UMASS

The Magazine of the
University of Massachusetts Amherst
Spring 2022

CHASING LANGUAGE

> A QUANTUM LEAP

> AGING EXPERTLY

CONTENTS

VOLUME 26 NO. 2 SPRING 2022

This time of year, butterflies, bees, hummingbirds, and even bats are busy tending to fresh blooms. Several pollinator gardens around the UMass campus are erupting in gorgeous flowers for humans to delight in as well. But the UMass Center for Agriculture, Food, and the Environment reminds us that even in the seemingly lifeless state pictured, pollinator gardens are doing important work—providing sheltered nesting areas and habitats for overwintering. "Gardeners should wait to trim and prune until after pollinator emergence," they advise.

Thinking of incorporating your own pollinator-friendly plantings? Try the common serviceberry, which attracts western tiger swallowtail butterflies, or milkweed for monarchs. For the sphinx moth, also called the "hummingbird moth," plant columbine and honeysuckle. These moths prefer pale or white flowers that open in the evening and blooms that have a strong, sweet smell.

Photo: Lisa Beth Anderson

LONG READS >

SHORT READS >

IN BRIEF >

BITS >

On the cover:
Emily Brewster '99, senior editor and editorial ambassador for Merriam-Webster, on what it's like to document the ever-changing English language (p. 24)
Photo: Lisa Beth Anderson

ONLINE

Buzz through one of several pollinator gardens on campus: umass.edu/magazine/pollinators

Photo: Lisa Beth Anderson

FRI 1:28PM> SOMNEUROLAB, LIFE SCIENCE LABORATORIES

Although students might occasionally doze off while studying in cozy spots around campus, there is one place at UMass devoted specifically to sleep—and the science behind it. The state-of-the-art SomneuroLab allows researchers to closely examine neural processing when we're asleep and how it affects functioning and cognition when we're awake.

The lab is run by Rebecca Spencer, a professor and neuroscientist who has been featured in the Netflix docuseries *Babies* and on an episode of *NOVA* called "Mysteries of Sleep." Doctoral student and lab assistant Eunsol Noh '26PhD (shown here wearing a cap of sensors in the lab) says that Spencer has been greatly supportive as Noh has acclimated to working in the lab. "I was able to learn a lot as a first-year doctoral student," says Noh. In particular, Noh's research examines how aging affects sleep and memory consolidation, and she is looking forward to reporting the findings from her first research project.

> More about the SomneuroLab's sleep research: umass.edu/magazine/sleep

Photo: John Solem

REALITY EXCITES

As surely as the trees around the campus pond burst with blossoms each spring, there's a continual spark of excitement powered by the curiosity and energy that students, faculty, and staff bring to the university. They're capturing, documenting, forecasting, and changing reality—pushing ever forward to meet the challenge of making the future brighter.

Researchers innovate to turn ideas into realities—like creating a whole new avenue for disease treatments (p. 52). Others ask *what might be,* creating possibilities like quantum computing (p. 8) that will powerfully shape our lives in the near future.

Alumni and faculty help us understand the inevitabilities of aging, equipping us with the physical and mental tools to do it healthfully (p. 34). Still others nudge students to take risks and ask questions (p. 20), to look for inspiration across cultural differences (p. 40), and encourage them to expand their shared realities.

Reality can change so quickly we barely have time to process it before it shifts again, revealing a future that we often didn't see coming. In the UMass spirit of intellectual investigation and restless inquiry, a staff photographer takes us behind the scenes as he documents the campus, students, and far-flung community members (p. 14), and alumni lexicographers stay busy keeping up with *what is,* as they observe and define the evolving English language (p. 24).

The UMass community members featured in this issue have given us a new perspective on a future full of change, making our reality feel less scary and more exciting.

Happy reading,
Candice Pinault Novak, Editor
Lori Shine '04MFA,
Managing Editor

P.S. Speaking of innovation and flexibility—the harsh supply chain realities have made our favorite paper unavailable for this issue. We aim to return to our usual look as soon as we can. Meanwhile, we hope this alternative paper stock won't distract from the inspiring stories within these pages.

Officer Gerald Perkins and K-9 Alec
@umpdk9alec A big thank you to Dr. Amy Rubin, CVT Amanda Golembeski and the great students of the Vet and Animal Science Vet Tech program at UMass for letting me participate and be well cared for! Looking forward to this new and GREAT partnership!!! #umassk9

Elizabeth Estrella '17
@dancebyelizabeth Big love to the @umassbellydanceclub for hosting me yesterday to teach workshops and perform in their showcase. You're amazing! I loved spending time with all of you and being back on campus!

Zac Broughton '14, '16MEd
@zjbroughton1 In honor of homecoming week, a huge shoutout to my alma mater for introducing me to my wife, as well as some other amazing people who I wouldn't have met if it wasn't for @umass!

Gayle Stacher '82
@gaylestacher Inspired by a quote from artist, Sean Greene @greenesean #umassmagazine #summer2021. "If you're an artist, your role is to keep zeroing in on what makes you you, what makes this the work that only you can make." . . . Tell me what makes you you?

Meghan Admirand
@andrewjacksonpickenshouse
Went antiquing today and found this sign! My mother (Donna Admirand) and I both went to UMass Boston. This was from the original horse barn at UMass Amherst. I can't wait to hang it up!

UMASS MAGAZINE SPRING 2022
VOLUME 26 • NO. 2

Editor
Candice Pinault Novak

Managing Editor
Lori Shine '04MFA

Staff
Alexis Ali, writing
Dan Fillietaz-Domingues '14, design
Heather Kamins, writing
Sarah Jarman, design
Jason Johnson, web production
KieuLy Nguyen '22, editorial assistance
Emilie Wallace, web production

Contributors
Lisa Beth Anderson, photography
BRIGADE, art direction and design
Elvan Cavaç '21PhD, '24MBA, writing
Annika Hipple, writing
Tom Hoogendyk, web production
Lil Knight '97, '03MEd, copy editing, writing
Su-Yee Lin '12MFA, proofreading
Craig Martin, writing
Barbara Osborne, writing
Lauren Rubenstein, writing
Kristyn Shea '06, art, writing
Naomi Shulman, writing
John Solem, photography
Elizabeth Thurmond, copy editing
Scott Whitney, writing

University of Massachusetts Amherst

Chancellor
Kumble R. Subbaswamy

Vice Chancellor for Advancement
Arwen Staros Duffy

Assistant Vice Chancellor for Alumni Relations & Executive Director, Alumni Association
Deborah Goodhind

UMass Magazine
UMass Amherst Advancement
239 Whitmore Administration Building
181 Presidents Drive
Amherst, MA 01003
magazine@umass.edu
umass.edu/magazine

Address Changes
Records Office
(413) 545-4721
updates@umass.edu

UMass Magazine is published twice per year by the commonwealth's flagship campus, the University of Massachusetts Amherst.

BANDED TOGETHER

Fuzzy, adorable, and thriving on the library roof

> BY ALEXIS ALI

Ten years ago, a camera was placed in the artificial nest box atop the W. E. B. Du Bois Library, and the UMass love affair with our feathery friends, the *Falco peregrinus*, whose name means "wandering falcon," soared to new heights—literally.

The peregrine falcon has a flourishing population today, and they can be seen all around the world. However, that wasn't always the case. In the middle of the last century, peregrines almost went extinct due to pesticides, including DDT, used throughout the United States until they were finally banned in 1972. The chemicals had a detrimental effect on the structure and thickness of falcon eggs, causing many birds to die before hatching. Thanks to conservation efforts in the area—including safe artificial nest boxes such as our own—and strong lobbying against the use of DDT nationwide, falcon numbers have steadily risen. Today, the peregrine falcon is no longer on the endangered species list.

From March through August each year, our nest box hosts a family of peregrine falcons, and the next generation of these fascinating migratory creatures spend their first months of life with us—first as eggs, then hatchlings, and finally fledglings.

The library hosts a live video feed from the "Falcon Cam" and posts updates and photos on Twitter (@DuBoisFalcons) to their 2,500 followers so falcon fans can track their progress. It's thrilling to watch as the eggs begin to hatch, to observe how precisely the falcon parents sit down on top of their chirping chicks to keep them warm, and to see the babies' beaks crack open as they excitedly gulp down their first chunks of food. Still, the fledgling stage may perhaps be when these new falcons are at their cutest. Their fine fluffy baby down gets preened out as their sturdier adolescent feathers come in, compounding their adorable awkwardness. And they hop around the nest box on unsteady legs, spreading their wings and pretending to fly.

This past year, the library also hosted the "FalConference": an all-day virtual event where raptor rehabilitator Tom Ricardi, biologists from MassWildlife, and members of the falcon team shared presentations and offered live Q&A sessions. Over 600 people tuned in. Lauren Weiss, a member of the library's falcon team, says, "It's incredibly rewarding and fun to watch the falcons and engage with the community. We have so many fans on social media, and it's always great to connect with them."

The biggest event of the year takes place during the molting stage and is known as "Banding Day." The adolescent birds offer startled and confused looks that are downright hilarious as researchers gently reach in to grab them, put them in bags (so they don't get as stressed out), and take their measurements. Researchers, including UMass staff and members of the Massachusetts Division of Fisheries and Wildlife, take notes on the birds' development, then place loose aluminum anklets on the fledglings' legs.

What's in a name?

In 2021, the falcon team named fledglings for the first time. After a naming contest, with submissions from the falcon fans of the UMass community, the following names were chosen.

Banding 38/CD: "Kizzy," recognizing the incredible work of @KizzyPhD a.k.a. Kizzmekia Corbett, an immunologist whose research focuses on novel coronaviruses.

Banding 39/CD: "Nut," the ancient Egyptian sky goddess.

Banding 40/CD: "Uma," as in Thurman, who grew up in Amherst.

Banding 86/CB: "Champ," in honor of the men's hockey team's 2021 championship win!

"The color-coded bands placed on the birds' legs track their gender and location of birth so that birders and ornithologists across the country can identify them and report where and when they see them," explains Richard P. Nathhorst '79, UMass research facilities manager.

When the DuBois Library falcons do leave the nest to establish their own territories, tracking information from the bands allows researchers to continue following their journeys. We know from a recent sighting that one UMass falcon has traveled as far as New York City—living their best life outside a penthouse suite.

ONLINE

See the 2021 fledglings get their bands: umass.edu/magazine/falcons

a quantum leap

Cutting-edge computing is poised to change the world

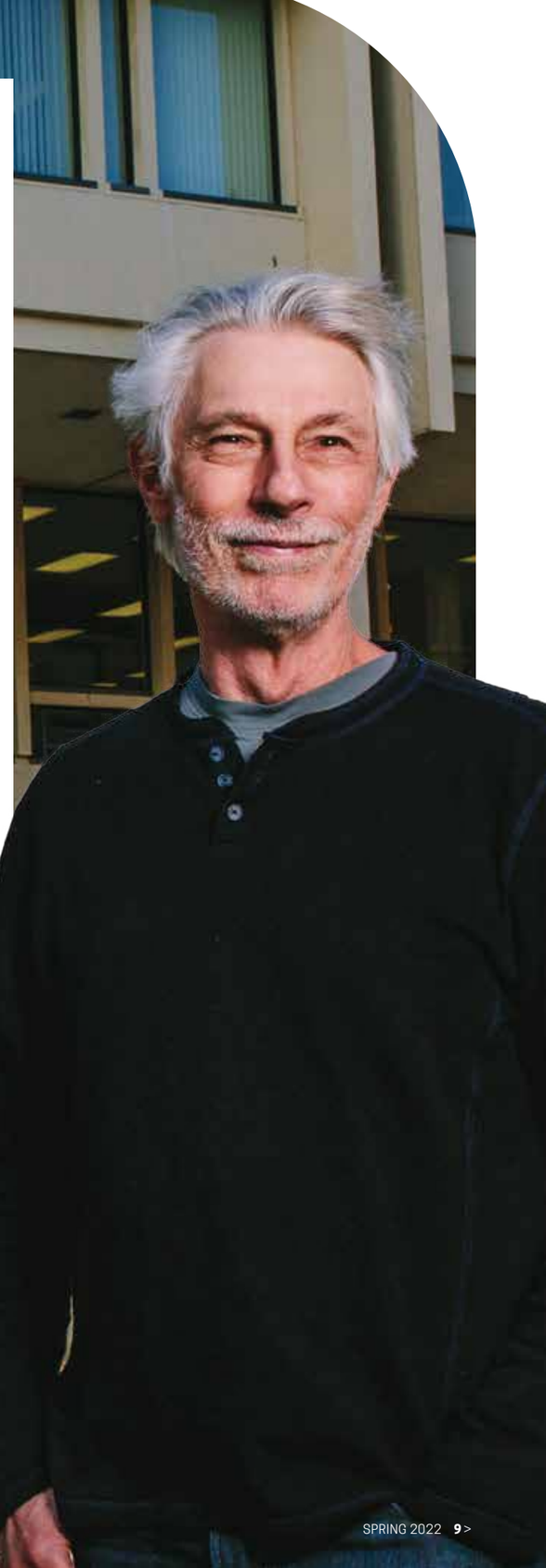
BY SCOTT WHITNEY • PHOTOS BY LISA BETH ANDERSON

Quantum computing might be the most revolutionary technology you don't understand—and rest assured, you are far from alone. Still early in its development, the field of quantum computing remains largely theoretical, and is predicated on laws and properties foreign to most. At the heart of this emerging technology is the qubit, a basic unit of information that subverts the traditional binary system by holding either a 0 or 1 state (or both) at any given time, allowing exponentially higher volumes of data to be processed compared with traditional computers. Got it?

Whether you're a quantum theory expert or not, one thing is certain: quantum computing stands poised to fundamentally change the way we communicate, develop medicine, and solve many of society's most stubborn problems—and we may not have to wait long to find out how. Recent breakthroughs in hardware and processing speeds have brought quantum theory closer to practice, and research centers are opening across the globe, including on the campus of UMass Amherst. But how will quantum computing tangibly impact the world of tomorrow? And how might we expect it to show up in our day-to-day lives? We asked quantum computing experts in the UMass community to share their predictions for this thrilling and nascent technology.

