional talent. The judges said that Lim's poems "have quietly challenged and reinvigorated the possibilities for what a poem can do, and how." A UML faculty member since 2010, Lim has authored three books of poetry. Her work has won numerous honors, including a 2020 award in literature from the American Academy of Arts and Letters.

SAY OUR NAME

At his sold-out July 11 show at the TD Garden in Boston, megastar Drake gave a shout-out to his 2010 concert at UML: "One of my first shows ever—I think I might gotten like \$1,200 for this show—it was at a place called UMass Lowell, and I wore that sweatshirt in the Rihanna 'What's My Name' video. ... I say all that to say that I'm in the most grateful place in my life right now." Us too, Drake, us too.



SORRY, Boston, Dartmouth and the med school!

UMass recently made an appearance in The New York Times' crossword puzzle. The clue? "Sch. with campuses in Amherst and Lowell."

 **CHECK OUT MORE TRENDING**
UMass Lowell news at uml.edu/news.



RAPTOR RAPTURE ATOP FOX HALL

Fox Hall is home to 800 students—and a kettles of peregrine falcons that lives in a nesting box on the roof. This spring, a Boston Globe photographer captured this image of wildlife biologist David Paulson using a pool noodle to stave off the female falcon as wildlife biologist Chalis Bird of the state’s Division of Fisheries and Wildlife reached in to get two chicks from the nest for banding. Over the past 15 years, more than 25 peregrine falcon chicks have hatched atop the residence hall, the city’s tallest building. Get a peek of the falcons via webcam at uml.edu/falcons.



Students traveled to Michigan to race against teams from 119 other schools from across North America.

River Hawk Racing Revival

After a five-year hiatus, the River Hawk Racing club returned to competition this spring with a hand-built Formula One-style race car. A team of students representing a variety of majors (including engineering, business and the humanities) spent months designing and building the vehicle, recruiting sponsors and raising funds. Their efforts culminated in a trip to the Michigan International Speedway in May for a Formula SAE competition. They didn’t make it to the podium, but are already gearing up for 2024.

We have a new School of Grad Studies!

Top-notch graduate programs are nothing new at UMass Lowell—but our new School of Graduate Studies is. Organizing all graduate programs under one entity will allow UML to better serve grad students, says Chancellor Julie Chen, who adds that the change is also an important step on the university’s path to Research 1 status.

“The new school will help us draw top faculty, students and research partners to UMass Lowell,” she says. “It will better align our graduate programs with our research enterprise, leading to more collaboration, innovation and groundbreaking discoveries.”

The school will report through Vice Chancellor for Research and Innovation Anne Maglia, and will be led on an interim basis by Prof. Partha Chowdhury, chair of the Department of Physics and Applied Physics. Aligning the School of Graduate Studies with the university’s research arm will also allow UML to better support and fund research assistants and teaching assistants, Chen says.



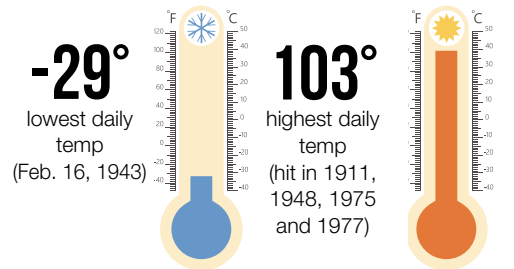
MEET OUR TWO NEW DEANS

Mary Gallant (at left), an authority on health behavior, community health and public health programs and policy, has been tapped as the next dean of the Zuckerberg College of Health Sciences. Gallant most recently served as interim dean at the School of Public Health at the University at Albany, State University of New York, where she has been on the faculty since 1996.

Bertie Greer (at right), an expert in global supply chain management, has been named Rist Family Dean of the Manning School of Business. She comes to UMass Lowell from the Mike Ilitch School of Business at Wayne State University in Michigan, where she was associate dean. Earlier in her career, she held engineering positions at Ford Motor Co. and other companies.

WEATHER ON CAMPUS BY THE NUMBERS

Scott Kaplan '00, meteorologist for Hometown Forecast Services in Nashua, New Hampshire, has been compiling climate data for 25 years. He helped us round up some of UML’s highs and lows:



29.7"

most snow in a day (Jan. 27, 2015)



35

number of times temps on campus have reached 100 degrees since 1889



6.97"

most rain in a day (Sept. 10, 1954, during Hurricane Carol)



number of major hurricanes (Category 3 or higher) to strike New England since 1851 (an unnamed storm in October of 1869, the Long Island Express in 1938 and Hurricane Carol in 1954)

5 QUESTIONS

BY BROOKE COUPAL

... with Prof. Frank Colby, on the critical role his meteorology students play at the Boston Marathon

As Boston Marathon athletes focus their sights on the finish line, UMass Lowell students have their eyes on the sky. Since 2012, meteorology majors have monitored weather conditions during the 26.2-mile race under the supervision of Frank Colby, a professor in the Department of Environmental, Earth and Atmospheric Sciences. Colby sat down with us to talk more about this operation.

Q: HOW DO WEATHER OBSERVATIONS ASSIST RACE OFFICIALS?

A: The weather conditions make a big difference, especially on a course like the Boston Marathon, which does not start and end in the same place. If it's raining and cold, or if it's really hot, then you start getting into safety issues. Our real-time observations help race officials and medical teams prepare for any weather-related health emergencies that may arise. For instance, in this past marathon, a number of runners got really cold because they got wet from the rain, so medical professionals had to be ready with extra Mylar capes at the finish line to put around people to help them warm up. Our observations are also provided to the media to assist with their marathon coverage.

Q: AT WHICH MARATHONS DID STUDENTS RECORD THE MOST EXTREME WEATHER?

A: In 2018, our students observed moderate to heavy rain most of the race with temperatures in the 40s. Everyone got really cold, and it was miserable. Five years before that, runners dealt with temperatures in the 70s at the start, and by 2 p.m., it had risen to 88 degrees at the finish line. Massachusetts in April comes with a wide range of weather conditions, where you could be dealing with hypothermia or heat stroke. Our past

observations give runners an idea of what extreme weather they might encounter on the course.

Q: WHAT DO STUDENTS GAIN FROM THIS EXPERIENCE?

A: Most of the time, students are looking at computer models when observing and forecasting weather. It's an invaluable experience for them to actually go out and use meteorological instruments to measure wind, temperature and other weather variables. Plus, they get to participate in a major sporting event. The students make observations right along the course and get to watch the runners go by while the spectators cheer them on. It's an amazing atmosphere to be a part of.

Q: WHICH BOSTON MARATHON WAS MOST MEMORABLE?

A: The 2013 Boston Marathon. That was one that nobody will ever forget. We had two students who were across the street from where one of the bombs went off. They just dropped everything and ran all the way to one of their houses just north of Boston. It was frightening. I was in the media center at the Fairmont Copley Plaza, and we didn't really know what was going on. There were landlines scattered around the press room, so we were able to call our families and tell them we were OK. The students along the course were



not physically harmed, and despite our fears, we went back the following year to continue making weather observations. We refused to let this horrendous attack control our lives.

Q: WOULD YOU EVER RUN THE BOSTON MARATHON?

A: My wife and I have run 5K races for the Multiple Myeloma Research Foundation in the past, but that's about as far as I think I'm ever going to run.

Prof. Frank Colby, bottom right, has been supervising weather-monitoring students at the Boston Marathon since 2012, including, in top photo, Peter Edwards, Alexis McKenzie and Nicole McClung, and in middle photo, Joshua Polen and Amanda Joly.

Psychology Prof Wins Top Teaching Prize

Stephanie Block, an associate professor in applied developmental psychology, received the 2023 Manning Prize for Excellence In Teaching.

Block's work focuses on children in the legal system, the effect of trauma on children's well-being and memory of emotional events, and the prevention of child maltreatment. Her recent research was funded by the National Institute of Justice and examined prosecutorial decisions in cases of child sexual abuse.

Block, who serves as the faculty advisor to the NAVIGATORS club—a student club she co-founded to help students in need of additional support to “navigate” college—is an American Psychological Association fellow and an editorial board member of the journal “Child Maltreatment.” She serves on the board of directors for the Massachusetts Children's Alliance and has trained judges,



social workers and other professionals on topics related to child welfare.

Now in its seventh year, the Manning Prize was established by UML alumni Robert '84, '11 (H) and Donna Manning '85, '91, '11 (H) to honor UMass professors who excel in teaching and service. Winners—one from each UMass campus—receive \$10,000.

On the Road Again

UML's Mobile Health Unit Rolls into Local Communities



The Zuckerberg College of Health Sciences recently rolled out its renovated Mobile Health Unit, a 34-foot recreational vehicle that travels to local communities to promote health and wellness.

Its first stop: the Dracut Council on Aging, where nursing students performed blood pressure screenings and educated more than 60 older adults about hypertension, healthy eating and exercise.

“We are bringing preventative care services to where the people who need them are located,” says Clinical Asst. Prof. of Nursing Lisa Marchand. “By

involving students from all of our majors, we can provide a holistic approach to collaborative care.”

The inside of the mobile health unit is outfitted with blood pressure screening areas, lab space and counseling areas. There will also be tools for conducting gait analysis and fall-risk evaluations.

The vehicle was funded by a grant from the U.S. Department of Health and Human Services as part of an effort to promote the nursing profession to young people in diverse and underserved areas in the Merrimack Valley. —KA

Life-Saving Device Takes First Place in \$50K Idea Challenge



Brian Rist '77, '22, '22 (H), left, presents Team Catnap with the \$6,000 Rist Campus-Wide DifferenceMaker award at the \$50K Idea Challenge.

An app that uses artificial intelligence to tailor your résumé and cover letter to a job description. A device in a football player's helmet to monitor for concussion-inducing hits. A hands-on way to learn about important inventions and the diverse inventors behind them.

With each passing pitch at the Rist DifferenceMaker Institute's 11th annual \$50,000 Idea Challenge, the audience witnessed the breadth of brainpower at UMass Lowell—and the depth of innovative solutions by the 10 student teams competing in the finals.

In the end, biomedical engineering majors Fritzner Brutus, Michael Ciampo, Khadija El Hadad, Majd Elhachem, Matheus Fonseca and Haris Kum captured the top prize of the night—the \$6,000 Rist

Campus-Wide DifferenceMaker award—for Catnap, a device they are developing that parents can put on their child's toe to sense if they are about to have a nocturnal asthma attack.

The team will use its winnings to further develop a prototype for their device, which features a blood oxygen saturation monitor that sends an alert to a parent's phone or smart device if it senses a drop in the child's blood oxygen levels.

The Idea Challenge featured students at all stages of their UML careers, from first-year to graduate, representing eight departments from all five UML colleges. They emerged from an initial field of nearly 30 teams.

Judges included alumni Lorna Boucher '86; Amy Hoey '88; Chancellor Emerita Jacquie Moloney '75, '92; Brian Rist '77, '22, '22 (H); Mark Saab '81; and Bhupen Shah '92. —EB



Strike Up the Symphony—Band Camp Turns 25!

Since 1998, hundreds of high school musicians from around the region have spent a week on campus in July for the Mary Jo Leahey Symphonic Band Camp. The students take lessons and classes and perform in ensembles.

This year, in celebration of the camp's 25th anniversary, renowned composer Rossano Galante premiered a new work commissioned by the camp's executive director, Debra-Nicole Huber '89, '92, '12. Rossano, whose movie credits include "Charlie's Angels," "The Mummy" and

"Rambo: Last Blood," joined the student musicians for the grand finale performance at Boston's Symphony Hall.

Also on stage? UMass President Marty Meehan '78, who joined the performance of "J.F.K. in Memoriam" to read quotes from President John F. Kennedy. Meehan originally performed the piece, which was composed by James Curnow, with Band Camp several years ago during his tenure as UMass Lowell chancellor. —MP



River Hawks lacrosse player Khairi Sears (#8 in both photos) was the top scorer for Jamaica in the world championships this summer.

IN THE POCKET

Khairi Sears, a junior attacker on the men's lacrosse team, played for Jamaica during this summer's World Lacrosse Men's Championship games in San Diego, distinguishing himself on the field as his team's top scorer and helping to elevate the game for Jamaica, which made it to the quarterfinals for the first time.

"It's an unreal moment. Just a blessing and a privilege to be able to make history for the island, the kids back home and every player that looks like us, like me," Sears said after the team's 7-6 upset win against Italy, in which he had a hat trick. The Jamaican team ultimately fell to Canada in the quarterfinals.

A business major, Sears was named to the America East All-Rookie team in 2022.



Students in the summer RAMP program earn course credit before they even begin their first semester.

The On Ramp

UMass Lowell's RAMP program is earning kudos—the latest from Insight Into Diversity and its 2023 Inspiring Programs in STEM Award. RAMP, which stands for Research, Academic and Mentoring Pathways to Success, is a six-week summer program that

gives first-year and transfer students a jump start on their engineering coursework and helps prepare them for college life in general. Targeted at women and other underrepresented populations, the program allows students to earn course credit, do research with a professor and meet engineers in industry.

A FRIEND AT COURT

State Sen. Ed Kennedy accepted an honorary degree at Commencement on behalf of the late Judge Cornelius Kiernan. A distinguished lawyer, legislator and jurist who dedicated much of his life to his native Lowell, Kiernan was a graduate of Lowell High School and was a U.S. Army veteran of World War II.

Judge Kiernan, who served in the Massachusetts House of Representatives for 25 years, was instrumental in securing funding for the Lowell Connector and a boat ramp on the Merrimack River. He helped to create the Solomon Mental Health Center, and he secured more than \$4 million in the state budget for the nuclear center at UML predecessor Lowell Technological Institute.

After leaving the legislature, Kiernan was appointed to the Lowell District Court, where he was known for his extensive legal knowledge and compassion. The new judicial center in Lowell will soon be named in his honor: the Cornelius F. Kiernan Judicial Center.



From left: Chancellor Julie Chen, State Sen. Ed Kennedy and UMass President Marty Meehan

WHAT'S IN YOUR DUFFEL?

BY ED BRENNEN



Senior business major Justin Baez led a group of 10 UML students on a service learning trip to Panama in early July. Working with the international nonprofit Global Brigades, the students provided consulting services to four small businesses in the rural community of Membrillo Centro de Pajonal. We asked Baez, president of UML's Class of 2024 and the International Business Association, to share some of the travel essentials in his trusty Versace bag.

1. 1 Million cologne by Paco Rabanne

"I'm a cologne guy, and I like that one the most—it's the most striking. When you get to a place, they know that you're there. Especially as our group leader, I wanted it to be known: Justin's here."

2. UMass Lowell hat

"I knew we'd be walking a lot and I'd need protection from the sun. I thought, 'Let me represent UMass Lowell and bring the logo to Panama.' One of the program leaders liked the River Hawk."

3. Insect repellent

"We were in the jungle, and I didn't know if they'd have enough bug spray for us. Luckily, I only had two bug bites."

4. "Dear America: Notes of an Undocumented Citizen"

"My AP civics teacher gave me that book during my junior year at Norwood High School. She told me, 'Whenever you have the time and the mentality of an adult to read it, you should read it because you're going to understand life so much better.' This was the time."

5. Hand sanitizer

"That one's very special because we just got them with the International Business Association logo. I was excited to bring it so people could be like, 'You have your own hand sanitizer for your club!'"

6. LGA water bottle

"I got that during my human resources internship with them last spring. It keeps water cold for up to 10 hours and got me through each day."

7. Personal organizer

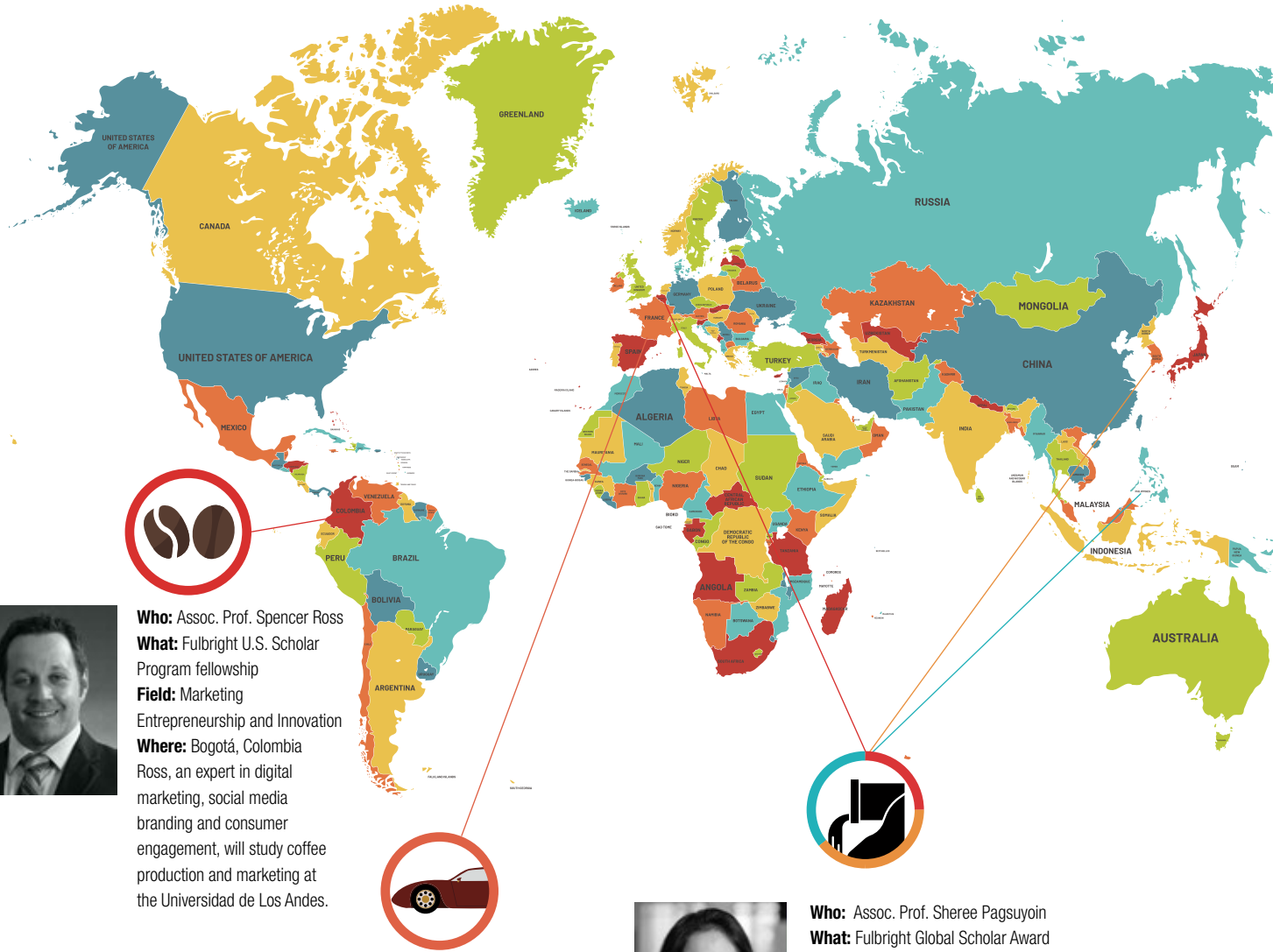
"I had copies of everyone's passports and green cards, and I had to make sure I had everything together in case of an emergency. I also journaled and kept notes about the experience."



RESEARCH ROUNDUP

Three Professors Named Fulbright Scholars

Three UML faculty members have won Fulbright U.S. Scholar Program awards for the 2023-2024 academic year. The honors are bestowed by the U.S. Department of State and the Fulbright Foreign Scholarship Board based on the academic merits of recipients' work and leadership potential.



Who: Assoc. Prof. Spencer Ross
What: Fulbright U.S. Scholar Program fellowship
Field: Marketing Entrepreneurship and Innovation
Where: Bogotá, Colombia
 Ross, an expert in digital marketing, social media branding and consumer engagement, will study coffee production and marketing at the Universidad de Los Andes.



Who: Prof. Mehmet Berk Talay
What: Fulbright U.S. Scholar Program fellowship
Field: Marketing Entrepreneurship and Innovation
Where: Cergy, France
 Talay, an authority on the development and launch of new products and services, will study how luxury products can help to foster sustainable innovations, especially in the automotive industry. He has been invited to the École Supérieure des Sciences Economiques et Commerciales Business School, where he will serve as a visiting professor in a research center established by French automaker Peugeot.



Who: Assoc. Prof. Sheree Pagsuyoin
What: Fulbright Global Scholar Award
Field: Civil and Environmental Engineering
Where: Busan, South Korea; Manila, the Philippines; and Antwerp, Belgium. Pagsuyoin is an expert in the ecological and public health impacts of contaminants (including levels of the coronavirus) in wastewater, as well as an authority on water treatment technologies. She will conduct research in three countries, evaluating the feasibility of analyzing wastewater to monitor drug use in the population.

