

UMBC

EVERYONE IS WATCHING WOMEN'S SPORTS

The world is finally recognizing that women are dominating their playing fields. At UMBC, we invite you to join in and cheer on our world-class women Retrievers. – page 22





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*Download Artivive
to view the hidden
animation in this picture.*



A Visual Feast

Sweaty Eyeballs 2024, the animation festival founded by **Phil Davis**, M.F.A. '07, included SKREFF (where this still originates) by **Corrie Francis Parks**, visual arts, and Daniel Nuderscher.

By Rabne Alexander, M.F.A. '21

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ON THE COVER

As a recent viral T-shirt declares: Everyone watches women's sports. We know that Retriever athletics is full of women worth watching, and we invite you to join the crowd.

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TO YOU



Dear Retrievers,

I haven't been on a campus tour in years, but it felt a little like one when I attended Homecoming this fall. You see, I have an 11th grader, so as much as I try to be chill about where he may or may not eventually attend college—*abem, we all happen to know the perfect place*—it was hard not to spin into tour-guide mode for my kids in the spaces between the carnival and our parking spot.

“Let's walk up the hill and play the piano in the woods!” I tell them, and they practically trip over themselves trying to find it so that they can play an off-key tune (see page 64 for more on that). “Whoa, what's that?!” they wonder, as we wander past the kinetic sculpture, a shark-inspired, bike-powered, recycle-material-adorned colossus parked outside the Fine Arts building. I point out more personal spots, too, like the place where my magazine friends and I completed “the best photoshoot EVER,” the route for the most picturesque fall walks, or where I once saw a squirrel drag an Eggo waffle away.

You're noticing, of course, that my “tour” would not pass muster with the Admissions folks. And yet, I imagine many of you who come back for a visit do the same sort of thing, whether you say these thoughts out loud while carefully walking backwards for a crowd or not. It's hard not to see the “place” as a memory because so much happens here that you just can't imagine until you're a part of it.

As you're reading this issue, I invite you to picture the places where the stories are happening. We can imagine the office where Milt Halem has guided students to work through some of science's biggest problems for so many years (page 30). We can hear the creak of the floorboards and the thud of the turf as our athletes play to win (page 22). We can picture the tinkling of test tubes in the translational life sciences program labs at Shady Grove (page 36), and we can enjoy the quiet contemplation of walking through our campus galleries (pages 14 and 42).

One of my favorite parts of Homecoming is hearing folks exclaim how much campus has changed since they attended as students, but the truth is it's all still here. New buildings may crop up, and the people may come and go, but our histories remain as unique layers in our memories forever. No map can accurately capture this sort of campus tour—but would we want it to, anyway?

—Jenny O'Grady
Editor, UMBC Magazine

WEB FEATURES

See web-only videos, interviews, and more all year long at magazine.umbc.edu.



NASA selects UMBC-led instrument for Moon-landing mission



UMBC recognized for excellence in student voter registration



For 15th year, UMBC named “Great College to Work For”

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OFFICE HOURS



Listening has defined the early years of President Valerie Sheares Ashby's tenure at UMBC, starting with her series of Bold Conversations to bear the many diverse Retriever voices. She continues to offer office hours for students, setting an example for other campus leaders to create similar opportunities in their own spaces. Meghna Chandrasekaran, Student Government Association (SGA) president, has extended the practice in her role as a programming intern at The Mosaic: Center for Culture and Diversity via "Chai Chats," an opportunity for South Asian Retrievers to connect over their shared heritage. The biological sciences and political science senior and Sheares Ashby talk about the discomfort that leadership can bring along with the ultimate flourishing that results in finding what you were meant to do.

Meghna Chandrasekaran: As a young SGA officer, I always thought that I would have to talk a lot to make my presence known. But over time, I realized I needed to take a step back and listen. And it wasn't listening just to listen—but listening to understand, especially lived experiences. After STRiVE [an intensive and engaging leadership for public purpose program at UMBC] and my work with the Center for Democracy and Civic Life, I'm able to assess

spaces in a way that I know when I can keep engaging and when I should just take a step back and sit with possible discomfort. I've learned a lot about listening with intentionality.

President Sheares Ashby: I am more and more comfortable with discomfort because I have developed a practice for myself. I have decided with intent that whenever I feel anxious, I will just sit up and lean slightly forward, because I do not want to pull back from the conversation. And that is my way of saying, "Just lean in. Everybody is okay."

Chandrasekaran: I've been in this SGA space since middle school. I was always told certain steps and guidelines to follow in order to be a leader. And when I came to UMBC, I thought, again: I'll follow the guidelines. But then I went to STRiVE, and that shook up my entire worldview, to be totally honest. I learned I needed to be myself, my unapologetic self. Previously in SGA spaces, I would never bring up cultural heritage because I saw that as unprofessional.

At the same time, I was a leadership peer facilitator, and I started to understand my own personal values. Now it's become second nature to show up in spaces as myself. That's where the Chai Chats started—I really wanted to do something to keep me in touch with my cultural heritage, which is extremely important to me as a Tamil American student.

There have been some times when my friends have complained that I'm being "SGA president" with them and not "Meghna," but that's not the case anymore. It is now a part of who I am, and I just show up this way everywhere I go.

Sheares Ashby: Leaders continue to grow every day. You have a conversation like, "Ooh, I did not realize I was thinking about it that way," or "I did not realize I had that bias," or "I did not realize that I was not communicating clearly." You learn something about yourself every single day, and you are growing. You show up as yourself every day and try to be the best version you could be. That is actually all anyone is asking you to do.

It is a beautifully calming thing [to know you] do not have to have all the answers. I do not have to know anything magical. I do not have to be right—and I am probably not going to be right. All I have to do is be me. What is next for you, Meghna?

Chandrasekaran: I'm applying for a master's in public policy, with a concentration in higher ed, in part because I've experienced something that feels unique to UMBC, especially with regards to shared governance. I talk to my peers at different institutions, and when I tell them what our SGA does, they're like, "Whoa, what? You have a seat at the table? You're managing a \$1.1 million budget?" And I'm like, "That's just the norm here." I can see how the structures of our institution are set in place to allow for student involvement, and I think the end goal is agency among the entire campus.

Sheares Ashby: You do not know how much all of that gives me joy. It is so fun to watch you. This is why I have the best job in the world. I get to watch you all become who you were intended to be. In spite of how hard it is to be a leader, I watch you do it with joy. Everyone here is trying to figure out who they actually are and how that aligns with the life that they want. You did it.

President Valerie Sheares Ashby discusses leadership with senior Meghna Chandrasekaran on the 7th floor of the Library.

DAWG'S EYE VIEW



RETAIL RANTS

When he's not (attempting) to take down cocaine bears, actor and comedian **Scott Seiss '16**, media and communication studies, is cataloging the many woes of working in retail. His new book *The Customer Is Always Wrong* is a "what not to do" in the world of customer service.

 @ScottSeiss



HAUNTINGLY ADORABLE

Here at #RetrieverNation, we take our love for all good dogs very seriously. That includes big dogs, small dogs, furry dogs, and....witch dogs? The outlook is definitely not grim with this cute 3D printed creation made by commonvision employee and senior graphic design student, **Jordan Fisher**.

 @commonvision



CHANNEL SURFING

Looking for something to watch tonight? Let us be your TV guide. **KeiLyn Durrel Jones '11**, acting, was cast alongside Natasha Rothwell in Hulu's *How to Die Alone*.

 @keilyn_em_softly



HOW OLD IN DOG YEARS?!

UMBC's official comfort dog and unofficial "World's Best Pup" turned five this summer! We kindly asked her to refrain from drooling on the cake, but we suspect it was all part of the birthday girl's plan to not have to share.

 @umbcpolice



A DINO-RIFIC DAY

Halloween is always especially roar-some at UMBC, particularly when members of the Academic Success Center make campus feel like *Jurassic Park* (minus the biting).

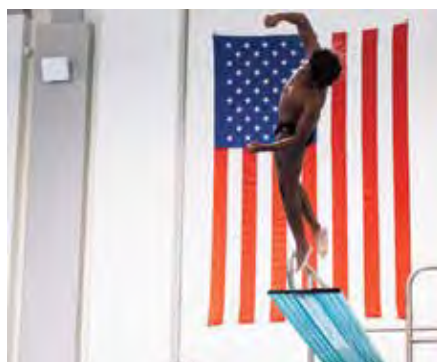
 @amanda-m-knapp



A-LISTER

Kaitlyn Sadtler '11, biological sciences, who works in regenerative medicine, is on the #TIME100NEXT list, which introduces readers to “the people who we believe will play an important role in leading the future.” Lead away! Portrait by Bret Hartman/TED

 @time



DIVING RIGHT IN

Kaleb Cave, a former competitive power-tumbler, has taken to the pool at UMBC, translating his floor acrobatics for an impressive dive routine with just one hitch—the mechanical engineering major needed to learn how to swim first.

 @lub_dive



PASS THE PUPUSAS

At the “More than Pupusas” True Grits’ Teaching Kitchen, author and cook Karla T. Vasquez taught Retrievers how to cook drool-worthy Salvadoran street food. We have our Tupperware open and ready to accept leftovers if anyone is looking to share! Read more at umbc.edu/stories/teaching-pupusas.

 @UMBC_Dining

WHAT’S YOUR VIEW?

Share your Retriever perspective on social media using the hashtag #UMBC, and your image could be included in a future issue of *UMBC Magazine*!

THE NEWS

Engaging Civic Discourse



UMBC launched two new centers of research this fall to provide a regional base for local, state, and national political analysis, and to foster nuanced discussions and exploration of pressing ethical issues across a wide range of fields.

President **Valerie Sheares Ashby** announced the founding of the UMBC Institute of Politics (IoP), an academic, political research, and public outreach center at the university's Fall Opening Meeting. Soon after, the IoP launched the "UMBC Poll," a program of public opinion polling and other public-facing initiatives on issues related to the 2024 general election and the upcoming 2025 Maryland state legislative session. Led by inaugural director **Mileah K. Kromer**, the IoP's most important purpose will be to provide UMBC students with unique opportunities for experiential learning and to build career-ready skills.

"As a public R1 institution located in the greater Washington, D.C., region, UMBC is ideally situated to enrich political understanding, elevate the level of public

discourse, and better prepare our students to be active, engaged citizens of our state, our nation, and our world," says Sheares Ashby. "We are delighted to welcome Mileah Kromer to the UMBC family and excited to add the Institute of Politics to our campus community."

UMBC's College of Arts, Humanities, and Social Sciences (CAHSS) also launched a new Center for Ethics and Values this semester. Among other work, the center will organize an annual public speaker series featuring experts on significant ethical issues faced by the campus community and society. Launching the series are experts on journalism, ethics, and democracy; U.S. presidential elections; neuroscience, free will, and moral responsibility; and more.

Leading the charge is **Jessica Pfeifer**, associate professor of philosophy and former executive director of the Philosophy of Science Association, who oversaw the development of the center and organized the Public Forum series with additional funding from

the CAHSS Office of the Dean. **Whitney Schwab**, associate professor of philosophy, will lead the daily workings of the center as its inaugural director.

"We all face ethical issues in nearly everything we do, from work to family life to our interactions with friends, to our role as citizens," says Pfeifer. "The center will provide the campus community the opportunity to develop a more sophisticated understanding of the complexities of the ethical issues they face as well as the relevance of ethical training for daily real-world decisions."

– *Cherie Ann Parker and Catalina Sofia Dansberger Duque*

Global Reach



Each year, more than 10,000 students apply to the Fulbright U.S. Student Program with just over 2,000 selected from hundreds of colleges and universities across the U.S. In the last decade, UMBC students and alumni have received more than 85 Fulbright awards for research and teaching placements in Africa, Asia and the Pacific, the Middle East, South America, and Europe. UMBC was named a Fulbright Top Producing Institution for the third time in five years for the 2023 – 2024 cycle.

The eight recent graduates and alumni who make up this year's UMBC Fulbright U.S. Student Program cohort will share their knowledge and build community around the world by earning master's degrees, conducting research, or teaching English. This year is especially significant, as six of eight awards are research-focused, the highest number in UMBC's Fulbright history.

"This year's cohort of Fulbright recipients and alternates shows the country and the globe what we at UMBC already know," says **Brian Souders**, Ph.D. '09, language, literacy, and culture, M.A. '19, TESOL, associate director of global learning at UMBC's Center for Global Engagement. Souders, who received a 2023 Fulbright International Education Administrator Award to Germany, has led hundreds of Retrievers through the Fulbright application process as UMBC's Fulbright Program advisor.

"We produce world-class graduates," says Souders, "who will lead the future with their work in laboratories, in the field, and in the classrooms throughout the world."

— Catalina Sofia Dansberger Duque

UMBC 2024 – 2025 Fulbright U.S. Student Program recipients (l-r): Sarah-Fatime Yoda '24, chemical engineering, research award to France; Jennifer Sorrells '22, political science, research award to North Macedonia; and Nicole Attram '23, mechanical engineering, master's award to Italy.

Welcoming Retriever Leaders

UMBC has announced the appointments of two key leadership positions: general counsel and vice president for government affairs and community relations.

Following a national search, **Paul A. Meggett** has been appointed UMBC's new general counsel, the university's chief legal officer. Meggett, who served since 2018 as general counsel at Appalachian State University in Boone, North Carolina, has deep and broad experience in all aspects of higher education law and in leading such work at public institutions, including top-tier research universities and healthcare systems.

Meggett earned his bachelor's degree from North Carolina State University and his law degree from UNC School of Law. After graduating from law school, he clerked for Chief Justice Burley B. Mitchell Jr. of the North Carolina Supreme Court. In 2023, Meggett was awarded the John B. McMillan Distinguished Service Award from the North Carolina State Bar.