Inventing Internet 2.0

Don Towsley
Distinguished Professor, UMass Manning College of Information and Computer Sciences



As an expert in the field of computer science, Don Towsley has become a critical voice in developing the infrastructure needed to bring quantum computing to a global scale. And like the development of the internet nearly 50 years ago, the first step is to get one quantum computer to talk to another and efficiently share quantum information. That's easier said than done. "One of the challenges faced by quantum computing is that the information is very fragile, so you want to use it as quickly as you can before it falls apart," says Towsley, pictured right, noting a fundamental difference in the properties of traditional data versus quantum data. Currently, organizations like IBM, Google, and Microsoft are developing hardware that stabilizes quantum data, a key step in allowing information to be transferred securely through a worldwide quantum network that Towsley and his colleagues are diligently working to create. "In the next four years or so, I expect a number of test beds will crop up that will allow research groups to actually use quantum to run experiments," he predicts. "And in 10 years or so, quantum should be available to companies and industries looking to solve optimization problems." What sorts of problems does Towsley expect quantum computing to resolve? Astronomical observation, shipping schedules, and even climate change are just a few of the applications he believes have potential. "It's just an incredibly exciting time to be working in this area, and it's really in its infancy, in terms of the possibilities for society at large," says Towsley.

Untangling the world's knottiest supply chains

Tina Anne Sebastian '10MBA
Co-founder, Quacoon

Still waiting for the patio furniture you ordered *last* May? Snarls in the global supply chain may continue for the foreseeable future, but if Tina Anne Sebastian '10MBA has anything to do with it, quantum computing may soon be part of the solution. In the face of a global shipping network fraught with logistical complexities, Sebastian and her company, Quacoon, envision a system made significantly smarter through quantum computing and artificial intelligence. But the first step is to create near complete transparency of the global supply chain, allowing a product's pathway to be tracked from origin to end user—and recording each task along the way. "Let's say that a manufacturer experiences a block somewhere along the line that is holding up raw materials," says Sebastian. "We have quantum algorithms that will tell you where it is in real time and then suggest an alternative. That's more than classical software can handle, and quicker than having a human try to figure out the issue after there's already been a delay."

Sebastian also believes the power of quantum computing can put greater choice in consumers' hands by cataloging and presenting a global network of retailers and manufacturers that would otherwise be hidden. "If a user has a one-time need, we can make a connection to a manufacturer they've never heard of who may have better options at lower cost," she explains. "And we can do so because of the underlying technologies of quantum and artificial intelligence."

The race to break the code

Ana McTaggart '15
Security Engineer, Red Hat

For security engineer Ana McTaggart '15, pictured right, the future of quantum computing has all the hallmarks of an arms race. And just like a physical arms race, it matters who gets to the finish line first, particularly in light of quantum computing's ability to break otherwise airtight data encryption. For example, the cryptosystem RSA is widely used to keep digital data secure, including in mobile banking applications and on many computer hard drives; however, quantum computing could render RSA algorithms deeply vulnerable. "It would take a classical computer, even a supercomputer, hours, days, or longer to break classical encryption, if it's even possible," McTaggart explains. "But a quantum computer could get you in much faster." For this reason, they now consider quantum computing as a future security threat when working with some clients. "Your average user doesn't have access to a quantum computer, but if you're thinking about a governmental adversary, you should be thinking about quantum computing as an emergent risk." Despite potential security threats, McTaggart is excited about the emerging technology's potential benefits—in the right hands, of course. "We've seen hackers shut down pipelines with encryption viruses, and then require Bitcoin ransoms to release them," says McTaggart. "But a quantum computer could break the hacker's encryption, and then you don't have to pay the Bitcoin—which would be huge."

> What do friendly fertilizers have to do with quantum computing? Shirin Montazeri '18PhD explains: umass.edu/magazine/quantum

> **If you're thinking about a governmental adversary, you should be thinking about quantum computing as an emergent risk.**

UMass Amherst quantum center receives critical funding

In the effort to bring quantum computing from theory to world-changing reality, UMass Amherst has officially taken a seat at the table. The university recently announced the creation of a seed fund to support quantum information systems research. The fund was spearheaded by an anonymous $5 million gift to support the development of a quantum network that will allow data to be efficiently and securely shared with researchers and innovators worldwide. To that end, the fund will foster collaboration between the Manning College of Information and Computer Sciences (CICS) and the College of Engineering, two disciplines integral to the development of a secure quantum internet. "A 'quantum internet' will help to solve currently intractable problems, and this gift will help to make that happen," says CICS Distinguished Professor Don Towsley. The fund will support Towsley's work on distributed quantum computing, as well as that of Distinguished Professor Weibo Gong (pictured above). Funding has also been earmarked to hire another quantum experimental faculty member in the future.

Photos: John Solem

NEW NAMES, NEW POSSIBILITIES

Last fall, UMass Amherst received two unprecedented gifts to the College of Nursing and the College of Information and Computer Sciences. Both colleges were promptly renamed in honor of the generous donors—but it is not only the names of the colleges that got a refresh. The gifts, totaling nearly $40 million, will go to providing new, much-needed resources for both students and research professors alike.

In the **Elaine Marieb College of Nursing**, funds will support a new center for engineering and nursing innovation, where students can collaborate and medical devices can be tested. In addition, the college will invest in research initiatives that fortify equity in nursing education and provide scholarships for students in need.

The **Robert and Donna Manning College of Information and Computer Sciences** will use its investment to expand resources available to students and faculty as they learn, research, and innovate. The college will also create new initiatives, programs, and professorships in order to attract students and faculty of the highest caliber, enhance intercollegiate collaboration, and increase access for all students through scholarships, peer-to-peer mentorships, and bridge programs.

Chancellor Kumble R. Subbaswamy says of the donors, "Their visionary leadership provides incomparable opportunities for our students to become the innovators of tomorrow—continuing to fuel our revolutionary spirit and meet the challenges of the day."

More about the Colleges' new initiatives: umass.edu/magazine/renamed

INNOVATION STATION

Mount Ida Campus

The Mount Ida Campus in Newton allows the large portion of UMass Amherst students and alumni living in the Greater Boston area to study and access internships at many of the major companies located there. Now, the campus is expanding its offerings with a new co-working space available for startups and small companies to rent.

The Innovation and Collaboration Space offers 20 individual workspaces, plus a lab area with 26 benches and access to the university's core facilities on the Amherst campus. A 6,000-square-foot collaborative makerspace is planned for the near future. Companies that rent these spaces can then easily provide professional development opportunities like job shadowing and informational interviews to students.

The Massachusetts Small Business Development Center Network (MSBDC), which offers training, funding, and other resources, has signed on as one of the first entities to use the co-working space. Georgianna Parkin, state director of MSBDC, says the new spaces give the network "the opportunity to reach across the state, perhaps to students in western Mass. looking for opportunities in Boston."

Kathryn Ellis, director of the UMass Amherst Innovation Institute, notes that "We now have a variety of different types of companies; there is great potential for expansion."

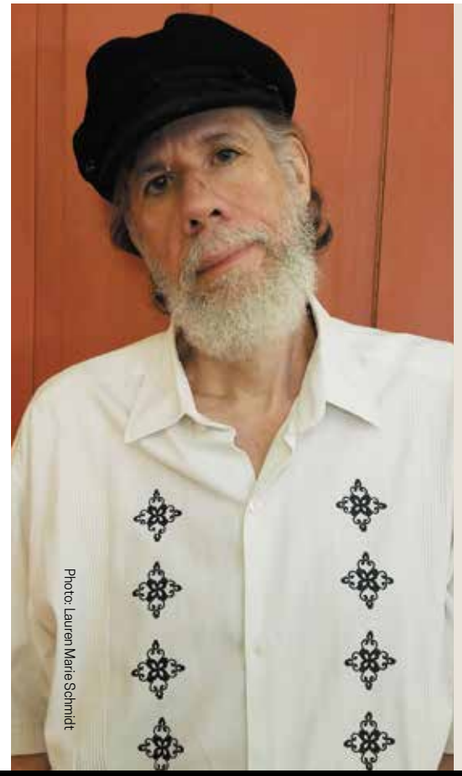


Photo: Lauren Marie Schmidt

HOMAGE TO HUMANITY

Professor Martín Espada wins National Book Award for poetry

"To recognize a book is to recognize the people in the book," says Professor Martín Espada of the Department of English, whose poetry collection *Floaters* was recently recognized with the 2021 National Book Award. "This is a book full of people. People walking through my life. People fighting, struggling, living, dying."

Randall Knoper, associate professor and English department chair, notes that "Espada's poetry gives a powerful voice to people who have been shut up and shut out." Among the figures who populate the book are Óscar and Valeria, a Salvadoran father and daughter who drowned in the Rio Grande. The title poem is a response to a photo of them that went viral.

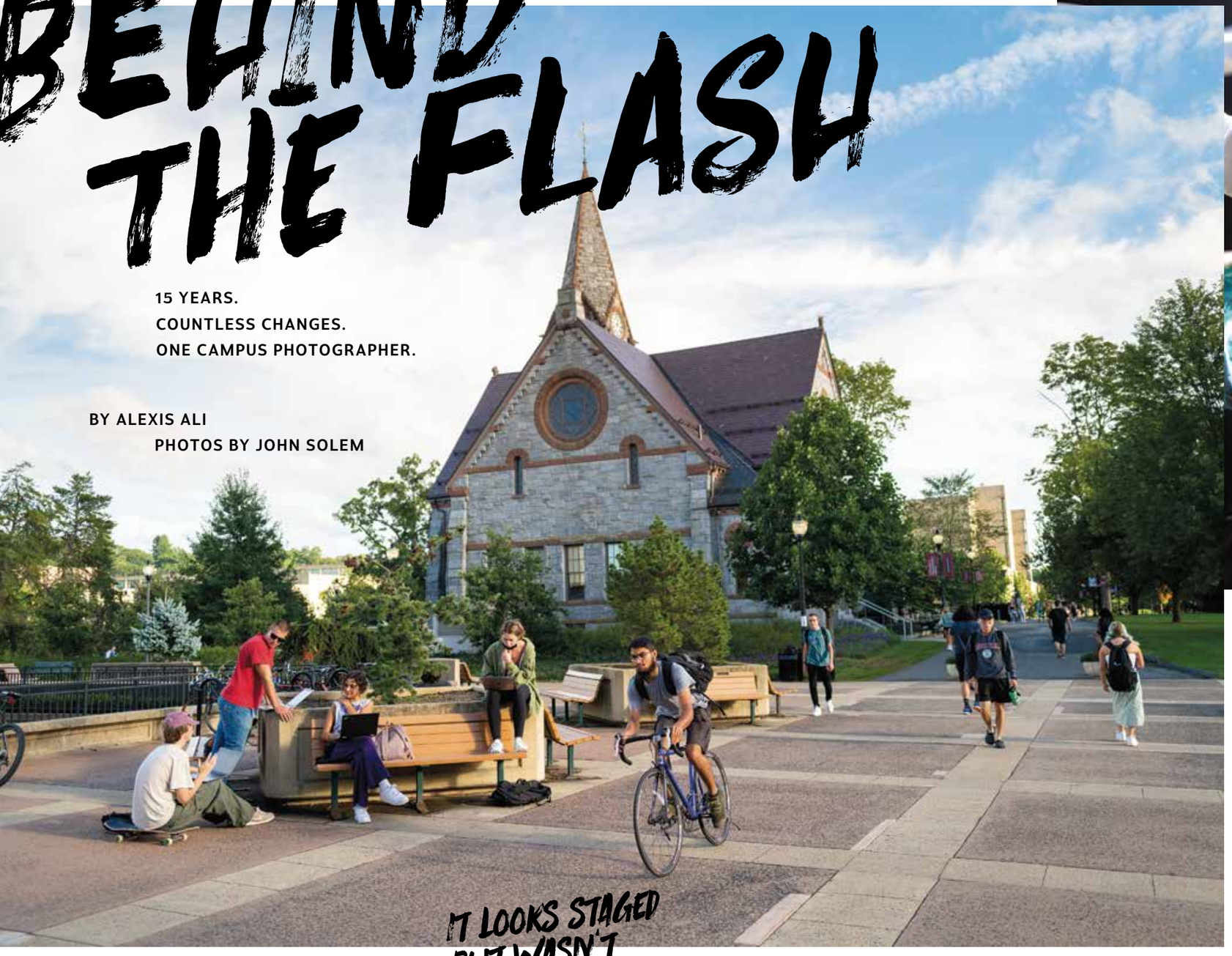
Espada also pays homage to his elders and mentors; his wife, Lauren Marie Schmidt; and the deep influence of his father, Frank Espada, a migrant from Puerto Rico, civil rights activist, and documentary photographer. Espada says, "His photographs hung on the walls of our apartment in the projects in Brooklyn as I was growing up, but then they also hung on the walls of my imagination, and they still do."

> UMass students respond to a reading and discussion with Espada: umass.edu/magazine/espada

BEHIND THE FLASH

15 YEARS.
COUNTLESS CHANGES.
ONE CAMPUS PHOTOGRAPHER.

BY ALEXIS ALI
PHOTOS BY JOHN SOLEM



▲ **2021, Outside W. E. B. Du Bois Library**

Some of my favorite photos have come from moments that were entirely unexpected. I was taking in the busy nature of campus life. I noticed these students sitting on the benches and then I saw the biker coming toward me. With most modern cameras, you're able to take multiple shots in rapid succession, so I used that tool, eager to see what I could preserve from this moment—one that looked staged but wasn't.

▲ **2014, Physical Activity and Health Laboratory**

This was taken under the supervision of [renowned kinesiologist and professor emerita] Dr. Patty Freedson. I had a lot of fun lighting this in a way that made it a little more mysterious than it was—which, if memory serves, was some contraption for monitoring oxygen ...

Unless you frequent campus or have an eye for bylines, you might not recognize the name John Solem. But if you've been on campus at any point over the last 15 years, chances are you've seen him or rather, he's seen you—through his camera lens.