\$3 MILLION STUDY ANALYZES MEDICAL RECORDS TO PREVENT SUICIDE

In a first-of-its-kind study, faculty from the university's Center of Biomedical and Health Research in Data Sciences dug into veterans' health records to look for clues that can help prevent suicide.

The researchers examined the link between suicide risk among veterans and social determinants of health, which include factors such as housing instability, financial problems and violence. The study was funded by National Institute of Mental Health grants totaling more than \$3 million.

According to Computer and Information Sciences Prof. Hong Yu, researchers often turn to structured data from electronic health records, which include billing and disease codes, when investigating causes of suicidal behavior. The problem with this approach is that it often lacks contextual information about the patient, such as whether they are experiencing housing instability or financial problems, Yu says. That information is often found in unstructured data, such as clinical notes from physicians and social workers.

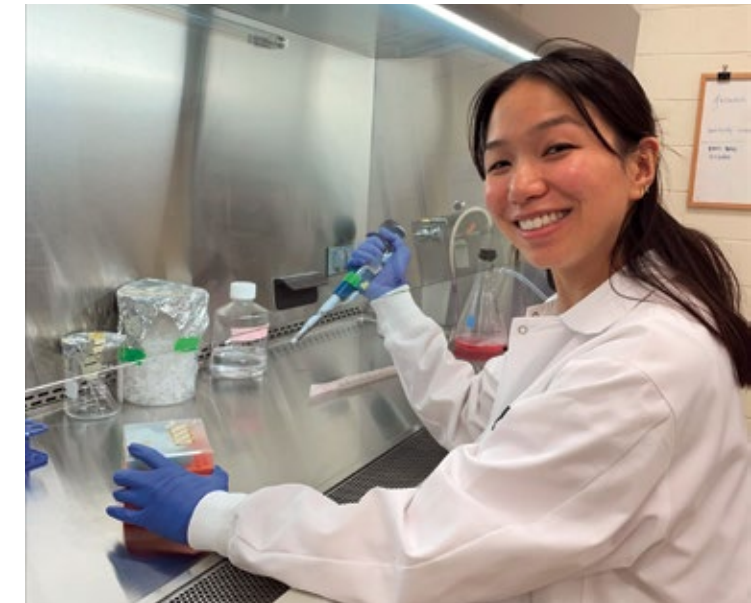
The researchers used natural language processing, a branch of artificial intelligence that gives computers the ability to understand text and spoken words, to gather unstructured data and better analyze the association between suicide and the social determinants of health.

They found that those factors are linked to an increased risk of suicide, with the strongest association coming from legal problems and violence. Further, analyzing all available information about social determinants of health can lead to better suicide risk assessment and prevention.

—BC



Applied biomedical sciences alum Serena Burkinshaw '23 conducted research for the study as part of her honors thesis.



Concerned About Low Volume of Breast Milk? Eat More Fruit



Studies show that about 40% percent of mothers who breastfeed report weaning their babies sooner than planned due to concerns about the quantity and quality of the milk they produce.

In a recent study, Prof. Shannon Kelleher of the Biomedical and Nutritional Sciences Department and her research team identified molecules in human milk for the first time that may be responsible for regulating milk volume.

The team's findings shed light on the role of molecules called microRNAs, also known as miRNAs, that regulate gene expression.

"Our study shows that a miRNA called let-7g-5p is significantly higher in the first week of lactation of those who have a low milk supply, compared to those who have an adequate supply," says Kelleher, who conducted the research with colleagues from Penn State College of Medicine as well as UMass Lowell students. "We also found that mothers with low fruit intake had higher levels of the let-7g-5p."

So how can the research help mothers who want to breastfeed?

"By measuring milk levels of let-7g-5p during the first weeks after birth, caregivers could identify people who need additional lactation support," says Kelleher. "These interventions may include dietary changes, lactation consultant support, medications and therapy."

And eating plenty of fruit may be especially helpful.

"Increasing fruit intake could make a big difference to those who want to nurse their babies," Kelleher says. —KA

RESEARCH ROUNDUP

Turning Plastic Waste into Fuel

A team of university and U.S. Army researchers, led by UML Mechanical and Industrial Engineering Assoc. Prof. Juan Pablo Trelles, has developed a way to extract hydrogen from plastic waste, which can then be used as fuel for transportation as well as to produce electricity in fuel cells.

The development could help address two key societal challenges: the surging global demand for energy and the dramatic increase in plastic waste, which is polluting the environment and interfering with ecosystems.

The researchers are using plasma technology to deal with both issues at the same time, by breaking down plastic waste—in this case, low-density polyethylene—into its chemical components. Hydrogen is then produced efficiently in the process, while minimizing carbon dioxide emissions, according to Trelles.

“Our plasma technology, when powered by renewable electricity from wind and solar, can lead to the sustainable upcycling of plastic waste and production of green hydrogen,” says Trelles. —EA

The project is funded by the U.S. Army Combat Capabilities Development Command (DEVCOM) Soldier Center in Natick, Massachusetts.



Researchers Look to AI for Decision-Making in Life-or-Death Situations

An interdisciplinary research team led by Assoc. Prof. Neil Shortland of the School of Criminology and Justice Studies is looking into the use of artificial intelligence for decision-making in life-or-death situations.

The goal is to find the best human attributes that AI can mirror when making difficult decisions in extreme environments. This could help increase the number of decision-makers in situations like mass shootings, where instead of having just one doctor assessing victims, dozens of robots could be deployed to evaluate the victims after being programmed with AI that models the doctor’s decision-making processes.

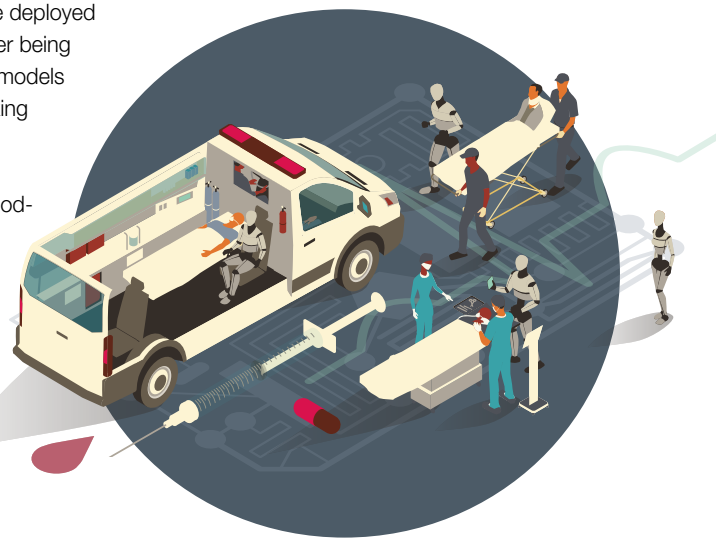
“We’re harnessing the essence of a person by modeling them as their best self,” says Shortland.

The researchers will expose people to emergency situations, using a computer research tool developed by Shortland, and will then measure

how a person’s psychological traits and values impact their decisions.

The Defense Advanced Research Projects Agency (DARPA) is funding the project with a \$3 million grant, with \$1.2 million going to UML and \$1.8 million to Soar Technology, the university’s partner on the research.

Faculty from the Philosophy, Computer Science, and Electrical and Computer Engineering departments are also working on the project. —BC



Using Sound Waves to Monitor Offshore Wind Turbine Blades

With wind power becoming increasingly popular in the United States, a growing challenge for commercial turbine operators is the upkeep of the blades, which are made of fiberglass composite and can measure hundreds of feet in length and weigh several tons. Cracks or holes in the blades’ edges can cause the turbine to fail, disrupting power generation.



We Like **BIG GRANTS** and We Cannot Lie



\$3.1 million to... help doctors diagnose heart conditions

One person dies every 34 seconds in the United States from cardiovascular disease, according to the U.S. Centers for Disease Control and Prevention, and this costs the country about \$229 billion each year in health care services, medicines and lost productivity due to disability or death.

A team of researchers led by UML Electrical and Computer Engineering Prof. Hengyong Yu is using artificial intelligence tools to develop technology that would greatly improve cardiac CT scans, so that timely, lifesaving treatment and preventive measures can be implemented.

The project is supported by a four-year grant worth more than \$3.1 million from the National Institutes of Health’s National Institute of Biomedical Imaging and Bioengineering.



\$5.5 million to ... establish a space technology R&D hub on campus

UMass Lowell was awarded nearly \$5.5 million by the commonwealth and the Innovation Institute at the Massachusetts Technology Collaborative to develop a new hub at the university that offers a one-stop support system for researchers and businesses looking to design, build and test small satellites and spacecraft components.

Called the Massachusetts Alliance for Space Technology and Sciences (MASTS), the consortium, composed of research universities, community colleges, aerospace and defense companies and research-focused nonprofits from around the world, is spearheaded by Physics Prof. Supriya Chakrabarti, director of the university’s Lowell Center for Space Science and Technology.

“Right now, we have several companies and academic institutions in the region doing their own things, but there’s no cohesive facility that brings them all together,” Chakrabarti says. “So, I’m very honored that we now have the opportunity to create such a facility right here on campus.”

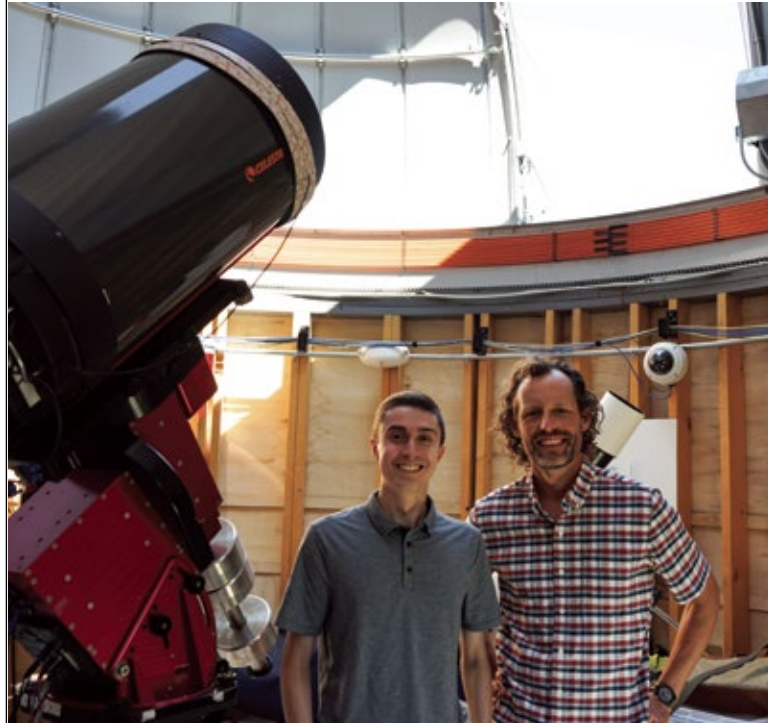


\$2.9 million to... protect the heart and liver by reducing iron overload

For people who need blood transfusions, iron can accumulate in the heart and liver, causing damage and sometimes death. Doctors often prescribe medications called chelators that bind to iron and remove it from the body. However, patients tend to avoid taking these drugs due to severe side effects such as nausea, vomiting, internal bleeding and liver damage.

To address that problem, the National Heart, Lung and Blood Institute awarded UMass Lowell and Massachusetts General Hospital a \$2.9 million grant to develop a long-acting nanoparticle drug that targets and captures iron in the blood and removes it from the body without harsh side effects.

“By using nanoparticles, the drug is delivered only in the blood, binds to extra iron and quickly removes it via urine,” says Assoc. Prof. Jonghan Kim of the Biomedical and Nutritional Sciences Department, who is co-leading the research study with MGH. “This avoids the accumulation of iron in the body and significantly decreases side effects that are associated with chelator drugs.”



The Sky's the Limit: Student Named One of NASA's Finest

Physics Ph.D. student Nicholas Sorabella was named to the prestigious FINESST (Future Investigators in NASA Earth and Space Science and Technology) Program, which provides funding for graduate students to design and lead research projects that are directly related to the goals of NASA's Science Mission Directorate.

Sorabella, who works with Assoc. Prof. Silas Laycock in the Lowell Center for Space Science and Technology, researches gravitational lensing in binary systems, where a compact object (a black hole, neutron star or white dwarf) is orbiting another star. As it passes in front of the star, the black hole's strong gravity acts as a lens, magnifying the star's light and making the system momentarily brighter. Sorabella's computer models simulate the gravitational lensing and several related phenomena to produce light-curves (time-series of the system's brightness).

The award, which comes with a prize worth almost \$50,000, will enable him to work full time on developing his code, so that others can have open access to its powerful capabilities.

GROWING THEIR OWN TEACHERS

Backed by a grant from the Massachusetts Department of Secondary and Elementary Education, the School of Education is expanding programs for students at Lawrence High School who want to become teachers.

College of Fine Arts, Humanities & Social Sciences Assoc. Dean Stacy Szczesiul and School of Education Asst. Prof. Robai Werunga were awarded nearly \$400,000 to provide resources for teacher candidates from Lawrence High School to earn bachelor's degrees at UMass Lowell and ultimately work in classrooms in Lawrence.

The grant will expand the "Grow Your Own" teacher pathway program, a UML partnership with Lowell High School that allows students to take dual-enrollment classes to prepare for careers in education. Students will

have access to courses, along with financial support, mentoring, professional development, peer support and assistance acquiring professional attire.

These measures are designed to bring more diverse candidates into teaching, ultimately improving the education of future students in those communities, Szczesiul says.

In Massachusetts, about 41% of pupils are students of color, while almost 91% of

teachers are white. Szczesiul says it is crucial to even out these demographics.

"The benefits include student engagement rates that are higher, better attendance, lower rates of discipline referrals and exclusionary discipline, access to AP courses, more trusting relationships, a better sense of belonging and the likelihood that teachers will have high expectations for them," she says. —MP



FEATURES



BEHIND THE SCENES

Broadcast meteorologists do much more than talk about the weather—which we found out for ourselves on a recent day at the CBS Boston studios. Meteorologist Sarah Wroblewski '05 gives us an inside look at the science and technology involved in forecasting the weather on page 34.

BY BROOKE COUPAL

WHAT'S UP WITH THE WEATHER?

UML RESEARCHERS ON THE SCIENCE BEHIND THE RISE OF EXTREME WEATHER EVENTS

Last December, a historic blizzard blanketed Buffalo, New York, with more than four feet of snow. Three months prior, devastating 150 mph winds ripped through Florida as a Category 4 hurricane made landfall. Even as these events wreaked havoc, severe drought and intense heat waves also plagued the western and central parts of the country. More recently, Hurricane Dora produced hot, strong winds that were the biggest contributing factor to the devastating spread of wildfires on the island of Maui in Hawaii.

In the past five years, the United States has experienced 90 major weather disasters, resulting in nearly 1,800 deaths and more than \$600 billion in damage, according to the National Oceanic and Atmospheric Administration. This averages out to 18 extreme weather events each year—a stark difference from the 1980s, when the country averaged three such disasters yearly.

“It’s not a matter of if we’ll get an extreme weather event. It’s really a matter of when,” says Jeffrey Basara, the newly named chair of the Department of Environmental, Earth and Atmospheric Sciences (EEAS).

Natural fluctuations in the climate system impact the frequency and intensity of extreme weather events. However, in recent decades, human-induced climate change has played a major role, says EEAS Prof. Juliette Rooney-Varga, director of the Climate Change Initiative.

“Fossil fuel emissions are creating a warmer planet, which in turn is causing weather events to become more extreme,” she says.

As weather events such as heat waves and rainstorms intensify, there is a growing threat of natural disasters, ranging from floods and landslides to wildfires and tsunamis.

“Researching extreme weather is extremely important, because it gives people a deeper understanding of these events, allowing them to better prepare for possible disasters,” Basara says.

With this in mind, we asked our experts to share the science behind some of the most prevalent types of extreme weather.

WEATHER WORDS DEMYSTIFIED

As extreme weather events become more frequent, so does the use of meteorological jargon.

Algal bloom
Rapid growth of microscopic organisms known as algae in a body of water

Atmospheric river
Long, narrow band of water vapor that travels in the atmosphere

Aquifer
Underground layer of rocks, sand and gravel that holds water

Biodiversity
Variety of life on Earth

Drought
Period of abnormally dry weather

El Niño-Southern Oscillation
Recurring pattern of water temperature changes in the Pacific Ocean

Forecast ensemble
Set of forecasts based on a range of future weather possibilities

Greenhouse gas
Gases that trap heat in the Earth’s atmosphere (e.g., carbon dioxide)

Heat wave
Period of unusually hot weather

Jet stream
Band of strong wind in the upper atmosphere

Storm surge
Abnormal rise in seawater during a storm

DROUGHTS

Have you ever walked into the rain and said, “Wow, we needed this?” This statement holds an even stronger meaning for people dealing with drought.

Droughts are the result of a lack of precipitation over a prolonged period, but what causes that dry weather? EEAS Asst. Prof. Christopher Skinner and a team of researchers discovered that the El Niño-Southern Oscillation (ENSO), a recurring pattern of changes in water temperature in the Pacific Ocean, is a driving factor, particularly for droughts that occur in multiple regions at the same time.

Their finding, which was published in the journal “Nature Climate Change,” makes it easier for scientists to forecast droughts because they can already predict the El Niño-Southern Oscillation with some regularity.

“Generally, several months in advance, you have an idea of whether you’re going to have a particular pattern of sea temperatures in the Pacific Ocean,” Skinner says. “So, if we know that a certain phase of ENSO is coming, we have a better sense of whether or not there’s going to be a concurrent drought in the subsequent months.”

This predictability is crucial for sectors like agriculture, which is often negatively affected by drought. It allows farmers to get ready in advance for the dry conditions that could damage their crops.

Croplands are especially susceptible to flash droughts, which are droughts that develop rapidly, Basara says. The chance of cropland experiencing a flash drought in North America is expected to increase to 49% by the end of the century, compared with 32% in 2015, according to a paper co-authored by Basara and recently published in the journal “Communications Earth & Environment.” To lessen this risk, Basara says more action needs to be taken to slow global warming, as this is a cause of increased flash droughts.

“We need to tackle some of these really critical issues that face us,” he adds.



DID YOU KNOW?

Weather affects public health.

Asthma attacks can be triggered by both heat and humidity (when dust mites and mold thrive) and cold, dry air (which can cause the airway to narrow). But “thunderstorm asthma” is another weather-related trigger that has only recently become better understood, according to Public Health Research Prof. Susan Sama '87, '90, '96.

“Severe rain and lightning break up mold into smaller particles that you can inhale, and the wind blows them around,” says Sama, who notes that a severe thunderstorm in Melbourne, Australia, in 2016 “led to an unprecedented surge in asthma and respiratory distress,” with more than 9,000 people requiring urgent medical care.

The warming climate has also contributed to more intense heat waves, studies have shown. The extreme heat and dry weather conditions create a breeding ground for wildfires.

In June 2023, more than 400 fires sparked throughout Canada following an unusual spell of hot and dry weather. Smoke from the wildfires traveled down into the eastern United States, causing poor air quality and reduced visibility.

“Vegetation can become very dry and combustible when there hasn't been much precipitation and when warm temperatures evaporate the moisture from the soil,” Skinner says. “Most wildfires in the U.S. are sparked unintentionally by humans, such as by campfires and cigarettes, but they can also be ignited by lightning.”

While dry weather conditions have been well-researched in the western and central United States, Skinner says droughts in the Northeast are understudied because historically, they happen less frequently. To help change that, Skinner teamed up with EEAS Prof. Mathew Barlow to further investigate the causes of droughts and heat waves in the local region. The research is funded by a \$478,000 grant from the National Oceanic and Atmospheric Administration.

“We hope to answer some important questions, such as how well can we predict droughts and heat waves, and

“It's not a matter of if we'll get an extreme weather event. It's really a matter of when.”

JEFFREY BASARA

Chair of the Department of Environmental, Earth and Atmospheric Sciences (EEAS)

how much more often will we get this kind of weather in the future?” Barlow says.

HEAVY PRECIPITATION

Since the 1800s, the Earth has warmed by about 1.1 degrees Celsius. This not only plays a factor in drought, but; it also influences precipitation.

“A warmer atmosphere can hold more water, so when there's a lot of water around, you're increasing the potential for heavy precipitation,” Barlow says.

The water cycle will only continue to intensify as the planet gets warmer, adding to the urgency of mitigating climate change.

“Reducing greenhouse emissions will reduce impacts,” says Barlow, who co-authored the latest Intergovernmental Panel on Climate Change report. “Every fraction of a degree matters.”