Alumnus **Yaakov "Jake" Weissmann** '06, who served for nearly a year as associate vice president for government relations and community affairs, has now assumed the role of vice president. Weissmann majored in social work and psychology at UMBC, where he first became passionate about a life in public service and community engagement. Before returning to UMBC in 2023, he served for two years as the assistant chief administrative officer in Montgomery County and spent 14 years with the Maryland General Assembly, including two years working in the House of Delegates and 12 years in the Office of the Senate President.

During his time in the state Senate, he served in many roles, including as chief of staff for two



Senate presidents. Weissmann earned a master's degree in social work from the University of Maryland, Baltimore, and a law degree from the University of Baltimore. In 2023, Governor Wes Moore appointed him to the State Board of Elections.

"With these two appointments, we are making great strides. Our senior leadership team is growing even stronger, and UMBC's future is brighter than ever," President **Valerie Sheares Ashby** shared in a message to campus.

— Magazine Staff

*Above: Paul A. Meggett;
below: Yaakov "Jake" Weissmann '06.*



"Our senior leadership team is growing even stronger, and UMBC's future is brighter than ever."

— President Valerie Sheares Ashby

THE NEWS

In Brief

On Track to Success

UMBC has announced a partnership with national nonprofit College Track, an organization dedicated to supporting the academic and personal growth of first-generation and other less-advantaged students as they navigate through high school, college, and beyond. The agreement gives College Track a public higher education partner in the Baltimore region and builds on the April announcement by the Baltimore Ravens, the Stephen and Renee Bisciotti Foundation, and M&T Bank of a \$20 million donation to establish a College Track center in Baltimore to support Baltimore City Public Schools.

By combining College Track's innovative 10-year commitment to wraparound services with UMBC's proven success at delivering equity-based educational outcomes, the collaboration between the research-oriented public institution and the nonprofit is an exciting step forward for inclusive academic excellence in the Baltimore region and reflects UMBC's deep commitment to advancing knowledge, economic prosperity, and social justice by welcoming and inspiring inquisitive minds from all backgrounds.

"UMBC's tradition of academic and scholarly achievement is rooted in our understanding that there can be no excellence without inclusion; providing opportunities for students from all backgrounds is central to our core mission," said President **Valerie Sheares Ashby**. "Partnering with College Track will allow us to ensure that first-generation students and students from underserved communities have all the tools they need to reach their full potential."

— *Cherie Ann Parker*

Perfecting the Pipeline

The Maryland State Board of Education (MSDE) unanimously elected **Josh Michael** '10, political science, Ph.D. '22, public policy, as its new president this summer. Michael, whose career in education advocacy has greatly intertwined with UMBC for years, began his interaction with MSDE as a student representative on the board in 2005 when he was a Sondheim Public Affairs Scholar.

As president, Michael will oversee the administration of MSDE with the 11-member board, work with the state superintendent to provide oversight of Maryland's 24 school districts, and lead the board's work in guiding the implementation of MSDE's Blueprint for Maryland's Future, an initiative to increase state funding for education over the next 10 years with a focus on historically underserved students.

UMBC alumna **Chuen-Chin Bianca Chang** '91, nursing, is also a board member, representing Howard County since 2021.

After graduating from UMBC, Michael worked for six years as a math teacher at Baltimore City's Booker T. Washington Middle School and The Commodore John Rodgers School. He returned to UMBC in 2016 to work on growing what was then called UMBC's Sherman STEM Teachers Scholars Program (now the Sherman Teacher Scholars Program) with **Rehana Shafi**, the inaugural director, and with the support of The Sherman Family Foundation. The program prepared STEM majors to become high-quality K-12 teachers in urban settings through academic and professional coaching.

"My advice to students interested in public policy is to serve in the communities you want to work with," says Michael, currently also the executive director at The Sherman Family Foundation and a board member of the Maryland Family Network, Cherry Hill Strong, and the Teach For America Baltimore Regional Advisory Board. "Direct service in the classroom and communities have humanized the policy process for me."

— *Catalina Sofia Dansberger Duque*

Recognizing Community Excellence

UMBC recognized a slate of new outstanding alumni award winners and honorees in other categories at this year's Alumni Association recognition dinner in October. The following members of the community were honored:

Outstanding Alumni

- Khadijah Z. Ali-Coleman '95, interdisciplinary studies
- Omolola Eniola-Adefeso '99, chemical engineering
- Zhensen Huang, M.S. '00, Ph.D. '04, information systems
- Matthew Levy '00, M.S. '08, emergency health services
- Padmanabhan Seshaiyer, Ph.D. '98, mathematics

Distinguished Service

- Faisal Quader, Ph.D. '20, information systems (2024 awardee)
- Anwasha Dey, Ph.D. '04, biochemistry & molecular biology (2023 awardee)

Rising Star

- Austin Murdock '15, computer science

Outstanding Faculty

- Jiyeon Lee, Associate Professor, Teaching English to Speakers of Other Languages (TESOL) M.A. Program

Outstanding Staff

- David Hoffman, Ph.D. '13, Director, Center for Democracy and Civic Life

Read more about Quader (page 19) and Ali-Coleman (page 55) in this issue of *UMBC Magazine*, and learn more about the awardees at alumni.umbc.edu.

Alumni awardees from left to right: Hoffman, Huang, Dey, Seshaiyer, Ali-Coleman, President Valerie Sheares Ashby, Provost Manfred van Dulmen, Eniola-Adefeso, Quader, Lee, and Levy.
Photos by Jill Fannon, M.F.A. '11.



AT PLAY

The Dance Floor Beckons



In the fall of 1977, Jimmy Carter was president. NASA launched the Voyager I fly-by mission past Jupiter and Saturn. “The Mary Tyler Moore” show earned an Emmy for outstanding comedy, and the Atari 2600 gaming system went on the market. The Emotions’ “The Best of My Love” hit number one on the pop charts.

It was also the year Baltimore native **Teresa Kearney** entered UMBC as a dance major. But her route to a dance degree has been circuitous. She anticipates graduating in 2025.

At Walbrook High School in West Baltimore, Kearney danced under the direction of Beverly Marshall Johnson, who she still keeps in touch with today. As a young dancer, she performed regularly on TV channel 45’s “Soul City” (later renamed “Moonman Connection”)—a teen-dance show akin to the beloved “Soul Train” and “American Bandstand.” Kearney was accepted to UMBC with scholarships but, after two years, she heeded the call of Hollywood and decided to take a chance on professional dance opportunities on the West Coast.

By 1979, Kearney and her dance partner were regulars on the competitive social dance circuit. “We were getting really popular, my dance partner and I,” she says. “We got a chance to go to Hollywood and be on ‘Dance Fever’ and compete from state to state, city to city. We made our living in dance for a long time.”

Kearney held onto the goal of a UMBC degree for decades as life intervened. In between, she took on acting roles, was an instructor for LaBlast Fitness under Louis van Amstel of “Dancing with the Stars,” graduated from the Broadcasting Institute of Maryland for air talent for radio and TV, including an FCC license, sold insurance and real estate, and helped put her nephew through medical school, to name a few of her jobs and activities. “Then my mother, Lillie Kearney, passed away three years ago. “She was also a dancer, and I thought this is the time for me to go back to college,” Kearney says. “It was on my bucket list.”

As a long-time professional dancer—who never actually retired—Kearney continues to challenge herself by learning new techniques and styles. And she’s worked hard to re-train her body after decades dancing in heels on Latin and social dance circuits. “I’m still learning,” she says. “There’s a contemporary African dance class required now for all dance majors. For a two-and-a-half-hour class, it’s very energetic. And even though I’m 65, we all have challenges in that class,” she notes of her younger classmates.

Ballet instructor **Alison Crosby** could see Kearney was working hard, and says, “Teresa made it easy for me to keep the standard of the course, because she asked for no changes, asked for nothing to be different.” Plus, by showing up on time, preparing her body with gentle

stretches to warm up her muscles and feet, and finding her place at the barre, Kearney modeled the appropriate dancer’s discipline that is expected in professional classes and rehearsals.

“Her experience in dance is wide and professional,” Crosby adds, “and she modeled the discipline and respect for coming to ballet class.” As an instructor, Crosby noticed how easily Kearney connected with her much younger classmates. “Teresa was involved with even the first-years. They all saw Teresa with great respect.”

In fact, Kearney shares that her classmates in the dance program often seek her out for advice or just a listening ear. She’s noticed that these students face far more self-doubt and pressures than she did when she was a student in the 1970s.

“Last semester, I was talking with a group of students,” Kearney recalls. “We were overwhelmed with classes and how hard it is. I said, ‘Wait a minute. We’re here getting a degree.... We’re here to learn even when it’s hard.’”

“Once in a while,” Crosby says, “I’ll ask a student to show something as a positive model for the rest of the class. I asked Teresa...she just was dancing and using her eyes and her head so beautifully—everything she’d learned through her dance life. It’s still in her—that artistry through all the years and her different careers—her artistry has just stayed with her.”

—Lisa Traiger

Kearney, middle, in class with her fellow dance majors. Photos by Kiirstn Pagan '11.



A Visual Feast

“Sweaty Eyeballs” was born out of a Baltimore summer. The humid words hung in the air when animator **Phil Davis**, M.F.A. '07, imaging and digital arts, was putting his plans into place in summer 2012 for the first edition of the animated film festival that now bears the moniker.

“I liked how they sounded, they felt like a memorable name,” Davis says. “And after watching 92 animated shorts in a weekend, your eyes will feel like they’ve been through a workout!”

Davis, now a professor at Towson University’s Department of Art + Design, is an animator whose own hand-drawn, stop motion, and digital animations have screened around the world. “Animation has the ability to tap into so many human emotions it’s part of why I love it so much—its expressive potential is boundless,” he says.

The 13th edition of Sweaty Eyeballs wrapped up this October, showcasing 92 short films from around the world. Before giving an industry talk at the festival, Los Angeles–based animator and production designer **Miguel Jiron**, who worked as head-of-story on the *Spider-Man: Into the Spider-Verse* movies, offered a waitlist-only Story Development Masterclass at UMBC.

From UMBC’s visual arts program, recent graduate **Carter Gray** '24 and senior **Mariel Chavez-Barragan** are featured in the festival’s Baltimore Showcase Competition, among many other faculty and staff. “Carter Gray’s film *Tempus* is a really cool short animation that has an environmental bent, and it’s basically the history of the world and how humans are kind of destroying the earth,” says Davis. “Mariel Chavez’s *The Beautiful Pain of Trichotillomania* is very short, beautifully animated drawings on paper.”

Other UMBC faculty and staff with work featured in the 2024 Sweaty Eyeballs lineup include **Tima Afitunov** (*Earbblings*), **Jim Doran** (*Magus Incognito*), **Eric Millikin** (*The Dance of the Nain Rouge*), and *SKRFF* by **Corrie Francis Parks** and Daniel Nuderscher.

“Corrie’s new film is amazing,” says Davis, “It’s sort of deconstructing graffiti art on this wall that’s had graffiti on it for years and years and

years. And Eric Millikin’s is a really mesmerizing piece utilizing these custom-made AI training sets to create imagery.”

Parks, an associate professor of visual arts, also served this year as curator of a concurrent gallery exhibition, *Sweaty Eyeballs: Animation Adjacent*, which featured aspects from the earliest forms of animation such as praxinoscopes and zoetropes—mechanical devices that created the illusion of motion—through modern digital techniques.

“I wanted to highlight the ways that animation can stand outside the picture and in different formats and show the approaches of different artists who incorporate animation into their practice,” Parks says. “There are a lot of artists practicing ‘expanded animation,’ that expands outward in different modes and mediums, work that necessarily needs to be in a different space.”

Numerous UMBC-affiliated artists were featured in *Animation Adjacent*’s programming, including Jim Doran, an AOK Library staff member who presents an assemblage of fragmental stories contained in small containers, and **Kelley Bell**, M.F.A. '06, associate professor of visual arts, whose installation “Enchanted Jangle” is the epic cardboard fort your five-year-old self dreamed of. Adjunct professor **Kat Navarro** taps family history and diasporic longing to present “The view from my childhood window.”

The show includes two interactive, generative installations by **Timothy Nohe**, visual arts professor, and **McCoy Chance** '19,



music technology and media and communication studies. “Both artists use sound translated into electronic signals as the catalyst for animation,” says Parks, “and invite the viewer to be the ‘animator’ by activating the works with their voice.”

An animator who has exhibited her work around the globe, Parks notes that *Sweaty Eyeballs* stands out as a unique event in U.S. film programming. “I’ve really been thankful for *Sweaty Eyeballs*,” she says. “There are few other cities in the United States where you would get such good animation programming in an actual festival devoted to animation.”

— *Rabne Alexander, M.F.A. '21*

Above: Phil Davis, M.F.A. '07, founder of Sweaty Eyeballs. Photo courtesy of Towson University. Below: Hollywood-animator Miguel Jiron provides feedback in a workshop with UMBC students. Photo by Mashaal Awan '25.



AT PLAY

Food Network

When you walk into Kupcakes & Co. in Elkridge, Maryland, you are met with the welcoming aroma of fresh baked goods—cookies, cakes, cinnamon rolls, and, of course, cupcakes. Drawn in by the scents and scenes in front of you, you'll soon meet the proprietor, **Michelle Kupiec** '89, interdisciplinary studies. She wasn't always an award-winning baker though. In 2007, Kupiec was a teacher and a mom, just trying to get her young son to eat food again after a series of difficult surgeries.

Without knowing it, Kupiec was traveling a well-trod path by other UMBC alumni who pivoted their careers to start their own food businesses. "The only thing stopping you is the belief that you can't," says **Donta Henson** '13, M.P.S. '17, Navy veteran and co-owner of Los Hermanos 1978 Tequila. This mentality led Henson out of the healthcare industry to start a tequila company with his brother in the middle of the COVID-19 pandemic. Likewise, **John Williams** '04, financial economics, owner of Good Karma Creamery, flipped his life upside down (like a good pineapple cupcake) to follow his passion.