For the past decade and a half, Solem has been UMass Amherst's go-to photographer. Originally starting with this very magazine, his work now extends to capturing a variety of events, people, and places within the many schools and colleges on campus. I caught up with him on a foggy morning beside the W. E. B. Du Bois Library to learn more about what he does, what he's seen, what's changed, and what's stayed the same. →

I SAW AN AWESOME SUITCASE

2016, international student orientation

On this particular day, I saw an awesome suitcase depicting a colorful cartoonish scene of the New York City skyline. The luggage in this vehicle belonged to newly arrived international students who were about to be driven to their new campus housing.

***UMass Magazine:* What is your favorite part of your job?**
John Solem: I have a lot of gratitude. I have access to all these people and they are okay with me being there. There's trust. It's like there's this assumption that I'm not there "to take"—just to observe. And the connections I get to make with people.

What is the biggest change you've seen in your time here?
It's too easy to just say buildings. Though they were necessary, and the science buildings really brought UMass to a different level—attracting good faculty and students. But, from a cultural perspective, I have seen a change in how vocal kids are. So much has been driven by social media, so many more voices calling for change on and off campus through protests and activist groups. It's so inspiring to see, and I am honored to get to capture the changes and chronicle the progress happening at UMass.

What has remained the same?
The students are still awesome. I can't tell you how many times I am driving through campus, and I see students and their energy is so positive. They come here to better themselves, because they have a love of education, and to better their career opportunities. Even through the pandemic, the students that were on campus had this positivity and hope. It was heartwarming to see they were going to keep moving forward despite all the challenges.

What has surprised you the most?
The variety of things I get to work on. I had a hunch when I took this job that there would be some variety, but there was no way I would have known back then how much there is here. I've gotten to attend a presidential inauguration, wade through snapping turtle-infested waters, follow a UMass professor through a swamp in the Everglades, and travel to meet with some prominent UMass donors. There is also variety when it comes to the way I capture things. I need to do a shoot of the Old Chapel every season, so I have to find ways to approach that to make it new each time—and sometimes that means literally approaching it from a new angle with a ladder, from a rooftop, and hopefully someday soon, with a drone.

Is there anything unique about doing shoots for UMass that is different from other places?
So, my job is to show UMass in the best light, which is usually fairly easy. Most of the time the people and the campus look really good. And, of course, as a photographer I am drawn to beauty. But there are some times when you have to consider how to balance capturing the truth and what "looks" best. There is a beauty in that honesty.

THIS WAS ANOTHER SURREAL SCENE

2018, Pedro Ramos '90, Florida

This was another surreal scene. On a trip to the Florida Everglades for *UMass Magazine*, I had no idea what was coming when Pedro Ramos '90 (the subject of the article) started to pull open the heavy sliding doors (I was feeling a little guilty for not helping him, but he was smiling while opening it, so I figured he was okay without my help). Make no mistake, I know what missiles are for, but for me this was such a cinematically beautiful moment. Who knew there were missile silos in the Everglades?

JOHN, WHAT'S YOUR FAVORITE?

Camera: Leica Q2

Type of shoot: Job fairs or poster sessions

Place to shoot on campus: Integrative Learning Center

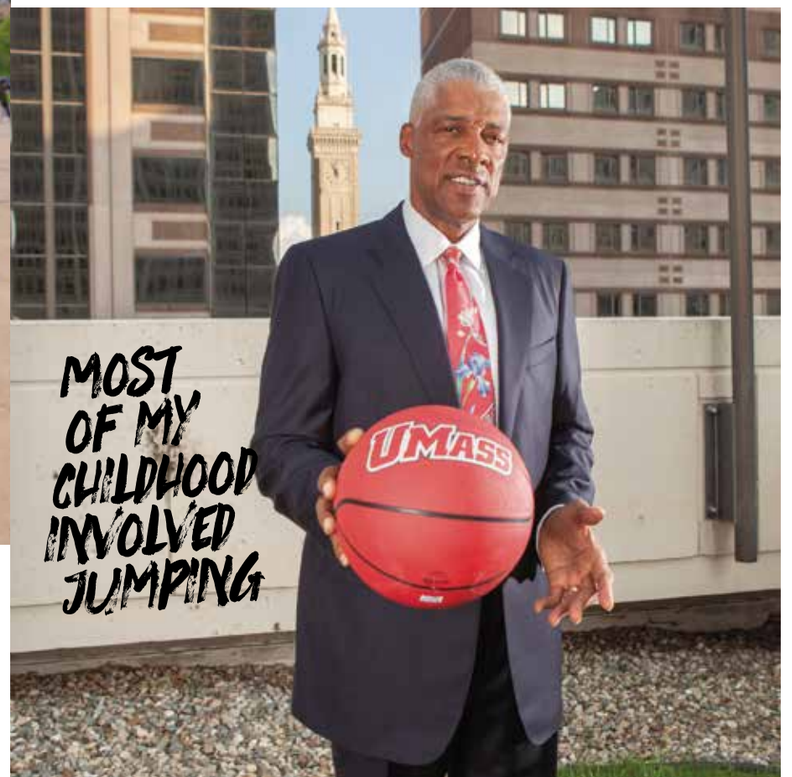
Photography accessory: Wireless flash trigger

2016, Professor Peggi Clouston with Wood Mechanics and Timber Engineering Building and Construction Technology students

I was invited to photograph the instructors and students who participated in and completed the building of a timber grid shell in front of the Fine Arts Center (now the Randolph W. Bromery Center for the Arts). Near the end of this assignment there was a spontaneous celebration tossing Professor Peggi Clouston into the air.

2015, farmer and his cow, Maple Valley Creamery

I took this on a shoot for the summer 2015 issue of *UMass Magazine*. I got a nice tour of the Maple Valley Creamery and saw this cow following her owner. I had never seen such a thing.



2012, Julius Erving '86 on a hotel roof, Springfield, Mass.

Most of my childhood involved jumping—jumping fences, lawn chairs, couches, anything really. During that time Julius Erving '86 reigned supreme in professional basketball and was known for his leaping ability. In 2012, he was in town for an event at the Naismith Memorial Basketball Hall of Fame in Springfield, Mass., and agreed to a brief photo shoot atop the hotel where he was staying. I absolutely couldn't believe I got to meet Julius Erving, and—for me—it had nothing to do with basketball or UMass. It was shaking hands (what a crushing handshake!) with someone from my distant past whom I idolized and who I'm sure enjoyed being airborne as much as I did.

ONLINE

More behind-the-scenes shots from Solem: umass.edu/magazine/flash

BRAVING THE BLANK PAGE

>KRISTYN SHEA '06
WITH LORI SHINE '04MFA

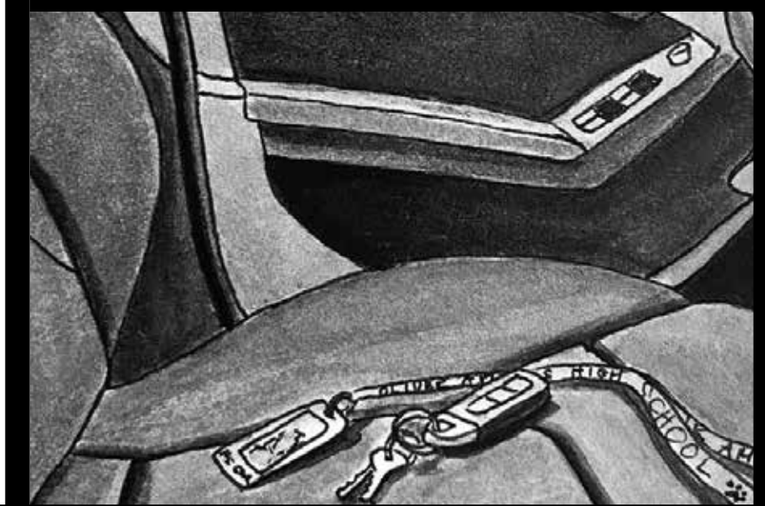
Kristyn Shea '06, art teacher at Oliver Ames High School in North Easton, Mass., is certifiably one of the best. (She was selected as the Massachusetts Art Education Association 2021 Secondary Art Educator of the Year.) So, we asked her to share some memorable moments—through art, of course. She wrote:

"Engaging in the artistic process cultivates patience, perceptiveness, and perseverance, with an understanding that there are multiple solutions to one problem. Students learn transferable core values from their experiences in the art classroom, including the capability to learn collaboratively, express creativity, embrace curiosity, make connections, produce original work, respect individuality, and develop grit.

"In creating art, many students struggle with believing in themselves, taking risks, and letting go. In the beginning stages of an artwork, many are hesitant to make a mark in fear of making mistakes. Overcoming obstacles or 'mistakes' is what allows students' creativity and imagination to grow. I often find myself saying to my students 'have no fear' or 'dive in' as a way of coaxing and encouraging them. Once students do put their fears aside and let the artistic process take over, there's no stopping them."

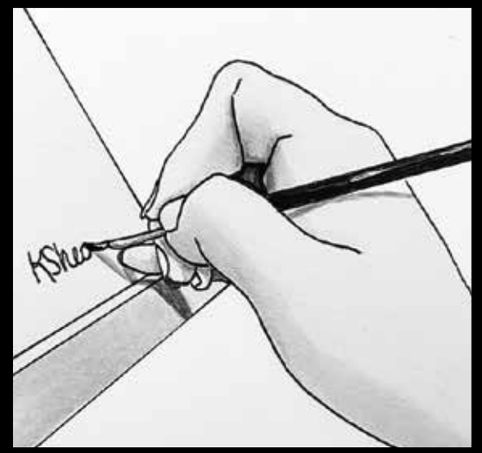
WHO WERE YOU/WHAT DID YOU WANT TO BE ON YOUR FIRST DAY AT UMASS?

I was a bundle of nerves on my first day at UMass. I overprepared to make sure that on my first day of foundational art classes, I had everything I needed to be the best art student I could be. I was a sight to see walking to class with my petite stature overloaded with my backpack, portfolio, art tube, and art bin.



WHAT IS THE MOST AMAZING THING YOU HAVE RECEIVED FROM A STUDENT?

This past year I received a note from a student that said "once the art room steals your heart, it never lets go." I couldn't agree more. Oliver Ames art students have called the art room their home, going so far as to call their peers their "art family." It is my hope that students feel welcome and safe in order to dig deep and create from the heart. Over the years, we have been able to celebrate each other's artistic discoveries and accomplishments, and gather during times of despair, all as an art family.



WHAT WAS THE FIRST PIECE OF "REAL" ART THAT YOU MADE—THAT MADE YOU FEEL LIKE "AN ARTIST"?

It is not so much about the first piece of "real" art that I made as much as it is about the moment I was told by my teacher to "sign your name." It was my first time using oil paints, which I fell in love with, and knowing that I completed a painting worthy of a signature was when I first felt like an artist.

HOW DID YOU FEEL ON YOUR FIRST DAY AS AN ART TEACHER?

I was once again a bundle of nerves, much like my first day at UMass, but multiply that by a hundred! I had stowed my book bag in the back seat of my car. When I parked in the teachers' parking lot, I stepped out of my car, closed the driver's door, and turned to open the back door to grab my book bag. Much to my dismay, I had locked myself out of my car without my teacher's book bag, classroom keys, and ID card. Luckily, my mom came to the rescue with my spare key!

ONLINE

More illustrated moments from Shea, and a glimpse of her students' artwork: umass.edu/magazine/shea

STICKING TOGETHER

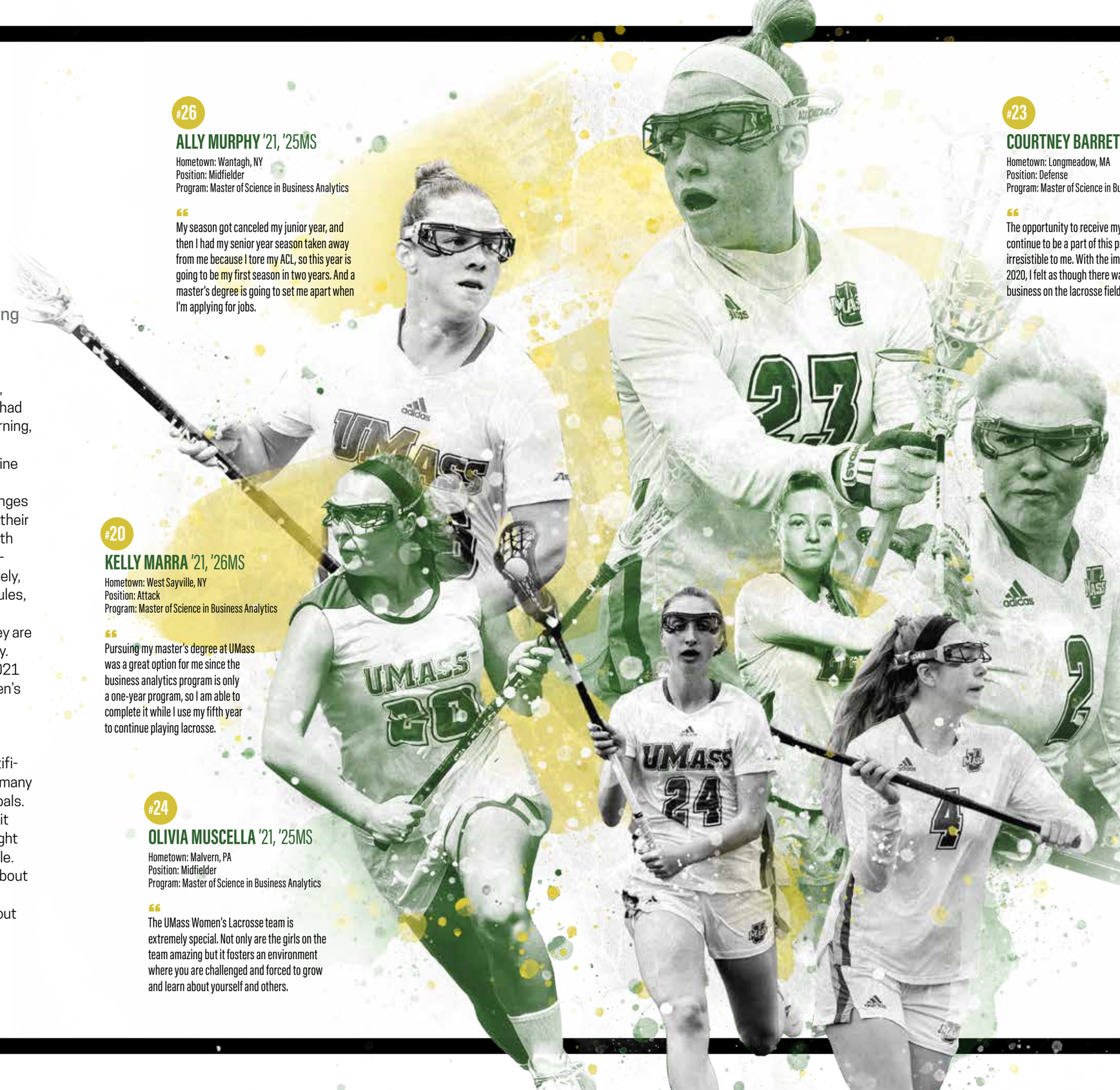
A new rule allows for an extra year of play, learning

> HEATHER KAMINS

Over the past two years, UMass students have had to adapt to remote learning, rearrange their lives around COVID protocols, and reimagine their college experience. For student-athletes, those changes have affected far more than their academic and social lives, with seasons of their sports interrupted or canceled. Fortunately, the NCAA has amended its rules, allowing students to play an additional year as long as they are enrolled in a program of study.