In the Greater Boston area, residents can expect to see more rain than snow, as global warming is likely to increase rainfall and decrease snowfall, according to the report “Climate Change Impacts and Projections for the Greater Boston Area,” for which Barlow led the Storms, Precipitation, Flooding and Groundwater section. His

research on extreme precipitation in the Northeast was funded by a \$454,000 National Science Foundation grant.

The West has experienced its share of extreme precipitation in recent years. In October 2021, California's Bay Area received historic rainfall, with more than 11 inches of precipitation recorded in some towns. Two months later, the state's Sierra Nevada mountain range recorded nearly 18 feet of snow. These extreme weather events resulted from atmospheric rivers, or long, narrow bands of water vapor that travel in the atmosphere.

“When atmospheric rivers hit a mountain range, all the water that was inside the river falls onto the surface. It happens a lot in California because the state has a lot of topography,” says Skinner, who researched the weather phenomenon as part of a \$225,000 National Science Foundation grant.

Since more water vapor is in the atmosphere due to the warming planet, Skinner says these atmospheric rivers are resulting in heavier precipitation. To better understand how this impacts people and the ecosystem, he has been

Continued on page 24

Meet UML's Space Weather Forecaster

Prof. Paul Song Takes His Cue from the Sun to Predict Havoc-Wreaking Space Storms

BY EDWIN L. AGUIRRE

We all know about the importance of weather—we rely on local forecasts to plan our vacations, schedule outdoor picnics and even decide when to plant flowers or water the lawn.

But chances are, you haven't heard about “space weather.” This branch of science deals with the constantly changing environmental conditions in interplanetary space, especially between the sun and the Earth's outer atmosphere.

Prof. Paul Song of the Department of Physics and Applied Physics is UMass Lowell's chief space weather forecaster. An expert in geophysics and solar plasma physics, Song directs the university's Space Science Laboratory near East Campus.

While TV meteorologists talk about temperature, air pressure, wind, clouds, precipitation and the jet stream, space weather researchers like Song focus on changes in ambient space plasma (ionized gas), solar wind, magnetic fields and radiation in response to the sun's activity.

“Predicting space weather is the next frontier in weather forecasting,” says Song. “Inclement space weather triggered by massive storms on the sun has increasingly become a threat to our modern space-based technology infrastructure.”

Titanic eruptions on the sun—called solar flares and coronal mass ejections—can wreak havoc on our planet.

According to Song, the storm of high-energy particles

from flares, as well as the billions of tons of magnetized plasma hurled into space by coronal mass ejections, can damage vital electronics of Earth-orbiting satellites, disrupt GPS navigation, cause widespread radio communication blackouts and overload transformers on electric power grids. They can also expose astronauts aboard the International Space Station and high-flying aircraft passengers to hazardous doses of radiation.

By understanding how solar eruptions form and propagate, Song hopes to be able to make more accurate predictions and provide ample warning time to mitigate their effects.

“For example, if we know a powerful geomagnetic storm is coming, operators can put satellites and power utilities into ‘safe mode,’” says Song. “Astronauts can also take shelter in a protective room on the space station, and passenger jets can descend to lower altitudes.”

Song, who is an editor of the *Journal of Geophysical Research*, is considered one of the founders of the growing field of space weather, along with the late Prof. George Siscoe of Boston University.

“I'm glad I'm able to contribute to our fundamental knowledge about the sun and space weather, and how they can impact the lives of people here on Earth,” says Song.



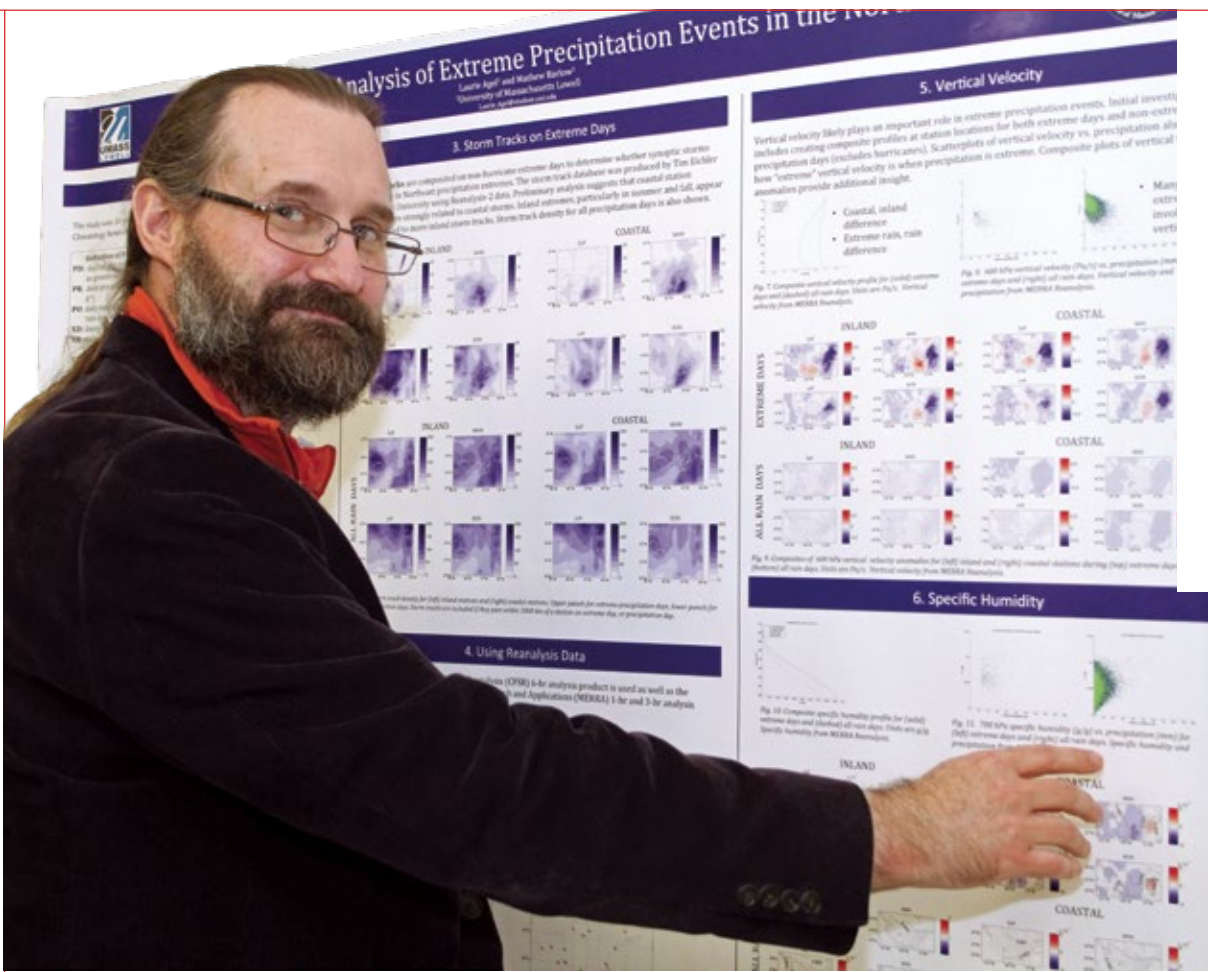
THE WEATHER ISSUE

DID YOU KNOW?

Weather affects birds. Spring arrived early across much of the eastern United States this year, with warmer temperatures coaxing some flowers, plants and trees to bloom nearly a month ahead of schedule. This was not good news for migratory birds that feed on the insect larvae found on new leaves, says Johanna Choo, associate teaching professor of biological sciences.

“Birds migrate based on daylight changes, which is consistent based on the planetary position, whereas climate change has resulted in an earlier spring warming,” Choo says. “This disconnect between the timing of when the plants start flowering or producing fruit compared to when the birds migrate from their winter realms is problematic for them.”

Not able to adapt rapidly as others, some species miss key food resources needed for breeding. Other species have been shown to behave like “zombie-like killers” to defend limited resources, she says.



Continued from page 22

studying atmospheric rivers from thousands of years ago.

“People are always asking, ‘Why do you care about the climate from thousands of years ago?’ But really, it helps us contextualize the changes that we’re seeing with the climate right now,” he says. “We can get a sense of what we can expect to see in the future.”

Heavy rainfall in any part of the country poses the risk of severe flooding, which can be especially detrimental for cities, as they typically are dominated by surfaces like pavement that do not absorb water. EEAS Asst. Prof. Joy Winbourne is researching

how trees in cities can be used to help mitigate stormwater runoff and other negative effects of climate change.

“By using sensors placed in the sapwood of trees, we can start to look at the extent to which urban trees are taking up stormwater,” says Winbourne, who deployed sap flow sensors on trees around UMass Lowell’s campus to monitor their response to extreme precipitation and heat waves. (Read how alumna Julie Eaton Ernst ’14, ’17 is doing similar work with the city of Lowell’s urban forest master plan, on page 40.)

HURRICANES

As Hurricane Ian churned in the Caribbean Sea in September 2022, forecasters predicted that the powerful storm would travel along the Florida coastline before making landfall in Florida’s Panhandle. But the Category 4 hurricane had other plans.

“Instead of the hurricane going up the Panhandle, it ended up going into Central Florida,” EEAS Prof. Frank Colby says.

The inaccurate forecast proved problematic for residents, some of whom, Colby says, had fled the Panhandle and gone to Central Florida in search of safety. Ultimately,



Clockwise from top left: Prof. Mathew Barlow presents his research on extreme precipitation. Asst. Prof. Christopher Skinner takes in nature’s beauty on Wantastiquet Mountain. Asst. Prof. Joy Winbourne deploys a sap flow sensor to monitor the tree’s response to extreme weather events. Using jets of water at high pressure, Asst. Prof. James Heiss drills a sampling well into a beach.

“People are always asking, ‘Why do you care about the climate from thousands of years ago?’ But really, it helps us contextualize the changes that we’re seeing with the climate right now. We can get a sense of what we can expect to see in the future.”

CHRISTOPHER SKINNER
EEAS Assistant Professor

Hurricane Ian resulted in 152 deaths and more than \$100 billion worth of damage.

“As we’re seeing more intense storms, it makes it even more crucial to be able to forecast them accurately,” says Colby, who is working with Barlow and Andrew Penny of the National Hurricane Center to help improve hurricane forecasts.

Forecasters rely on dozens of computer models to predict the track and intensity of hurricanes. By comparing models, the forecasters can typically get a good idea of where the hurricane is headed.

“If there is one model going out into left field, the forecasters can decide to discard that one and go with the consensus from the others,” Colby says.

But occasionally, the majority of the models will agree on an inaccurate track forecast, as was the case with

Hurricane Ian.

“It’s extraordinary when that happens, because the track errors suddenly double, and the National Hurricane Center is left without any reliable guidance,” Colby says.

Since the computer models all use different mathematical equations to forecast hurricanes, Colby and his team believe the atmosphere is to blame for significant track changes.

Using ensembles, which produce a set of forecasts based on a range of future weather possibilities, the researchers discovered that for Hurricane Ian, a small wave in the jet stream moved its track to Central Florida.

The researchers are now examining additional hurricanes to find other atmospheric features that impacted their paths in drastic ways. One such storm was Hurricane Florence, which,

in September 2018, took an unexpected 90-degree turn toward the East Coast of the U.S. after initial models showed it moving north in the middle of the Atlantic Ocean.

“By figuring out which features forecasters need to be worried about, we can help improve hurricane track forecasting,” Colby says. “Accurate forecasting is critical for storm preparation and safety.”

STORM SURGE

When a hurricane or nor’easter barrels toward the coast, a storm surge is often imminent.

Above land, it’s easy to see the damage being inflicted by the abnormal rise in seawater, from flooding to erosion, but EEAS Asst. Prof. James Heiss is interested in what may be happening below.

Funded by a \$784,000 National Science Foundation grant, Heiss is studying how

increased storm surges and other effects of coastal storms impact beach aquifers—the underground layer of rocks, sand and gravel that holds water.

Fresh groundwater discharged into the ocean can be harmful to marine life because it carries pollutants from human activities. The pollution can cause toxic algal blooms, which can then lead to mass die-offs of fish and a loss of biodiversity. The mixing of groundwater and saltwater in beach aquifers, however, can help prevent the toxins from reaching the ocean.

“The mixing zone in the beach aquifer is beneficial, because it sets off chemical reactions that remove contaminants in groundwater that would otherwise discharge into the ocean via groundwater pathways,” Heiss says.

At the U.S. Army Corps of Engineers Field Research Facility in Duck, North Carolina, Heiss and his research team installed wells equipped with sensors that monitor the groundwater in aquifers when coastal storms hit. He says the research will reveal how more frequent and intense storm surges impact the groundwater flow and mixing patterns between seawater and fresh water in beach aquifers.

“Beach aquifers are im-

portant in helping to promote healthy coastal ecosystems,” he says.

Heiss is also researching how heightened storm surges and other extreme weather events like drought may cause saltwater to travel farther inland through aquifers.

“The intrusion of saltwater is a major problem in many coastal communities and large cities that rely on groundwater as a source of drinking water,” he says.

Heiss and his team are analyzing saltwater intrusion and chemical exchanges across the interfaces of aquifers and estuaries (where freshwater rivers or streams meet the ocean) to better understand the impact of extreme weather on groundwater resources. The research is being funded by a \$680,000 National Science Foundation CAREER award.

Knowledge obtained from the projects could help improve the management of the ocean and fresh groundwater, Heiss says. For instance, it could guide where groundwater pumping wells should be placed and help coastal managers better predict when an algal bloom may occur.

Students play an integral part in the research efforts of UML faculty, including Heiss, who enlisted computer science and engineering

majors to develop the sensors used for groundwater monitoring in North Carolina. He and Skinner also work closely with Ph.D. students in the new Earth System Science program.

“We need bright minds to help tackle these challenging projects,” Heiss says. “That’s where our students come in.”

To help grow weather research among faculty and students, Skinner is spearheading the launch of a new weather station on South Campus. Solar panels will power the station, which will include instruments capable of collecting data on temperature, wind and other weather conditions.

“The station will give students the chance to gain valuable hands-on experience taking measurements,” Skinner says.

Basara says that research opportunities are essential for helping students grow into professionals.

“We are training our students to become the next generation of scientists that will be needed to solve complex issues,” he says, “including those that involve extreme weather.” [UML](#)



DID YOU KNOW?

Weather affects streets and bridges.

If your car has ever hit a pothole, you know how weather can wreak havoc. According to Civil and Environmental Engineering Prof. TzuYang Yu, the condition of asphalt roads in New England is only going to get worse as temperatures continue to climb.

“When they chose the grading for those materials, they did not consider that they would have to sustain long periods of high temperatures,” says Yu, who adds that more extreme rainfall will also be a problem, causing flooded basements, collapsed foundations and trouble for bridges.

“The elevated water changes the loading condition for bridge piers, which were never designed to sustain such a high hydraulic pressure,” he says.

Consortium at UML Helps the Public Prepare for Severe Weather

Whether it’s a heat wave set to sweep over the Merrimack Valley or a nor’easter slated to dump a foot of snow in Lowell, the New England Consortium (TNEC) at UML is helping the public prepare for major weather events.

Through a new partnership with the Lowell Community Health Center, the consortium provided disaster preparedness training sessions to the public, members of which learned about the impacts of extreme weather and the steps they should take before and after a weather event strikes.

“We’re teaching the community how to be more resilient in the event of a natural disaster,” says David Turcotte ’79, ’07, principal

investigator of the consortium and economics research professor emeritus.

Representatives from the Lowell Community Health Center, Acre Family Child Care, Coalition For A Better Acre and the Greater Lawrence Family Health Center participated in the initial sessions. —BC

The Weather Network

TV Meteorologists Face Heavy Weather Together

BY KATHARINE WEBSTER

Some of the most familiar faces on television news in New England are graduates of UMass Lowell's meteorology program, including Sarah Wroblewski '05 on WBZ-TV and Shiri Spear '07 on WXFT, both in Boston.

That wasn't always the case. Barry Burbank '72, who presided over the weathercast at WBZ for 40 years, was for a long time the only UMass Lowell meteorology alum on TV in Greater Boston. In 1993, Michael Haddad '90 began forecasting for WMUR in Manchester, New Hampshire, where he is now chief meteorologist.

Then in 1996, an inspiring young colleague of Burbank's at WBZ, Mish Michaels, was invited to teach the first broadcast meteorology class at UMass Lowell. Since then, a steady stream of graduates has gone on to television meteorology careers, helping each other through internships, mentoring and networking. Many are women in a field still largely dominated by men, and Wroblewski credits Michaels, who died in 2022, for much of that.

"Mish Michaels was a powerful force," she says. "She flew into hurricanes. She climbed Mount Washington. She won a number of Emmys, and she was flawless in my mind. She inspired me to always push myself to do better. I feel fortunate that I get to follow in her footsteps."

Now, Wroblewski and other alumni teach and mentor the next generation of aspiring broadcast meteorologists, like senior Victoria Wisniewski. She came to UMass Lowell from New Jersey, sight unseen, largely because of that record of alumni success in television.

On social media and through events hosted by the campus chapter of the American Meteorological Society, Wisniewski has been able to ask Wroblewski, Spear and Houston-based meteorologist Lena Maria Arango '19, '20 about their career paths.

"They're an inspiration; it's the drive that they have," says Wisniewski, who interned at WCVB in Boston over the summer. "I saw that they did this; they took this path. And if I take that path and mold it to what I want to do, then I can get that."

Other recent broadcast alumni include Michael Bagley '15, at WCSH in Portland, Maine, and Arielle Whooley '15, formerly at WCBD in Charleston, South Carolina. Here are some of their stories.



SARAH LONG '97

WMTW, Portland, Maine

As a senior atmospheric science major, Sarah Long '97 took that very first class in broadcast meteorology with Michaels.

Then she got a job as a weather observer at the Mount Washington Observatory in New Hampshire, where she'd interned as a student. "I did not like talking in front of people," Long says, laughing. "So going to the top of an isolated mountain seemed perfect."

She helped with research, led school tours and prepared high peaks forecasts, sometimes phoning them in to radio stations. When she climbed down the mountain for good, it was the broadcasting experience that stuck with her. "Radio got me into a groove of creating a weather story, taking the science and turning that into something that's digestible," she says.

With Michaels' help and encouragement, she got a part-time job as a TV forecaster at a station in Bangor, Maine, moved on to full-time work for Sinclair Broadcasting Group in Portland, Maine, and now works at WMTW, the ABC affiliate in Portland.

FIRSTS: "I was the first woman to become chief meteorologist and then summit manager at the Mount Washington Observatory. As far as I know, I'm the first woman from UMass Lowell to become a TV meteorologist."

CAREER CHANGE: "I'm wearing Carhartts and fleece, and now I've got to buy heels and wear a dress."

FUTURE FORECAST UNKNOWNNS: "Aging on air. Will I continue to be valued as a voice with experience if I'm up there in my 50s with my gray hair flying?"

THE UML ADVANTAGE: "Being so close to Boston. There are so many internship opportunities, not just in television, but also at private firms and in research."

"Radio got me into a groove of creating a weather story, taking the science and turning that into something that's digestible."

—SARAH LONG

“I’m looking at résumés, looking at the next talent to come out of UMass Lowell that we might want to hire.”

—TERRY ELIASEN

LIFE-CHANGING WEATHER EVENT:

“1985, Hurricane Gloria. The eye went right over Central Massachusetts. My uncle and I ran outside, and the sun was out.”

UML’S SECRET STRENGTH:

“I loved the teachers. I spent a lot of my extra time with friends in the meteorology program doing homework in Prof. Frank Colby’s classroom.”

BIGGEST INDUSTRY CHANGE:

“The accuracy of our forecasting has gotten so much better, but it’s almost overload—there’s so much data.”

LONG-TERM FORECAST:

“We haven’t had a big hurricane make landfall since the 1950s. I feel like the biggest storm is yet to come.”



BIGGEST CHALLENGE:

“The hardest part is that challenging winter storm forecast. It can be nerve-wracking when there looks to be a big storm several days in advance, and there’s still a chance it may fizzle—or that fizzling storm explodes.”

BIGGEST RESPONSIBILITY:

“I feel responsible for people to be safe. That’s my job. When I’m covering tornadoes, I have to be as serious as possible about safety. I really want people to be prepared.”

GIVING BACK:

“Whenever a student reaches out to me, I try to be kind. When I first started, I had a female icon to look up to, and I want to be that for other people, too.”

TERRY ELIASEN '97

WBZ-TV, Boston

Terry Eliassen '97 was also in UML’s first broadcast meteorology class. Unlike Long, he went straight into television, but as a weather producer. “I’ve had plenty of news directors try to get me to go on TV, but I like being behind the scenes,” he says.

He spent four years at WHDH in Boston after interning there, and then moved to WBZ, where he had also interned as a student and been mentored by Burbank and Michaels.

Eliassen is now WBZ’s executive weather producer. He works on forecasts, decides on weather and climate change stories that merit additional news coverage, creates graphics and writes online posts.