For seven years, Kupiec taught for the Howard County Public School System while raising her twins, Adam and Allison. Her husband, **Bill Kupiec** '89, interdisciplinary studies, worked as an IT manager at the Carnegie Institution for Science. Then, Adam started getting sick. He was in and out of the hospital 15 times over three years. In 2007, Adam underwent spinal-fusion surgery that left him with two 20-inch rods and 18 screws in his back. Then came the painful recovery.

"Adam wasn't eating. Nothing was appealing to him," remembers Kupiec. "The doctors encouraged us to watch shows involving food." Adam quickly fell in love with the bakers he saw. As soon as he was physically able, Adam was in the kitchen experimenting, which helped keep his mind off the pain.

Throughout his recovery, the two continued to bake and share their creations with friends and family. A food truck entrepreneur approached Kupiec about baking for Curbside Cupcakes.

Kupiec and Adam started baking 800 cupcakes a day, seven days a week—on top of homeschooling. Then, Curbside Cupcakes added a second truck, and 800 cupcakes became 1,600. At this scale, Kupiec decided to open her own brick-and-mortar business, and in 2011, Kupcakes & Co. was born. After 14 years, business is strong. "We turned our passion into a purpose," says Kupiec.

For Henson, a health administration and policy major, the transition from a full-time health IT professional for the Centers for Medicare and Medicaid Services to tequila purveyor took a slightly different route. During COVID-19, in lieu of other activities, Henson's brother William would regularly visit with a bottle of tequila.

"We probably tried 20 different tequila brands," recalls Henson. "We started feeling like we were tequila experts. I told my brother, 'You know what? We could probably start our own brand.'"

Henson started cold-calling other tequila brands to learn more about their relationships with distilleries when he hit a snag: Tequila needs to be made in Mexico.

In November 2020, Henson and William traveled to Guadalajara to tour Casa Maestri, a third-generation, family-owned distillery to meet with farmers and learn what it takes to make tequila. The brothers then began working with the distiller to choose the flavor profiles for their blanco and reposado tequilas. But what about a name?

"I wanted a name that captured the whole familial thing," says Henson. They settled on "Los Hermanos," which means "the brothers" in Spanish. Three years later, Los Hermanos 1978 Tequila can be found in over 300 stores across six states and has won 24 awards. "Everything hinged on the mindset that we could do it," says Henson. "We didn't know anything."

The pandemic offered many people the chance to pivot, but Williams, a vice president at T. Rowe Price, already knew that he wanted more than an office job, especially with a young family. "It was a very good job in a lot of ways," says Williams, who worked there for 10

years. "Intellectually stimulating, financially rewarding, but it was a high-pressure type of job." Williams says he learned an important lesson during his time at UMBC: saving. So he put money away, lived below his means, and was able to control his future at a young age.

Williams left T. Rowe in 2020 to figure out his next step. "I stumbled on it a lot faster than I expected," says Williams. "I was sitting in my driveway one day thinking about ice cream and realized I was bored with what was at the grocery store when it hit me: I should make ice cream."

So he began experimenting. "While I was watching my young daughter, I was probably spending 10 to 15 hours a week making ice cream," says Williams. Soon he upgraded to a more sophisticated machine and began sharing his ice cream creations with his neighbors, along with anonymous surveys. "I was getting brutally honest feedback," says Williams.

Once Williams had a better understanding of what people liked, and his daughter was off to kindergarten, he was ready to churn out his ice cream hobby into a full-fledged business.

Today, Good Karma Creamery sells ice cream online, with a drop every two weeks—the pints selling out within minutes. It's not the grind of a financial job, and he gets to taste-test a lot of delicious flavors. From Williams' seat, he thinks he made the right decision. "I decided to take my passion into my own hands," says Williams.

—Bobby Lubaszewski '10, M.P.S. '23

Clockwise from upper left: Donta Henson '13, M.P.S. '17, and William Henson visit the Casa Maestri distillery in Guadalajara, Mexico. Photo courtesy of the Hensons.

Michelle Kupiec '89 holds a display of colorful baked goods at Kupcakes & Co. in Elkridge, Maryland.

John Williams '04 packages pints of his pumpkin cheesecake ice cream in his commercial kitchen in Baltimore, Maryland.



DISCOVERY

Stories Set in Stone



A faint blue glow emits from the back of the gallery space. The mood lighting envelops visitors, acting as the backdrop of the theater-like space where a film shows a performer rubbing a slab of solidified coconut oil across a block of marble. Sounds of the marble being caressed with the coconut oil reverberate throughout the space. The gallery is the culmination of the inner workings of multimedia artist **Levester Williams'** mind.

The immersive, sensorial exhibition “all matters aside,” which opened this fall at UMBC’s Center for Art, Design, and Visual Culture (CADVC), combines Williams’ filmic work, sound installations, sculptures, a tapestry of text that wraps around the gallery, and photography that focuses on the significance of materials, their histories, and their meaningful connections to specific sites. The exhibit’s main focal point centers on a natural material that is a historic staple of Baltimore life—marble from Cockeysville, Maryland.

Williams is the 2023 – 2024 artist in residence in the CADVC’s Exploratory Research Residency Program. In addition to “all matters aside,” he collaborated with the center to complete a new video art project called “dreaming of a beyond: Baltimore.” Through researching the history of Cockeysville marble, Williams underscores

the “intertwined history of African Americans’ plight to self-determined agency and full citizenship, and a rather benign stone.”

“The stone is a literal and figurative bedrock of our nation. It’s used in many prominent monuments and institutions,” including the Washington monuments in Baltimore and D.C. and the 108 columns of the U.S. Capitol Building, says Williams.

“Artists are researchers, technicians, and producers. I think some of that occasionally may be underemphasized in certain contexts, but fortunately not at UMBC,” says CADVC Director **Rebecca Uchill**. “CADVC’s residency program...has been an especially enriching opportunity because of UMBC’s laudable, sincere belief in the importance of the arts as research.”

The artist began his exploration into the dolomitic stone that is quarried in Cockeysville, 25 miles from Catonsville, after reading a passage in Lindon Barrett’s book *Blackness and Value: Seeing Double* about jazz singer Billie Holiday’s time growing up in Baltimore, including her stint cleaning the marble steps in Baltimore as a teenager.

Through archival research, Williams learned more about the stone’s connection to Black people in Baltimore and their bodies as they handled, cleaned, and labored over the marble.

The “dreaming of a beyond” series consists of short vignettes capturing performers touching and physically engaging with structures, objects, and buildings made with Cockeysville marble.

In Baltimore, Williams filmed performers interacting with the (original) Washington Monument in Mount Vernon Place. **Nia Hampton**, an intermedia and digital arts (IMDA) graduate student at UMBC, was featured in “dreaming of a beyond: Baltimore,” filmed with the assistance of IMDA student **Bao Nguyen**.

“What I appreciate about Levester’s work is its level of obscurity,” says Hampton. “When I saw his work, I thought it was different—I never saw anything like it before.”

Hampton included her mother, Sheila Gaskins, a multi-disciplined artist who has been a local arts advocate and educator for more than four decades, in her performance. “When I was interacting with the marble, it wasn’t a pretty thing,” says Gaskins. “I was thinking about my ancestors. Nia and I were having conversations about the slaves that probably built the monument.”

“Black folks touching the stone have been an anchor in this master-slave dynamic. I reimagined this relationship between the Black body and the stone, which is not in service of this power dynamic,” says Williams. “I’m using this stone as a way to reimagine Black folks in public spaces.”

— *Adriana Fraser*

Below: Video still of Nia Hampton from “dreaming of a beyond: Baltimore,” filmed at Mount Vernon Park Place in November 2023, courtesy of Williams.



Global Learning, at Home

Middle school sweethearts, **Ellyn Fennema** and **Joseph Patarini** came to UMBC to pursue global studies (her) and geography and environmental studies (him). Despite their busy schedules, they were able to squeeze in a wedding between their sophomore and junior years. While waiting to carpool home, Joseph used to sit outside Ellyn’s Latin American studies classes with **Felipe Filomeno** and be drawn into the content. Without meaning to, his interest was piqued by how to connect both their fields in a real-world setting.

For the past four years, Filomeno has taught a version of Collaborative Online International Learning (COIL) Brazil, a class that meets online with Retrievers and Brazilian students alike. COIL 2024 focused on climate change, and Joseph jumped at this opportunity to use his GES major in a global studies classroom.

Filomeno taught the class in collaboration with former colleague **Clarissa Dri**, a professor of international relations at his alma mater, Universidade Federal de Santa Catarina (UFSC, the Federal University of Santa Catarina), in southern Brazil.

“COIL has become another major pedagogical tool I use for active global learning,” says Filomeno, noting along with Dri the growing interest in COIL. The first year’s program lasted one day, the next year two weeks, this year’s spanned three weeks, and in spring 2025 it will be four weeks. “The students are very interested and happy with the intercultural interactions, exploring cultural differences, and the possibility to interact in English,” says Dri. “They are amazed by the concrete possibility of talking to someone who is in the U.S. right now and to listen to what they think of our country.”

Before participating in COIL, Joseph’s understanding of Brazil was at a more physical level. As a GES student interested in climate change policy, Joseph saw COIL as an extra opportunity to develop a personal, qualitative understanding of land-use change, deforestation, and Brazilian environmental policies.

Filomeno and Dri coordinated the classes to align with the two countries’ one-hour time difference over Webex. Students implement social science research methods to gather and analyze data and then share their findings.

In Joseph’s class, students put on hats of various U.S. and Brazilian constituents from political parties to worker’s unions, government agencies, philanthropic organizations, and Brazilian Indigenous rights groups. Teams researched their constituents’ climate stances and proposed two goals for the president of their country to pursue at the 2025 United Nations Climate Change Conference.

On the Brazilian side of the classroom, initially **Gustavo Peres** was hesitant to apply to COIL Brazil 2023, which focused on democracy in the context of the 2020 U.S. presidential elections and Brazil’s 2022 presidential elections.

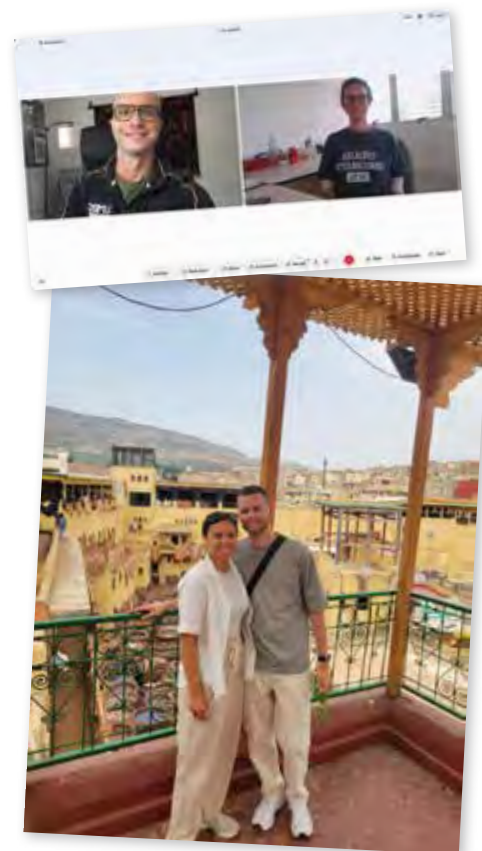
“I could have just seen the email and said, ‘No, it’s not for me’ because I felt intimidated to be judged about how I speak,” says Peres, a native Portuguese speaker and English language learner. “I could lose a big opportunity to practice English and also know more about other people, their culture, and other things that are very valuable to our life. The West can provide a lot of things to other countries, but I think the other countries can also give a lot to the West.”

COIL makes international scholarship and intercultural learning accessible by removing barriers of cost and travel while preparing students with essential skills for future in-person exchanges. The Patarinis were inspired to extend their learning beyond the classroom by fulfilling Ellyn’s global studies education abroad requirement together—spending their senior summer in Morocco and Spain.

The Patarinis celebrated their first anniversary in traditional Moroccan style with their friends and host family in Rabat, the capital of Morocco, during their UMBC faculty-led intercultural communication education abroad trip. “Reading and studying global issues is one thing, but experiencing them firsthand offers an entirely new perspective—it ignites a deeper understanding and fuels a powerful drive to create meaningful change,” says Ellyn.

— Catalina Sofia Dansberger Duque

Top: Felipe Filomeno and Clarissa Dri co-instruct COIL Brazil online. Bottom: Ellyn and Joseph Patarini celebrate a year of marriage while in Morocco during their education abroad.



“Reading and studying global issues is one thing, but experiencing them firsthand offers an entirely new perspective.”

— Ellyn Fennema Patarini, global studies major

DISCOVERY

Fish School

Some organisms are better than others at surviving without oxygen. “Humans don’t do very well without oxygen, but even humans have adaptive mechanisms,” says **Rachel Brewster**, professor of biological sciences. Zebrafish, however—the model organism Brewster studies—can survive up to 50 hours without any oxygen at all.

Brewster’s lab has been working with blue-and-gold striped zebrafish for years, painstakingly figuring out just how they mitigate the effects of reduced oxygen (“hypoxia”) at a molecular level. “What we’re really interested in discovering is what adaptive molecules we might share in common with some of these highly hypoxia-tolerant organisms like zebrafish,” Brewster says. “And if we share those molecules, how can we control or modify their activity to improve outcomes?”

Being able to keep human tissues alive and undamaged under hypoxia for longer stretches of time has a range of potential benefits. Notably, it would expand the ability to deliver donated organs to transplant recipients most in need.