Seven members of the 2021 A10 Champion UMass Women's Lacrosse team have taken the opportunity to continue studying—and competing. Enrolling in a master's or certificate program is also helping many of them reach their career goals. It's a chance for this tight-knit team to stay together and fight for another championship title.

We asked these players about the team, their studies, the future, and how they feel about staying at UMass.



#26

ALLY MURPHY '21, '25MS

Hometown: Wantagh, NY
Position: Midfielder
Program: Master of Science in Business Analytics

"My season got canceled my junior year, and then I had my senior year season taken away from me because I tore my ACL, so this year is going to be my first season in two years. And a master's degree is going to set me apart when I'm applying for jobs.

#20

KELLY MARRA '21, '26MS

Hometown: West Sayville, NY
Position: Attack
Program: Master of Science in Business Analytics

"Pursuing my master's degree at UMass was a great option for me since the business analytics program is only a one-year program, so I am able to complete it while I use my fifth year to continue playing lacrosse.

#24

OLIVIA MUSCELLA '21, '25MS

Hometown: Malvern, PA
Position: Midfielder
Program: Master of Science in Business Analytics

"The UMass Women's Lacrosse team is extremely special. Not only are the girls on the team amazing but it fosters an environment where you are challenged and forced to grow and learn about yourself and others.

#23

COURTNEY BARRETT '21, '25MS

Hometown: Longmeadow, MA
Position: Defense
Program: Master of Science in Business Analytics

"The opportunity to receive my master's and continue to be a part of this program was irresistible to me. With the impact of COVID-19 in 2020, I felt as though there was a lot of unfinished business on the lacrosse field.

#2

HALEY CONNAUGHTON '21, '25MS

Hometown: Westwood, MA
Position: Attack
Program: Master of Science in Business Analytics

"I was given another year to play the sport I love with the people I love and I wasn't going to let that opportunity go.

#22

JULIA SMITH '22

Hometown: Saint James, NY
Position: Attack
Program: Social Research Analysis Certificate

"The eligibility of an extra year gives me the opportunity to be with my teammates, compete, and figure out the next steps after UMass. I couldn't be more fortunate to be with this team another year.

#4

BRINLEY ANDERSON '21, '22

Hometown: Killingworth, CT
Position: Defense
Program: Certificate of Journalism

"This team is coming back with a lot of passion and excitement for another season. This group [of returning players] is leading the charge toward defending our title and doing a great job of bringing along the younger players.

chasing /language/

chas-ing /lang wij/

THE NEVER-ENDING STORY OF WORDS

BY LIL KNIGHT ’97, ’03MEd
PHOTOS BY LISA BETH ANDERSON

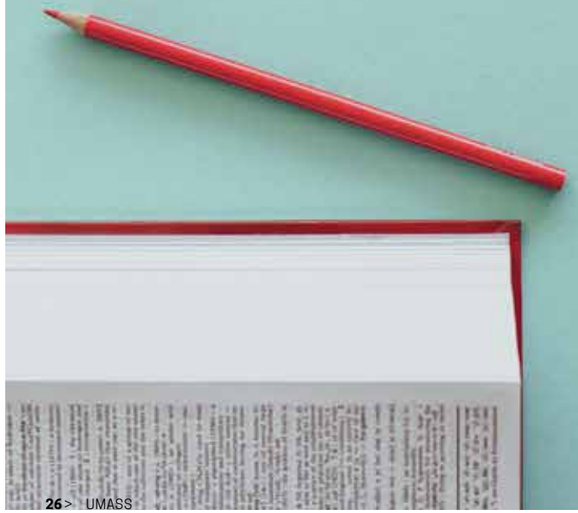
A dictionary tells a story. Really? Most of us wouldn’t think of a dictionary that way. But five UMass alumni who work at dictionary publisher Merriam-Webster reveal how dictionaries actually reflect shifts in society, and how UMass prepared them for their work now—transcribing the ever-evolving story that the dictionary tells.

Merriam-Webster has been publishing dictionaries since 1847 and offers 40 different products, and its staff also curate conversations about words online—they post a “word of the day” and produce a weekly podcast called *Word Matters*. This powerhouse publisher, whose website receives more than three million visits daily, is located in Springfield, Massachusetts, just a short hop from the UMass Amherst campus.

Writing a dictionary

According to Merriam-Webster, a lexicographer is "an author or editor of a dictionary." And while that sounds simple enough, most people don't think about exactly how dictionaries—the authorities on spelling, grammar, and usage of an entire language—are created. "I had just never considered that people wrote dictionaries," says Emily Brewster '99, senior editor and editorial ambassador for Merriam-Webster. "Like the general populace, I had this idea that the dictionary just springs fully formed from the bookshelf," she laughs.

But the truth is that words are continuously being added to the dictionary, and lexicographers like Brewster spend a significant amount of time researching to decide both *what* words to add to the dictionary and *when* to add them—trickier and more subjective than it first appears.



SUSAN BRADY '89MA AND LINDA PICARD WOOD '83

In order to add a word to the dictionary, Brewster explains, there are four benchmarks. Its use must be:

Sustained—There must be evidence showing the word in use in the language for an extended period of time. There are exceptions to this, like COVID-19, which took only 34 days to get added to the online dictionary. But in that particular case, she says, "there was no doubt that this word was going to have a lasting impact on the language."

Meaningful—The word needs to settle into a specific meaning that doesn't change.

Widespread—There must be examples of the word's use in enough publications and enough different kinds of sources to demonstrate that it's really a part of the English language as a whole.

Organic—The word should not just be talked about but actually function organically in the language and clearly be employed by speakers of English to communicate meaning.

Linda Picard Wood '83, senior editor and print products manager for Merriam-Webster, explains, "We're trying to capture the actual vocabulary of English speakers, not just put in trendy words to seem current." That said, she admits, the criteria are "sometimes a matter of editorial judgment." And according to Sarah Carragher '16, an assistant editor for Merriam-Webster, "Each new entry is a collaborative effort." When she submits a draft of a definition, it's always reviewed by several other editors.

Observe, revise, repeat

Peter Sokolowski, '92, '94MA, Merriam-Webster's editor at large, explains, "People often think of the dictionary as written in stone, and it has never changed. In point of fact, it changes constantly. ... Our job is revision, because without revision, dictionaries die."

From a lexicographer's perspective, Brewster says, words and phrases shifting their meanings is more the rule than the exception.

"The English language is a big sprawling mess of a thing," she says. "We're just following behind it and looking at what these individual words are doing and how they're behaving in these different environments and trying to parse that out and write it down."

While it's rare for words to get retired, it occasionally happens, especially in print versions where there are space constraints. A term might get

LOOK IT UP

When asked if they had a word or a term they liked best, these lexicographers made it clear that they don't like to play favorites!

"It's like saying you love one child more than another!" says Wood. Brady agrees and says for words one has worked on: "You just get attached to all of them."

"I hate this question!" says Sokolowski. But when pressed, they did admit to having certain words or terms they felt strongly about.

kumbaya

Wood recently wrote a definition for a word that she really hopes will get included soon—kumbaya, as in "having a kumbaya moment."

removed because it's deemed no longer necessary due to changes in technology or because it has fallen from common use. For example, "color film" was in the 1961 *Third New International Dictionary, Unabridged* version, but has since been removed because it's now considered self-explanatory and the meaning can easily be determined from reading the entries for "color" and "film."

Instead of being removed, some words' definitions are updated or tagged to indicate that their meaning has changed. As Brewster explains, a word's meaning may also need to be revised because of cultural shifts or increased awareness. "A note on the entries for *idiot*, *imbecile*, and *moron* now informs readers that these terms used to be technical descriptors, but have since been broadly rejected and are now considered offensive," she adds. And while the word "troll" has been in the dictionary for a long time, newer senses of the term have only recently been added—like "to antagonize (others) online by deliberately posting inflammatory, irrelevant, or offensive comments or other disruptive content."

When asked how they felt about their roles in shaping the language that's used today, these alums said emphatically that a lexicographer's role is *never* to actually influence the language or have any control over what people are using. "I think if I'm shaping the language I'm doing it wrong," says Brewster. "It's much closer to a scientist's approach." She adds, "It's like the words are organisms and we're just looking at what they do in their different contexts: What does it do when it's in the Mariana Trench, what does it do when it's on a mountain, what does it do when it's in *Time* magazine, what does it do when it's on Twitter, what does it do when it's used by a 14-year-old, and what does it do when it's used by a columnist in *The Washington Post*?"

> "THE ENGLISH LANGUAGE IS A BIG SPRAWLING MESS OF A THING"

"We're not trying to control the language or censor anyone. It's not our role to decide what words people should use or how they should use them," says Wood, "we're just documenting it—we're reporters."

Susan Brady '89MA, a senior editor at Merriam-Webster, explains, "We want to be objective ... we just look at the words and the evidence in front of us and make decisions based on that."

The dictionary as a public utility

In 1996 Merriam-Webster Online was launched, giving users full, free access to their dictionary and thesaurus—which continues to this day. "Having no paywall and making it free keeps it a public utility," says Sokolowski. He adds that this also provides

MYRIAD PATHS TO MERRIAM-WEBSTER

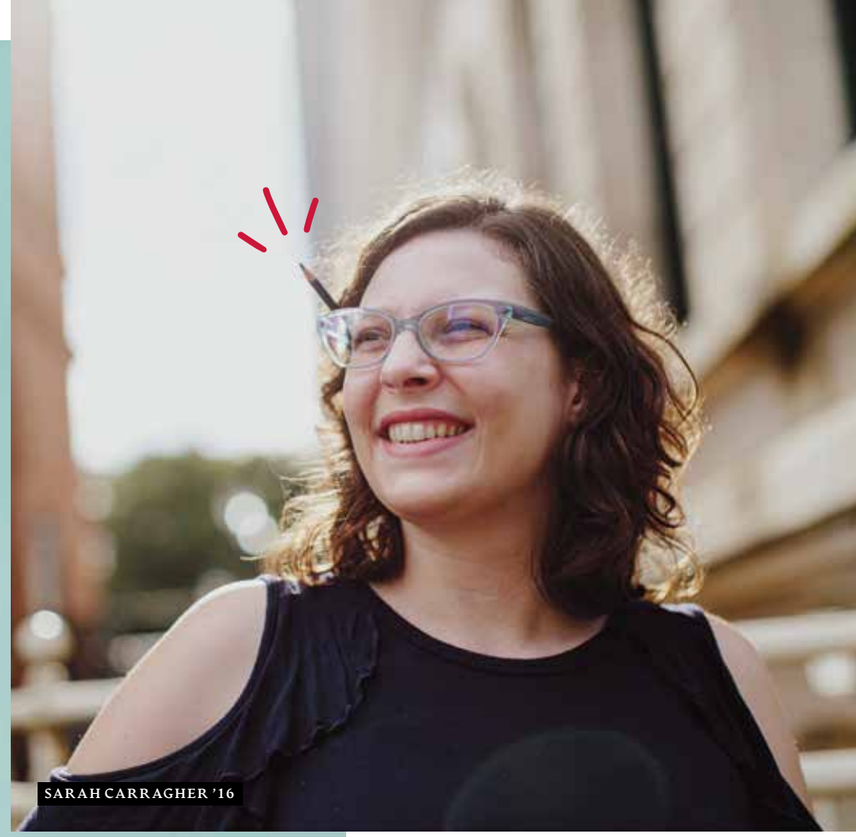
Brewster says she actually got her job at Merriam-Webster because of one of her UMass linguistics professors, Kyle Johnson. "I didn't really know what I was going to do next, and I was thinking about going to graduate school, but I wanted to stay in the area. When he mentioned that Merriam-Webster was down the road in Springfield, it was the proverbial light bulb. I just thought 'Oh, people write dictionaries, maybe I want to write dictionaries!' So I absolutely credit him with even the notion that lexicography was a thing that a person can do. And then studying linguistics and philosophy together—I remember taking syntax and logic at the same time—and I feel like those two classes are really very useful in defining."

Brady says her time as a teaching assistant during grad school at UMass has been valuable in her current position. "In a definition, we have to convey a word's meaning clearly and in a small amount of space," she explains. "I believe that my experience helping students learn to express their ideas in writing in a clear and well-organized manner has helped me in my editing work."

Carragher studied linguistics at UMass and says she "graduated with the attitude of a modern-day linguist. My linguistics education equipped me with the tools to observe language in all its complexity without judgment."

"We're a big, big UMass family," says Wood. Her sister, husband, their sons, and many of her husband's family attended UMass. Wood cited the importance of her close relationship with her advisor, who encouraged her to take more challenging classes, do an independent study, and discover what she was really interested in.

Sokolowski explored various interests at UMass, including taking his junior year abroad to study French in Paris. He got his start at Merriam-Webster as part of a bilingual team hired to write their French-English dictionary.