He also helps to manage a volunteer network of more than 500 “Weather Watchers” who help WBZ make forecasts as accurate as possible—for example, mapping the “rain-snow line” during winter storms.

And he helps with internship and hiring decisions. “I’m looking at résumés, looking at the next talent to come out of UMass Lowell that we might want to hire,” he says.

SARAH WROBLEWSKI '05

WBZ-TV, Boston

As a student, Sarah Wroblewski '05 interned at WBZ in fall 2004, where she was mentored by Michaels and Eliassen—and then went right to work for WBZ in January 2005.

After a couple of years, though, she took a full-time job with a private weather forecasting and technology firm in Andover, Massachusetts, Weather Services International (now The Weather Company; see story on page 62), while continuing to work part time and freelance.

In 2011, she went back to full-time TV meteorology at WXFT. After more than six years there, she returned to WBZ, where she rejoined Eliassen and former UML women’s soccer teammate and friend Danielle (Niles) Noyes '06. She’s now both a meteorologist and climate reporter (check out a day in her life, on page 34).

She returns to UMass Lowell frequently to inspire meteorology students and women student-athletes. Several years ago, she and Shiri Spear '07 co-taught a class in broadcast meteorology.

THE WEATHER ISSUE

VALUE OF A MASTER'S DEGREE: "It expanded my ability to conceptualize the complexities of the atmosphere."

VALUE OF EXPERIENCE: "Over time, I've learned the nuances of the area where I live now. A lot of it is pattern recognition."

HOUSTON WEATHER: "The biggest thing here is the humidity. It can be like trying to breathe through a wet washcloth, but you get used to it."

HOUSTON VIBE: "I love living here! The food is incredible, there's so much to do and see, and people are so welcoming and inviting."



UMASS LOWELL'S SUPERPOWER: "The accommodations that were made for me. I was a TA, and I remember Prof. [Emeritus Arnold] O'Brien burping the baby when I was grading papers. It was so much more than just learning about atmospheric science; it was about learning how to treat people."

BIGGEST INDUSTRY CHANGE: "People used to accuse us of being political when we talked about climate change. Now, more people are interested in it and want to know what they can do."

GEOGRAPHICAL CHALLENGE: "Forecasting was so difficult in Florida. Everything I thought was the formula in New England just got completely thrown out the door."

"It's incredibly important to have a mentor, be a mentor and bring up the next generation."

— LENA MARIA ARANGO

LENA MARIA ARANGO '19, '20

KRIV, Houston

Lena Maria Arango '19, '20 got an internship at WXFT, where Wroblewski and Spear taught her the ropes, while completing a graduate degree in meteorology and atmospheric science through the bachelor's-to-master's program.

Like Spear, she got her first television job in western Massachusetts, but at a different station: WGGB/WSHM, where she did a few promotions in Spanish. Networking, and her bilingual abilities, opened doors for Arango, and after just a year in television, she was invited to join KRIV in Houston.

Now, she forecasts hurricanes, floods and droughts in English on air and in Spanish for a twice-weekly, digital weather program she helped to develop. "I jumped from the No. 114 market in the U.S. to the No. 7 market," she says. (The Boston-Manchester area is No. 9.)

As part of her job, Arango visits local schools frequently. She also makes herself available, long distance, to UMass Lowell students like Wisniewski. She especially tries to encourage girls and students of color to study math and science.

"It's incredibly important to have a mentor, be a mentor and bring up the next generation," she says.

SHIRI SPEAR '07

WXFT, Boston

Shiri Spear '07 gave birth to her first daughter just as she was starting the second year of her master's degree program in atmospheric science. She missed the first week of classes.

That wasn't the only side excursion on her path to a television career, but she always kept her eyes on the prize. "As a child, I remember thinking, 'I want to bottle up everything there is to know about weather and drink it all,'" she says.

Spear studied atmospheric science at McGill University in Montreal for two years before returning home to Hollis, New Hampshire, to marry her high school sweetheart. He was in the Marine Corps,

so she kept studying math and science while living at Camp Lejeune in North Carolina.

After her husband was deployed to Iraq, she came home again and earned a bachelor's degree in math education at Rivier University in Nashua, New Hampshire, and then went straight to UMass Lowell.

Despite being a new mom, she finished in two years and did an internship at WBZ. "Terry Eliassen taught me everything I know—he and Sarah Wroblewski, who then became a colleague" at WXFT, Spear says. "It's a very small community."

She worked in Springfield, Massachusetts, for three years and in Miami for two before coming "home" to WXFT.

"Terry Eliassen taught me everything I know—he and Sarah Wroblewski, who then became a colleague (at WXFT). It's a very small community."

— SHIRI SPEAR

A DAY IN THE LIFE OF A TV METEOROLOGIST

SHADOWING WBZ-TV METEOROLOGIST SARAH WROBLEWSKI '05

BY BROOKE COUPAL

THE WEATHER ISSUE

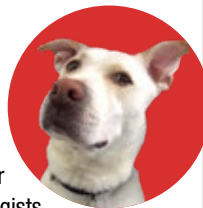
TV meteorologists do a lot more than just talk about the weather. They break down the science, analyze weather models and create graphics. They develop in-depth stories on climate change and extreme weather. They educate schoolchildren and emcee community events.

"I never have the same day twice," says WBZ-TV meteorologist Sarah Wroblewski '05, who gave us a behind-the-scenes look at a recent workday. Here's how it unfolded.



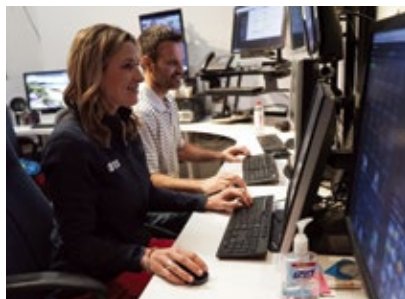
9:30 a.m. Wroblewski arrives at the CBS News Boston headquarters on Soldiers Field Road in Boston's Allston neighborhood.

9:34 a.m. Morning meteorologist Zach Green and his dog, Scout, the "unofficial mascot of WBZ-TV," greet Wroblewski in the Weather Center. The two meteorologists catch up on the morning weather and discuss story ideas for an upcoming series on hurricanes.



9:51 a.m. Sarah checks in with WBZ-TV executive weather producer Terry Eliason '97. The duo first met when Wroblewski interned at the news station while a student at UML. "I wouldn't be here today if it wasn't for my internship," says Wroblewski, who credits the experience with helping her build the connections that led to a full-time career at WBZ-TV.

10 a.m. Wroblewski responds to emails, including one for an upcoming story on hurricane risk assessment.



10:17 a.m. As a busy mother of four, including an 11-year-old son, 9-year-old daughter and 3-year-old twins, Wroblewski says coffee is a necessity. On this day, she's sipping an iced coffee from Starbucks.

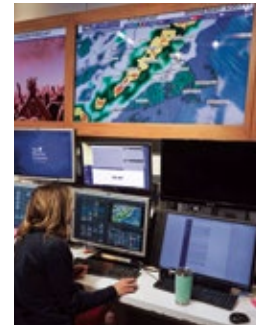


10:18 a.m. It's time to prepare the forecast for the noon show. Wroblewski begins by looking at weather models for the country before focusing on New England. She works with Eliason to create weather graphics that viewers can easily digest. "Our forecast is built on math and science, even though on TV the viewer just sees pretty graphics and numbers," she says. "We break down the science to be able to share that information with people of all ages."

10:48 a.m. After analyzing the local forecast, Wroblewski compares her findings with those from the National Weather Service, a federal government agency.

10:55 a.m. She pulls out a UMass Lowell notebook, where she logs the seven-day forecast. The notebook is filled with forecasts dating back to the beginning of the year.

11 a.m. Wroblewski signs into iNEWS, software that producers use to build the run-down of the noon show. She notes that she will be live on-air at 12:04 p.m. and 12:13 p.m.



11:03 a.m. She makes final tweaks to the weather graphics before arranging them in the order in which she wants to present them on TV. She then

adds transitions between the graphics, so they appear more smoothly on the viewer's screen.

11:17 a.m. With just the graphics in front of her, Wroblewski rehearses what she will say for both of her weather hits. When it comes time to go on-air, she won't use the teleprompter. Instead, she'll deliver the forecast to viewers from memory.

11:24 a.m. She logs into Twitter and uploads some of the weather graphics into a post, teasing the upcoming coverage at noon.



11:29 a.m. To get ready for the show, Wroblewski relies on a glam team of one: herself. Using a well-lit, full-length mirror located outside the Weather Center, she applies makeup and curls her hair. The whole process takes her about 15 minutes.



11:46 a.m. She puts in an earpiece that will allow staffers in the control room to communicate with her during the show. She also gets her mic ready.

12:04 p.m. Wroblewski delivers a one-minute weather forecast in front of a green screen, which allows for her weather graphics to be displayed behind her. Rain is forecast for the evening, but the remainder of the week is looking sunny.



12:06 p.m. Back in the Weather Center, she goes through photos that viewers submitted of current weather conditions in their neighborhoods. She approves some to be aired on TV.

12:10 p.m. The photos are shown live while Wroblewski talks over them from her seat in the Weather Center. She teases the full forecast, scheduled for after the commercial break.

12:11 p.m. Wroblewski checks the order of the weather graphics and adds additional ones for the full weather forecast. She also touches up her lipstick.

12:13 p.m. Back on-air and in front of the green screen, she talks about the forecast for two minutes and 45 seconds.

12:17 p.m. The on-air newscast will end at 12:30 p.m., but Wroblewski has to prep for a half-hour newscast set to be streamed live on the CBS Boston website directly after. She switches out some graphics to keep the forecast fresh.

12:27 p.m. She teases the upcoming streaming newscast on Twitter.

12:33 p.m. Wroblewski presents a one-minute forecast in WBZ-TV's second studio.



12:41 p.m. After the commercial break, she discusses the forecast for another two minutes and 45 seconds.



12:45 p.m. Done with being on-air for the day, Wroblewski removes her earpiece and mic.

12:48 p.m. She heads to a private room to conduct a Zoom interview for a "Women in Science" feature story. She adjusts the lighting in the room and goes over the questions that she prepared the day before.

1 p.m. The Zoom interview starts. Today, she's interviewing Lt. Col. Kaitlyn McLaughlin, 53rd WRS chief aerial reconnaissance weather officer, also known as a hurricane hunter. McLaughlin, who grew up in Massachusetts, flies into hurricanes and other storms to collect data.



1:30 p.m. A half hour later, the Zoom interview ends. "That was all such good information," Wroblewski says. "Now, I have to break that down into a two-minute package."

1:33 p.m. She sends herself the Zoom recording and takes a break to eat lunch, a salad.



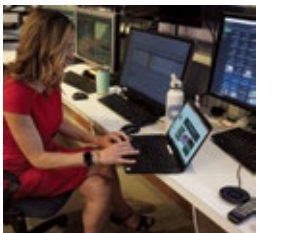
1:58 p.m. Once again in the Weather Center, she logs sound bites from the Zoom interview. She also reviews videos and photos that McLaughlin sent to her to be used as visuals in the story.

2:53 p.m. With an idea of how she wants the video package to look, she creates a script that details what she will say and what sound bites will be used.

3:17 p.m. Wroblewski finds an editor who can turn her video package idea into a reality. She collaborates with the editor, who uses the videos, photos and sound bites to create a cohesive package. Wroblewski tracks her audio for the story, using the script that she wrote.

4:11 p.m. With the package not expected to run on TV until next week, Wroblewski heads back to her computer to answer emails and prepare for the following day, when she is scheduled to meet with third graders in Arlington, Massachusetts, to talk about weather and climate.

4:18 p.m. She preps a PowerPoint presentation for the school visit, simplifying the science of meteorology into something that children will be able to understand.



4:33 p.m. Wroblewski briefs WBZ-TV chief meteorologist Eric Fisher about her earlier forecast as he preps to be on-air for the 5 p.m. show.

5:01 p.m. She leaves work and heads home to be with her husband and four kids. The family has big plans for the night: rooting for her 11-year-old in his hockey game. Wroblewski is forecasting a win. [UML](#)



‘GO FORTH AND SERVE’

The Bond Between Jeanne D’Arc Credit Union and UML Benefits Students and the Region

Established in the basement of St. Jean Baptiste Church 111 years ago, Jeanne D’Arc Credit Union has a history in Lowell almost as long as that of UMass Lowell.

But the relationship between the two institutions in the city’s Acre neighborhood has deepened over the past 15 years, says Jeanne D’Arc President and CEO Mark Cochran, as each has expanded its footprint and looked to the other for help in supporting Lowell and its residents.

“It just kind of blossomed,” says Cochran.

Now, the Jeanne D’Arc Credit Union logo—depicting the patron saint of France and representing the Franco American community it was created to serve—is nearly as common on campus as those of some popular coffee brands.

Jeanne D’Arc supports student scholarships. It backs River Hawk athletics, especially hockey and basketball teams. Commercial lending officers advise entrepreneurs growing startup businesses at the UMass Lowell Innovation Hub at 110 Canal St.

Over the years, the credit union has sponsored the Lowell Green Community Partnership, the Saab Center for Portuguese Studies, the Center for Women and Work and many arts and music programs.

A recently renovated suite for student athletes is named for a late Jeanne D’Arc vice president for community engagement, Steve Jones, and prominently displays his personal motto: “Go forth and serve.”

“We think about: ‘How can we create opportunities to help people feel good about themselves, feel good about the community they live in, feel included, feel like they belong?’” Cochran says of the credit union, which serves a membership of nearly 100,000 residents of Massachusetts and New Hampshire.

Alison Hughes, Jeanne D’Arc’s assistant vice president and community engagement officer, says those values aren’t just reflected in the relationship between Jeanne D’Arc and UML, but also in the people who work at the credit union.

“We really do try to hire people that have a heart to serve,” says Hughes. “We not only want our employees to be engaged at the credit union, we want them to be engaged in the community.”

Many of those people have ties to the university; about 40 alumni are currently employed there at various levels.

Cochran says opportunities to connect with UML emerged as he and former Chancellor Marty Meehan (now UMass president) moved into their positions

around the same time. They were both aggressive in looking for ways to support the city.

Both institutions were on growth trajectories: When Cochran stepped into his role in 2007, Jeanne D’Arc had its headquarters in Lowell, and three branches. Now it has 11 branches, including three in area high schools.

Connections continued to expand under former Chancellor Jacquie Moloney and, now, under Chancellor Julie Chen.

Jeanne D’Arc’s engagement with UML athletics is especially strong. The credit union supported UML’s effort to elevate its athletic program to Division I. And River Hawk student-athletes regularly volunteer for causes supported by Jeanne D’Arc and its We Share a Common Thread Foundation.

Eric Allen, UML senior associate athletic director for corporate partnerships and development, says the institutions share similar values.

“They care deeply about the city of Lowell and making it a great place to live and work,” Allen says. “They care deeply about our students and employ many of them. They know our students are future leaders in the community.”

Allen says Jeanne D’Arc has been instrumental in making UML athletic teams competitive. Credit union representatives are a constant presence at athletic games and events. And UML coaches and student athletes volunteer and support Jeanne D’Arc Credit Union Foundation events.

“Mark leads by example, and it is contagious with his staff,” says Allen. “It starts at the top, and that is why the relationship has been so strong for so many years. We are fortunate to have a relationship like this. They are more than partners; they are family.”

Jeanne D’Arc is also invested in other aspects of the university—including the promise that every undergraduate student, starting with the fall 2023 class, will have at least one opportunity for a career connected experience, earning dollars or college credits.

The credit union has made commitment in perpetuity to support students working with area non-profits that could not otherwise afford to pay interns or co-op students. The Jeanne D’Arc Credit Union Endowed Fellowship is part of the Moloney Fellowship program, created by the chancellor emerita for the same purpose.

“We, as an organization, really try to find ways to make other people’s lives better,” Cochran says. “The great thing about the university is that the people we work with there want to do the same thing.”



WE THINK ABOUT: ‘HOW CAN WE CREATE OPPORTUNITIES TO HELP PEOPLE FEEL GOOD ABOUT THEMSELVES, FEEL GOOD ABOUT THE COMMUNITY THEY LIVE IN, FEEL INCLUDED, FEEL LIKE THEY BELONG?’”

MARK COCHRAN,
President and
CEO, Jeanne D’Arc
Credit Union



JEANNE D’ARC
CREDIT UNION

< Dozens of UML alumni work at Jeanne D’Arc Credit Union, including this group, which gathered recently at the Tsongas Center with President and CEO Mark Cochran (front).

BY ED BRENNEN

THE KINDNESS OF STRANGERS

Generous Donors Took a Chance on Alan Desrochers '72—and Now He Does the Same for UML Students

In the summer of 1968, as Alan Desrochers '72 was preparing to leave home in Chicopee, Massachusetts, and begin studying electrical engineering at Lowell Technological Institute, he received an unexpected \$400 scholarship from the local Teamsters Union.

"I'm pretty sure my father helped arrange it by getting everyone to chip in 10 bucks," says Desrochers, who used the scholarship to cover his first year of tuition, which at the time was just \$200 a semester. "These people didn't know me; they just said, 'Let's do this.'"

More than 50 years later, Desrochers still thinks about the generosity of those strangers.

"I was amazed that people who had never met me were willing to invest in me," he says. "At the same time, the state invested in me by paying over 80% of Lowell Tech's budget. So I was getting this good education practically for free. I knew it then, and that's why I thought I should try to pay it forward in some way."

So, in 2012, after retiring as a professor at Rensselaer Polytechnic Institute, he created the Alan A. Desrochers '72 Engineering Endowed Scholarship Fund. The scholarship supports UML undergraduate students majoring in electrical or computer engineering who have financial need and a GPA of 3.25 or higher.

"I know there are plenty of students at UMass Lowell who are in the same situation I was in—people who need the money and are also doing very well in their discipline," says Desrochers, whose scholarship has helped 10 students so far. "I've met most of them, and they are very impressive. They're just so determined, and they know what they want to do."

Through his estate planning, Desrochers has directed more than \$1 million toward his scholarship fund, earning him Circle of Distinction recognition in

UML's Lifetime Giving Society.

"I wish I had more money to give," says Desrochers, who also contributes to the Cape Cod Scholarship and serves on the Francis College of Engineering Industrial Advisory Board and the Electrical and Computer Engineering Department Advisory Board. In 2022, he was recognized with a University Alumni Award.

Growing up, Desrochers read Popular Electronics magazine and learned how to build circuit boards for speaker amplifiers. A high school electronics course sparked his interest, and he decided to enroll at Lowell Tech, which checked two important boxes: It was affordable, and it was far enough away from home to give him some independence.

But being a first-year engineering major, Desrochers quickly discovered, was more like "boot camp."

"During Orientation week, they gathered us in Cumnock Hall and said, 'Look to your left. Look to your right. Only one of you will be here at the end of the year,'" he recalls. "It seemed like they were determined to get rid of most of us. I mean, it was hard."

He proved up to the challenge, though, thanks in part to guidance from faculty members such as Prof. Emeritus George Cheney and Ross Holmstrom.

"Lowell Tech gave me an excellent educational foundation, and I felt that I was very well prepared for graduate school and my professional career," says Desrochers, who got a master's degree in electrical engineering at Purdue University before heading to Sunnyvale, California, in 1974 to work for Lockheed Missiles and Space Co.

"I had one of the best jobs there as an engineer, but things moved so slowly. When you're 24 years old, it's like, 'Come on, let's move this thing along,'" says Desrochers. He returned to Purdue for a Ph.D. in 1975 before becoming an assistant professor of systems and computer engineer-

ing at Boston University. In 1980, he joined the faculty at RPI, where he taught and conducted industry-sponsored research for more than three decades.

Today, he is enjoying retirement in West Dennis, Massachusetts, where he takes his Boston Whaler boat out on Nantucket Sound. He also plans to do more traveling; Morocco is high on his list.

"If there's such a thing as a perk in academia, it's that if you have the research and publish papers, you get to travel to these conferences in some nice places all over the world," says Desrochers, who remembers one trip to Paris in the late '80s in particular. "Here was this kid from Chicopee, standing in Hôtel de Ville, looking at Notre Dame Cathedral. I thought, 'I guess I did pretty good.'"

It's a feeling Desrochers hopes many more UML engineering students will have the opportunity to experience with the help of his scholarship—students like junior Nicholas Psikarakis, a recent recipient.

"This award is a reminder that all my hard work will get noticed. ... I am truly grateful for this award and all the motivation you have given me to keep going," Psikarakis wrote in a thank-you note to Desrochers. "Furthermore, you have given me the chance to help my parents in the financial aspect, which is a lifetime goal for me."

After a long and rewarding career in academia, Desrochers understands those financial challenges as well as anyone.