Over the last several years, Brewster’s work, funded by the U.S. Department of Defense and the National Institutes of Health (NIH), have led her group on a swimmingly successful journey of discovery. Brewster hopes other researchers will translate the fundamental knowledge her lab has brought forth into treatments that save human lives. In recognition of her group’s contributions, Brewster has just secured a five-year, nearly \$2 million grant from the NIH to continue solving the puzzle.

Equally important to Brewster, her research program creates opportunities for emerging scientists to learn practical skills and scientific habits of mind. Her current team includes graduate and undergraduate students, all of whom have contributed to creating new knowledge. “Research and training go together for me,” Brewster says.

Organisms that excel at adapting to low oxygen typically reduce their metabolic activity when oxygen drops, therefore reducing demand as supply dwindles. “They reach a new status quo,” Brewster says.

However, it might not always be that simple. Rather than immediately inhibiting energy-intensive processes, Brewster’s lab has found that production of certain proteins initially rises under hypoxia. Based on evidence from their own extensive experiments and research in the literature and genetic databases, the Brewster lab has developed a model of the system.

When oxygen is low, a small molecule called lactate and a protein called NDRG1a increase. Lactate binds to NDRG1a in such a way that allows it to interact with an energy-hungry enzyme called an ATPase. The bound ATPase is then guided either to a cellular storage unit or to the “garbage can” of the cell, which reduces demand from the ATPase for energy and improves the organism’s ability to survive low oxygen.

An important implication is that lactate or a similarly-shaped molecule could potentially be used to artificially induce an energy-conserving state, Brewster explains. That might help retain organs in viable condition for longer—and that could save lives.

It’s taken Brewster and her students years to get to this point. It’s incremental work like this that takes science to new heights step by step. Brewster’s research group has already moved the needle on understanding how organisms adapt to oxygen deprivation, but there is still much more to do.

“While hypoxia is damaging, what is even more damaging is the return to normal oxygen,” she says. “That had us wondering if NDRG is also involved in the reoxygenation phase.”

Goals for future work in the lab include figuring out NDRG1a’s role in the reoxygenation process and looking into other proteins that NDRG1a interacts with to explore their potential roles in hypoxia response. She also wants to study other members of the NDRG family. Ph.D. candidate **Prableen Chowdhary** is currently investigating NDRG1b.

Other students and alumni are making important contributions, too. Ph.D. candidate **Lilian Gonzalez** is investigating NDRG1’s role in hearing loss, which is associated with hypoxia. **Tim Hufford**, Ph.D. ’23, biological

sciences, discovered that cells begin producing larger quantities of many different proteins when oxygen drops, demonstrating that “it takes energy to save energy,” Brewster says.

The possible future work Hufford’s research opened up “is more research than my lab could pursue in a lifetime,” Brewster says. She plans to spend her remaining time at UMBC supporting the next generation as they pick up the torch. More and more undergraduates in her laboratory are authoring academic papers, and three of Brewster’s undergraduate researchers have received the prestigious Goldwater Scholarship in the last five years.

“I want to be very intentional with the time I have, and student training is something I care deeply about,” she says. “Anyone can be excellent in science. And that is what I strive for in my lab—to support every student to reach their potential, no matter where they’re coming from.”

— Sarah L. Hansen, M.S. ’15

Right: Prableen Chowdhary, a Ph.D. candidate in Rachel Brewster’s research group, handles a container of zebrafish, the lab’s model organism. Chowdhary is looking into the role of a gene called NDRG1b in the fish’s response to reduced oxygen.

Below: Rachel Brewster makes mentoring students the cornerstone of her work as a UMBC faculty member. Left to right: Rachel Brewster, Gabriel Otubu, and Felix Rene Siewe. Otubu and Siewe are senior biochemistry and molecular biology majors.





IMPACT

A Destination for Developmental Psych



Graduate students rely on internet research and word of mouth to find programs that align with their interests. In the case of **Hatice Gursoy**, a search for developmental psychology doctoral programs that could support her interests in the resiliency of Muslim immigrants led her from the Republic of Türkiye to **Charissa Cheah** and UMBC's Culture, Child, and Adolescent Development Lab, where another student from Türkiye worked. "She connected me with Dr. Cheah, and we bonded from that moment over my research interests," says Gursoy.

Gursoy is not alone in her trajectory to Cheah's lab. Students worldwide are drawn to Cheah's hands-on approach to teaching, mentoring, and research. "I tell students that my lab is a vibrant space where they can build expertise in collaborative public impact research," says Cheah, a professor of psychology. She studies adolescent social-emotional development and the well-being of families from minoritized backgrounds, emphasizing the experiences of those from Asian, Middle Eastern, and North African heritage, which are frequently overlooked in psychology research, she says.

Cheah offers graduate students seven ongoing research projects to choose from, including the latest—Asian Americans' Resilience, Identity, and Socialization of Engagement (ARISE)—which focuses on the impact of racism and discrimination on Chinese, Korean, and Filipino American families parents' and adolescents' relationships, multiple identities, racial-ethnic socialization,

civic engagement, and development. Earlier in 2024, Cheah was invited to the White House to present the latest findings on the ARISE project with the Office of Science and Technology Policy. "It is empowering to represent the voices of marginalized groups, especially early-career scholars, and to speak with individuals who aim to use this information to shape policies that decrease bias and hate," she shared there.

Thanks to Cheah's approach to mentorship, **Hyun Su Cho**, Ph.D. '24, applied developmental psychology, had the support she needed to navigate unprecedented changes like COVID-19, in-person and virtual classes, and welcoming a new child. "It can all be very overwhelming," says Cho. "Charissa is very busy, but she always finds time for you."

Cho read about Cheah's research while completing her master's in developmental psychology at Seoul National University in South Korea. "I had the same master's advisor as a former doctoral student in the lab and she introduced me to Dr. Cheah during a conference," says Cho. "I was interested in parenting and world culture. Her lab offered opportunities to study multiple Asian communities."

Initially, Cho collaborated with Korean American families on the Immigrant Children's Successful Transition and Adaptation Research project. Later, she became deeply involved in the ARISE project, leading to several publications and funding to complete her dissertation.

Huiguang Ren, Ph.D. '24, applied developmental psychology, also found his way to Cheah's lab through a recommendation. As

a master's student in developmental psychology at East China Normal University, he wasn't sure whether to go straight into industry or continue with a Ph.D. He sought guidance from his mentor, who was researching adolescent development in Shanghai with Cheah. Ren started at UMBC as a visiting scholar before joining the doctoral program. "After working with Dr. Cheah, I decided research is something that intrigues me, and it's a career that I want to pursue."

Ren, who is now a cultural and developmental psychology researcher in Shanghai, China, worked on several projects in addition to ARISE. He helped set up the Strengthening Asian American Families' Excellence and Resilience project, one of the first National Science Foundation grants to explore the influences of the COVID-19 outbreak on racial discrimination, identity development, and socialization. Ren and Cho managed classes, guided students through research methods, helped them develop scientific language, and showed them how to analyze the data they collected and disseminate it to families and scholars.

Gursoy is now in the fifth year of her doctoral program focused on the Identities of Muslim American Adolescents and Their Growth and Excellence research study. This project explores the impact of identity, interpersonal relationships, racism, and cultural socialization factors on Muslim American development and adjustment.

Like Cho and Ren, Gursoy mentors undergraduates, modeling Cheah's methods and plans on taking those skills with her. "Working with undergraduates is one of the things I love doing best. They are creative, curious, and are not afraid to tell you something that might not work," says Gursoy. "Dr. Cheah has been holding my hand throughout my journey. Helping me learn by giving me constructive feedback. I want to give the same kindness to our undergraduates."

— *Catalina Sofia Dansberger Duque*

Cheah and Yao Sun, an applied developmental psychology doctoral student from Hong Kong, practice participant observation techniques with a double-sided mirror.

Retrievers Behind the Scenes



Meet **Chris Serafin**, electric trades supervisor in UMBC's Facilities Management (FM). Serafin has been at UMBC for nine years

and was recently awarded a USM Board of Regents' Staff Award for his exceptional work, including a high voltage electrical switch replacement in the Engineering Building that ended up saving the university a half a million dollars in contractor's fees.

Q: What's one essential thing you'd want another Retriever to know about you?

A: I enjoy my job as electric supervisor and have a great group of high-voltage electricians that work hard every day to ensure the stability of the UMBC power system. I received my management studies degree in 2020, taking full advantage of the tuition remission program provided by the State of Maryland. I enjoy building furniture and playing guitar in my free time.

Q: Tell us about someone in the community who has inspired you or supported you, and how they did it.

A: **John Zahor** [assistant vice president for FM] has been extremely supportive in my career at UMBC. He has been a hands-off boss and has allowed me to make critical changes to how the UMBC electric shop is run, which has greatly improved the efficiency of daily operations.

Q: What part of your job do you enjoy the most and why?

A: Leadership has allowed me to be proactive, creative, and think outside the box when exploring the fascinating world of electrical theory.

Q: Tell us about the people who have helped you at UMBC.

A: **Lenn Caron** [acting vice president, Administration and Finance], **John Zahor**, and **Valerie RiChard** in FM have allowed me to run the UMBC electric shop the way I think it needs to be run to provide the electrical requirements of administrators, faculty, staff, and students at UMBC.

Expanding Access to the Cyber Ecosystem

There's already a student waiting outside the office of **Faisal Quader**, Ph.D. '20, when the adjunct information systems professor arrives for his limited hours on campus.

"She's trying to get a cybersecurity job, but it needs security clearance, which she cannot get due to her non-U.S. citizen status," says Quader later on. "However, we talked about alternative solutions to her problem."

Moments like these aren't uncommon for Quader, a former international student himself. He now spends a large portion of his time in service to those around him, whether it's in the classroom, in a meeting room at the high-tech company he co-founded, or on stage when he's singing classic Bengali songs.

Quader is the president of Technuf, a Rockville-based company that supports agencies such as the Internal Revenue Service, the National Institutes of Health, and the Department of Homeland Security as well as state state governments on high-profile cybersecurity initiatives. He's also a part-time cybersecurity instructor at UMBC and elsewhere.

"Cybersecurity is an extremely hot topic, and I like that I can bring in the industry perspective to my theoretical teachings," explains Quader. His courses are capped to capacity every semester and have an ever-growing waitlist of students. Quader has also established the Technuf Endowed Fellowship to support entrepreneurial graduate students conducting research and/or pursuing a career in AI, machine learning, or cybersecurity.

"When I was a student here in the U.S. after emigrating from Bangladesh at age 18, I didn't have a scholarship or funding because I was an international student. I struggled," he says. "I'm not able to help every student, but this is a good start."

Quader also created a summer internship program at Technuf. Several UMBC students have gone on to work full time at Technuf following their internships, including **Isha Shah**, M.S. '23, information systems. In summer 2022, Shah worked at Technuf as a software engineer and data science intern.

After graduating from UMBC, Shah was offered a full-time position at Technuf as a product development engineer. "Dr. Quader always emphasized the importance of real-world applications and critical thinking," says Shah, "which made a significant difference in my understanding of cybersecurity concepts."

While Quader has spent the last three decades as an industry leader, he's dedicated much of his life to something he got from his mother: a love of singing. "Music refreshes my brain," says Quader.

In October, Quader was honored for his impact as a 2024 recipient of UMBC's Distinguished Service Alumni Award. "I can see the difference I'm able to make with my students by giving them job opportunities, internships, training, and industry focused-teaching," Quader beamed. "That's what keeps me going."

— *Adriana Fraser*

Quader receives his Alumni Award. Photo by Jill Fannon, M.F.A. '11.



IMPACT

When Public Service Gets Personal

When **Patricia Mengue Bindjeme**, a junior majoring in mechanical engineering, went to classes, her professors would sometimes point out how engineers' decisions can have life-or-death consequences. But the message really hit home this past summer when Mengue Bindjeme interned at the Maryland Transit Administration (MTA), working on the Baltimore Red Line Project, a recently revived transportation project to create faster and more convenient links between the eastern and western parts of the city.

"I saw people talking about the journeys they had to make coming from West Baltimore to work at someplace like Johns Hopkins," she says. "That's a lot of travel." Mengue Bindjeme realized how engineers working to ensure the safety, availability and reliability of transportation could make huge differences to people's everyday lives. "Having another person's life in my hands is nerve-racking," she says. "But the change I can make for someone else is really beautiful and impactful."

Mengue Bindjeme secured her internship at MTA through the Maryland Public Service Scholars (MPSS) program, a 12-week summer fellowship program funded by the state of Maryland and administered by the Shriver Center at UMBC. The goal of the program is to provide students across Maryland the opportunity to develop as future leaders in the state's public and social sectors.

Mengue Bindjeme was one of five UMBC students who completed the program this past summer. The others were **Tasnim Rushdan**, a senior global studies major; **Aziza Mattaka**, a junior global studies major; **Dionne Cole**, a senior biology and social work major; and **Samantha Fu**, a junior psychology and public policy major.

The students wrapped up the fellowship with real-world experience on their résumés. "From day one, I was having real tasks and learning real things," says Rushdan, who worked as an international affairs fellow at the Maryland Office of the Secretary of State. The international division of the office was small—with just two full-time employees—so as an

intern Rushdan was immediately involved in important work such as reviewing agreements, organizing meetings, and writing memos for Maryland Secretary of State Susan C. Lee and Governor Wes Moore. Rushdan helped organize the Pan African City Exposition to facilitate discussions with international delegates around ideas for improving economic development and making housing affordable. She also met with embassy officials, business leaders, and students from around the world.

Mattaka worked in the Governor's Office of Crime Prevention and Policy, working with victims of crime on their compensation claims. "Sometimes when I'd call people, they would go into their stories," she says. "It really put into perspective my privilege, but it was also rewarding to be in a place to assist."