SARAH CARRAGHER '16

the bends

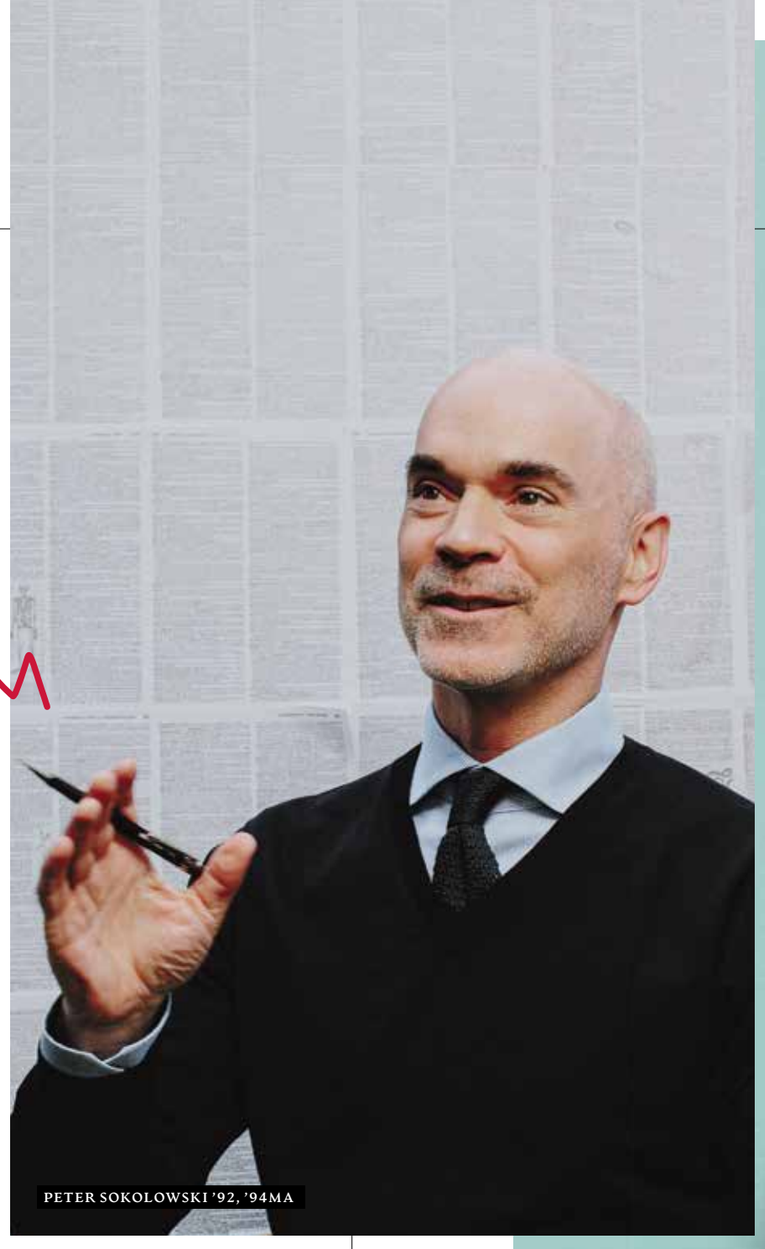
Carragher says she doesn't like the words coagulate *and* papercut, *but her least favorite term?* The bends. *"I can't explain my visceral response; I've never been diving, and I don't mind the word* bend *standing alone. But I can't think of a cringier word pairing!"*

dad joke

Sokolowski wrote the definition for dad joke, *"which I'm very proud of," he says, in part because compound terms are so rarely added to the dictionary.*

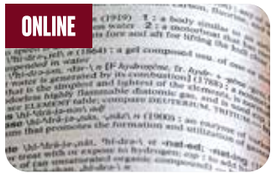
an important opportunity to collect data—to see how dictionary use is impacted by what's happening in politics, sports, the environment, what's happening in the country and in the world. The online dictionary includes "Top Lookups Right Now," which tracks in real time what people are looking up, refreshed every 30 seconds. Events like the national spelling bee or a presidential debate motivate people to look up words in the moment, so they understand what's being talked about.

"National stories provoke enormous vocabulary curiosity," Sokolowski explains. For example, lookups of the word "indict" and "indictment" went up 700% on June 30 and July 1, 2021, as the grand jury indicted the Trump Organization and its chief financial officer. Lookups of the word "murraya" spiked 100,000% on July 8–9, 2021, because it was the final word spelled correctly by Zaila Avant-Garde, winning her the Scripps National Spelling Bee. Dictionary use also tells us a story. Sokolowski says, "It's a cultural story, it's a linguistic story, it's a political story."



PETER SOKOLOWSKI '92, '94MA

ONLINE



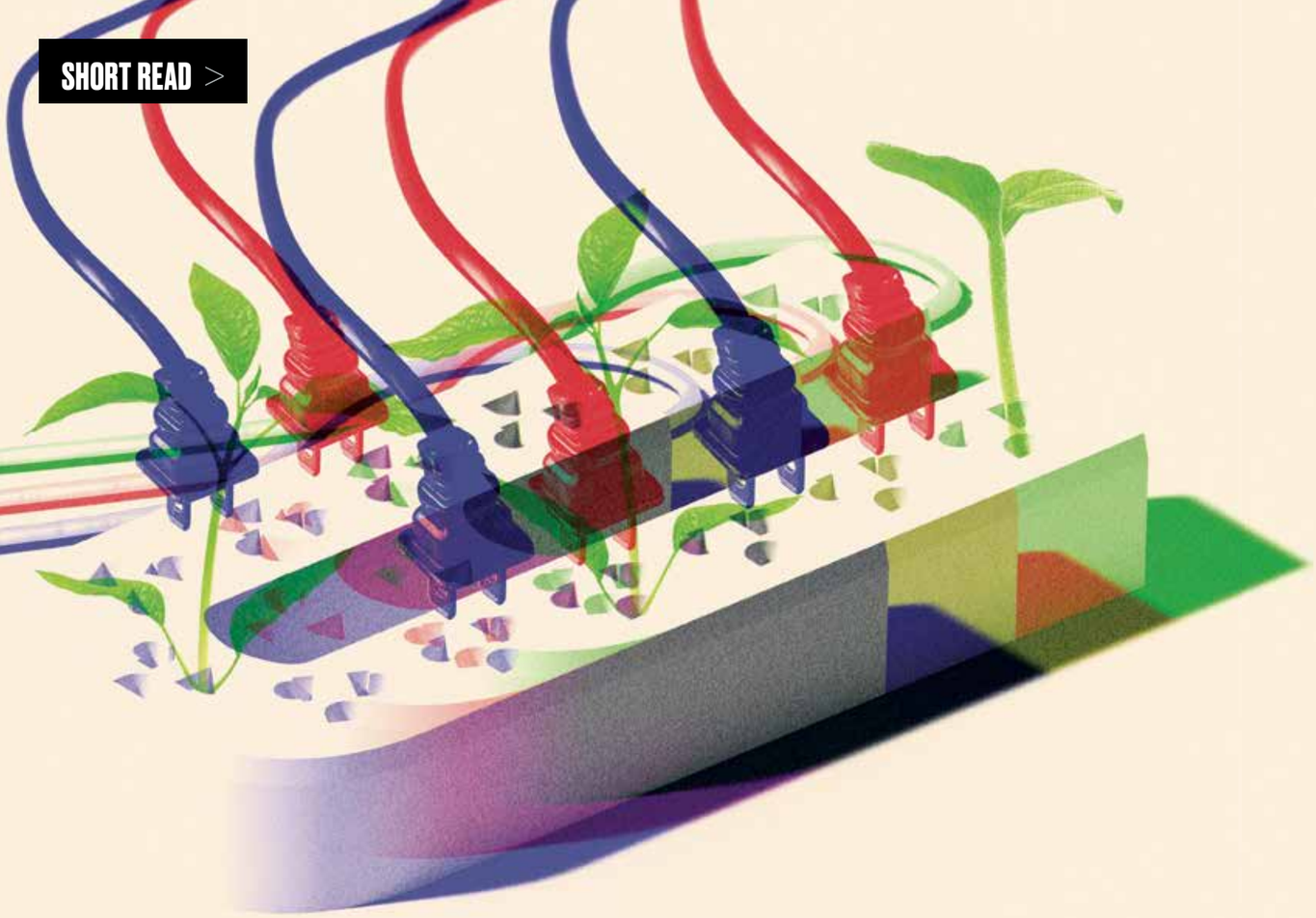
Follow the ever-evolving story of the dictionary on the *Word Matters* podcast: umass.edu/magazine/chasing

medieval

Brady likes the word medieval, *because "the spelling is a little unexpected and it kind of has a bit of a mysterious quality to it."*

EMILY BREWSTER '99

SHORT READ >



PLUGGED IN

How UMass is helping to build a greener energy system

> LAUREN RUBENSTEIN

From dramatic wildfires to intensifying storms, the effects of climate change are inescapable. While society has been slow to make the necessary changes to mitigate the damage, there are signs of progress. Massachusetts has committed to achieving net-zero carbon emissions by 2050, in part by improving energy efficiency and transitioning away from fossil fuel use. UMass has made its own bold commitments to decarbonize the campus, and its faculty have been leaders in interdisciplinary research and innovation in areas such as energy, climate science, and sustainability.

ENSURING A 'FAST AND FAIR TRANSITION'

Not only is today's energy system environmentally unsustainable, it is also unjust. Polluting power plants are more likely to be located near low-income communities, while policies meant to promote adoption of renewables tend to benefit higher-income households. However, the energy transition—a global shift from high-carbon energy generation, such as coal, to low-carbon (or zero-carbon) energy sources, like wind and solar—offers an opportunity to build a more equitable system, says Erin Baker.

A professor of industrial engineering, Baker is faculty director of UMass Amherst's Energy Transition Institute (ETI), an interdisciplinary initiative formally established in 2021 to promote a fast and fair transition to a decarbonized energy system.

ETI researchers are working to find more equitable solutions, including alternative solar ownership models, residential energy storage, and energy efficiency programs that account for equity.

Through ETI and its associated PhD fellowship program, Elevating Equity Values in the Transition of the Energy System (ELEVATE), faculty and graduate students are building ongoing relationships with people in local communities that have been traditionally excluded, with the dual goals of empowering community members with information and gathering their perspectives to inform research. ETI ultimately aims to help set the national agenda for research on the equitable energy transition.

MAKING COMMUNITIES GREENER

A few years ago, the town of Natick, Massachusetts, was confronting the need to repair failing and outdated HVAC equipment in its community library. The UMass Clean Energy Corps helped the town find a better solution. Today, it plans to install an innovative, efficient heat pump and thermal energy storage system in the library. "We are on track to make our main library a zero-carbon building and save money in the process!" says Jillian Wilson-Martin, Natick's director of sustainability.

Natick is not alone in facing difficult decisions about aging energy infrastructure. In a Clean Energy Corps service-learning course taught by Ben Weil, UMass Amherst extension assistant professor of building and construction technology, undergraduate and graduate students learn diagnostic tools and energy auditing techniques through hands-on work with local municipalities. The students identify which facilities use the most energy, and then provide recommendations for cutting energy use and transitioning to renewable sources; armed with this data, municipalities can apply for grants to implement the recommendations.

Simon Pereira '20 took the Clean Energy Corps class as an undergraduate and later served as its teaching assistant. He has now returned to UMass to pursue a graduate certificate in sustainability science with a focus in renewable technologies and efficient design. "Working with the Clean Energy Corps gave me real-world experience in seeing how municipal buildings could be retrofitted to meet town needs and improve energy efficiency," he says.

CLOUD COMPUTING, CARBON-FREE

From streaming music to document sharing, our daily computing activities rely on cloud-based platforms—but the power required to support cloud computing contributes nearly 2 billion metric tons of carbon emissions annually.

In spring 2021, a team of UMass computer science and engineering researchers was awarded $3 million in funding from the National Science Foundation and VMware, a cloud-computing company, to address this challenge. The CarbonFirst team "aims to find solutions that allow these carbon-intensive cloud-computing centers to transition to clean renewable energy sources such as solar and wind energy," says Prashant Shenoy, distinguished professor and associate dean in the Manning College of Information and Computer Sciences, who leads the project.

Such solutions include building a renewably powered, decentralized network of computing hardware, solar batteries, and free cooling hubs that are widely distributed around the globe to take advantage of local renewable energy sources.

Fortunately, the tech industry appears to be a willing partner. Amazon, Google, and Microsoft have all pledged to be zero carbon by 2030 or 2040. The CarbonFirst project will collaborate closely with industry partners in overcoming the technical challenges to achieve these ambitious goals.