"I think most of the alumni still think that tuition is really cheap. And most people think that the state pays maybe 90% of the bill, and that's so far from the truth; I think it's around 20%," he says. "Even though UMass Lowell is affordable in comparison to many other schools, today's students need our financial assistance."

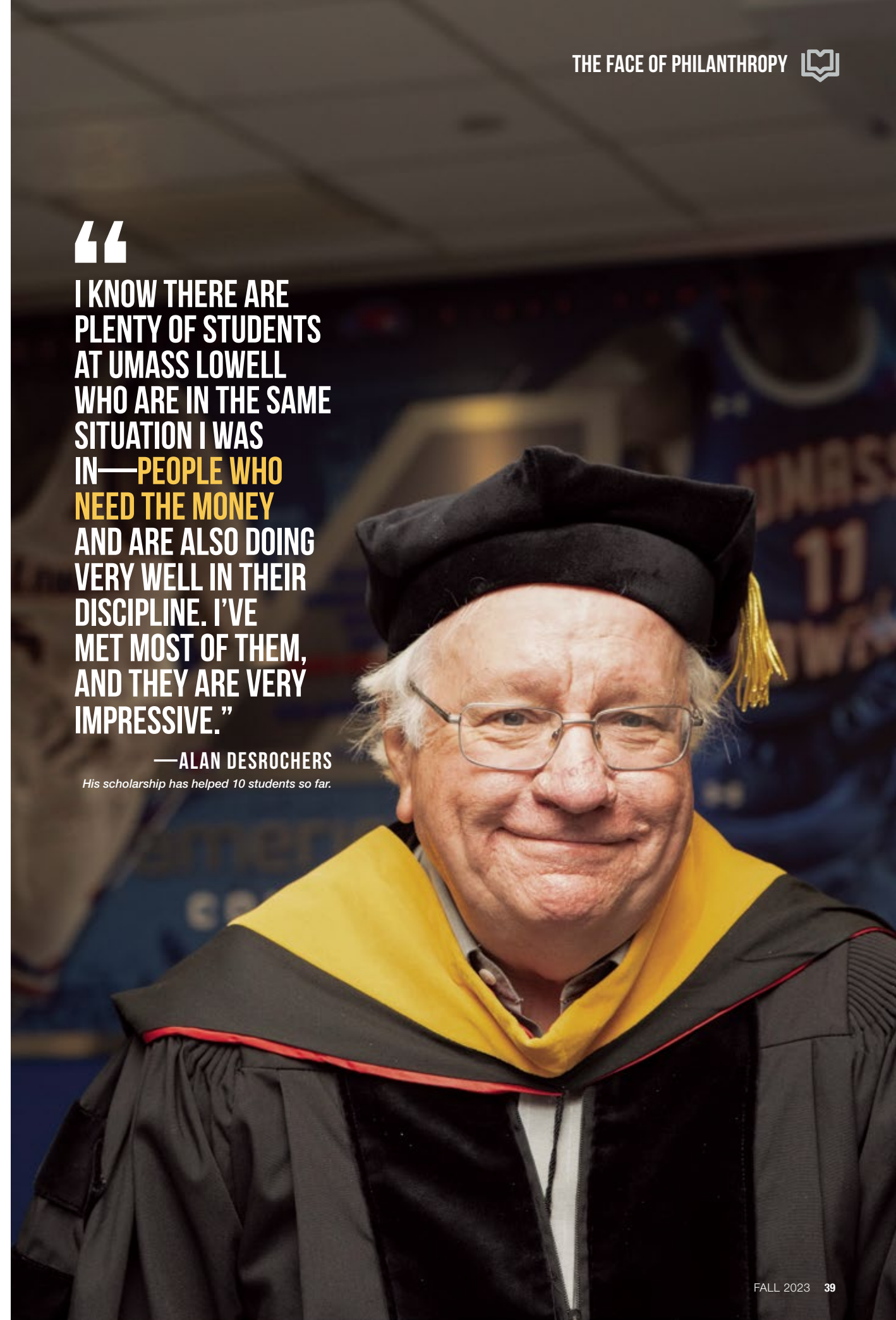
Just like those generous strangers from the Teamsters Union helped him back in 1968. [UML](#)

“

I KNOW THERE ARE PLENTY OF STUDENTS AT UMASS LOWELL WHO ARE IN THE SAME SITUATION I WAS IN—PEOPLE WHO NEED THE MONEY AND ARE ALSO DOING VERY WELL IN THEIR DISCIPLINE. I'VE MET MOST OF THEM, AND THEY ARE VERY IMPRESSIVE.”

—ALAN DESROCHERS

His scholarship has helped 10 students so far.



THE WEATHER ISSUE

Julie Eaton Ernst '14, '17 was one of the lucky ones. She evacuated from New Orleans before Hurricane Katrina overwhelmed the levees in August 2005, flooding the city, killing an estimated 1,833 people on the Gulf Coast, displacing millions more and causing \$161 billion in damage.

Several years later, Eaton Ernst decided to study geotechnical engineering at UMass Lowell because, she says, "I wanted to design levees that won't fail."

Now, she works with the city of Boston and beyond to adapt the built environment to climate change and to prepare for extreme storms, like Hurricane Katrina.

As a licensed professional civil engineer and founder of the climate resilience strategic initiative at engineering firm Weston & Sampson, she and her team of 20-plus professionals have worked on much of Boston's waterfront and infrastructure. Their projects include helping redesign Moakley Park and evaluating the MBTA's rapid transit lines and stations, to protect them from extreme weather and the effects of climate change, including rising seas.

Working for the Resilient Massachusetts Action Team, she developed statewide resilience design standards for the built environment, and she also wrote Boston's flood control design guidance.

And all because Katrina devastated New Orleans just as she was starting her freshman year at Tulane University—as a musical theater major.

AN ILL WIND BLOWS

On the day of Eaton Ernst's freshman orientation at Tulane, the college president called a general assembly.

Hurricane Katrina was bearing down on the city, and the president told the freshmen they had three choices: They could return home with their parents, they could leave on their own, or they could evacuate on a fleet of buses headed for Jackson State University in Jackson, Mississippi, 185 miles north.

Eaton Ernst's family had hugged her goodbye and prepared to head home to Concord, Massachusetts, reassured because New Orleans locals had told them the approaching hurricane was "normal, like the nor'easters we get in New England," she recalls.

Eaton Ernst grabbed her laptop and backpack and boarded one of the buses heading for Jackson State. After hours on roads clogged with evacuees, the Tulane students arrived at 2 a.m. and bedded down on the floor of the campus gym.

Just three hours later, all their cellphones started ringing as their panicked families called: Katrina had just been upgraded to a Category 5 hurricane.

Eaton Ernst's parents said they were driving to fetch her, and when they got to Mississippi, they took two of her classmates north with them, just out of the storm's reach. Not long after, the gym at Jackson State flooded.

Eaton Ernst spent her "hurricane semester" at Boston College while dorming in cardinal's quarters at the Roman Catholic Archdiocese of Boston. She followed the news of Hurricane Katrina and its aftermath from afar, but nothing prepared her for what she saw when she returned to Tulane for the spring semester.

THE WRECKAGE

"You saw the line of black mold throughout the city that marked the height of the flooding, and you saw the body counts of humans and pets spray-painted on the doors, and there was an Army National Guard tank on the street," she says. "I said, 'Dad, you can't leave me here!'"

She felt better when they reached the campus. New Orleans Saints football players welcomed the students and helped them move



PATH CHANGE

HURRICANE KATRINA INSPIRED JULIE EATON ERNST '14, '17 TO ALTER HER COURSE

BY KATHARINE WEBSTER



Civil engineer Julie Eaton Ernst '14, '17 (above right and at bottom on inset) has helped fortify much of Boston's waterfront and infrastructure against extreme weather.

into newly repaired dorms. “The generosity and resilience of people was something that really came through,” she says. “There was a commitment to that spirit of New Orleans.”

She only lasted a semester at Tulane. Months after the water receded, the air was contaminated with all that Katrina had left behind: mold, sewage, hazardous chemicals and decomposing plants and animals. Eaton Ernst, who had previously suffered from mild asthma, went to the hospital emergency room nearly once a week because she couldn’t breathe.

Back home in late May, doctors told her that if she returned to New Orleans, she would be dead before she was 25. That ended her musical theater dreams: “If I couldn’t breathe, I couldn’t sing.” By that time, though, she was obsessed with figuring out how “government at every level had failed” New Orleans. She transferred to the University of Rochester in Rochester, New York, where she majored in political science and wrote research papers on every aspect of that failure.

“I wanted to know how this could happen in America—this level of devastation, the stories people were telling me about their loved ones, about their homes, about how they were unable to evacuate,” she says. “I decided that I wasn’t giving up on New Orleans ... and I dedicated all of my studies to understanding what happened.”

Eaton Ernst was most outraged to learn that, after the Federal Emergency Management Agency ran a simulation test for a Category 3 hurricane’s effects on New Orleans in 2004, state and local authorities failed to prepare for a severe storm, and the U.S. Army Corps of Engineers failed to make needed upgrades to the levees and other infrastructure.

“They knew the levees were going to fail,” she says. “They absolutely knew the level of devastation that was going to happen. They prepared all these action items—and nothing happened.”

Eaton Ernst took game theory classes to see if changes in policies and incentives might lead people to make better decisions. But the simulations she ran failed to produce a better result.

ENGINEERING BETTER OUTCOMES

When she couldn’t find a political solution, Eaton Ernst turned her attention to the technical failures. She took engineering classes at Rochester and loved them. “There was a right answer. It took away the emotional aspect,” she says.

She graduated in 2009 and worked hard at multiple jobs to pay down her student debt. But after a couple of years, she decided she needed to go back to school.

“UMass Lowell, bar none, has the best education. The professors truly care and want to make sure students are ready to go out into the world and be successful.”

— JULIE EATON ERNST

She approached the Civil and Environmental Engineering Department at UMass Lowell about her goal of earning a master’s degree in geotechnical engineering. She took undergraduate and graduate classes simultaneously for two years.

“UMass Lowell, bar none, has the best education,” she says. “The professors truly care and want to make sure students are ready to go out into the world and be successful.”

She went on her first “date” with her future husband, Jonathan Ernst ’14, ’18 (also a geotechnical engineer), to a career fair in Boston, where she met representatives from Weston & Sampson. The firm hired her, and she worked full time while completing her master’s degree.

No sooner had she finished, in 2017, than she persuaded the company’s board of directors to start a new strategic initiative on climate resilience: “I told them that we had to focus on this, because if we didn’t, everything we were designing and building wouldn’t last—and that posed a risk to our firm and its reputation, not just to public health and safety.”

In the six years since, Eaton Ernst has

grown her team—and they have become leaders in the field. She was the first engineer to evaluate the MBTA for climate and extreme weather risks, and her team was on call whenever severe weather could necessitate station closures and deployment of the T’s floodgates.

They worked with landscape architects on the redesign of Moakley Park, the largest on Boston’s waterfront, to include flood barriers and enhanced stormwater management, all while maintaining and even improving people’s access to the waterfront. They were selected to evaluate all 8,400 state-owned buildings, lands and structures, from prisons and nursing homes to parks, for potential climate impacts.

Closer to home, where she, Ernst and their daughter live in Lowell, she’s working on the city’s urban forest master plan. The goal: to evaluate and strategically increase Lowell’s tree canopy to mitigate heat islands and improve public health.

Eaton Ernst also chairs the Climate Change and Air Committee for the Environmental Business Council of New England and serves on the external advisory board for UMass Boston’s Sustainable Solutions Lab.

In 2022, she received the national Young Professional of the Year Award from the American Council of Engineering Companies. And she gave the inaugural Francis Lecture on the Built Environment at UMass Lowell.

She says that if the country wants to prevent the devastation of another Hurricane Katrina, then cities, states and the federal government need to invest in infrastructure improvements in tandem with the communities that are most affected.

“Communities of color and low-income neighborhoods have borne the biggest impacts of environmental injustices, including climate change, but we can work toward addressing these inequities in our solutions,” she says.

“It’s an all-hands-on-deck situation. This is creating opportunities for so many people to be involved in changing our environment and to have a say in what we want our future to look like.” [UML](#)

ALUMNI LIFE

NAJEE BROWN

‘LITTLE POET, BIG HAIR’

... that’s how Diannely Antigua ’12 describes herself, but given the accolades she’s accumulating, “big poet” is more apt. The Dominican American poet’s latest honor is a \$50,000 Laureate Fellowship from the Academy of American Poets, which she’ll use to launch the Bread & Poetry Project.

“In his poem ‘Like You,’ Roque Dalton says, ‘I believe the world is beautiful and that poetry like bread is for everyone,’” says Antigua, who is the poet laureate of Portsmouth, New Hampshire, and teaches in the MFA Writing Program at the University of New Hampshire.

“My dream is to make poetry accessible to all, whether it’s through free poetry programming, the Bread & Poetry Podcast I created and host, or through partnering with local organizations who support those in need of community. As bread sustains life, so does poetry.”

CLASS NOTES

1958

Bob Munroe of Dallas writes, "I have been asked at 87 years of age to observe and comment on proceedings of the JESD-94 Working Group on electronics reliability during monthly Zoom meetings." JEDEC develops standards for the microelectronics industry, with more than 3,000 volunteers representing over 350 member companies.

1964

Judith Berger has returned to Massachusetts after 20 years in southwest Florida. She is enjoying retirement at New Horizons at Marlborough and looking forward to the next reunion in Lowell.

1968

Bill Moloney '68, '74 is closing in on 50 years as a professor in the Miner School of Computer and Information Sciences at UML.

1970

Kathleen (Pigeon) Clark of St. Albans, Maine, is semiretired from her chiropractic practice. She continues to see patients one day each week from her home office. She writes, "Gardening, church, reading, needlework—keep me busy and happy."

1973

Stuart Young of San Antonio, Texas, reports that he recently returned to Boston for the Heritage League, 2nd Air Division reunion honoring World War II 2nd Air Division veterans. He also attended the 15th Air Force Bomb Groups reunion in Wichita, Kansas, which honored WWII 15th Air Force veterans. [1]

1974

UML baseball Hall of Famer **John Murphy** traveled the campaign trail with Georgia Gov. Brian Kemp during the midterm election cycle last fall. Murphy makes his home in Peachtree City, Georgia.



1975

Marlene (Sharon) Buckley has owned University Music in Lowell since 1980.

1976

Joe Edward Smith shares his life journey in his new book, "The Life & Story of One-Eyed Joe Ed Smith: An Autobiography." Smith's book talks about his church, his life in the U.S. Army and his career.

1977

Kevin Driscoll received a Framingham Cultural Council grant for his Paul Revere & Friends interactive library performance at the Framingham McAuliffe Library in 2022, as well as a second grant in 2023.

1978

Terry Dostie ended 46 years of officiating high school basketball. He also officiated volleyball, baseball and college softball. He is currently the rules interpreter for high school baseball for New Hampshire.

1979

Physics Prof. Emeritus **Bob Giles '79** and **Gordon Halm '12** are leading a partnership with the University of Education, Winneba, in Ghana, to bring science and engineering students to the country to work on global energy challenges. They recently visited the campus to plant an umbrella tree to signify the partnership. Halm is director of the African Community Center of Lowell. [2]



1. STUART YOUNG '73
 2. BOB GILES '79 (center) AND GORDON HALM '12 (far left)
 3. MARISOL NOBREGA '98, '19
 4. ELENA MCANESPIE '02

Continued from page 44

1980

Douglas E. Williams was appointed head of research and development at Sana Biotechnology Inc., a company focused on creating engineered cells as medicines for patients. Williams has more than three decades of experience leading research and development organizations and companies, including at Biogen, ZymoGenetics, Seattle Genetics, Amgen and Immunex. Most recently, he was CEO of Codiak BioSciences.

1986

Phillip Kumin was appointed senior vice president of worldwide sales and business development at Morse Micro, a fast-growing fabless semiconductor company focused on Internet of Things connectivity. Previously, Kumin served as senior vice president of global sales and sales operations for Synaptics and was also the founder and managing partner of Paragon Technical.

1988

Joe Berry was appointed vice president of magnetic solutions at Bel Fuse Inc., a leading global manufacturer of products that power, protect and connect electronic circuits.

Richard Burrows '88, '96, police chief for the town of Acton, Massachusetts, is retiring after 36 years in law enforcement.

Christine O'Connor was named the new town counsel for the town of North Andover, Massachusetts. She was formerly the city solicitor for the City of Lowell.

1989

Robert Ward '89, '04 was appointed by Mayor James Fiorentini of Haverhill, Massachusetts, as director of the city's Department of Public Works.

> CLOSE-UP CLASS OF 1995

ALUMNAE LEADERS PAY IT FORWARD

As part of the university's Women's Leadership Conference in June, Boston Police Superintendent Nora Baston '95, '00 and NASA principal investigator Evana Gizzi '13, '14 joined forces for a talk on navigating gender politics at work.

"We had to fight so much harder for our positions," said Gizzi, who recalled instances of men downplaying her skills and taking credit for her work.

Baston said that while navigating gender politics is like playing chess, it's important to hold onto your core values. "If you meet anyone who knows me, they're going to say, 'She's never changed,'" she said.

Gizzi and Baston agreed that it's important to surround yourself with strong women who empower you, like Chancellor Chen. "Julie Chen has been so good to me," Gizzi says. "As a young female, I look up to her so much."

Baston was also on campus earlier in the spring for a panel of alumnae in criminal justice, joined by Judge Kerry Ahern '91, first justice of the Essex County Juvenile Court; Carole Cafferty '92, UMass Lowell adjunct professor and co-director of the Education Justice Institute at MIT; and Dianne Fasano '90, '91, first deputy commissioner with the Massachusetts Probation Service.

After nearly three decades, Baston says her policing journey isn't done. She hopes to become Boston's police commissioner to fully implement the changes she would like to see.

"Even if I never get to be commissioner ... no matter what job I hold, I know that I can impact the lives of so many and of the next generation, so they can continue to impact lives," she says.

Nora Baston '95, '00 and Chancellor Julie Chen at the UML Women's Leadership Conference; Nora Baston and Evana Gizzi '13, '14 spoke at the UML Women's Leadership Conference (inset).



Kevin Goddu '89, '93 was accepted into the American Board of Sport Psychology board certification program.

1990

Jim Spinney will retire as the Chelmsford, Massachusetts, chief of police after nearly 33 years in law enforcement, including almost 30 years in Chelmsford.

1991

Joe Regan was recently named chief financial officer at MutualOne Bank in Framingham, Massachusetts. Before joining MutualOne, Regan worked at Boston Private Bank, a subsidiary of Boston Private Financial Holdings, where he most recently served as principal accounting officer. He was previously treasurer and bank segment CFO at the same company.

Cheryl Santos Sayer '91, '08, '09 was appointed vice president of engineering at Xaloy, a leading manufacturer of plasticizing components for injection and extrusion machinery for the global polymer processing industry. Sayer has over two decades of experience in the plastics industry.

1992

Lisa (Morris) Dana '92, '01 announced her retirement after 34 years in pre-K-12 education, with 18 years as superintendent.



Lisa (Ellis) Glass was appointed regional sales director of the Atlantic Coast team for WALTER Surface Technologies.

Robert LaBossiere was named the new public works director for the town of Winchester, Massachusetts.

1993

Joseph Buckley has been named director of the Department of Public Works for Amesbury, Massachusetts.

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> CLOSE-UP CLASS OF 1976 IN BRIEF

Accounting alumna Darlene Steffen '76 had been so busy with her family and career—32 years at John Deere before starting her own financial advising firm—that she'd fallen out of touch with her alma mater. That all changed when she attended her 40-year UML reunion in 2016. Read her story (and learn why she's receiving a University Alumni Award this fall) at uml.edu/magazine.



> CLOSE-UP CLASS OF 1973 IN BRIEF

Ted Dudziak '73, '76 got his start as an engineer while an undergraduate working for the campus radio station, WLTI. After earning a bachelor's degree in electrical engineering, he worked at companies in Massachusetts, Indiana and California. Dudziak, who holds 16 patents, was back on campus this year to celebrate his 50th reunion. He even put on the full regalia to lead the Class of 2023 into the Tsongas Center for Commencement. Why does he stay so connected to UML? Read the whole story at uml.edu/magazine.

> CLOSE-UP CLASS OF 1977

BY KATHARINE WEBSTER

Getting Smart About Storms

Brian Rist '77, '22, '22 (H) moved to Florida as soon as he finished his classes at UMass Lowell in December 1977. That move was all about the weather—and a girl he had just started dating.

“The day before my last exam, we had an awful snow-storm,” he says. “I had a Volkswagen Bug, and I could barely see the roof. I had to dig it out, and I thought, ‘I never want to do that again.’”