The students faced challenges throughout their fellowships, from the sometimes heavy nature of the work to the pressures to balance their schedules, produce deliverables, and present in front of the leaders of Maryland government.

They found support from program staff, the mentors they were matched with in their workplaces, and from each other. Each Friday, all the program participants met together and attended workshops to talk through their experiences and learn new skills for success.

"We realized that, even though we come from diverse backgrounds, we were there for the same mission. We're facing many of the same challenges, and we're all in it together," Rushdan says.

"I made lifelong friends who are supporting me and really wanting me to succeed," says

Fu, who worked at LET'S GO Boys and Girls, a nonprofit organization dedicated to fostering economic success in underserved communities through STEM education and workforce development.

Throughout the summer, the MPSS scholars pushed themselves out of their comfort zones and discovered how much they had to contribute.

"Before the program, I was afraid of public speaking," says Fu. "By the end of the program, I was able to confidently present a grant proposal in front of a panel of nonprofit leaders. My group and I even won the grant proposal competition."

Cole, who worked at the Maryland Department of Health drafting policy recommendations for behavioral healthcare access for prison populations and others in the criminal justice system, says she feels much more confident after the summer. "Fear paralyzes us. But it's like, no, we're actually capable. You just have to look through the fear and realize, 'Oh, snap, I could actually do this.'"

The group also ended the summer more confident of their commitment to public service.

"The public service sector truly is limitless and it affords any individual the opportunity to make a difference in their own way," Cole says.

"Public service calls everyone," Mattaka adds. "We are a collective, and society works better if we have people willing to develop the skills of leadership and empathy to do these jobs. Those are the skills we cultivated a lot this summer."

— Catherine Meyers

Top, left to right: Samantha Fu, Dionne Cole, Aziza Mattaka. Bottom left to right: Patricia Mengue Bindjeme and Tasnim Rushdan.

"Fear paralyzes us. But it's like, no, we're actually capable. You just have to look through the fear and realize, 'Oh, snap, I could actually do this.'"

— Dionne Cole, biology and social work



THE WORLD

Packed and energized sporting arenas. Clinching the closing medal ceremony of the Olympics for the first time. Primetime broadcasts with viewership in the many millions—women’s sports are starting to get the time and attention they’ve deserved all along.

At UMBC, our women athletes have been gathering championship rings and lifting each other up along the way. You’re invited to join the stands and cheer on these world-class Retrievers.

By Kara Newhouse

*Back row left to right: Joella Mills, Ria Lagdameo, Laura Lacambra, Mia Bilusic, Lyna Beraich.
Front Row: Peyton Schenning, Amy Slade, Candice Hill, Kya Matter.*

Finally **IS WATCHING**





Left to right: Katana Nelson, Jada James, Tiara Bellamy.



The women of the UMBC volleyball team stood at the edge of their home court with eyes toward the rafters. To the right of the American and Maryland flags hung two banners with black cloths draped over them. The home opener match of the 2024 season would start soon, but first, a bit of pomp and circumstance for the Retrievers who won the past four America East Conference tournaments.

A game announcer directed attention to a massive video screen which showed senior **Mila Ilicva**, economics, blocking a hit and clinching a 3-0 sweep of the Binghamton Bearcats in the 2023 championship. On the floor, current players grinned, reliving their victory as triumphant music kicked on. All eyes returned to the rafters and up went the black cloths to reveal two black and gold banners listing the volleyball team's three regular season titles and four tournament wins.

On its way up, one cloth got stuck, hanging at an angle as the players turned for a photo and a crew in the rafters fixed it. Not the smoothest of unveilings, but it was perhaps reflective of the trajectory of women's sports in this country, a path punctuated by moments of great promise—the passage of Title IX, packed crowds at the 1999 Women's World Cup, Simone Biles and Katie Ledecky's medal dominance at the Rio Olympics—but often regressing to the status quo as a “niche interest” ignored by investors and corporate broadcasters.

This year, however, the veil keeping women's sports from mainstream popularity has finally lifted. The final game of 2024 NCAA women's March Madness netted over 18 million average viewers—4 million more than the men's final. At the Paris Olympics, the women's marathon medals were given during the closing ceremony instead of the men's for the first time. Professional leagues are smashing attendance records and making expansion plans.

Top to bottom: Lynn Beraich, Mikayla Bryant, Lexi Tepper.



As a recent viral T-shirt declares: Everyone watches women’s sports. And Retriever athletics is full of women worth watching. In addition to volleyball victories, UMBC boasts four consecutive America East championships in softball. Swimming alumna **Emily Escobedo** ’17, finished third in the 200-meter breaststroke at NCAA championships as a Retriever and later won a world championship in the same event. The lacrosse team is coached by a hall-of-famer. Shot putter **Cleopatra Borel** ’02, was the college’s first national champion and competed in four Olympics for Trinidad and Tobago. That’s just what’s in the record books. At UMBC, student-athletes are also supported as teammates, scholars, and aspiring leaders. Are you watching with us?

IT'S ELECTRIC

For **Kennedy Lamb** ’20, English, the recent popularity of women’s sports is overdue. “It’s about time these women’s sports teams, especially at UMBC, get that attention,” said Lamb, who won an America East championship with Retriever softball in 2019.

During her time as a student-athlete, Lamb experienced a similar change in viewership to what’s happening nationally. She remembers looking out from the diamond as a first-year student to see just a few parents. “We love the parents, but you always wish that maybe another sports team or maybe a friend or someone from your math class would show up,” she said. Over the ensuing years, as the softball team turned into a winning one, her wish came true. “By the time I was a senior, the hill was filled.”

Lamb got a reminder of how that felt when she attended a Washington Mystics game against the Indiana Fever, the team on which mega-popular Caitlin Clark plays. Both times the Fever came to Washington, the arena sold out. Lamb said her friends and family who are longtime WNBA fans

recalled how they used to get cheap tickets to games with middling attendance. “Now it was this sought after activity. Tickets were expensive. And seeing the electricity in the stadium reminded me of the electricity of being on the UMBC softball team,” Lamb said.

Clark’s celebrity drew large crowds across WNBA cities this year, but it wasn’t only the Clark effect bringing people in. The New York Liberty, for instance, averaged the second highest home attendance in the regular season with 12,700 fans. Five years ago, the Liberty’s home game average was 2,200 fans.

For **Tiffany D. Tucker**, UMBC’s new director of athletics, physical education, and recreation, the popularity of the WNBA and other women’s sports is payoff from decades of work by athletes, coaches, executives, fans, investors, and allies. It’s not that the product on the floor changed, but “sometimes people need an invitation,” Tucker said. “It’s as if they’ve been peeping in, and it’s like, ‘I want to be a part of it,’ and now everybody feels like they’ve been invited and that they’re a part of the team.”

As she dives into her new role, she plans to extend the same invitation for all to watch UMBC women’s athletics.

A RELATIONAL ENVIRONMENT

After the volleyball banner ceremony, Tucker sat at center court with President **Valerie Sheares Ashby** to watch the contest against Lehigh University.

“Let’s go, Serin! You got it!” the athletics director called as setter **Serin Maden**, an economics junior, stepped up for a serve.

A former basketball coach who once aspired to be an author and international speaker, Tucker’s voice carried easily over the cacophony of the crowd and thwacks of palms smacking leather.

“Let’s go, Jada!” she called shortly after Maden’s serve.

“Let’s go, Aysia!” a few minutes later.

Tucker was less than four weeks into the job. Asked how many names she’d learned in those weeks, she exhaled. “I try to get them all, I try,” she said. Counting both men and women student-athletes, that’s almost 400 names. “I’m going team by team,” Tucker added with a deep laugh.

At once the mark of a good leader, Tucker’s effort is also a benefit of UMBC’s size. “When you’re a student-athlete at a smaller, mid-major institution, you may know the name [of administrators], or you may know where the offices are to certain resources,” Tucker said. “These are the same people who are here to support our women’s sporting events. These are people who are readily there to help you, not that

they’re not there at a larger institution, but because of the size of the institution, I think it’s a little bit more intimate and relational.”

IN THE GRIND TOGETHER

In the stands behind Tucker, a row of preteen girls got into the Retriever spirit, barking loudly to support the home team. Sporting shiny red jerseys, these girls were volleyball players from Shepherdstown Middle School in West Virginia, attending their first college game. Though the Retrievers lost, the match was “really fun” and “cool,” the girls said with big smiles afterward. Their favorite part? “The rallies,” according to one. “Yeah, the rallies!” another girl echoed.



“I want to fill the stands. I want women athletes to really feel their value and know that they are loved.”

— **TIFFANY D. TUCKER,**
ATHLETICS DIRECTOR

Left to right: Lauren Thompson, Tiffany Tucker, Aysia Miller, Bruna de Padua, Jerzie Nutile, Amy Slade.

A third player had a different thought. “The way they supported each other,” she said. “They huddled after every point and high fived and cheered for each other.” At this, the rest of the tweens bobbed their heads in agreement and declared that they wanted to take that back to their own matches.

That kind of support cuts across sports at UMBC. “There’s this camaraderie when you’re all together, day in day out, waking up at 5:30 for practice,” said Lamb, who is the godmother to the child of one of her former softball teammates. “It’s one thing to have great friends who you see in your English class, but ultimately you don’t grind with them. Being a DI athlete is a grind. You have no choice but to lean on others. You can’t do it alone. And that’s a type of friendship that isn’t found everywhere.”

Aysia Miller ’24, biological sciences, knows something about grinding with teammates. She won four America East

championships in volleyball with four different pathways to the trophy. Her first year, the Retrievers were the underdogs facing the heavyweight University of Albany. Her sophomore year, the team blew out everyone in conference play but struggled in the tournament. Her junior year, they started the season strong but hit a losing stretch midway. Her senior year was the magic one. “It was just like everything was clicking, and it was honestly pretty perfect,” said Miller, who is now a master’s student in applied molecular biology. With an extra year of athletic eligibility because of COVID-19, Miller has the unusual opportunity to achieve a five-peat. But the team struggled at the start of the season, losing nine in a row.

After the Lehigh match, Miller said she and her teammates knew they needed to improve. “Ultimately, I do believe that culturally our team is in a good spot. We have each other’s backs,” she said. “No one

is turning on each other, and we’re not blaming one another about losing, about not things not going our way. And it kind of all comes down to what are our values as a team, what’s important, and how we’re able to treat each other.”

OPEN DOORS

Shared values can be the difference between a thriving locker room and a toxic one. During the women’s basketball preseason, the team spent an afternoon defining and performing skits about the core values posted in their locker room: service, toughness, family, loyalty, commitment, and consistency.

Team bonding activities like that one, as well as movie nights, a trip to the state fair, and the thrill of competition are what motivated **Riley Donahue** ’24, political science, to stay for another year as a master’s student in public policy. As a transfer





student, Donahue has experienced multiple sets of coaches. From her perspective, positive culture starts at the top, and she loves the tone set by Coach **Candice Hill** and her staff. “They want to make sure everybody’s OK, and they have an open door policy if you need to come and talk to them,” Donahue said.

Hill isn’t the only coach with that policy. “By open door, I mean literally anyone walks through our door,” said **Amy Slade**, the women’s lacrosse head coach entering her 17th season with the Retrievers. “We could be meeting with a recruit, and someone walks in and we’re like, ‘Hey, what’s up?’”

Slade and her staff hold monthly “coaches’ corner” meetings with each player. The young women may discuss lighthearted topics, like their favorite TV shows. Or they may share serious matters, like a parent’s cancer diagnosis. In either case, Slade said her goal is not to solve their problems, but to validate emotions and offer mom hugs, tough love, or referrals to mental health professionals as needed. “We’re making time each month just for you. And I think that’s important,” said Slade, who was inducted into the National Lacrosse Hall of Fame in 2021.

While coaches keep doors open for student-athletes to come inward, the rest of the college opens doors to go outward and excel beyond their sports. Players and staff are proud that academics get just as much emphasis as athletics at UMBC. That’s what drew Donahue here from Auburn University as a junior. Right away, Donahue jumped into an internship fair that led to working on Brooke Lierman’s successful campaign for Maryland Comptroller. The following spring, she interned in the Maryland legislature for Delegate Cheryl Pasteur.

“It was a haul to Annapolis,” Donahue said, but she paid for gas with money she earns from NIL (name, image, likeness) deals. “It was really fun to sit in on judicial hearings, to walk through the Senate building ...and I enjoyed being around it and helping draft bills, helping make scholarships for students.”

Donahue is president of UMBC’s Student Athlete Advisory Committee (SAAC) and the America East chair for the NCAA Division I SAAC. Eventually, she wants to be president of the United States. “This place challenges you academically, and that’s what I want. Because the career that I want to go into is not going to be easy,” she said.

“JUST COME AND PLAY”

Women’s sports have a long history at UMBC, thanks in large part to **Linda “Louie” Sowers** ’70, American studies. Sowers, who played volleyball in high school, arrived at UMBC in its inaugural 1966 semester. Looking around campus, she found something missing: women’s sports. So in her second year, she approached athletic director **Dick Watts** with a request to change that. “I was a little sophomore, and he was an intimidating person...so it took a lot of courage for me just to go in there and ask,” she recalled.



Sara Gavagan

Five years before Title IX mandated equality of athletic opportunities among other things, many male athletic directors might have brushed off Sowers' request. But according to Sowers, Watts handed her a piece of paper and asked her to get signatures of female students who wanted to play sports. If she gathered enough names, he would hire a volleyball coach.

Sowers took that paper to the cafeteria, located in one of the only campus buildings at the time. "I basically just, in between classes, went up and down all the tables and got as many girls as I could," Sowers recalled. "I had girls that said 'I've never played before,' and I would say, 'I don't care. It doesn't matter. Just come and play.'"