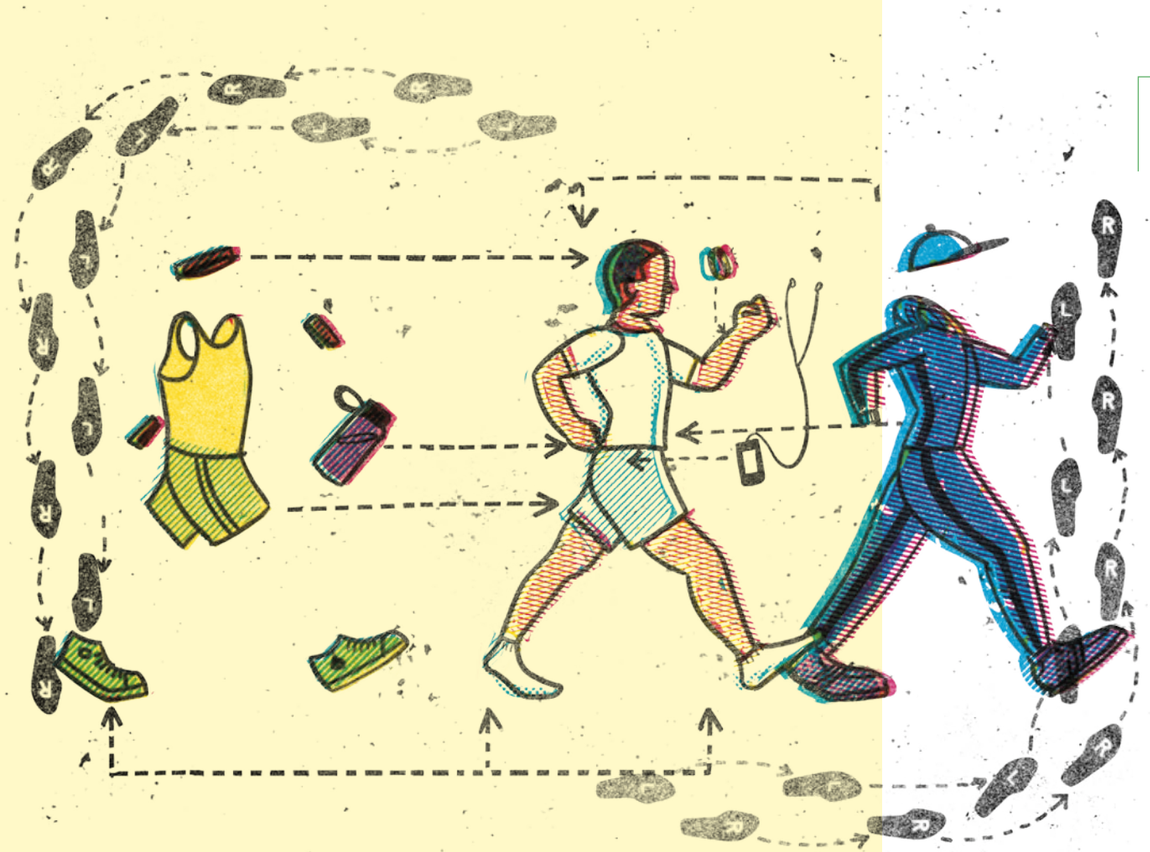
As the world endeavors to transition its energy sources for the good of the planet, UMass will be engineering, computing, innovating, and teaching its way to a more sustainable future.

> Learn more about ETI's work to ensure a fast and fair energy transition: umass.edu/magazine/eti

Aging Expertly

KEEPING A SPRING IN YOUR STEP AND A SPARKLE IN YOUR EYE

By Naomi Shulman



Illustrations: Thom Dudley

A few months ago there was something unexpected waiting in my mailbox: a welcome packet from the AARP. It's a rite of passage for those of us turning the big five-oh, but I'm not going to lie: it was a little disorienting. As a member of Generation X, I may no longer be a spring chicken, but I'm lucky enough to feel pretty springy, and I'd like to stay that way for as long as possible.

UMass faculty and alumni have been working on several fronts to help all of us age gracefully, researching habits of body and mind that even Generation Z can embrace. While there's no single formula for keeping a spring in our step, there are certain habits that rise to the top. Yes, yes, part of it is diet and exercise. Of course it is! But it's way more than that, too.

Go for a Walk

I'VE BEEN HEARING IT FOR YEARS: 10,000 steps a day keeps the doctor away. "Physical activity works on multiple mechanisms in the body and is linked to chronic disease prevention," says Dr. Amanda Paluch, assistant professor in the Department of Kinesiology. "One way this is measured is through taking more steps."

But 10,000 is a lot of steps. Luckily, Dr. Paluch's research shows that fewer steps still provide benefits. Her team found that middle-aged adults who manage to get at least 7,000 steps a day lower their risk of premature death by a whopping 50 to 70 percent. They also found that more is more—but only up to a point. "An incremental increase in steps is associated with a lower risk until you hit 10,000. That's where it plateaus," Paluch says. "Six thousand steps is better than 5,000, and 7,000 is better than 6,000, but when you get to 10,000, it levels off."

In other words, there's no need to get obsessive about the number. Nor does our activity have to be literal steps. "Steps per day is a great metric for public health promotion," Paluch explains. "Walking is simple—most people can do it and track it, so it is an excellent way to promote moving more for a large proportion of people. If you're at 10,000, great! But you can still get benefits by increasing from 5,000 to 6,000."

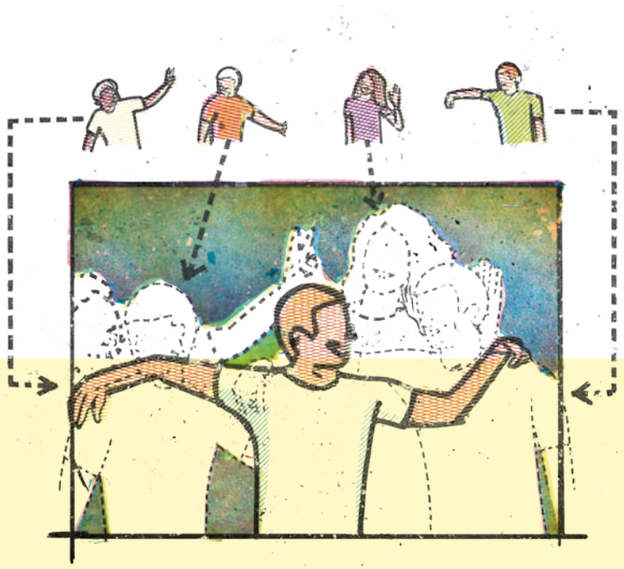
Aiming for more activity is only one marker of well-being, of course. "To me, well-being is your state of health and happiness," Paluch says. "It covers those health outcomes we think of, but also quality of life—your ability to keep up and enjoy playing with grandkids, for example."

> "WELL-BEING IS YOUR STATE OF HEALTH AND HAPPINESS

Be With Friends

ANOTHER GREAT THING ABOUT WALKING? It's easy to do with a friend—and our social connections only become more crucial as we age, in practical as well as psychological terms. "There's a lot of complexity about social networks that's new to our understanding," says Raeann G. LeBlanc, Seedworks Endowed Clinical Associate Professor for Social Justice in the Elaine Marieb College of Nursing. LeBlanc's work evaluates social networks and quantifies what they refer to as "tie strength." "There's a foundation of research on how much social relationships influence health, which is true at any age, but if there begins to be a need for tangible support, the assessment of one's network becomes really important," says LeBlanc. Things that interfere with aging in place—mobility deficits, taking medications, and managing finances, among other factors—are addressed by various social services, but they tend to be fragmented. "We end up with a big mess of different resources being provided by people we don't know," says LeBlanc. Social relationships help navigate that system and can even circumvent it.

"You can't just impose or create a network. We have to tend to our social relationships," LeBlanc says. "Networks get smaller as we age, but in reality, the number of our closest human relationships stays around the same." That number averages under ten people, and that can be plenty. We just need to keep those ties strong. "A very basic tool—the phone—is so important to psychosocial support," LeBlanc points out. "In our study, strong friend networks play a huge role. They can be stronger than family networks in reciprocity of psychosocial support, even if they're just based on shared interests or neighborhoods." LeBlanc emphasizes how important it is that the relationships feel mutual. "Even if I really need you to do something, like pick up my groceries, it will impact my sense of control and dignity," she says. "Sometimes the way care is delivered and understood can leave one with a sense of dependence rather than mutual support, and this way of being with people can undermine their confidence in their own selves. It's not just about providing a resource—it's how it's provided and perceived."



Grab a Bite

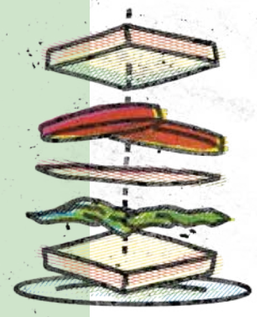
THIS BALANCE ISN'T AS HARD TO STRIKE AS IT MIGHT SEEM. In fact, the nationwide system of Meals on Wheels already focuses on exactly this thing: providing meals in a social and compassionate way. And it's more than that, as Uche Akobundu '03MS, senior director of Nutrition Strategy, is the first to point out. "The meal is the central service, but people need more than meals," Akobundu says. "We provide the core elements: meals, safety checks, social connection, and connections to the community in general."

The work Akobundu did at UMass nearly two decades ago set her firmly on her current path. "My undergrad was in biology, but I kind of fell into nutrition by accident at UMass, and loved

> "THAT'S THE HEIGHT OF A NOURISHED LIFE—THE OPPORTUNITY TO ENGAGE IN ONE'S COMMUNITY

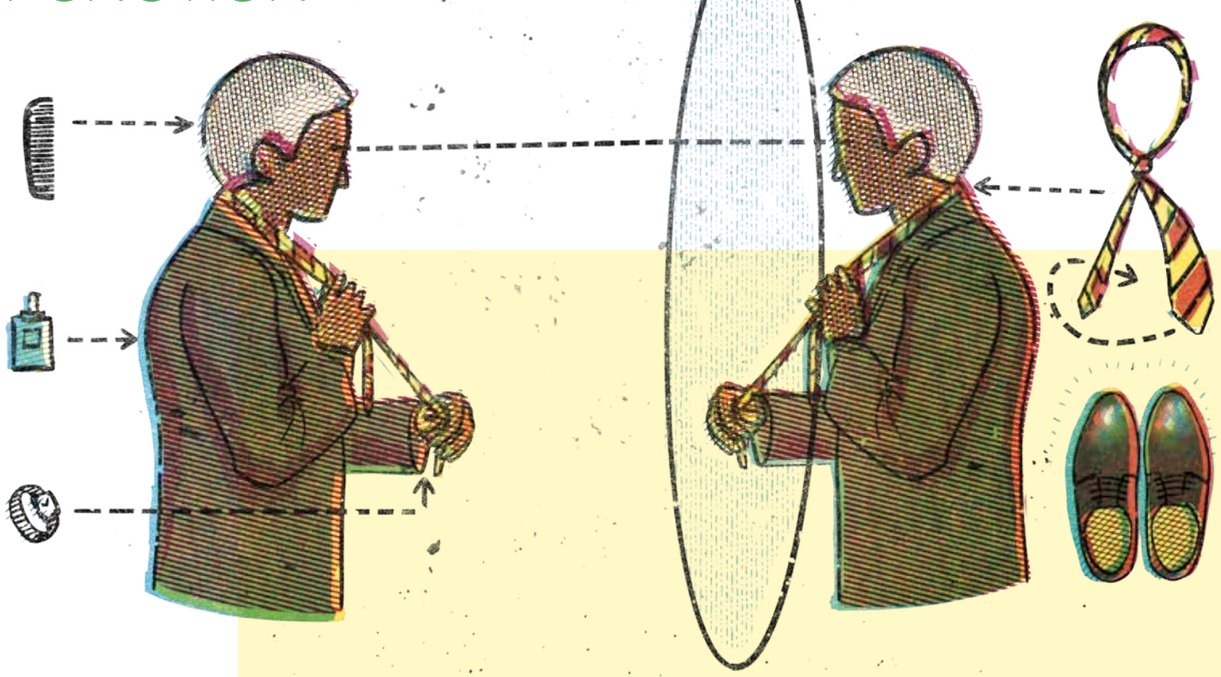
it," she says. Born and raised in Nigeria, Akobundu understands what she calls "the complexity and range of human experience around nutrition." The daughter of an agronomist, Akobundu grew up on a research institute that works to assure food security across the African continent. "You could say I've always been on this road, trying to understand how to translate rigorous research to put food in the hands of real people and give them access to a healthy and nourished life."

Akobundu uses the word nourished in the fullest sense of the term. The "meals" part of Meals on Wheels matters deeply—more than 10 million senior citizens in this country are hungry, after all—but they're also just a starting point. "If it was only meals that people needed, how much simpler that would be," she says. "To be healthy and independent and safe in your home as you get older, you need much more than a meal." And this is where the wheels come in: the delivery, which usually involves human interaction and is as important as the food. "That's the height of a nourished life—the opportunity to engage in one's community, to receive services on one's own terms, and to contribute to one's community as well," Akobundu says. Community Meals on Wheels programs accept contributions from the very same seniors they serve. "Sometimes we don't want to take things we don't think we deserve, or that we think someone else deserves more," Akobundu explains. "So when Meals on Wheels recipients contribute, even if it's a dollar or $10, that way they feel they are chipping into the system, and that preserves their dignity."



Respect Yourself

> "I ACTUALLY THINK THAT ENHANCING SOMEONE'S DIGNITY IMPROVES THEIR FUNCTION



THAT WORD "DIGNITY" IS A CONCEPT that Akobundu, LeBlanc, and Paluch have each been circling. Another UMass researcher places it squarely in the center, as a measurement that can affect physical and emotional health. "I've spent 15 years understanding what dignity means," says Cynthia Jacelon, PhD, RN, FAAN, professor, and executive associate dean at the Elaine Marieb College of Nursing. Jacelon first became interested in this back in her dissertation days. "I was focused on how older individuals affected the outcome of their hospitalization, and one thing that became apparent was that older individuals are very concerned about being treated with dignity," she says. "Typically, older adults say that when you go into the hospital, you leave your dignity at the door. So I wanted to understand this better."

It didn't take long for the scope of Jacelon's research to stretch beyond hospital settings and into the larger community. It's important for aging adults who still live at home to feel that their dignity is intact, too. It's not just the caring approach—it's smarter from an economic perspective. "If we could affect someone's function by enhancing their dignity, we can help people stay home longer," Jacelon says. Dignity is a subjective term, however, so Jacelon created an objective measurement that can quantify the level of dignity that a person experiences. She then used it to compare the level of dignity to physical and mental performance. "We can show there's a correlation between this concept of dignity and actual mental, physical, and social function. More dignity equaled more physical performance. The higher the dignity score, the less pain. That's really profound," she says. Jacelon notes that "the next step is to figure out which way do these relationships go? I actually think that enhancing someone's dignity improves their function. I believe that pretty strongly. That's just a hunch, but it's a strong hunch."

I have a hunch she's right. So in addition to eating right, exercising, and making sure to check in with my friends, I'm reimagining what wellness and well-being mean to me. After all, I'd like to stick around for another 50 years.

> Read how UMass researchers are applying artificial-intelligence technologies to improve in-home care for older adults and individuals with Alzheimer's disease: umass.edu/magazine/agingexpertly

THE AMBASSADOR

Curator Aimée Froom '93MA opens doors to Islamic worlds

> SCOTT WHITNEY

Aimée Froom '93MA was on her way to a quiet career in a little-known corner of the art world. Newly hired by the Brooklyn Museum as Hagop Kevorkian Associate Curator of Islamic Art, she had completed her first day on the job and was headed to Manhattan to defend her doctoral dissertation. The morning was cool and still, appropriate for the launch of a niche career. But the date was September 11, 2001, and the events that followed would infuse her work with a purpose and urgency she never imagined.