So when his girlfriend, Kim, suggested he move to Florida, where she was from, he quickly agreed. “That ‘girl’ is still my wife,” he says. He and Kim Rist '22 (H) lived together at her parents’ house in South Florida at first, and later he got involved in the family business: installing garage doors.

But in 1992, Rist experienced the downside of Florida weather when Hurricane Andrew made landfall as a Category 5 storm, flattening entire towns and causing 65 deaths. Viewing the destruction, Rist had a brainstorm: Garage doors are the largest and weakest barrier against high winds in most homes, so finding a way to protect them would limit hurricane damage.

Over the next decade, he evolved that idea into Storm Smart Industries, which makes screens, shutters and panels that protect windows and doors against hurricanes.

Since Andrew, Rist has lived through four more big hurricanes, including three in the last six years. Each one has increased Storm Smart’s business. The Rists have been generous with their fortune, endowing UMass Lowell’s Rist Institute for Sustainability and Energy and the Rist DifferenceMaker Institute, as well as the deanship of the Manning School of Business.

Rist, who sold Storm Smart two years ago, is now working with an engineer on designing products that will protect homes from flooding. Meanwhile, Florida’s building codes, under pressure from the insurance industry, have become more stringent.

But ultimately, Rist says, the construction industry, researchers and entrepreneurs need to figure out how to build and retrofit housing so that it’s not only resistant to weather extremes—from hurricanes in the South to blizzards in the North, tornadoes in the Midwest and wildfires out West—but energy-efficient and affordable.

“It takes work, it takes money, but we have to do it. You don’t want just the elite to have energy-efficient, resilient homes,” he says. “We have to get a lot of people teaching, thinking and learning about ways to make our built environment more sustainable.” **UML**

HURRICANE LESSONS



Recently, we asked Rist what he’d learned from each hurricane:

Andrew, 1992: “I spent 18 months in South Florida repairing homes and studying why those buildings failed. All of our products came out of things I learned from Andrew. We thought, ‘If you can make something that will stop a two-by-four, you stop a lot of the damage.’”

Charley, 2004: “It was the first time a hurricane hit Florida when we were testing new products, and we learned we were on the right track. Our business took off.”

Irma, 2017: “Irma was the first storm I experienced where water was such a tragic problem. Some areas got as much as 21 inches of rain. There was a storm surge, and lots of areas got flooded.”

Michael, 2018: “Michael hit an area of the panhandle where a lot of people didn’t live in great houses. There were a lot of older houses on cinderblocks and slabs, and they were just flattened.”

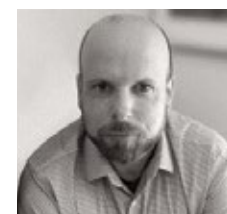
Ian, 2022: “That was the most devastating storm I’ve witnessed. Ian was a very slow-moving storm, and like with Irma, the big problem was water. We had all the latest (Storm Smart wind protection) products on our home, but the water kept rising and rising. It came within a foot-and-a-half of our door. Boats were coming up over the sea wall and through our yard and smashing into the canal. And we weren’t even on the coast.”



Continued from page 47

1997

Young Bae has been elected to the Semiconductor Climate Consortium (SCC) Governing Council. The SCC is a newly formed group that emerged from the SEMI Sustainability Initiative and is the first global, ecosystem-wide effort to advance the semiconductor industry’s response to the challenge of climate change. Council members will guide the SCC in achieving its mission to reduce greenhouse gas emissions across the global semiconductor value chain. Bae is global business director for advanced cleans technologies at DuPont Electronics & Industrial.



Gregory Hart is the new president of PSMJ Resources Inc., the world’s leading authority on the effective management of architecture, engineering and construction firms.

1998

In July, **Marisol Nobrega '98, '19** became the first Hispanic officer—and third female—promoted to the rank of captain in the Lowell Police Department. A 25-year veteran with the department, Nobrega was also the first female staff instructor for the Lowell Police Academy, the first female defensive tactics instructor and the first female firearms instructor. She earned both bachelor’s and master’s degrees in criminal justice at UML. **[3]**

2001

Ross Alan Hahn recently published a book, “The Adventures of Angel,” which was written as a gift to the daughter he never had. It is a story about the importance of friendship, self-confidence and bravery. Hahn lives in Gloucester, Massachusetts, and is a performing guitarist, composer, music instructor and author.

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> CLOSE-UP CLASS OF 1981 **IN BRIEF**

Target-tracking algorithms for nuclear submarines. Disease outbreak monitoring. A system to detect when fog would burn off at San Francisco International Airport. For the recently retired **Russell Todd '81, '83**, those are just a few of the highlights of a remarkable 40-year career. Read the whole story at uml.edu/magazine.



> CLOSE-UP CLASS OF 1982 **IN BRIEF**

Back in his student days, **Ed Priest '82** entertained crowds at the Rathskeller, the campus pub located in Fox Hall. More recently, he joined a mariachi band in Mexico. How did he get from there to here (with a long career teaching Spanish and French in between)? Read all about it at uml.edu/magazine.

GROWING PAINS

How Alumni Farmers, Winemakers Deal with Unpredictable Weather

BY ED BRENNEN

“If you don’t like the weather in New England now, just wait a few minutes.” Mark Twain is widely credited for the old quip that’s as true today as it was in Samuel Clemens’ time.

UML alumni who make their living tending to local farms and vineyards understand the fickle nature of New England weather better than anyone. From droughts to nor’easters, they’ve seen it all. Here’s what a few of them had to say about contending with our ever-changing elements.

Grapes have a notoriously delicate temperament, which makes growing them for wine production such a challenging blend of science and art. That’s particularly true in New England, according to **Eric Preusse ’83**, founder of Broken Creek Vineyard and Winery in Shrewsbury, Massachusetts.

“You have to deal with either rain, extreme cold or humidity—all the stuff that grapes don’t like,” says Preusse, an electrical engineering alum who started Broken Creek with his wife, Peggy, in 2011. They recently sold the business, but Preusse will be staying on for a year to get the new owners up to speed on viticulture and winemaking.

A native of Westborough, Massachusetts, Preusse says recent summers have been particularly extreme.

“There’s an old expression in the wine industry: Grapes don’t like wet feet,” he says. “When you get a lot of rain, like we did in 2021, you have to deal with all kinds of mold and fungi that attack the grapes and the leaves.”

Conversely, the hot and dry 2022 had Preusse wishing that he had invested in an irrigation system for the 40-acre vineyard.

Even during the winter, when grape vines are dormant, things can get bad. “I lost some vines because of the cold,” Preusse says. “There was no snowpack to insulate the grapevines, so they suffered.”



In Lancaster, Massachusetts, a nonprofit called World Farmers runs a 60-acre plot where more than 350 immigrants and refugees from 30 countries grow ethnic crops to sell in markets. Set in the Bolton Flats, a flood plain along the Nashua River, the farm has always been susceptible to rising waters.

But Executive Director **Henrietta Isaboke ’11** has never seen anything like the summer of 2021, one of the rainiest on record in Massachusetts.

“We were flooded out completely. The water was waist-high in some areas,” says Isaboke, a Kenyan immigrant and criminal justice alumna. “A lot of our farmers lost nearly all of their production and ended up planting multiple times.”

Isaboke says it has become tougher to predict the growing season in recent years. The rain-soaked summer of 2021, for instance, was followed up by drought in 2022, the sixth-warmest year on record in Massachusetts.

“When we started, we knew the season begins in June and ends in November. But the last six or seven years, it’s been very unpredictable,” Isaboke says.

World Farmers recently expanded to the Central Massachusetts towns of Templeton and Sutton, which are less susceptible to flooding. And to deal with drought, the organization also helps its members purchase irrigation equipment with funding from the state’s Food Security Infrastructure Grant and from Natural Resources Conservation Services’ Environmental Quality Incentives Program.

“This year, we are in limbo,” she says. “There was not as much snow over the winter as we would like, so we don’t know what to expect. We’re just leaving all production up to Mother Nature.”

During the long, hot summer of 2022, psychology alumna **Emily Makrez ’07, ’09** says, she watered her garden beds at F-Word Farm in Dracut, Massachusetts, a grand total of two times.

That’s because when she started the farm behind her home in 2018, she did “sheet mulching,” a process of laying scrap cardboard on the existing soil and covering it with wood chips and compost.

“The cardboard and all the mycorrhizae that live underground, basically mushroom roots, they go get nutrients and water for the plants,” explains Makrez, who learned about sheet mulching while earning a master’s degree in dietetics and clinical nutritional science from Bastyr University in Kenmore, Washington. “If you’re working with Mother Nature, that’s a way to work around climate change.”

At F-Word Farm, where the “F” stands for farming, foraging and fermenting, Makrez grows 40 types of peppers, 30 varieties of tomatoes and “all kinds of other stuff”—beans, bok choy, garlic, bronze fennel, shallots, summer squash, potatoes, asparagus, cucumbers, rhubarb, Chinese cabbage, zucchini and even loofah sponge. There are also plum, pear, peach, nectarine and cherry trees, along with around 30 chickens.

“The fact that I have such a diversity of plants here is helpful for me,” she says. “I’ve learned to appreciate what you do have going well.”

Makrez says this spring’s roller-coaster temperatures were “very tricky,” with a 93-degree day followed by a night below 50 degrees, which is “really bad” for tomatoes and peppers.

“The plants are like, ‘What the heck is going on?’” she says. “You just have to work with the weather and do as much as you can to prepare yourself for it. What works for me is just keeping it as natural as possible, because nature is always going to be smarter than we are.”



Horne Family Farms sits on a half-acre plot in Londonderry, New Hampshire, which founder **Christopher Horne ’14** says is just the right size for dealing with unpredictable weather.

“I’m a true believer in small-scale or micro farms, where you can adapt and change things up within a moment’s notice,” says Horne, an economics alum. “I can even hand-water in times of drought.”

The Lowell native, who uses all organic practices, has learned that less is more when it comes to his crop variety, too.

“The first two or three years, I was very ambitious and excited when the seed catalogs came out. But I’ve been reducing the amount of crops every year,” says Horne, who is down to about 25 crops.

One of his biggest crops is lettuce mix, which he sells to local restaurants such as The Old Court and The Keep in Lowell. Horne sticks to heat-tolerant lettuce, astro arugula and mustard greens to withstand drought. He is also investing in shade cloth to protect more vulnerable crops like spinach.

Horne discovered an interest in agriculture as a volunteer with Mill City Grows during his junior year at UML. When he started his farm, he would sit down in February and map out a plan for the entire summer for planting, growing and harvesting.

“I learned early on that that’s just not sustainable. You have to switch things up because of the weather or pests, so I was never able to stick to the plan,” says Horne.





> CLOSE-UP CLASS OF 1982

BY JILL GAMBON

A CEO WHO WEATHERS CHANGE

With weather-related disasters on the rise, the need for tools to help first responders is greater than ever, says Richard Danforth '81, CEO of Genasys Inc.

The San Diego-based company provides communication platforms to local governments, businesses, sports stadiums, entertainment venues and other entities to keep people safe during natural disasters and other emergencies.

In Northern California last winter, several counties used the Genasys system to notify residents about flooding caused by atmospheric rivers that hammered the region with intense winds and heavy rain. Using Genasys' graphical user interface, public safety officials were able to access maps and other information and alert residents in real time about evacuation routes, hazardous conditions that in some areas were exacerbated by the previous wildfires, and other critical information. The availability of data and instantaneous messaging via Genasys' platform speeds up response time, Danforth says.

"What took hours now takes minutes. And that saves lives," he says. "That's the mission, to get people out of harm's way."

When Danforth took the helm in 2016, the company, then known as LRAD (for long range acoustic devices), had \$16 million in annual revenue. Two years later, the company acquired Genasys, a 16-person software firm based in Madrid, Spain, that had developed advanced location-based mass messaging solutions for emergency warning systems and workforce management.

"It was a sophisticated system for a small company to have," says Danforth, who earned a degree in industrial technology from the Francis College of Engineering.

After that acquisition, the company developed a cloud-based emergency management and communications option, which is now in use in dozens of counties and municipalities around the country as well as at large enterprise accounts around the world.

The platform, which includes modeling capabilities, allows users to send critical communications through text, voice, email and other channels. Clients range from Aramco, the largest producer of oil and gas in the world, to the Boston Red Sox (for use at Fenway Park). Revenue for the company reached \$54 million last year.

"You always have to be changing," says Danforth, who started his career as an engineer with Raytheon's equipment division in 1982. "You can't be a one-trick company. Companies have to continually evolve."

Continued from page 49

2002

Elena McAnespie is the founder and principal of Talk Her Up, a marketing and communications firm that contributes partial profits to the success of women and girls. She recently published "ABCs for Strong Girls: A Coloring Book to Build Confidence, Determination, and Empathy." It is a richly illustrated coloring book designed to boost self-esteem in girls. [4]

2004



Heather Leonard was named the new director of curriculum and instructional technology at Manchester Essex Regional School District in

Massachusetts. Since 2018, she has served as the STEM curriculum coordinator for Reading Public Schools. She has also worked as grant director and title facilitator and as principal of Barrows Elementary School in Reading, Massachusetts.

2005

Jeffrey Belair was named vice president of the board at the Berkshire Museum in Pittsfield, Massachusetts.

John Yaros has been appointed by the Idaho Department of Finance to the position of securities bureau chief. His previous work includes advising fintech companies, conducting investigations for the U.S. Senate Homeland Security and Governmental Affairs Committee, leading the U.S. Treasury Department's Office of Terrorism and Financial Intelligence's Terrorism and Nuclear Proliferation Team, managing cybersecurity audits at the Government Accountability Office and working in the securities industry at Morgan Stanley.

Continued on page 54



8



7



5



6

- 5. MARK DALTON '12
- 6. MATT HANSON '12
- 7. EUNICE ZEIGLER '10, '12
- 8. BRANDON SALIBA '15

> CLOSE-UP CLASS OF 1985

Continued from page 52

2006

James Rather of Saco, Maine, is the new director of strategic initiatives for the Southern Maine Planning and Development Commission. Rather is a planning and public policy leader with more than 15 years of experience in Portland, Maine, and New York City.

2007

Joshua Auriemma has been named vice president of engineering for ClutchBet, a new mobile-first online sportsbook. He was previously head of engineering for Penn Interactive and built the Barstool Sportsbook & Casino app.

2008

Tim Pelletier began his career in digital marketing and recently started his own freelance SEO consulting business.

2010

Eunice Zeigler '10, '12 has been elected to serve as chair of the Methuen, Massachusetts, City Council. She is the first person of color to be elected to Methuen's City Council and the youngest woman to serve as its chair. [7]

2012

Thomas Ayala joined the law firm of Cherry Petersen Albert LLP in Dallas as an associate in the firm's commercial real estate section. [8]



FAA Meteorologist Helps Save Airplane Passenger Lives

Paul Biron '85 graduated with a meteorology degree three months before Delta Flight 191 crashed while trying to land at Dallas Fort Worth International Airport.

The crash, caused by wind shear from a microburst, killed 137 people and injured 25. The disaster would shape Biron's career.

Meteorology jobs were hard to come by in 1985, and Biron, who lived at home in Manchester, New Hampshire, was still searching in 1986 when a private weather forecasting firm offered him a job.

The very next day, Massachusetts Institute of Technology's Lincoln Laboratory called and offered him a job with a higher salary—and the opportunity to work on FAA-funded research into using radar to detect wind shear. He took it.

MIT also hired two of Biron's classmates, Michael Donovan and Robert Hallowell, as well as Joe Cullen '91, as technical research associates.

"We had one of the best meteorology programs in the country," Biron says. "Our manager knew Prof. Frank Colby and was always in contact with him. She said, 'Send your people down; we need them.'"

Together, the UML graduates and MIT scientists developed and tested what became Terminal Doppler Weather Radar. TDWR systems, produced commercially by Raytheon Technologies, now detect microbursts on or near runways at the 45 largest airports in the U.S. when there is significant thunderstorm activity, Biron says. When pilots get a microburst alert, they are trained to abort a landing.

"There has not been a single wind shear crash at any of the airports we've been protecting since our radar was deployed in 1994, so we did our job," Biron says.

He's still doing it. After spending seven years with MIT and moving first to Kansas City and then to Orlando, Florida, to test the prototype radar system, Biron was hired by the FAA to oversee installation and operations for the radar systems.

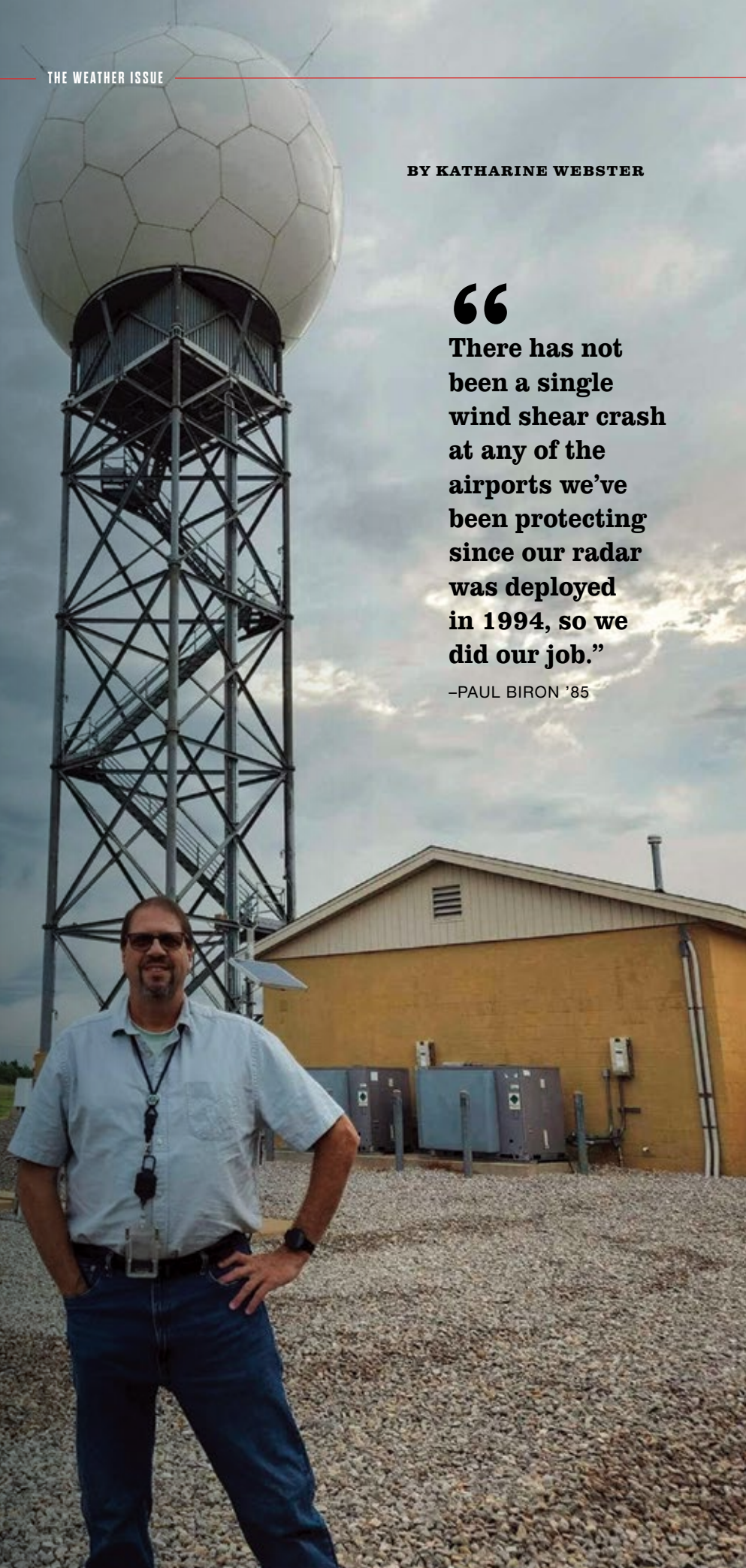
For three decades, Biron has been a senior meteorologist and manager for the National Airspace Engineering Division of the FAA, which is headquartered in Oklahoma City. And he still works with UMass Lowell grads, including Linda (Galusha) Smith '91 and Peter Smith '91 (no relation), both of whom he helped hire.

Whenever possible, he says, "I plucked people who went to UMass Lowell."

BY KATHARINE WEBSTER

“There has not been a single wind shear crash at any of the airports we’ve been protecting since our radar was deployed in 1994, so we did our job.”

—PAUL BIRON '85



Mark Dalton was recently selected as head of the Strategic Planning Office at Naval Undersea Warfare Center Division Newport. Formerly Division Newport's chief strategist, Dalton works with command leadership to help guide strategic communication with the workforce. A resident of Portsmouth, Rhode Island, Dalton has 22 years of combined military and civilian technical experience. [5]

Matt Hanson accepted a job as town manager for Bedford, Massachusetts. He was previously the first town manager in the history of Tyngsboro, Massachusetts, accepting that role after former Gov. Charlie Baker signed a bill before leaving office to create the position. [6]

Mike Knapp joined Matterport Inc. as vice president and head of investor relations. He is responsible for the company's investor relations strategy, with a focus on proactively communicating the company's vision and growth strategy while continuing to build relationships with the investment community.