She collected 66 signatures, and Watts hired a volleyball coach that spring. The next fall, Watts added a women's athletic director, plus field hockey and basketball teams. "Because we were such a small school...it was like this little core group of us that wound up playing all three sports,"

Sowers said. More than 50 years later, she still attends Ravens games with one of those friends and keeps in touch with others by text and email.

FILL THE STANDS

In Sowers' day, spectators included just a few parents and male athletes. Even today, crowds tend to follow a team's success. Teams that have yet to lift trophies said they're still hoping to see more fans.

One misty September night at Retriever Soccer Park as the women's team mounted a comeback win over Mount St. Mary's, parents in slickers and some fellow student-athletes—including Miller—cheered from wet bleachers. One dad rang a cowbell after every Retrievers play. Center fullback Lauren Reid, psychology and visual arts, said she's grateful for family support but wished more peers would show up.

Reid knows how it feels to put on her cleats for a packed house. Last June she traveled to

soccer-mad Brazil as a member of the Jamaican women's national team. When Brazilian legend Marta took the field, the energy shift was incredible, Reid said. "I think it would give us the same feeling here if our whole student body was showing up," she continued.

Tucker, too, said she wants to see growth in crowds to mirror what's happening at a national level: "I want to fill the stands. I want women athletes to really feel their value and know that they are loved."

Tucker plans to personally visit rotary clubs, local churches, schools, and others to extend the invitation. She wants to saturate the community with her message about Retriever women's athletics.

"We have some of the best scholars. We have some of the best athletes in the country right here on our campus, and they're passionate about what they do. They're very disciplined. And it's fun. It's action-packed. It's right here in your backyard," Tucker said.

Consider yourself invited.





The Parallel Evolution of Milt Halem and the Third Pillar of Science

By Catherine Meyers

Illustrations by Matt Chinworth

For almost 70 years, Milt Halem, now a research professor at UMBC after a career at NASA, has deployed the latest computing technology—from vacuum tubes in the '50s to artificial intelligence today—to tackle some of science's toughest problems.

Colorful screen prints cover the walls of Milt Halem's Rockville, Maryland, apartment. One shows a high-altitude view of the Nile River, cutting through desert sands before emptying into a turquoise Mediterranean. In another, the fragile blue marble of the Earth rises above a desolate lunar surface.

One large picture, taking centerplace on the dining room wall, is more enigmatic—filled with alternating red, yellow, and blue patches. “This is what’s known as the quasi-biennial oscillation,” Halem explains.

Tens of thousands of feet up, in Earth’s stratosphere, the winds around the equator regularly shift direction, blowing east for many months, and then west, and then east again. A satellite measured the shifts, and Halem, a former NASA scientist and current UMBC professor, turned six years of that data into art.

Halem’s framed prints, many of which he created himself while taking evening and weekend classes at the Corcoran School of the Arts and Design in Washington, D.C., are a window into

his nearly 70-year-long scientific career. For roughly 40 years of that time, he worked for NASA, the famed federal space agency. Halem harnessed NASA’s space-based instrument “eyes” and ever-evolving computer “brains” to advance humanity’s understanding of Earth and our place in the cosmos and, in 1996, was recognized with NASA’s highest award, the Distinguished Service Medal.

In 2003, after retiring from NASA, Halem joined UMBC as a research professor. In his more than two decades at the university, he has nurtured connections with government and industry, brought in research money and equipment, regularly taught a popular graduate course, and mentored more than a dozen Ph.D. students, helping them pursue their passions and propel their careers.

“I think of myself as a computational scientist: I use computers to both discover and explore new territory,” Halem says. “What I love is the computer’s ability to represent, and to explain, the world around us.”

Charting Computers' Evolution

Halem began his working life at the dawn of the computing age, and his career trajectory mirrors the steady rise of those digital devices. After earning a bachelor's degree in mathematics from the City College of New York in 1951, Halem was drafted into the Korean War effort and served on U.S. Army bases for two years, first in New Jersey and then in Arizona. After a stint clearing rocks off the golf course so that the officers could play, Halem's skills were better put to use on some of the Army's first attempts to use what at the time were relatively new-fangled devices called computers to improve surveillance of battlefields.

In 1955, Halem received a fellowship to work with an IBM 704 computer installed at New York University. The computer took up significant floor space with its multiple cabinet-sized components, filled with vacuum tubes for logic operations and magnetic tape for memory. It was state-of-the-art in its day, able to execute about 40,000 instructions per second.

"You could say 1955 was my start in high-performance computing," Halem says. "I've been acquiring and managing and programming and doing research on computers ever since."

In the late 1950s, NASA established the Goddard Space Flight Center (GSFC) and, shortly after, opened a New York campus—the Goddard Institute for Space Studies—focused on theoretical research. Because of Halem's experience with computers, he was hired as contract support. In the subsequent years, he worked with some of the most advanced computers of the time, using them to model the Earth's atmosphere and predict the scientific value of launching new Earth-observing instruments. In 1968, he also earned his Ph.D. in applied mathematics from NYU.

In the late '70s, Halem moved to Goddard's main facility, GSFC, in Maryland to continue his computing work. In 1983, he became chief of the Space Data and Computing Division and shifted from using supercomputers to being a force in their development. The division had recently developed the Goodyear Massively Parallel Processor (MPP), a trailblazing computer containing 16,384 processors working simultaneously. This degree of parallelism, which lies at the heart of today's supercomputers, marked a radical departure from traditional computing.

"The MPP was a relatively simple concept, but it took us more than a decade to develop it," says Jim Fischer, who managed the MPP's fabrication contract and applications programs. "Milt found people to help and money to support the machine.

And then he offered it to the U.S. science community to try it out, and they recognized its architecture as a solution. Milt pumped us to world class by force of will."



Milt Halem delivers remarks during a conference at NASA Goddard Space Flight Center, 1986. Photo by NASA.



In the ensuing years, Halem and Fischer pursued making the power of MPPs more accessible and less expensive. In 1994, their staff demonstrated the “Beowulf” computing cluster, composed entirely of mass market personal computers networked with Ethernet and running the Linux open source operating system. Now 30 years later, the Beowulf approach sits at the core of most of the world’s supercomputers and much of the cloud infrastructure, putting vast amounts of affordable computing resources at the fingertips of scientists, engineers, and even social media users.

After Halem arrived at UMBC in his 70s, he continued to engage with the latest computing technology. He was instrumental in securing the donation of high-performance IBM computing equipment from NASA to the university, and he helped run a new computing research center. With his students, he has explored the frontiers of quantum computing and AI.

“I’ve followed the evolution of high-performance computing my entire career,” Halem says.

Computing for Science

Computers can do many things—from recommending videos you might like to rendering life-like graphics—but Halem is most interested in what they can do for science.

“Science is based on the notion of observations and then explaining the observations by some theoretical process,” says Halem. “That was the way science evolved until the mid-20th century. Then computers came along and became the third pillar of science.”

Halem’s passion fit with NASA’s mission. Though the agency was born out of the Cold War and the space race with the Soviets, it has concentrated its efforts on the peaceful use of space to advance science.

NASA launches satellites that observe Earth from space with a suite of scientific instruments (including some designed at UMBC), and a large part of Halem’s research has been using computers to understand how that data can improve our understanding of the Earth’s air, water, and land and the physical processes that link them. Halem has also advanced weather forecasting through, among other techniques, finding new ways to incorporate observations into the weather models.

As an administrator at NASA, Halem always put the science first, according to his colleagues. “I believe that Milt left a legacy of making decisions that are in the best interest of science,” says Dan Duffy, the chief of the Computational and Information Sciences and Technology Office at GSFC, who sits in Halem’s old NASA office and has continued to work with him on special projects since Halem joined UMBC.

“His motivation was always driven by the scientific community’s needs,” Fischer adds. “It was very high-minded.”



Shaping Students' Lives

At UMBC, Halem has continued his devotion to computing for science's sake. In doing so, he has supported the research community and shaped his students' lives.

Jennifer Sleeman, Ph.D. '17, computer science, was co-mentored by Halem on her Ph.D. thesis, which involved mapping topics from past climate reports from the Intergovernmental Panel on Climate Change and trying to predict the contents of future reports.

"Milt and I would have discussions about my thesis, and I always like to describe it as: Milt decided to adopt me. I was close to the end of my Ph.D., and I changed my focus based on working with him," she said. "It really changed the trajectory of my career." After graduating, she became a research assistant professor at UMBC. She currently studies weather and climate-related topics as a senior AI research scientist at Johns Hopkins Applied Physics Laboratory while she continues to work part-time with Halem and his students.

Sophia Hamer '22, mathematics and computer science, who is currently working with Halem as a master's student, also credits Halem with helping her find her career footing. She first met him to discuss a research project when she was an undergraduate and just emerging from a time when she struggled with her grades and with choosing a major.

"Dr. Halem took a chance on me," she says. "I honestly think that was the turning point for me. Before I was thinking, 'I'm just gonna squeak out of here with a degree and hopefully my GPA isn't too bad to get a job.' But now, my entire perspective has shifted: I'm about to graduate with a master's, and I'm doing impactful research in a field I really like. I never thought that would be possible."

"Milt is tough—he pushes you—but he also works closely with you," Sleeman adds. "I really grew from that relationship."

AI for Weather and Climate Forecasting

Both Sleeman and Hamer are working with Halem on a project to be the first to use AI to make regional weather predictions, one of a couple AI projects Halem is currently pursuing.

In his embrace of AI, Halem is yet again advancing alongside the technology that has defined his career. Gone are the days of mere 40,000 instructions per second. Now advanced computer chips power

computationally hungry "neural networks" originally inspired by the workings of the human brain. Neural networks are behind celebrity chatbots such as ChatGPT—and forecasters are increasingly turning to them to predict the weather too.

While traditional weather models simulate the physics of the Earth and its atmosphere to make predictions about the future, AI forecasting models simply examine vast datasets of past weather and learn how to spot patterns.

So far, the main advantage of AI forecasting is speed. What can take days for a physics-based model can be done in only minutes or seconds with AI. AI weather models offer great promise for distributed, real-time weather forecasting, for example as natural disasters unfold. Halem and his students are looking in particular to predict wildfires.

While much AI weather forecasting research is undertaken by leading tech companies such as Google and Microsoft, Halem thinks his students are more than holding their own.

"I've got a new generation of computer scientists making breakthroughs," says Halem. "Two students who are writing up their master's theses are doing leading AI computations to rival what some big tech companies are doing."

Jim Fischer, Milt Halem, and Sophia Hamer (left to right) in Halem's UMBC office. One of Halem's screen prints hangs in the upper right.



Into the Future

The work of weather and climate modeling is growing in importance as global warming unfolds and the Earth's natural patterns shift. "Applying what I know to a real-world problem has been an amazing experience," Hamer says.

The projects are also yet one more demonstration of Halem's constant intellectual evolution.

"Milt has an amazing ability to learn new things," says **Anupam Joshi**, the acting dean of the College of Engineering and Information Technology. "He was trained as a mathematician who then specialized in high-performance computing and in the last few years has become an expert in using AI systems to model weather and climate phenomena. It speaks to his intellectual capabilities but also his perseverance and his grit."

Now in his tenth decade of life, Halem shows few signs of slowing down. When not spending time with his large family, he's still tackling some of science's thorniest problems, such as how to predict weather patterns months to years in advance.

"He's like the energizer bunny," says Fischer, his former NASA colleague.

Duffy agrees. "He has an amazing amount of energy; he never seems to stop. He has a willingness to listen, learn, and ask questions and is an amazing role model for his students."

Halem says it's the computation challenges that drive him. "I have to keep moving because the computational instrument continues to evolve," he says. He continues to be on the lookout for new ideas—the latest he's come across being an AI research scientist. "The AI agent can use large language models to read the literature; it can write computer code and conduct experiments by itself. It can write the paper on what it discovered. So that's probably the ultimate research goal that I would like to see if I can make an impact on," Halem explains.

"Milt is probably one of the most dedicated people I know to the research," Sleeman says. "He's so tenacious, and it's just so impressive. It's a privilege to continue to work with him."

"Milt is incredible," adds Joshi. "If we could replicate him, we would." And maybe, in some sense, Halem's AI scientist would do just that.





Shreya Swaminathan and Linhdan Tran are carrying out a trypan assay, a protocol used to measure the number of live and dead cells in a sample. It's one of the many procedures students learn in the Translational Life Science Technology major, which provides students with skills applicable to work in drug discovery and manufacturing.

Biotech Buzz

UMBC at the Universities at Shady Grove finds itself uniquely situated—at home within the country’s third largest biotech hub where the demand for highly skilled workers is growing.

These Retrievers are filling specialized roles after graduating with the training they need to succeed in this booming industry.

By Sarah L. Hansen, M.S. '15



It's an early Friday morning in the Biological Sciences and Engineering Building and nine students, working in small groups, are bustling back and forth between fume hoods and a large centrifuge. They carefully swish flasks containing cells and growth medium. The smell of sanitizing alcohol pervades the space. Neon orange test tube racks and turquoise tube caps stand out within the sterile white look of the work benches, hoods, and lab coats.

As the cells use oxygen to release energy, they produce carbon dioxide. The CO₂ turns the solution yellow, indicating successful cell growth. After the experiment, students sterilize their solution with bleach for disposal; in response to the alkalinity, it blooms to a brilliant magenta. In another room, one student offers tips to her classmate on how to use a pipet more effectively, and the instructor flits between groups, answering questions as needed—but for the most part, the students operate confidently on their own.

This is a regular day in Biotechnology 303: Applied Cell Biology in UMBC's Translational Life Science Technology (TLST) program. The program, offered by UMBC's College of Natural and



Elizabeth Friar (left) and Samantha Petros '23 have stayed in touch since Petros graduated.

Mathematical Sciences (CNMS) exclusively at the Universities at Shady Grove (USG), a multi-institution education facility in Rockville, Maryland, is designed to offer hands-on training to prepare students for careers in the booming biotech industry in USG's backyard.