A decade prior, as an undergrad studying medicine and French literature, Froom paid a visit to London's Victoria and Albert Museum, where she discovered the dazzling world of Ottoman Turkish pottery. Deeply inspired, she considered changing her course of study to Islamic art and searched for a graduate program to support her budding interest. Her research brought her to Walter Denny, distinguished UMass professor of art history and renowned Islamic art scholar. "My meeting with Dr. Denny really tipped the balance, in terms of going on to study Islamic art," she recalls. "He was so generous with his time and knowledge, particularly as one of the most respected international scholars in the field." Denny encouraged Froom to pursue her graduate work at UMass Amherst, where he mentored her in Islamic art and architecture and gave her the public speaking skills she'd need as a lifelong ambassador in the field. "Walter has been a treasure for generations of art historians," she says.

After earning a master's degree at UMass and a doctorate at the Institute of Fine Arts, New York University, Froom landed at the Brooklyn Museum, where world events gave her a platform to introduce Islamic art to audiences seeking to understand unfamiliar cultures. Twenty years later, her mission is unchanged and her passion untempered. "There is deep historical significance to the art and architecture of Islamic countries, and after 9/11, I sensed that people were very eager to learn," she explains. "In fact, I feel I've been lecturing and sharing information ever since—and I'm very grateful to do so."

In 2014, Froom's career path brought her to the Museum of Fine Arts, Houston, where she serves as curator of arts of the Islamic worlds. Since that time, she has increased the museum's permanent Islamic art exhibits from two to four galleries and is embarking upon a major gallery expansion for 2023. She forged deep connections with Houston's Muslim communities including, among others, the Ismaili Council for the Southwestern United States, the Arab-American Educational Foundation, Asia Society Texas Center, and the Islamic Arts Society, and strengthened partnerships with Rice and the University of Houston. However, Froom is keenly aware of an audience for whom Islamic art is foreign and unfamiliar. And for them, she builds exhibits that draw meaningful cultural connections. "We give museumgoers a window into an entirely new world," she says. "For example, Islamic art so often transforms everyday objects into extraordinary works of art. You might have a Samanid bowl that is painstakingly inscribed with proverbs, or a prayer rug that looks like a gorgeous Italian Renaissance painting—there's such luxury in these common objects, and people lived among this beauty."

In a recent exhibit, Froom positioned a 19th-century Ottoman Turkish lute within sight of a 17th-century Italian still life featuring near-identical instruments. Through this juxtaposition, she hoped to ignite conversations about links across cultures. "Lutes weren't invented in the Islamic world, but they were literally walked into Spain by Arab musicians," she notes. "My hope is that people see our shared history, the common heritage we have—in this case, through musical instruments and decorative patterns." Enthused, Froom launches into a detailed explanation of the lute's wood inlays. She notes the technique's long history and its path from culture to culture before stopping herself mid-sentence. "I'm sorry, I'm giving you an impromptu art lecture," she says, looking abashed. For any art lover or citizen of the world, no apology is needed; a simple "shukran" (thank you in Arabic) will do.

Learn more in Froom's "Coffee with a curator" talk: umass.edu/magazine/ambassador

Photography © The Museum of Fine Arts, Houston; Thomas R. DuBrock

ACCOMPLISHED >

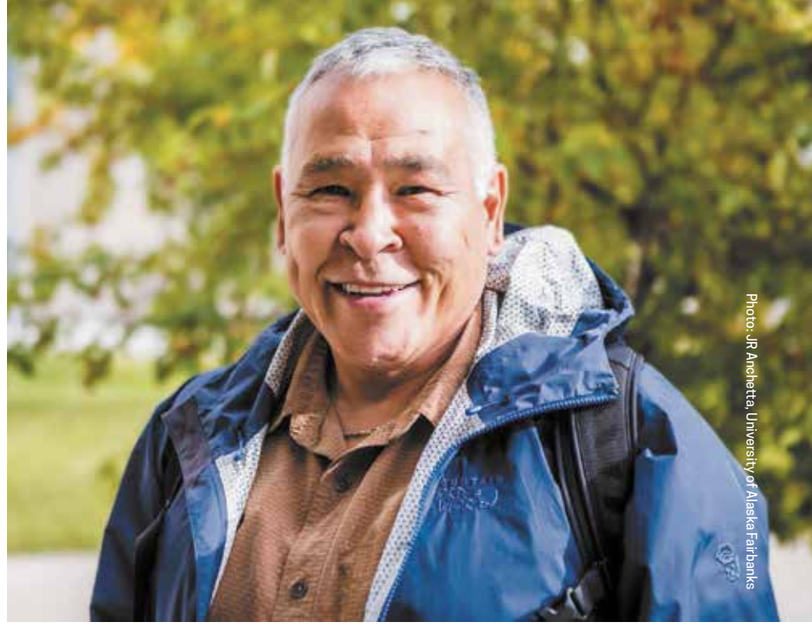


Photo: JR Ancheta, University of Alaska Fairbanks

KEEPING NATIVE LANGUAGES ALIVE AND WELL

Growing up in the remote Alaskan village of Emmonak, Waska "Walkie" Charles '94MEd learned two Yup'ik dialects from birth, as well as "village English"—a combination of Yup'ik and English vocabulary and phrases. So, it was no surprise when he showed an early interest in language education and linguistics. It was, however, a surprise when he decided he was going away to study at a university. Charles was one of the first in his village to go to college, studying first at the University of Alaska Fairbanks, and then, seeking to improve the quality of the Native-language education he provided, in the master of education program at UMass Amherst, over 4,000 miles from home.

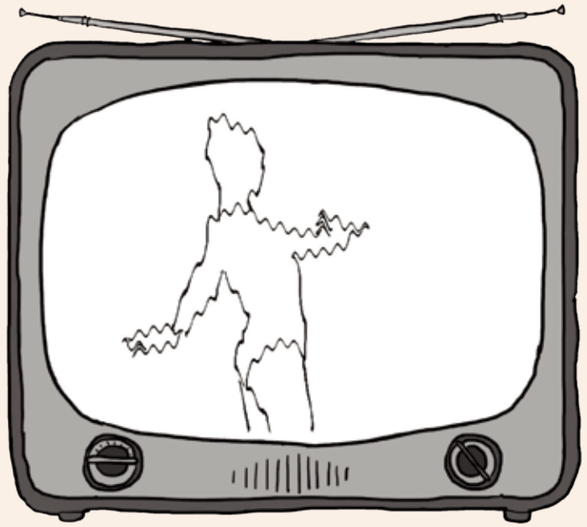
In July 2021, Charles was named the new director of the Alaska Native Language Center (ANLC)—the first Alaska Native to hold the position in the center's 50-year history. "My role is to emphasize that we serve our communities by keeping our culture and languages alive," says Charles. "ANLC has the responsibility of documenting, promoting, cultivating, and revitalizing Alaska Native languages and cultures." He continues, "I want to make our people in Alaska know that ANLC is a space that is accessible for learning more about the languages of our past elders."

CREATING A PLACE FOR EVERY STUDENT

In fall 2021, Sonia Nieto '79EdD, professor emerita of language, literacy, and culture in the College of Education, received the Governor's Award in the Humanities in recognition of her lifetime of work in public, bilingual, and multicultural education reform, along with her social justice scholarship.

Nieto began teaching at UMass in 1980 when few universities were focused on multicultural education or diversity. "UMass in the mid-1970s already had social justice education as an important value and goal in several programs. This focus allowed me to explore and build on these ideas, to make room for issues that weren't being addressed in other places," she says. Her 1992 book, *Affirming Diversity: The Sociopolitical Context of Multicultural Education*, has been recognized for helping define education in the 20th century by the Museum of Education.

"My work really is about what happens in schools and classrooms, and how can we make it better for students who've been marginalized," says Nieto. A true educator, Nieto herself has continued to learn and grow. While race and ethnicity are still at the center of her work, Nieto now sees disability, gender identity, and other identities as an essential part of multicultural education. "If we're really concerned about diversity, it shouldn't just be one thing because life is not one thing," she says.



Art: RonMar Studios

TAKE 2

For most people, an Emmy Award, Peabody Award, and Tony nomination would be enough to define a successful career. But for **Roni Selig '22**, there was one recognition that got away—her college diploma.

During the early months of the pandemic, Selig set out to resolve the unfinished business of her bachelor's degree and discovered that the UMass University Without Walls (UWW) program was the perfect partner to help her achieve her goal.

To be sure, Selig has already enjoyed a lifetime of learning. As a media executive and co-president of RonMar Studios, she has produced a string of high-profile news programs, including an award-winning series on medical marijuana with CNN's Dr. Sanjay Gupta and a documentary on the 10-year anniversary of 9/11 titled *Terror in the Dust*. But as the years went by, Selig's dream of completing her formal education persisted, and with UWW's flexibility and asynchronous approach, picking up where she left off nearly 40 years ago was finally achievable—and deeply rewarding. "When I was in my 20s, I felt I'd rather earn than learn—that's just where my head was at," she recalls. "At this point in my life, I'd rather learn than earn. And frankly, being an older learner is much more gratifying." She looks forward to graduating with her bachelor's degree this year.

> Hear more from Selig about her UWW experience: umass.edu/magazine/selig

PROTECTING RARE TURTLES

Jeremy Fontaine '12 has been lending a hand with a population survey of the Blanding's turtle and other native turtle species in New Hampshire. The Blanding's turtle is a protected species, and the survey aims to track their habitat and home range in order to determine how best to protect them. "I would like to shed light on the importance of turtles," says Fontaine, "but also open people's eyes to exploring one's backyard and the cool animals and plants that call New England home."

LIGHTS, CAMERA, IMPROV

Alums find success on Broadway

With the lights of Broadway aglow again after pandemic shutdowns, two UMass alums are finding continued success on and off the stage.

Lighting designer **Justin Townsend '97**, a theater major, has won many prestigious honors, including a Tony Award for *Moulin Rouge! The Musical* on Broadway and an Obie Award for Sustained Excellence of Lighting Design. "I wouldn't be where I am without UMass, specifically without my teachers Penny Remsen, Harley Erdman, and Miguel Romero," he says, noting that the UMass theater program has also produced several other successful lighting designers. *Moulin Rouge!* opened in London in late 2021 and launched its U.S. tour in February, while *Jagged Little Pill*, for which Townsend received one of his three additional Tony nominations, is currently playing in Australia.

The actor and vocal percussionist **Chris Sullivan '02** is a member of Freestyle Love Supreme (FLS), an improvisational hip-hop comedy musical group founded by Lin-Manuel Miranda and others. Better known by his stage name, Shockwave, Sullivan is the show's beatbox, improvising the percussive backdrop using only his mouth. FLS recently wrapped up a Broadway run and is now touring nationally. While at UMass, Sullivan was a member of Mission: IMPROVable and the Vocal Suspects. "Those two clubs helped form the skill set I ended up taking to the Broadway stage," he says.

Sullivan performs with FLS at the Tony awards: umass.edu/magazine/broadway

Townsend's lighting design shines in a scene from the Broadway production of *Moulin Rouge*.

Photo: Matthew Murphy

BLAZING A TRAIL FOR WOMEN

Janet Casey '90, president and founder of the advertising agency Marketing Doctor, was chosen as one of *Adweek*'s 35 Women Trailblazers USA for 2021. *Adweek* recognized Casey for her dedication to building a company that provides flexibility for working mothers. Casey started Marketing Doctor as a one-person consultancy in 2003 when she wanted that flexibility for herself, and as the company grew, it was important to her to extend it to others.

OLYMPIC DREAMS

Several former UMass athletes made a showing at the 2021 summer Olympic games. **Heather MacLean '17, '19MEd** competed in the 1,500-meter run, becoming the first Olympian in the history of the UMass women's track and field program. MacLean placed 12th in the second Olympic women's 1,500-meter run semifinal in Tokyo, with a time of 4 minutes, 5.33 seconds. Meanwhile, **Sarah Hawkshaw '18,** who played for the UMass field hockey team from 2014 to 2018, was selected for the Ireland Olympic field hockey team.

◀ Heather MacLean in Tokyo

CLASS NOTES

1950s

Larry Ruttman '52 launched the podcast *A Life Lived Backwards: One Man's Life*, in August 2021 at the age of 90. More than 25 episodes on topics including baseball, music, mentorship, history, and more are available at larryruttman.com.

1960s

Howard A. Young '69 is the inaugural recipient of the International Cytokine and Interferon Society (ICIS) Mentorship Award. This award recognizes ICIS members who have made significant and sustained contributions to the career development of trainees and to the profession through outstanding mentoring.

1970s

Rafael E. Tarragó '74 received the 2020 José Toribio Medina Award for his book *The Ignored Contender: A Select Annotated Bibliography of the Cuban Autonomist Party (1878–1898)*. This award was established in 1981 by the Seminar on the Acquisition of Latin American Library Materials to recognize outstanding contributions to reference and bibliography by its members.

1980s

Matthew Siegal '80 has been named president and executive director of the Lexington Arts and Crafts Society, a nonprofit education center focused on preserving and promoting traditional and contemporary arts and crafts. Siegal brings to his new role 20 years of experience directing the department of conservation and collections management at Boston's Museum of Fine Arts.

Gale Sinatra '81, '89PhD is co-author of *Science Denial: Why It Happens and What To Do About It*. The book helps readers understand the psychology behind science denial and doubt, and aims to provide a means for improving scientific literacy at a critical time when denial has become deadly.

Robert Pearson '81 owns and operates Elmhurst Dairy Farm in Millbury, Mass., with his family. The farm has been an important resource for community members during the pandemic, offering home delivery of milk, cheese, and other products, as well as an on-site store where people can shop without facing large crowds.

James Krupa '82AS, a research technician at the UMass Cold Spring Orchard in Belchertown, has started using a new pest-management technique devised by Stockbridge School of Agriculture Extension Professor Jaime Piñero. The technique involves grafting different cultivars onto a handful of apple trees on an orchard perimeter to attract a variety of pests away from the main crop.