2013

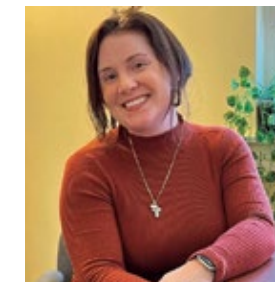
Rosenie Dorce '13, '15 got married on March 19, 2022. She has a private practice as a psychiatric nurse practitioner, which she started in 2018 in Seattle, Washington.

Alycia Barcelou recently finished her term as president of the Fall River Symphony Orchestra and performed at Carnegie Hall in December.

John Sinopoli was elected board director of the Community Bancorp of the Berkshires, MHC, the parent company of Adams Community Bank. Sinopoli is president and CEO of Synagex, an IT-managed services and cybersecurity company.

2014

Mallory (Stamp) Fuller '14, '16 has been named the new youth services coordinator for the Youth and Family Services branch of the Bedford Department of Health and Human Services in Massachusetts. [9]



Jacob Scott led the development team of the auto industry's first all-digital road noise cancellation system with ADI in partnership with Hyundai. He has relocated to Germany with his wife and two boys, and they recently welcomed a third child. His technology focus is now centered around electrified powertrain and battery management all over Europe.

2015

Lauren Andella-Parsons writes, "Sending thanks and gratitude to UML for giving me the foundational skills to be a physical therapist for medically complex and fragile children."

Brandon Saliba and his wife, Nadezhda Saliba, are the founders of Espoir Boston, a business specializing in eternity roses—roses that are guaranteed to last for at least one year. They mastered the craft of preserving roses during the 2020 quarantine and launched their business soon after. [8]

MacKenzie Mahoney is a staff attorney at The Second Step: Steps to Justice, where she advocates and litigates on behalf of survivors of domestic violence. She was recently selected to be a member of the Boston Bar Association Public Interest Leadership Program Class of 2023, a highly selective group of attorneys identified as future leaders in the commonwealth. She returned to UMass Lowell to give a guest lecture in Prof. Erica Gagne's Systemic Issues class.

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BY ED BRENNEN

HAPPY CAMPERS

How a multi-generational group of UML alumni created the Lowell Youth Leadership Program

“We wanted that college atmosphere for our kids, and UMass Lowell has been a big proponent of what we’re doing.”

—SAM HOR '16

Growing up in the projects of Lowell, Sam Hor '16 found direction in his life through the National Youth Sports Program (NYSP), a federally funded initiative administered by the NCAA that provided underserved kids with six weeks of free summer camp at more than 200 colleges and universities—including UMass Lowell.

“The first day I came to camp, it was different,” says Hor, a Cambodian refugee who was 10 at the time. “They served us breakfast—oatmeal and buttered toast. It sounds normal, but it was a new experience for me. I realized that there is more out there in the world.”

Hor attended the camp at UML every summer until he was old enough to become a counselor, learning how to play tennis and golf, taking classes on nutrition and financial literacy and gaining valuable life skills.

After graduating from Lowell High in 2002, he got a bachelor’s degree in mathematics from UMass Amherst before landing a job as a math teacher back at Lowell High. In 2016, he earned a master’s degree in curriculum and instruction from UML.

Meanwhile, in 2007, the NYSP lost its federal funding and shut down, much to the dismay of Hor and countless others who had benefited from the program.

“The kids need something to get them off the street and get them motivated,” thought Hor, who would occasionally talk with an old friend from the camp, Larry Wilson, about recreating a similar program in Lowell.

Three years ago, they “got serious” and pitched their idea to their former NYSP director, Ed Scollan '76, '80. Scollan, a history and secondary education alum who coached basketball and taught at Westford Academy, had helped former UML Athletic Director Dana Skinner and Prof. Emeritus of Psychology Jon Hellstedt launch the NYSP in Lowell in 1991.

Intrigued by his former campers’ idea, Scollan brought in two more UML alumni, Jim McCusker '78 and his wife, Lisa Ansara '86, '91, an adjunct faculty member in the Psychology Department. Neither had been involved with the NYSP, but McCusker, an accounting alum, had recently sold his financial planning and investment firm and was “looking for

something that gave me purpose besides playing golf.”

That something is the Lowell Youth Leadership Program (LYLP), a volunteer-driven nonprofit that launched last year with a free, two-and-a-half-week summer camp for 100 kids, ages 10-16, at Greater Lowell Technical High School. This summer’s camp expanded to 150 kids over three and a half weeks.

Wilson is president of the LYLP board, and Hor is vice president.

“One of the most satisfying things about the LYLP is to see these people, who met when they were 10-year-old kids, now in their mid-30s and running the program,” Scollan says of Wilson and Hor.

Campers are provided bus transportation each day, as well as breakfast and lunch. While most of the instructors volunteer their time, the camp’s 18 counselors and five lifeguards (for swim lessons in the Olympic-size pool) are paid.

To cover its first year of expenses, the LYLP raised over \$27,000 on GoFundMe, solicited corporate donations and held a fundraiser. McCusker, who manages the finances, has also received several grants—including one from the Independent University Alumni Association to fund the camp’s robotics program.

While the camp is no longer held at UML (Greater Lowell Tech’s pool was a “big factor,” McCusker says), there are still River Hawk ties. UML basketball players teach classes in the gym and four of Ansara’s psychology students worked as counselors this summer.

Ansara, LYLP’s executive director, grew up in Lowell’s Acre neighborhood, where “we had nothing like this; we hung out on the street,” she says.

When the buses started pulling up for the first day of camp last year, her heart was pounding.

“We worked so hard to get this camp put together, not really knowing what we were doing,” she says. “By the end of the first day, the kids didn’t want to leave. It was amazing.”

The LYLP board includes, from left, Lisa Ansara '86, '91 Ed Scollan '76, '80 Sam Hor '16, Jim McCusker '78 and Don Dooley '85, '08.



> CLOSE-UP CLASS OF 1996

BY KATHARINE WEBSTER

Google’s Sylvia Isler Keeps on Keeping on

Mentors opened doors for Sylvia Isler '96 while she was studying computer science at Hampton University and at UMass Lowell. “So many people took a chance on me—and then of course I had to deliver,” she says. “If you crack open a door, I will take that opportunity and run with it.”

Now, Isler mentors others while working as director of engineering for Google’s first and most well-known product: its search engine.

In 2003, she won UML’s Francis Cabot Lowell Young Alumni Award for her accomplishments at companies like MathSoft in Seattle and Kiodes in New York City—and she was just getting started. She went on to work for J.P. Morgan Chase and EMC, as well as smaller startups.

Before joining Google a few years ago, Isler took a job as vice president of engineering at Cityblock Health, a spinoff of Alphabet, Google’s parent company. Cityblock partners with the Centers for Medicare and Medicaid Services and a range of health care agencies to provide integrated and preventive care for people in underserved neighborhoods in New York City, Boston and Charlotte, North Carolina.

The cause was close to Isler’s heart after both of her parents and her sister died: her father of heart failure due to undiagnosed hypertension; her mother after suffering from dementia; and her sister from a combination of mental illness and diabetes.

Isler was proud of her work. But when her wife suffered a serious health crisis three years ago, she reached out to a hiring manager at Google who had been trying to recruit her.

“I needed more stability,” she says. “At Cityblock, engineering, security, QA and IT were all under my purview. At Google, I didn’t have to build any of that: I just had to come in and lead.”

In 2022, Isler was promoted to director of engineering for search infrastructure, and she now leads a team of 50 engineers working with people across the company to rearchitect Google Search.

She also uses her position to offer opportunities to others. She is working on a Google initiative to prepare people from disadvantaged backgrounds for jobs in tech. She also volunteers as a mentor with Sponsors for Educational Opportunity USA, an education nonprofit that aids students who are underrepresented in their chosen fields.

And in 2022, she joined the advisory board for the Kennedy College of Sciences. It’s a tribute to her parents, who were educators who raised her to “keep my eyes on the prize.”

“My parents were very adamant about, ‘Your background can never be a barrier,’” Isler says. “My mom would say, ‘Keep on keeping on. Yes, you’re going to encounter people who don’t want to see you succeed, but you’re going to brush them off.’”



> CLOSE-UP CLASS OF 1996

ADVANCE WOMAN

Political Science Alum Works on White House Staff

In March 2019, Keri Hobbs Sibley '96 got a call from a friend who had worked for former Senator and Vice President Joe Biden. He asked, "What are you doing tomorrow?"

Hobbs Sibley, a former political science major who lives in Fort Mill, South Carolina, with her husband and three children, said her only plan was to go to Target.

"Can you pick Jill up tomorrow at the airport in Charlotte [North Carolina] and drive her to Asheville?" the friend asked. Hobbs Sibley was nonplussed. "Jill who?" she asked. "Jill Biden," he said. Hobbs Sibley didn't hesitate.

She spent the next day accompanying Biden, and on the way back to the airport, Biden said, "Keri, if my husband announces that he's going to run [for president], will you join our team?" Hobbs Sibley recalls. "I said, 'Yes ma'am!'"

When Joe Biden announced his candidacy for the Democratic nomination a couple of weeks later, Hobbs Sibley's life was transformed. She served on the Biden 2020 advance team, ordering staging and lighting for campaign events, working with local partners and the media, and coordinating with the Secret Service.

As an undergraduate, Hobbs Sibley interned for Massachusetts Sen. Dan Lahey, and she worked for him after graduation. Next, she worked in human resources for Citibank, including in London, where she and her husband, Steven Sibley, met.

The couple eventually moved to South Carolina, and Hobbs Sibley stayed home to raise their children. But when she met Jill Biden, she was ready to go back to work.

Since Biden's inauguration, she's worked as a member of the White House Office of Scheduling and Advance for the president and first lady, Vice President Kamala Harris and Second Gentleman Doug Emhoff. She travels both nationally and internationally—often on Air Force One—to destinations including Seoul, Tokyo, Bangkok, Brussels, Berlin and Ghana.

"I'll keep doing this as long as I can," she vows. "It's truly an honor." —KW



> CLOSE-UP CLASS OF 2011 IN BRIEF

After earning a bachelor's degree in Lima, Peru, **Johana Reyes '11** came to UMass Lowell with the help of an Education USA Scholarship. The community social psychology master's program made her feel "unstoppable," she says—so much so that in 2016, she co-founded the nonprofit Alliance for a Sustainable Amazon. Read all about how she's helping preserve biodiversity in nonprotected areas of the rainforest at uml.edu/magazine.



Johana Reyes '11, above center and at right in inset, is helping preserve the Amazon rainforest.

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alumni.uml.edu/monthly23



Continued from page 55

2017

Alexis Day '17, '19, a senior health physicist at Boston Children's Hospital, says she followed in the footsteps of her grandmother **Terry LaFrance '90**. At the age of 47, LaFrance got a master's degree in radiological sciences and protection at UML and went on to become a radiation safety officer at Baystate Medical Center in Springfield, Massachusetts.

2018

Ryan Kane started a new job as a trader for a hedge fund in Houston, Texas.

Liam Gale is the program administrator for the Student Veteran Success Office at MIT, providing services geared for student veterans and their families.

2019

Nazarae Butler has been named new director of athletics and student engagement at Clark State College in Springfield, Ohio.

Aimee Levesque '19, Leah Papageorgiou '22 and Kevin Steere '19, were sworn in as the newest officers of the police force in Dracut. ↗



2020

Christian Burcham joined construction firm Colantonio Inc. as assistant superintendent. Burcham's civil engineering background includes roadway, water and sewer infrastructure work for local municipalities and bridge structural and substructure repairs for MassDOT.

Continued on page 62

> CLOSE-UP CLASS OF 2012

Alum Helps Predict Droughts in Southern Africa

Andrew Hoell '12, a research meteorologist at the National Oceanic and Atmospheric Administration (NOAA), is using observations and computer modeling to help improve forecasts for rainfall and crop production in Southern African countries, including Angola, Zimbabwe, Malawi, Mozambique and Madagascar.

Working with the U.S. Agency for International Development's Famine Early Warning Systems Network, Hoell focuses on the physical processes related to extreme drought conditions in the region, which can lead to reduced agricultural harvest and food insecurity.

"Many parts of Africa are affected by El Niño, which generally leads to below-average precipitation in southern Africa," he says. "That's the forecast for later this year, so we're anticipating below-average precipitation in the next wet season and therefore reduced crop yields as a result."

For his work, in 2019 he was awarded a Presidential Early Career Award for Scientists and Engineers, the highest honor bestowed by the U.S. government on young professionals in the early stages of their research careers.

In addition to the Ph.D. in marine science he earned in 2012, Hoell has three other degrees from UMass Lowell—a bachelor's degree in meteorology (2005), a master's in environmental studies (2007) and a master's in marine science (2010).—EA



From left: Katrina Walther '11, Kerry Weldon '15 and Rex Radloff '09, '11

HARD HAT AREA

Former River Hawks team up on \$381 million Lowell High construction project

BY ED BRENNEN

On the edge of the UMass Lowell campus, across the street from the Tsongas Center, work is halfway complete on the most expensive school construction project in state history: the \$381 million renovation and expansion of Lowell High School.

A trio of UML alumni—Rex Radloff '09, '11, Katrina Walther '11 and Kerry Weldon '15—have their fingerprints all over the six-year endeavor.

Radloff, who earned a bachelor's degree in civil engineering and a master's in geotechnical and geoenvironmental engineering, is overseeing the work as a project executive with Suffolk Construction.

"It was neat coming back to Lowell, my home away from home," says Radloff, a Texas native who now lives in Marblehead, Massachusetts. "And it's good to see fellow River Hawks on the job."

Walther is a superintendent for Suffolk, where she has worked since earning dual degrees in graphic design and psychology. She and Weldon, an operations performance manager for Suffolk, were working together on a project at Boston's Logan Airport when they were offered the chance to join Radloff in Lowell.

"I love that I'm close to home and get to be part of the community. I love Lowell," says Walther, a native of Billerica, Massachusetts.

"When I found out that Rex is a fellow alum, I had to come out here," adds Weldon, a business alum (with concentrations in entrepreneurship and marketing) from New York City.

The trio shares more than a common alma mater—they are all former athletes at UML. Weldon was a starting forward on the men's basketball team, Radloff was a distance runner on the men's track and field team and Walther was captain of the women's club rowing team.

Walther says the lessons she learned in rowing—"being part of a team, being accountable, the idea of controlled chaos"—transferred directly to the field of construction.

Radloff, who manages more than a dozen Suffolk staff members and around 100 construction workers at the site, is using the project as a real-world classroom for current civil engineering students. Last spring, he began teaching a Construction Management course as an adjunct in the Francis College of Engineering.

"Once we were settled in, I realized how much more I could get involved by teaching the course," says Radloff, who led his students on several site visits and integrated elements of his work such as material procurement and subcontractor hiring into the course. For their final project, students provided a cost analysis of the recently completed 36,000-square-foot athletic center, which was the first phase in the four-phase construction project.

"I've been able to use current, real-life examples, not from 30 years ago that may be outdated," Radloff says.

The UML campus has grown substantially since Radloff was a student, with more than 2 million square feet of new construction, acquisitions and renovations. Although he hasn't had a hand in any of that work, he hopes he might have the opportunity in the future.

"It's something I could definitely have a positive impact on," Radloff says while standing in the shadow of what will soon be a new five-story wing of Lowell High. Creating something new that will be appreciated by countless people for decades to come is the best part of his job, he says.

"The reason why folks who drive down the street and look up is the same reason I do: It's fun," he says. "I love seeing the building go up. How can't you?" **UML**

> CLOSE-UP CLASS OF 2015

Meteorology Major Forecasts for Green Energy

Michaela Farese's first job out of college in 2015, as an associate at State Street Advisors, had nothing to do with her major in meteorology. But it gave her a crash course in investing and markets.

That, and her work at the Blue Hill Meteorological Observatory, propelled her into a series of private sector jobs forecasting energy demand, first with Genscape in Boston and then with Cheniere Energy in Houston, Texas.

She is now a senior energy trader for Pattern Energy, a Houston-based company that owns wind farms across the U.S. and Canada. Farese analyzes weather forecasts to figure out the best times to sell Pattern's excess energy and when to buy energy to fulfill its contracts if production falls short.

"I want to do as much as I can to make renewable energy profitable," she says, "because I figure it only sticks around if it's profitable."

The most dramatic weather extremes she deals with are in Texas, she says. Her first days at Pattern coincided with the "big freeze" of February 2021, when much of the state's electric grid went down.

Recently, she transitioned to working remotely from Queensbury, New York, to escape Houston's summer heat and humidity—and in case Houston goes dark again: "It's good for the company to have someone somewhere else who might still have power."—KW



Meteorology majors Michaela Farese '15 and Lena Maria Arango '19, '20 (see page 34) met up in Texas, where they're both employed.

Continued from page 59

Anthony Ciringione joined Pexco Aerospace as vice president of sales and marketing. He has spent more than a decade in the aviation, additive manufacturing and medical device industries.

Jessica (Luby) Willis started an e-commerce business called Life Rootz, an online platform for users to collaborate simultaneously with loved ones to design and create one-of-a-kind photo storybooks of special events like weddings and favorite photographs.



Kelley Saindon has been appointed associate director of nursing and patient care services in the White River Junction Veterans Affairs Healthcare System. She has worked in

nursing informatics, geriatrics and hospice and palliative care.

2021

Jason Riley, the Northeast division manager for Maine Drilling & Blasting in Auburn, New Hampshire, has been elected president of the New Hampshire Good Roads Association.

Amber Lafond writes, "I am proud to say I first started my career path working as a counselor at Souza-Baranowski Correctional Center. I then decided I wanted to work with the incarcerated individuals being released into the community. I am now employed with a brand-new forensic PACT outreach program in Lowell and Lawrence. It is rewarding to be able to help individuals involved in the system and help them to live a stable and good life."

Stephen Pett recently graduated with a master's degree in literature from the University of Edinburgh in Scotland and is now pursuing a doctorate in English literature there.

THE WEATHER ISSUE

> CLOSE-UP CLASS OF 2013 AND 2014

BY BROOKE COUPAL

Massachusetts' Go-To Meteorologist

Imagine that a blizzard approaching Massachusetts is expected to dump two feet of snow. As a precaution, the governor has declared a state of emergency and urges everyone to stay off the roads.

The expertise of atmospheric science alum Michael Souza '13, '14 plays a significant role in helping the governor make that decision.

Souza joined the Massachusetts Emergency Management Agency (MEMA) in January 2022 as the agency's meteorologist. In this position, he forecasts major

weather events for MEMA and its partners so they can make informed decisions about the weather's potential impacts.

"I'm looking for more hazardous weather situations that could pose a threat to different entities and citizens of Massachusetts," he says.

Souza also analyzes data on snowstorms, hurricanes and other major events to help broaden the situational awareness of emergency managers.

"I'm the go-to person in the agency for anything that has to do with meteorology," he says.



Left: Gov. Maura Healey shakes hands with MEMA meteorologist Michael Souza '13, '14 (also shown above, right) while senior Madison Young, center, looks on at the MEMA headquarters in Framingham.

Alumni in Good (Weather) Company

BY ED BRENNEN

Early on a Sunday morning in mid-July, eastern Massachusetts residents were startled by a tornado warning from the National Weather Service. While people took cover in basements for a disaster that thankfully never materialized, employees at IBM's The Weather Company (TWC) in Andover, Massachusetts, sprang into action, providing critical information to local TV weather teams, as well as online and mobile platforms.

"Any time there's severe weather events coming in, there's a buzz in the office and on the Slack channels," says

Jillian Byra '15, a visual designer at the Andover office. "Everyone is monitoring the dashboard, making sure we're providing good data."

Byra is among nearly two dozen UML alumni working at TWC, which is headquartered near Atlanta and also has offices in Andover, Massachusetts, and New York City. Started as The Weather Channel in 1980 and renamed The

Weather Co. in 2012, it was acquired by IBM in 2016 for a reported \$2 billion. TWC delivers 25 billion forecasts each day to people and businesses around the world.

Read more at uml.edu/magazine.



Ryan Palmer '21, left, and Matt Minichiello '21 run the Paisani food truck.



> CLOSE-UP CLASS OF 2021

Alumni's Italian Food Truck is Off to the Races

Paisani Co-Owners Compete on Food Network Show

BY ED BRENNEN

It's almost noon on a recent Wednesday in downtown Boston, and mechanical engineering alum Matt Minichiello '21 is working briskly on one of the most delicious assembly lines you'll ever see.