A Clear Direction

It was the promise of experiential work with real-world applications that drew **Samantha Petros '23** to the TLST program. "I really liked the convenience of the USG campus, and a lot of the courses were really focused on hands-on learning," she says. Without really knowing what the work would look like before she started the program, "I was able to try out a lot of different things in a very low-stakes environment and get an idea as to what I found interesting."

That turned out to be cell culture work. Applied Cell Biology with **Elizabeth Friar**, lecturer and undergraduate program director in TLST, "cemented that benchwork is what I enjoy doing,"

Petros says. From then on, "There was a clearly defined arrowhead in the direction I wanted to go."

That was a big shift from where she started, as a film major at Montgomery College (MC). A virology course to meet her science requirement turned her on to MC's biotech associate degree, and then she transitioned to

the TLST program at UMBC. After learning some basic lab techniques in TLST classes, she landed a part-time job, where she carried out entry-level manufacturing tasks for malaria vaccines. Today, Petros is thriving as a cell culture specialist studying malaria at Axle Informatics, a contractor for the National Institute of Allergy and Infectious Diseases.

The position she's in now traditionally requires a master's degree, which she doesn't have—yet, anyway. "Knowing that I have valuable skill sets from TLST—working in manufacturing, getting good connections with my professors, and going to the networking events that TLST offers—all of that compounds and has got me to where I am now," Petros says. "I genuinely believe that I wouldn't be here if it weren't for all of those factors, with TLST obviously being the biggest one."

Location, Location, Location

TLST is a young program, but it is growing quickly. The first class—just two students—arrived in fall 2019. Friar joined in summer 2020 and began laying the groundwork for the program's eventual growth. Today, "It's humming along," she says. There are currently 50 students who have declared TLST as their major. "Now we're thinking about what we can do next. How can we expand?"

TLST is unique as the only undergraduate STEM program at UMBC without a footprint on the main campus. The location choice at USG is intentional. The Capital Biohealth Region, encompassing the District of Columbia, Virginia, and Maryland, is the third most competitive biotech hub in the country—and Montgomery County, Maryland, is the hub of the hub, boasting more than 350 life science companies

By the end, the students are old hands...they would feel comfortable tackling anything in that lab on their own.

—Elizabeth Friar,
program director

and located a stone's throw from the NIH, FDA, and National Institute of Standards and Technology (NIST). For TLST alumni, the employment options are seemingly limitless: 80 percent of American pharmaceutical companies are within a two-hour drive, and they can expect a nearly 23 percent growth rate in the biotech industry over the next 10 years—well above the national average.

As Friar puts it, “Regenxbio is down the street. MacroGenics is down the street. MilliporeSigma is opening their new lab right next door, and they’ve now hired eight of our alumni. Soon we’ll have an NIH vaccine lab right down the street. ATCC is right down the street.” All these biotech companies need qualified workers—and TLST is providing them.

Training Lifetime Learners

Jeff Galvin, CEO of American Gene Technologies (AGT), has hired TLST alumni and would hire more. “The TLST program seems to provide a great overview of not just biotechnology techniques,” he



ATCC's SPARC internship program offers opportunities for TLST students to conduct meaningful work in the biotech industry. Merryll Kallungal (far left) transitioned from her internship to a full-time role at ATCC this summer.

SPARC-ing Rewarding Careers

Just 10 minutes from USG in Gaithersburg, Maryland, biotech company ATCC has capitalized on the TLST talent pipeline. Their Student Partnership and Research Collaboration (SPARC) Program requires USG enrollment and offers qualified students paid, part-time career opportunities throughout the academic year at ATCC's research facility. As the leading developer and supplier of authenticated cell lines, microorganisms, and associated data for academia, industry, and government, a successful internship at ATCC is a feather in the cap for students pursuing a TLST degree.

Of the seven interns selected for the SPARC program this year, four are TLST students—and they are thriving. The interns praised their SPARC experience while donning lab coats, shoe booties, safety glasses, and gloves in one of ATCC's labs—where keeping employees safe and protecting lab samples and products from contamination is mission critical.

“I love the TLST program!” exclaimed Fae Switzer, who has wanted to pursue a career in biotech since she learned about CRISPR, the gene-editing platform, as a child. Switzer, a SPARC associate biologist in the microphysiological unit, notes that things she learned in her UMBC classes prepared her for the internship, and things she's learning at ATCC now are helping her in her classes.

Jason Bose, a SPARC associate biologist on the microbiology team, knew he was

interested in biology but not medical school. When Bose learned about TLST, he thought, “Wow, this aligns with what I want to do,” he says. “It's been really great so far.” He even uses the basic coding skills and tricks for Excel spreadsheets that he learned in class—which at the time he wasn't so sure about. “Yep, I use them all the time at ATCC,” he says.

Tamilore Akinde completed an internship last summer at ATCC's headquarters in Manassas, Virginia, and now she is a SPARC intern. “I like that TLST teaches multidisciplinary skills,” she says. Being able to pivot toward different opportunities that come her way is valuable, she adds.

“The hands-on lab training provided by the TLST program has prepared students for impactful careers at ATCC,” shares **Ruth Cheng**, general manager and senior vice president for research and industrial solutions at ATCC. “Witnessing students like Merryll Kallungal transition from the SPARC program to a full-time role in cryobiology R&D is a testament to the power of this collaboration.”

After interning at ATCC, Kallungal graduated from TLST in May and assumed a full-time associate biologist role in the cryobiology group in June. The lab techniques she learned in TLST came in handy at ATCC, and she has already learned a lot of new things, too. “I absolutely love what I do,” she says.

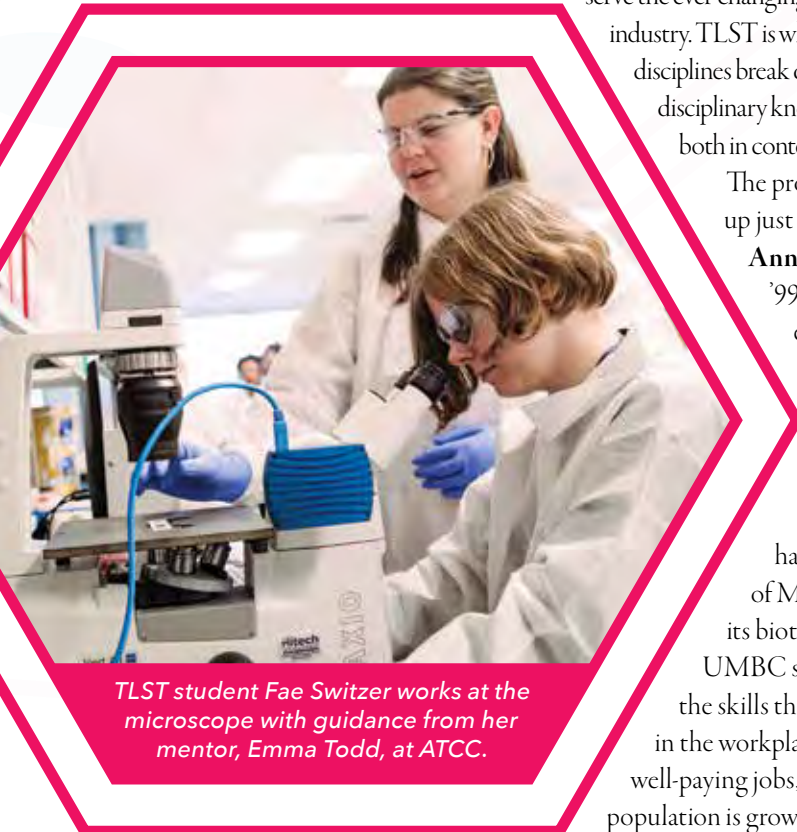


Steven Schaffer (right) and Princess Nyamali work under a biosafety cabinet in Elizabeth Friar's Applied Cell Biology course.

says, but it gives students “an understanding of the business in general. I find that UMBC students lean toward being self-motivated problem-solvers. It seems that the administration from the top all the way down promotes that idea of creating value through creative, hard work.”

Titina Sirak '20, TLST, had a major impact at AGT. She established a brand-new laboratory certified to handle human cells from scratch, Galvin says, “And that’s not easy—there’s a lot of regulations associated with that, even economics.” While she wasn’t an expert at first, “she was able to do enough things right that the project came to life.”

Galvin emphasizes the importance of “learning how to learn,” saying, “Things are changing so fast, that it’s the folks who can adapt and become lifetime learners who are going to be the most successful. And that’s something I saw from the students coming out of TLST.”



TLST student Fae Switzer works at the microscope with guidance from her mentor, Emma Todd, at ATCC.

A Vision Fulfilled

So far, TLST has graduated 25 students, and 94 percent of them were employed in the biotech industry within three months of walking across the Commencement stage. “We’ve had a number of really standout students who have gone on to do really great things, so I’m very excited about how it’s going,” Friar says.

So is **William R. LaCourse**, CNMS dean, which offers the TLST program. He envisioned the program years before the first two students walked onto the USG campus, and it came together with input from faculty at Montgomery College and five departments at UMBC.

“TLST is an innovative and practical education that combines ‘know-what’ and ‘know-how,’” says LaCourse. “It is a highly flexible program with various pathways to serve the ever-changing needs of a growing industry. TLST is where the silos of disciplines break down and cross-disciplinary knowledge is the goal—both in content and practice.”

The program is shaping up just as LaCourse and

Annica Wayman

'99, mechanical engineering, and former associate dean for Shady Grove Affairs in CNMS who led TLST’s launch, had hoped. The state of Maryland is growing its biotech hub while

UMBC students are gaining the skills they need to succeed in the workplace and getting well-paying jobs, and the student population is growing.



Merryl Kallungal '24 works under a biosafety cabinet at ATCC. Interns Jason Bose (left) and Tamilore Akinde (second from left) and an ATCC lead scientist observe.

The classwork was so relevant that Petros still refers to her TLST class notes on the job. “It goes to show how relevant the information I was learning back then still is now,” she says.

Connections that Build Confidence

Just as important as high-demand lab skills, students and alumni value the relationships they’ve formed with faculty. “Every teacher I had was very supportive, very understanding, very willing to work with me,” Petros says. “I think it’s important to get your money’s worth out of college, and I definitely feel like I got that and more in TLST because of the support network that I had there and my teachers.”

Petros is still in touch periodically with Wayman and Friar. “Dr. Wayman was a shining inspiration. She’s just a wonderful person. She’s so knowledgeable and always willing to help,” Petros says. The support she has and the success she’s found now have inspired Petros to look back and help those coming up behind her. In addition to USG resources, as a student Petros attended networking events offered by BioBuzz, a community resource for biotech industry professionals and job



The Applied Cell Biology laboratory is a hive of focused activity.

seekers in the Capital Biohealth Region. In fact, it's how she found her current role.

Today Petros is a BioBuzz Ambassador. "I wish I had known about BioBuzz when I first started in biotech," she says. "Now I want to be that advocate for younger students or people who are just starting in science."

A Strong Foundation

"Our students come to us because they want to make a difference in people's lives, but they don't necessarily want to go to medical school," Friar says. It doesn't hurt that "we have some really spectacular facilities that are a real draw for students," she adds.

The Biological Sciences and Engineering Building opened at USG in fall 2019 and boasts beautiful modern laboratories and classrooms plus plenty of comfy nooks for meeting with a study group or just relaxing. TLST has also received over \$1 million dollars from the National Institute for Innovation in Manufacturing Pharmaceuticals, some of which has supported further upgrades and additions to the teaching laboratories.

A flow cytometer, a machine that can detect properties of interest in up to 10,000 cells per minute, will enable a new mixed undergraduate/graduate course in flow cytometry launching next spring, for example. And equipment to practice skills like protein purification, biomanufacturing processes, and cell culture create rare opportunities for undergraduates. A required TLST course covers the wide range of instrumentation you might find in a modern biotech laboratory.

It's normal for students to start off nervous when they use complicated and expensive equipment or work with

human cells for the first time. "But by the end, they are old hands, and I think they would feel comfortable tackling anything in that lab on their own," Friar says. "And it's because the curriculum is really well scaffolded. We add skills as they go along, and then we repeat the old skills. The program is set up to foster growth and independence."

Princess Nyamali stepped away from the centrifuge for a moment during Biotechnology 303 to share that the TLST coursework "is a really good foundation." She's currently completing an internship at NIST, and "everything I'm learning in this cell culture class is stuff I'm doing at NIST." While it might have been daunting at first, trying so many different things across the TLST curriculum "helps you know that you want to do it," she says, in addition to showing potential employers that you can.

Thinking Ahead

Although the two-year program initially targeted transfers from regional community colleges, "we were getting so much interest from students on the Catonsville campus, we went ahead and put it on the list of majors for freshmen applying to UMBC," Friar says. "That's been the fastest growing cohort in our major."

Steven Schaffer transferred to TLST after starting on the main campus in bioinformatics. Now he is in the bioinformatics track within TLST; the other option is a biomanufacturing track. Schaffer

likes that there is a strong cohort connection because everyone takes mostly the same classes together. "I would recommend TLST. It's a growing field and the skills you learn are very versatile," Schaffer adds.

Schaffer hopes to eventually take on a role that leans into engineering at a place like Northrop Grumman. But before that, he's eyeing UMBC's Master of Professional Studies in biotechnology. The M.P.S. degree offers advanced instruction in the life sciences, plus coursework in regulatory affairs, leadership, management, and financial management. Friar describes it as "a cross between a science master's and an M.B.A."

Academic Decathletes

Soon, the confident students in Friar's cell biology class will arrive in labs across Montgomery County, the capital region, and beyond.

They will contribute to drug discovery and production, design manufacturing processes, and, eventually, lead teams and make strategic decisions for major biotech companies.