Sandy Barbour '83MS and **Patty Viverito '79MS** are the chair and vice chair, respectively, of the NCAA Football Oversight Committee. This is the first time that women have held the top two positions. Barbour and Viverito both hold master's degrees in sport management from the Isenberg School of Management.

At the age of 89, **Jim Cahillane '89, '97MA** continues to write a monthly *Daily Hampshire Gazette* opinion column that started in 1993. Cahillane attributes much of his success to the University Without Walls program, where he received his bachelor's degree in 1989.

The Pixies, founded by **Joey Santiago** and **Charles Thompson IV** (also known as Frank Black) when they studied at UMass in the 1980s, were recently profiled by *Spin* magazine on the 30th anniversary of their album *Trompe le Monde*.

1990s

United States Air Force Brigadier **General Sean Collins '90, '09PhD,** a nurse practitioner at the UMass Diabetes Center of Excellence and assistant professor at the UMass Medical School, has been appointed Commander of the Air Force Medical Readiness Agency.

Howard Kalfus '91 has been appointed as Vermont Superior Court judge. "I look forward to continuing my efforts to safeguard the rights and interests of all Vermonters, especially its children and other vulnerable individuals," says Kalfus.

Arthur Jemison '92 joined the Department of Housing and Urban Development (HUD) in January 2021, and currently serves as principal deputy assistant secretary for the Office of Community Planning and Development.

ESPN promoted **Burke Magnus '94MS** to president of programming and original content. He previously held the title of executive vice president, and now adds oversight of original content for ESPN and ESPN+ to his role.

Gerard (Rod) Zuch '95 is the founder and president of The Morgan Center, a nonprofit organization dedicated to providing preschool-age children undergoing treatment for cancer with the opportunity to interact and socialize in a safe environment. Named in honor of Zuch's daughter, Morgan, it's the first organization of its kind in the United States.

Elizabeth Chilton '96PhD, provost and executive vice president of Washington State University, will become the first chancellor of the flagship Pullman campus in July. Chilton served UMass in many roles, including as associate vice chancellor for research and engagement.

Mechthild Nagel '96PhD co-edited the book *Contesting Carceral Logic: Towards Abolitionist Futures*, now available from Routledge. Nagel teaches philosophy and Africana studies at SUNY Cortland and is the director of the Center for Ethics, Peace, and Social Justice.

2000s

James S. Bridgeforth '04MEd has been named assistant vice president for student affairs and ExperienceVT at Virginia Tech. "As a first-generation college student who grew up in southern rural Virginia, I learned that the college experience can transform a person's life in ways they may never have imagined by providing access and avenues to a better quality of life," says Bridgeforth.

Jason Irizarry '05 EdD has been named dean of the Neag School of Education at the University of Connecticut. Irizarry, who had been serving as interim dean since March of 2021, is the first Latino dean to lead the Neag School.

Kishore Indukuri '06PhD quit his job at Intel in the United States and returned to his agricultural roots in India. He started Sid's Farm, a dairy farm in Hyderabad, and began delivering milk to customers on a subscription basis.

2010s

Corey Lynch '11, '20MS and his wife, **Antonia Lynch '11, '21MEd**, recently opened Drawing Board Brewing Company in Florence, Mass. "When I first started out brewing, it was just a little hobby right out of college to get me between graduation and my first job," says Lynch. "We cracked my first batch of beer at my college graduation and it was an absolute hit."

College of the Holy Cross Spanish Associate Professor **Juan Ramos '11PhD** has received the M.H. Abrams Fellowship from the National Humanities Center. Ramos will have the opportunity to work on an individual research project and share ideas in seminars, lectures, and conferences.

Kristen Wyman '12 was featured in a *Boston Globe* story about her work with the Eastern Woodlands Rematriation Collective, which seeks to restore the spiritual foundation of Indigenous people through regenerative food systems. A member of the Nipmuc Tribe, Wyman says that her time at UMass inspired her to deepen her work for the advancement of her community.

Gabrielle Griffis '13 and her husband, **Corey Farrenkopf '13, '14MEd**, are members of the Blue Marble Librarians, a group that works with the Massachusetts Library System on climate issues, and helping their communities better prepare for extreme weather events.

Erik Simon Vuoritie '19 was profiled by Thrive Global as part of a series about "young people who are making an important social impact." Simon Vuoritie, who received a BS in mechanical engineering in 2019, currently works in the field of wind energy and takes a global approach to solving climate challenges.

2020s

Recent UMass Amherst hockey goalie **Filip Lindberg '21** signed a two-year contract with the Pittsburgh Penguins. He played three seasons for UMass from 2018–21 and was vital in the Minutemen's 2021 National Championship win, stopping all 25 shots he faced in goal.

> Submit your note at: umassalumni.com/classnotes

Photo: Burlington Free Press, 1980

CRIME AND CURIOSITY

Dr. Eleanor Nicolai McQuillen '56, a trail-blazing forensic pathologist and former chief medical examiner for the state of Vermont, died May 30, 2021, at the age of 86.

A pre-med major at UMass, McQuillen went on to Boston University School of Medicine, graduating as one of only three female doctors in her class. She found her way to forensic medicine when she was asked to consult in a high-profile murder trial as a clinical pathologist in Pennsylvania. Building on her public health roots, she trained as a crime scene investigator and obtained board certification in forensic pathology. After a move to Vermont, McQuillen served as the state's deputy medical examiner, rising to chief medical examiner in 1978—the first woman ever appointed to the position.

"Mom took seriously her role as an advocate for her 'patients,' i.e., the deceased," says her son, Michael McQuillen. "She told me that they could no longer speak for themselves, and it was her job and that of the police and court system to speak for them." A talented artist, McQuillen chronicled her crime scene experiences in a unique series of folk paintings. She retired in 1990, having also served as the first female president of the National Association of Medical Examiners.

'MURPH WILL TAKE CARE OF IT'

For nearly 20 years, **Jim Murphy '00** worked behind the scenes to bring New England viewers the story of each day's news. As video editing crew chief for Boston's WBZ-TV, the Haverhill, Massachusetts native honed his award-winning editing skills and became the "best of the best," as WBZ sports anchor and reporter Steve Burton recently recalled in *The Boston Globe*. In a televised tribute to Murphy, who died unexpectedly following a heart attack last July, his colleagues remembered a skilled and passionate editor whose deepest love was for time spent with his family, including his wife Stacy and two young children, Gavin and Quinn.

Jim and Stacy met as fellow students at UMass, where he studied communication and media studies. Following graduation, Murphy joined the WBZ team in 2002, where he earned three Emmy Awards, an Associated Press award, and an Edward R. Murrow Award. Among his many career highlights, Murphy served as long-standing editor for the WBZ sports department, where he produced the station's pre- and post-Super Bowl shows.

Outside of the editing suite, Murphy is remembered for his helpful nature and unflagging generosity. "His gift was that he lifted the burden off his colleagues and said, 'I'll take care of that,'" recalled news anchor Paula Ebben in the on-air tribute. "That's how Jim showed his love and devotion to his WBZ family and to his family at home."

Photo: *Massachusetts Review*

A DRIVING FORCE FOR DIVERSITY

Jules Chametzky, professor emeritus of English, died September 23 in Amherst, Massachusetts. He was 93.

A founder and editor of the *Massachusetts Review*, Chametzky began teaching at UMass Amherst in 1958 and held teaching positions at universities in Zagreb, Venice, and Copenhagen, and several in Germany. He was an expert in American Jewish and ethnic literature and the author of numerous books, and he received a Chancellor's Medal in 1990 for distinguished teaching and scholarship. He also received the Award for Distinguished Contribution to Ethnic Studies from the Society for the Study of the Multi-Ethnic Literature of the United States in 1995.

In 2010, the *Massachusetts Review* established the annual Jules Chametzky Translation Prize for a translation published in the magazine, to honor both Chametzky's role at the *Massachusetts Review* and his substantial contributions in advancing cross-cultural understanding. In addition to his personal scholarship, Chametzky was instrumental in "pushing for the establishment of departments of Afro-American studies, women's studies, and Judaic studies" and was involved in "literally every initiative that increased diversity at the university," according to Lee R. Edwards, former dean of the College of Humanities and Fine Arts. "Chametzky did more over the years than any other single individual to transform [UMass Amherst] into today's vibrant, thriving, and mature campus. ...We are all in his debt," says Edwards.

Photo: Cape Cares

TRANSLATING CARE

Brenda Carol Hamel Baxley '73, who used her Spanish skills to change lives in both the United States and Honduras, died on June 24, 2021, at the age of 70.

Born in Providence, Rhode Island, Baxley spent part of her childhood in Puerto Rico, where she developed a deep love of the Spanish language. She graduated from UMass Amherst with a degree in bilingual education and Spanish and began her 17-year teaching career at a bilingual elementary school in Woburn, Massachusetts, helping native Spanish-speaking students transition to full English-language learning. After earning a master's degree, she taught AP Spanish at Sandwich High School on Cape Cod.

In 1990, Baxley and her physician husband Grover joined with a group of friends to establish the nonprofit organization Cape CARES, which provides medical services to poor communities in Honduras. Baxley volunteered with Cape CARES for 23 years, serving as a translator for about a dozen medical missions.

A born teacher, Baxley was passionate about encouraging others to learn Spanish. "High school kids would come to her for advice," says Grover. "She was a very good judge of character and really enjoyed getting the most out of kids."

MAKE YOUR WEDDING DAY TRULY UNIQUE

Our campus in the Pioneer Valley is a gorgeous place with exceptional options to make your wedding perfect.

Inquire today!

umasshospitality.com

UMassAmherst | Auxiliary Enterprises
Hospitality Services

413-577-8100 ccsales@umass.edu

UMassAmherst
Alumni Association

CONNECT UMASS

Building relationships, gaining support—here is where community comes together

Reach out **ConnectUMassAlumni.com**

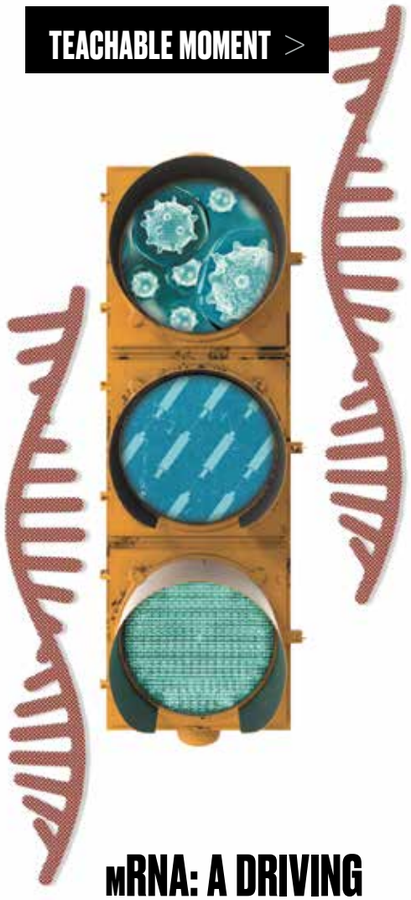
UMassAmherst
Women for UMass

Women helping women—
growth, opportunity, support

Learn more: **umass.edu/wfum**

Homecoming 2022

Save the date!
October 24-29, 2022



mRNA: A DRIVING FORCE AGAINST DISEASES KNOWN—AND UNKNOWN

> ELVAN CAVAÇ '21PHD, '24MBA, CRAIG MARTIN, AND BARBARA OSBORNE

While scientists have been working with mRNA for many years, the rapid emergence and phenomenal success of mRNA vaccines for COVID-19 has showcased the power of this technology. Without mRNA vaccines, our attempts to control the SARS-CoV-2 pandemic would have been far less successful.

From a therapeutic delivery perspective, all RNAs look alike, so pivoting to new vaccines and therapeutics is greatly simplified (indeed, this helped in the rapid rollout of the COVID-19 vaccines). The exciting future of mRNA therapeutics has the potential to drive the development of an almost limitless number of biomedical therapies. Companies such as Moderna and BioNTech are developing mRNA vaccines for threats ranging from viruses that are currently without effective vaccines—HIV, human metapneumovirus (hMPV), respiratory syncytial virus (RSV)—to a next-generation flu vaccine.

Cancer has been one of the most difficult diseases to attack, because of its mutability. By considering the mutations found in a specific patient's cancer cells, and the patient's distinctive immune system makeup, mRNA vaccines directed against those specific mutations can be generated on a small scale for individual use. Personalized mRNA vaccines to treat cancer are in advanced stages of development by several companies.

The broader field of (non-vaccine) mRNA therapeutics is also showing promise, and over the next several years, RNA is likely to be at the forefront of new approaches to treat a wide variety of diseases, such as cystic fibrosis and glycogen storage diseases.

All of these possibilities require one thing—rapid turnaround production of highly pure RNA. The technologies under development by the Martin lab at UMass aim to enable these advanced biomedicines. Our new process creates clean RNA right from the start, eliminating or reducing purification, while providing an even more uniform product than current approaches.

> "RNA is likely to be at the forefront of new approaches to treat a wide variety of diseases

As we look into the bright future of mRNA-based therapies for a wide array of diseases, our labs—and others at UMass Amherst—continue to press forward with vital research on all aspects of this potent technology, from measuring its efficacy, to perfecting delivery methods, to producing RNA for use in these therapies.

Elvan Cavaç '21PhD is an MBA candidate at the Isenberg School of Management and works in mRNA Process Development at Tessera Therapeutics. **Craig Martin** is a professor of chemistry at UMass Amherst. **Barbara Osborne** is a distinguished professor of veterinary and animal sciences at UMass Amherst.

> Dive into mRNA research from the Martin and Osborne labs: umass.edu/magazine/mrna

University of Massachusetts Amherst BE REVOLUTIONARY™

NON-PROFIT
US POSTAGE
PAID
PERMIT 19
BURLINGTON, VT

UMass Magazine
239 Whitmore Administration Building
181 Presidents Drive
Amherst, MA 01003

Change Service Requested

POP QUIZ!

We all have our favorite campus eatery or menu item. What does your go-to say about you? Take the quiz online to find out!

umass.edu/magazine/quiz