As the lunchtime crowd starts to grow outside the window of Paisani, the Italian food truck that he and fellow UMass Lowell alum Ryan Palmer '21 started last year, Minichiello races to keep up with orders for Drunken Parm, Caprese Melanzana and Sloppy Paisani sandwiches.

With the precision of an engineer, he slices open freshly baked rolls, ladling vodka sauce over chicken cutlets and topping crispy eggplant with mozzarella, honey-whipped

ricotta and balsamic glaze.

This summer, the business got a big boost: The pair competed on the latest season of the Food Network's "The Great Food Truck Race." On the show, which was filmed in Los Angeles earlier this year, nine food trucks from across the country took part in weekly challenges for a chance to win a \$50,000 grand prize.

Though Paisani didn't make it to the finals, "it was a great experience—really challenging—and we got to meet a lot of cool people," says Palmer, who earned a business degree with concentrations in marketing and finance.

Paisani, which is a play on the Italian word *paisan*, meaning countryman or friend, opened for business in July

2022. It was chosen for the show after Minichiello and Palmer were contacted by producers.

The food truck entrepreneurs met as first-year students living in Fox Hall. They bonded over a shared love of Italian cooking and were eventually serving up homemade meals to friends in their off-campus apartments. By their junior year, they decided they wanted to start a food business together.

They raised capital and bought a 2011 Freightliner food truck that had been outfitted with a new kitchen. Then came the speed bumps. First, they had to sink almost \$5,000 into a new generator. Then, they had to learn how to navigate the city of Boston's daunting permitting process.

Once the truck was ready to roll, they secured lunchtime spots at food truck parks in Boston: Tuesdays at Rowes Wharf and Wednesdays and Thursdays at Dewey Square, where they serve as many as 200 customers daily. On

Sundays from 11 a.m. to 4 p.m. at the SoWa Open Market in the South End, Palmer says they do "five times" their weekday business. They also visit local breweries and do catering.

Minichiello majored in mechanical engineering because he enjoys designing and building things, but says entrepreneurship is his true calling.

"I always had my own businesses since I was 10 years old—stringing lacrosse sticks or painting people's Xbox controllers," he says. "I have the engineering degree if I ever want to use it, but I don't think I ever would have figured out what I wanted to do without going to UMass Lowell."

Palmer, meanwhile, puts his marketing skills to use by running Paisani's social media channels and website.

"What we have accomplished in less than a year is pretty amazing, but this is just the start," Minichiello says. "I want to start multiple businesses."



> CLOSE-UP CLASS OF 2019

BY ED BRENNEN

'I Can't Believe I Make Cookies for a Living'

Maude Gagnon '19 Fulfill Dreams with Southie Cookie

“The buzz was unintentional. You still have to have a good product that people want.”

—MAUDE GAGNON '19

Tuesday is usually a dough day for Maude Gagnon '19. But a corporate order has come in, and the Southie Cookie founder/owner needs to get five dozen salted chocolate chip, chocolate peanut butter and “Party Animal” cookies baked, individually packaged and delivered to Boston in a matter of hours.

Working in her commercial kitchen space in Stoneham, Massachusetts, the Manning School of Business alumna lines baking sheets with 11 billiard ball-sized gobs of cookie dough. After 10 minutes in the convection oven, they emerge as 5-ounce mountains of confectionery perfection—a tad crispy on the outside and oh-so-gooney on the inside.

“I can't believe it worked out,” Gagnon says while carefully sealing each cookie in a cellophane bag adorned with a Southie Cookie sticker. “I can't believe I make cookies for a living.”

It's been her dream since middle school, when Gagnon started tinkering with cookie

recipes at home in Marlborough, Massachusetts. “It's all self-taught. A lot of trial and error, tweaking different things,” she says.

Originally from Quebec City, Gagnon transferred to UMass Lowell from Framingham State for her junior year and chose a concentration in marketing.

“It seemed to me like a great business school, and I was right,” says Gagnon, who has applied her lessons in not only marketing, but also accounting, project management and supply chain management to her Southie Cookie business.

After graduation, she landed a job as a marketing coordinator for Atrium Innovations, a nutritional supplement company in Sudbury, Massachusetts. But she couldn't stop thinking about cookies. In 2020, she moved to an apartment in South Boston. Unable to find a neighborhood bakery that made the thick, gooey cookies that she prefers, Gagnon decided to make them herself.

She started posting photos of her creations on Instagram, and soon people

Business alumna Maude Gagnon '19 turned her passion for baking thick, gooey cookies into her own full-time business, Southie Cookie.

were DM'ing her, asking if they could buy some. She started taking around eight orders a week, making cookies before work and leaving them on her porch for customers, who paid her through Venmo.

“I was surprised that people would be willing to come to someone's house that they don't even know for cookies,” she says.

When the demand for her cookies outgrew the capacity of her apartment oven, Gagnon created a website and joined Food rEvolution, a commercial kitchen in Stoneham, where she would go twice a week after work and bake until midnight.

Then, this past March, she decided to quit her day job and go all-in on her cookie business. And business is booming.

Gagnon takes online orders for 500 cookies each week, with customers logging on to her website every Sunday at 5 p.m. to reserve “Lemon Blueberry Cheesecakes,” “Cookie Milkshakes” and more. Sometimes they sell out in 10 minutes.

“The buzz was unintentional,” says Gagnon, who gained 2,000 new Instagram followers after a recent story about her in the Boston Globe. “You still have to have a good product that people want.”

At \$4 to \$5 apiece, Southie Cookies are in the same price range as those found at Crumbl, which sells nearly a million cookies a day and was the fourth-fastest growing food chain in the country last year, according to food and beverage analytics company Datassential.

“They taste like they're made by robots,” says Gagnon, who proudly points out that her cookies are “made with these hands, with high-quality, simple ingredients—nothing gross that you can't pronounce.” [UML](#)



> CLOSE-UP CLASS OF 2021

BIG LEAGUE DREW

Epperson Puts Tech Skills to Work with Kansas City Royals

As a player development trainee for Major League Baseball's Kansas City Royals, Manning School of Business alum Drew Epperson '21 uses the latest technology and software to provide player data analytics to the organization's front office.

Epperson says he felt prepared for the two-year internship thanks to his time at UML, where he was student manager of the Division I River Hawks baseball team and a summer intern with the Lowell Spinners, a former Single-A minor league affiliate of the Boston Red Sox.

“The use of technology in baseball has grown tremendously in the last couple of years, and being able to work with it at UML let me hit the ground running with the Royals,” says Epperson, who began using a device called Rapsodo that tracks pitching and hitting movements during his sophomore year. With the Spinners in 2019, he used a system called TrackMan to track pitching. The technologies, and others like them, help improve player mechanics and performance, as well as reduce the risk of injury.

A native of Andover, Massachusetts, Epperson grew up around baseball. His father, Chad, played minor league ball for nine years and now manages the Portland Sea Dogs, the Double-A affiliate of the Red Sox.

While his dad's connections helped him land the Royals internship, Epperson knows he has to make the most of the opportunity if he wants to achieve his goal of a career in Major League Baseball.

“It's definitely a dream come true. I'm lucky to be around something I love to do every day—and with a great organization,” says Epperson, who works with a video-based system called BATS, along with Adobe Premiere Pro editing software, to provide detailed analysis of player performance.

After working at the Royals' spring training camp in Surprise, Arizona, Epperson spent his first summer with their Double-A team in Springdale, Arkansas. This year, he's with the Quad City Bandits, a High-A team in Davenport, Iowa.

“It's cool to travel around and see different parts of the country that I've never been to,” he says. “And some of the relationships I've been able to make—not even baseball-related, but in life in general—have been special.”

For now, he's focused on helping the Royals' minor league players achieve their major league dreams. Doing so will help Epperson follow his father's footsteps in the game.

“He reminds me all the time how proud he is and how special it is,” says Epperson. “My dream is to work in baseball for the rest of my professional life. We'll see. I'm just going to be where my feet are every day and do my thing.” —EB



ON THE ROAD WITH UML

1. From left: Stephen Felde, Casey Harrison '16, Zoë Zankowski, Gianni Falzone '13, '15, Kellie Light '17 and Alex Light '14, '16 spent a Saturday touring and tasting at the Boston Harbor Distillery in Dorchester.

2. Provost and Vice Chancellor for Academic and Student Affairs Joe Hartman (far left) and Vice Chancellor for University Advancement John Feudo (far right) travelled to Dubai and India to meet with alumni and attend PlastIndia 2023. From left: Prasad Joshi '97, Hala Ayoubi '15 and Ana Leite '21.

3. Part of the UMass Lowell contingent at the annual Naples Florida St. Patrick's Day Parade, from left: Jerry Lydon '66, Lorraine Lydon, Carol Pearce, Chris Hoeske, Elaine Vigneau and Rick Hoeske '66.

4. Chancellor Julie Chen visits with alumni and friends in Newport Beach, California. From left: Joe Blonski '78, Sue McKone, Deb Hauser '79, '80, Shuling Raheja '86, Tonita McKone, Natalie Olson '88, Chris Olson '88, Sally Washburn, Chen, Susu Wong and Vice Chancellor for University Advancement John Feudo.

5. California alumni packed a suite at Angels Stadium in Anaheim, California.



6. Lowell State College alumni from the Class of 1973 at the 50th reunion dinner, from left: Karen Schelling Fitzgerald, Linda Kimberlin Kapeckas, Richard Warner, Susan Conlon Smith, Denise Guilbeault Anvidson and Jill Haynes Gidge.

7. Lowell Technological Institute alumni from the Class of 1973 at their 50th reunion dinner, from left: Michael Ward, David Rideout, Wayne Sargent, Tony Caputo, Neil Crimins, Sanford Way, Joseph Zabik, Ronald Plummer, Jeffrey Ghannam, Ted Dudziak and Robert Snyder.

50TH REUNION WEEKEND



8. Joy Tong '14 (H), right, joined Chancellor Julie Chen, center, and student interviewer Khadija Mir '23, left, for a talk hosted by the Joy Tong Women in Business group.

9. Eunicé Zeigler '10, '12 was the featured alumni speaker at the 12th annual Dr. Martin Luther King Jr. Dinner and Awards Celebration. From left: Eunicé Zeigler '10, Fahmina Zaman '14, '16 and Samuel Jacob Zeigler '12.

10. Rowdy welcomes Jon Tapply '77 and Rhonda Tapply to the Kennedy College of Science Hockey Night.

11. Hank Brown '67 helped to organize the annual SIG-O Hockey Night for Sigma Phi Omicron brothers, past and present. From left: Hank Brown '67, John Kennedy '70, '16 (H) and Mike Jarvis '06.



SEEN ON CAMPUS

12. Alumni and friends enjoyed The Sounds of Portugal: An Evening of Fado Music to benefit the Saab Center for Portuguese Studies, student programming and study abroad opportunities and the Portuguese American Archive. From left: Analise Brown '18, Tony Frias, Maria Emilia (Fado musician), Helder Moutinho (Fado musician), Tiago Araujo, consul general of Portugal, Lizette Frias, Lisa Saab '13 (H), Mark Saab '81, '13 (H), Ana Paula Zacarias, Portuguese ambassador to the United Nations, Alberto Gala '84, '95, John Mello '97, Cristiana Bastos, Graca Cordeiro, Carolyn Brooks '01, Carlos deSousa '95 and Frank Sousa.





RIVER HAWK ICE HOCKEY APPRECIATION NIGHTS

2023-2024 Alumni and Friends
Pregame Receptions | Tsongas Center Lowell

Events Calendar

For the latest information on locations and other details, go to alumni.uml.edu.

OCT. 2023

OCT. 4

BOOK READING AND DISCUSSION WITH ANDRE DUBUS III

In person: 6-8 p.m. ET
Live stream: 6:30-7:30 p.m. ET
Sponsored by the Innovation Hub and Alumni Relations Office

OCT. 12

CELEBRATION OF PHILANTHROPY AND UNIVERSITY ALUMNI AWARDS

Thursday, 5:30-9 p.m.

OCT. 20-21

SOUND RECORDING 40TH ANNIVERSARY ALUMNI REUNION

Friday-Saturday

NOVEMBER 2023

NOV. 1

UMASS LOWELL CELEBRATION OF INDUSTRY PARTNERSHIP

Wednesday, 5:30-7:30 p.m.



NOV. 1

VIRTUAL ALUMNI PANEL: How to Build a Professional Network

Wednesday, 10 a.m. ET

NOV. 3-4

ALUMNI HOMECOMING

Friday-Saturday,
www.uml.edu/homecoming

NOV. 3

GOLDEN ALUMNI REUNION

(for graduates of 1973 and prior)
Friday, 11:30 a.m.-4 p.m.

NOV. 4

ALUMNI APPRECIATION HOCKEY NIGHT UML vs. BOSTON COLLEGE

Join us for an "alumni takeover" night at the Tsongas Center!
4 p.m., Alumni Affinity Reunions
6 p.m. Game

JANUARY 2023

JAN. 5-6

ON THE ROAD: Arizona River Hawk Hockey at Desert Hockey Classic
Arizona State University
Tempe, Ariz.

MARCH 2023



MARCH 16

ON THE ROAD: FLORIDA
Saturday
St. Patrick's Day Parade
Naples, Fla.

APRIL 2023

APRIL 6

UML DAY OF SERVICE
Saturday, 9:30 a.m.-1 p.m.

MAY 2023

MAY 7

UMASS LOWELL PLASTICS ALUMNI & FRIENDS RECEPTION & DINNER

During NPE2024:
The Plastics Show
5 p.m., Orlando, Fla.

Each event includes a pre-game reception at the Tsongas Center and seats to the ice hockey game that night.

Manning School of Business Alumni & Friends Night

UML vs. Boston University

Friday, Nov. 10, 2023
6 p.m., Reception / 7:15 p.m., Game

True Blue/Chancellor's Leadership Society (by invite only)

UML vs. Providence College

Friday, Jan. 26, 2024
6 p.m., Reception / 7:15 p.m., Game

Crew Alumni & Friends Appreciation Night

UML vs. Providence College

Friday, Jan. 26, 2024
6:30 p.m. Reception / 7:15 p.m., Game

Zuckerberg College of Health Sciences Alumni & Friends Night

UML vs. Boston College

Friday, Feb. 2, 2024
6 p.m., Reception / 7:15 p.m., Game

Fine Arts, Humanities & Social Sciences/Education Alumni & Friends Night

UML vs. University of Vermont

Friday, Feb. 9, 2024
6 p.m., Reception / 7:15 p.m., Game

Pi Lambda Phi Appreciation Night

UML vs. University of Vermont

Saturday, Feb. 10, 2024
5 p.m., Reception / 6:05 p.m., Game

Sigma Phi Omicron Appreciation Night

UML vs. University of Vermont

Saturday, Feb. 10, 2024
4:30 p.m., Reception / 6:05 p.m., Game

Francis College of Engineering Alumni & Friends Night

UML vs. Northeastern University

Friday, Feb. 16, 2024
5:30 p.m., Reception / 7:15 p.m., Game

Delta Kappa Phi Appreciation Night

UML vs. Providence College

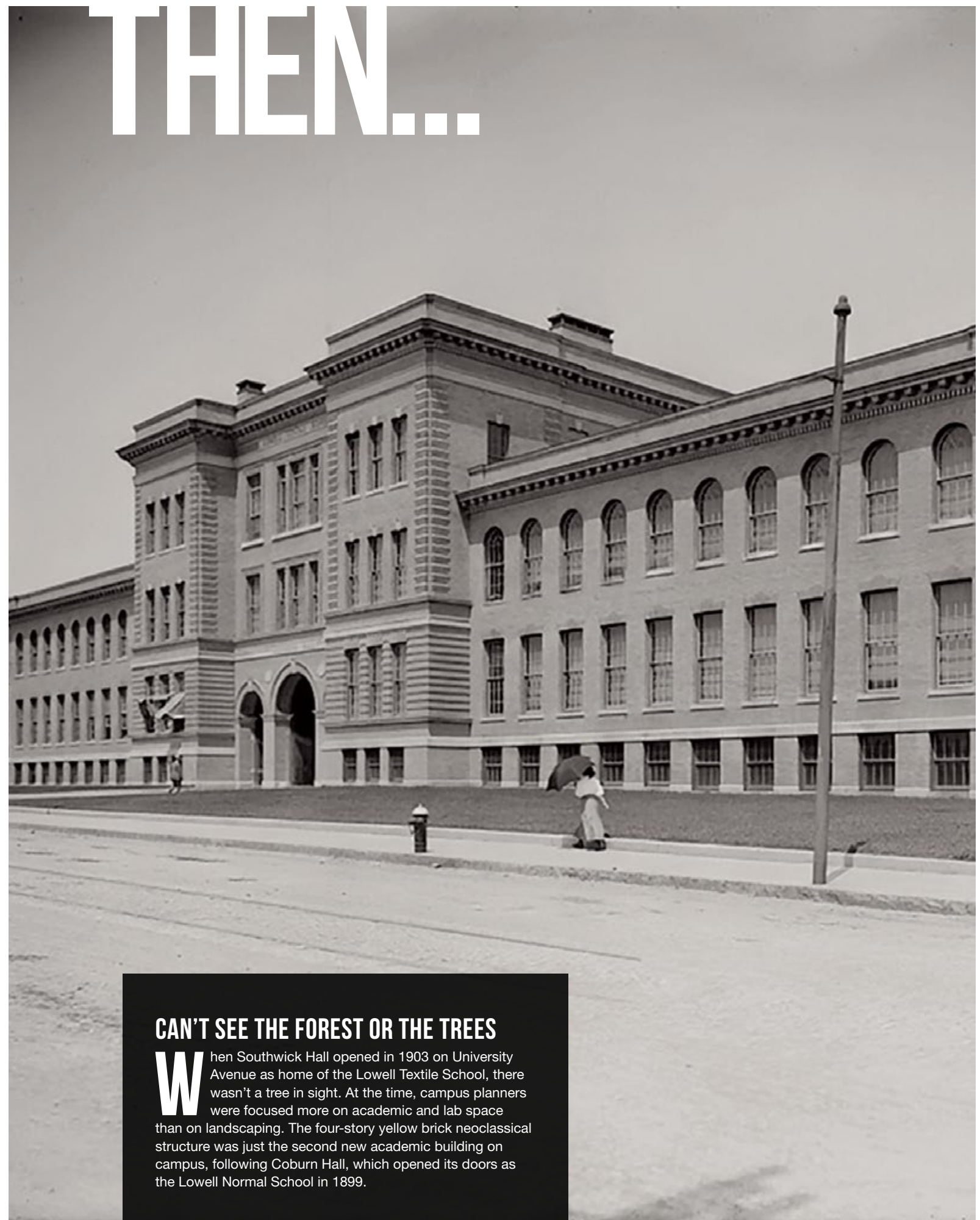
Saturday, February 24, 2024
4:30 p.m., Reception / 6:05 p.m., Game

Kennedy College of Sciences Alumni & Friends Night

UML vs UMass Amherst

Friday, March 1, 2024
6 p.m., Reception / 7:15 p.m., Game

THEN...



CAN'T SEE THE FOREST OR THE TREES

When Southwick Hall opened in 1903 on University Avenue as home of the Lowell Textile School, there wasn't a tree in sight. At the time, campus planners were focused more on academic and lab space than on landscaping. The four-story yellow brick neoclassical structure was just the second new academic building on campus, following Coburn Hall, which opened its doors as the Lowell Normal School in 1899.

NOW...

BRANCHING OUT

With more than 1,300 trees spread across its three campuses, UMass Lowell earned Level II arboretum accreditation this year from ArbNet, an international coalition of arboreta. The certification acknowledges not just the abundance and diversity of plantings, but also the way in which the UML community uses the campus as a living laboratory.

There are more than 140 species of trees and shrubs on campus that are used for research projects, such as examining how certain trees respond to the university environment or how shrubs increase food sources for songbirds.

Trees also impact the weather. This summer, Environmental, Earth and Atmospheric Sciences Asst. Prof. Joy Winbourne began researching how Lowell's urban environment and extreme weather events like heat waves impact the cooling benefits that trees provide by moving water from the ground to the atmosphere.

"As an urban ecologist, I study how trees and soils in the city cycle carbon, water and nutrients, and the implications of that on cities reaching their sustainability goals," Winbourne says. "For my students and me, the UML arboretum acts as a test bed for studying innovative sustainability solutions."





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This year, we've reinvented Homecoming with a celebration that is especially for alumni.

Whether you graduated from UMass Lowell or one of our predecessor institutions, you and your family are invited back for a special Alumni Homecoming this fall! Enjoy reunions, virtual learning opportunities, campus tours and more. Then, flock to the Tsongas Center on Nov. 4 for an alumni "takeover" of the arena to see the River Hawk men's ice hockey team take on Boston College.

uml.edu/homecoming
[#UMLHomecoming](https://twitter.com/UMLHomecoming)