Jeff Galvin, the ATG CEO, referred to TLST alumni as "academic decathletes." Like decathletes, they have an array of skills and perform all of them admirably. But rather than medals, they're seeking an opportunity to contribute to positive change through their work. They'll translate basic science into diagnostic tests, treatments for disease, and more to improve the lives of their neighbors in Maryland and those in need around the world.

TLST is where the silos of disciplines break down and cross-disciplinary knowledge is the goal—both in content and practice.
-William LaCourse, dean

SEEING WITH FRESH EYES

BY EMILY HAUVER '06 AND THOMAS MOORE

Walking into the Albin O. Kuhn Library Gallery, you always know you're going to see some well-curated photos and works of art, but the trove of images currently on the walls for Revisions: Celebrating 50 Years of the UMBC Photography Collections are assembled as a remarkable representational sample of the nearly 3 million images that make up the UMBC archive.

Known today as one of the country's premiere university collections of photographs, the Photography Collections had a modest but auspicious beginning. In 1974, the Baltimore lithographer and photographer Edward Bafford donated to UMBC Special Collections a remarkable early image by Arthur Stieglitz (1864–1946), a photographer widely credited with helping transform photography into a serious art form. Bafford's gift coincided with the foundational purchase of more than 5,400 photographs by labor activist Lewis Hine that documented horrific child labor practices.

Over time, the Photography Collections at UMBC have expanded through purchases and gifts. One special acquisition stands out for its regional importance: In 2014, the collection received the photo archives of the *Baltimore Sun*, including more than 750,000 prints, negatives, and transparencies from the 1930s through the 1980s.

Housed in the Special Collections department of the Library, the collections are open to the public and are widely used by scholars and photographers. An increasing number of images have been digitized for online viewing, available through the Library's website.

Looking back at a half-century of collecting, the exhibition offered thematic groupings and visual juxtapositions of photographs from the 19th century to the present. Co-curated by **Beth Saunders**, curator and head of Special Collections, and **Emily Hauver '06**, curator of the Albin O. Kuhn Library Gallery, Revisions asked viewers to approach the history of photography with fresh eyes. In this photo essay, Hauver offers her thoughts on a few stand-out images in the show.



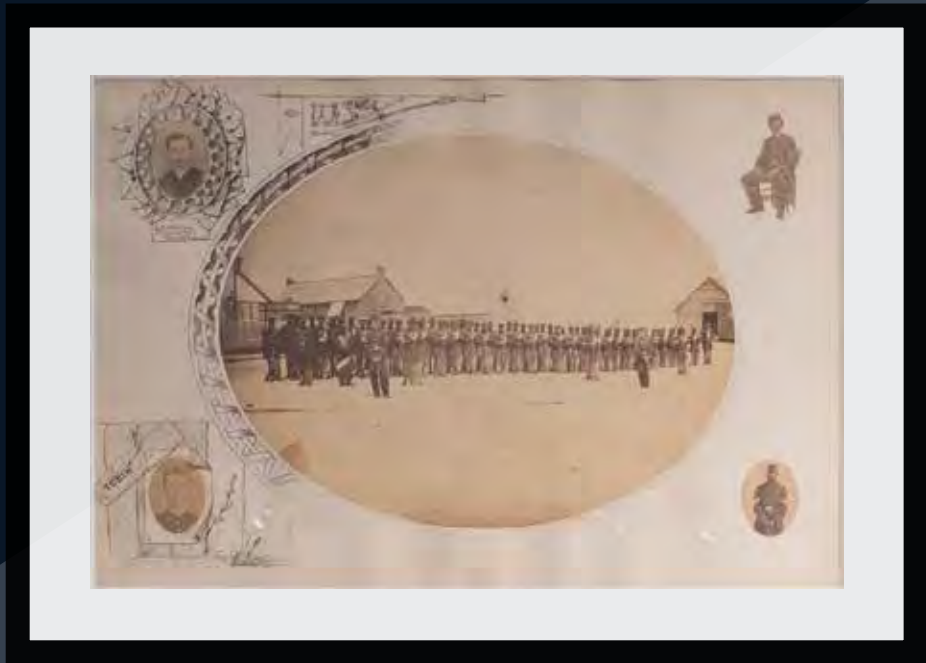


SUN RAYS—PAULA, BERLIN, 1889

Sun Rays—Paula, Berlin is a particularly apt founding image for a university collection; it was made when the great Steiglitz was himself a student and could thus be viewed as a symbol of the endurance of formative educational experiences on the making of an individual's personal and professional identity. UMBC's Photography Collections were conceived of as a teaching tool through which budding photographers enrolled at the university can contemplate the elements of successful photographs through the close study of master prints.

Alfred Stieglitz (American, 1864–1946), Sun Rays—Paula, Berlin, 1889. Gelatin silver print, 1929. Gift of Edward Bafford, P74-07-001.





SHIP ISLAND, MISS. & 74TH U.S. COLORED INFANTRY, C. 1864

This composition comprises several photographs of Black Union soldiers and white officers and is embellished with hand-drawn elements. Posing for portraits during the Civil War—the first major U.S. conflict to be extensively documented through photography—allowed Black men to assert their newfound identity and freedom as soldiers. The person who made this composition sought to memorialize the patriotism of Black soldiers through the visual image, showcasing the commitment of these men to fight for their own liberation. The fact that the embellishments are incomplete draw a poignant, if unintentional, parallel to the unfinished business of achieving true racial equality in this country.

Ralph Gibson (American, born 1939), Elba, c.1983. Gelatin silver print. Gift of Carol A. Merritt, P93-14-004.



[NISHNABOTNA FERRY HOUSE], CA. 2001 – 2008

Bringing the past palpably into the present, this photograph by Stephen Marc utilizes digital montage to weave together elements from the landscape of slavery—in this case a site associated with the Underground Railroad, the Nishnabotna Ferry House, and an 1836 letter from a Mississippi slaveholder ordering shoes for the people he enslaved. The names of the enslaved, which appear to be marching along the path to freedom and a better future, memorialize both the individuals held captive and those who succeeded in escaping.

Stephen Marc, American, born 1954, [Nishnabotna Ferry House], ca. 2001–2008. Inkjet print. Stephen Marc Collection, Coll353-P001.





JOHN WATERS, 2013

What could be more “Baltimore” than John Waters? In this image, taken by Sam Holden, a Baltimore-based photographer who tragically passed away at the age of 44 in 2019, the filmmaker grins impishly at the camera while posing with a cherry pie.

Sam Holden (American, 1970–2014), John Waters, 2013. Cross processed chromogenic print. Sam Holden Collection, Coll255_1A-001.

MARBLE STEPS, 1954

Row after row of white marble steps for which the city of Baltimore is famous are seen in this photograph by Aubrey Bodine, one of Maryland’s best-known photographers. The geometry and contrasting tones of the steps pair with Bodine’s meticulous composition to manipulate the viewer’s perception by drawing the eye down the block and giving the impression of depth that defies the flat surface of this photograph.



A. Aubrey Bodine (American, 1906–1970), Marble Steps, 1954. Gelatin silver print. Gift of Mrs. A. Aubrey Bodine, P86-19-032.

WARD 81, OREGON STATE HOSPITAL, SALEM, OREGON, 1976

This photograph by Mary Ellen Mark flips the typical script of looking at a photograph wherein the observer looks upon a passive subject. Here, the photograph appears to be looking back. Despite the visual distortion caused by the screen covering the door's small window, the power of this woman's gaze implores us to make a connection, challenging us to engage on



a deeper level with her and, perhaps, with ourselves. It's made all the more compelling knowing that it was taken on Ward 81, a women's security ward of the Oregon State Mental Institution.

Mary Ellen Mark (American, 1940–2015), Ward 81, Oregon State Hospital, Salem, Oregon, 1976. Gelatin silver print. Gift of Andrew Cahan, P2013-32-001.

BOY AND DOG, C. 1870S

Our collections hold thousands of images of anonymous people. Here, a small tintype shows an unusual pairing—a Black boy with a dog—framed in a case. We don't know his name or where the photo was taken, but we can date this image to the 1870s. As we gaze back into his eyes, we wonder: Who was he? What was his story?

Unidentified photographer, Boy and dog, c. 1870s. Tintype. Library purchase, P78-120-006.





ELBA, C.1983

Mirrors, with which photographs have long been metaphorically compared, offer opportunities to extend

the narrative possibilities of a photograph beyond what is in front of the camera to what is behind, beside, and beyond. This photograph by Ralph Gibson is compelling because it elicits conflicting reactions at once: comfort with the familiarity of the subjects (a nose, mouth, hand, landscape) and unease with the disjointed way they have been assembled.

Right: Ralph Gibson (American, born 1939), Elba, c.1983. Gelatin silver print. Gift of Carol A. Merritt, P93-14-004.

Emily Hauver '06, curator of the Albin O. Kuhn Library Gallery, and **Beth Saunders**, curator and head of Special Collections, worked together to comb through the university's extensive collections to display a stunning representation of what is available in the archives.

Learn more at library.umbc.edu/specialcollections.

HOW TO ENJOY BEING UNDERGROUND

With Jeff Garcia, a current graduate student in the historical studies program



Anyone trying to soothe a fussy toddler has their work cut out for them under normal circumstances. Add 379 feet of earth above your head and about 30 other tourists to the equation and you've got a potential disaster on your hands. But for Jeff Garcia, an interpretive park ranger at Jewel Cave National Monument in South Dakota, it's just another day on the job. At any point into his hour-and-thirty-minute below-ground scenic tour of one of the world's longest caves, Garcia might need to interrupt his historical and geological discourse (and steady stream of jokes) to address questions, the restroom needs of his party, or someone faced with a sudden bout of claustrophobia. The wonders of the cave make all the accompanying human foibles an afterthought for Garcia, who prior to his two summers at Jewel Cave had never been below the surface before.

Tools of the Trade

1. Flashlight
2. Minimal fears when it comes to the dark or enclosed spaces
3. A love of history and geology
4. Convenience baggies (you don't want to know)
5. Backup flashlight

Step 1

KNOW YOUR AUDIENCE

Garcia didn't anticipate spending multiple summers guiding people underground in the most complete darkness he'd ever seen, but he took to it quickly. Born and raised in Montgomery County, Maryland, Garcia anticipated he'd do an internship for his historical studies master's program at UMBC somewhere close by—the nation's capital, for example. But when he applied to the Latino Heritage Internship Program and they asked if he'd be open to going to South Dakota, he took the plunge. "I just wanted the opportunity to work with the public and teach history," says Garcia, who knows from experience that learning history in the classroom is not nearly as effective as learning it on-site. "When people go to museums, when they go to archives, when they go to parks, they really absorb the knowledge," he says.

All sorts of people come to ooh and aah over the nailhead spar and dogtooth spar calcite crystals, the so-called jewels of Jewel Cave.

At the beginning of his tour, Garcia assesses his group of tourists by warming them up with a history lesson and throwing in some jokes to see how they respond—that gives him a bellwether to know how the next 90 minutes will go. "You have to be mindful of the audience," says Garcia. "I realized early on that seniors really like the dad jokes. So you kind of lean into those a bit more. When you have a lot of kids, they're really just going to absorb it. So I'd get out the black light or a UV light onto some of the formations and it looks really cool—purple or greenish. So the kids are just going, 'Whoa.'"

Step 2

LEAVE NO TRACE

As Garcia often reminds his tour groups: In the caves, there are no cell service, food, or bathrooms, so take care of what you need before heading underground. But the persistent drip-drop sound of water—indeed the very substance that influences the formations of stalactites, stalagmites, boxwork, cave popcorn, flowstone, draperies, and a long ribbon drapery called the cave bacon—occasionally reminds visitors to heed the call of nature themselves. What then?

Garcia removes from his ever-present Ranger-issued fanny pack an innocuously named "convenience baggie." Visitors then thank their unseeable lucky stars for the blackout conditions to ease their human needs. It then becomes their responsibility to tote their convenient baggie along until the lone trash can appears in the middle of the tour.





which not only introduces young folks to professional roles in the National Park Service, says Garcia, “but also allows visitors to see someone who is of your background and be like, ‘Hey, I can picture myself being in that position!’ Representation matters, and so I thought, ‘I could be that person for someone in the future.’”

In 2024, he was invited back to South Dakota as a summer park ranger, complete with the hat and uniform. Garcia plans to graduate in May 2025, but this January he starts his new position with the National Park Service a little closer to home—the National Mall in Washington, D.C. “I’ll still get to work with the public and hopefully have them leave me more informed than they were before or have them think a bit differently. That’s all that matters,” says Garcia.

— Randianne Leysbon '09

Step 3

AVOID THE LOW POINTS

Originally when Frank and Albert Michaud filed a mining claim for “Jewel Tunnel” in 1900, they were hoping their cave was filled with minable treasure—gold or diamonds. Instead, they found calcite crystals, which, as Garcia quips to his groups, “are about as strong as your fingernails and worth the same amount.” Not quite sure how to monetize their claim, the Michaud brothers invited the U.S. Forest Service to the caves, and due to the “objects of scientific interest,” in 1908 President Theodore Roosevelt declared Jewel Cave a National Monument.

At the Dugout, the lowest geographical point of the tour, Garcia reminds the visitors that “there should be no low points emotionally.” Likewise at the Torture Room stop, the congenial guide walks the group through the naming process, which had nothing to do with torture. “It’s more of a funny story,” says Garcia, who explains that Jan and Herb Conn—the couple who mapped out more than 65 miles of the cave, including the entire route of the Scenic Tour—were following the echoey sound of dripping water looking for a drink, but when they discovered the source, it was too high for them to reach.

Step 4

SEE YOURSELF IN HISTORY

“It wasn’t part of my family’s lifestyle to go to national parks,” says Garcia. “It wasn’t until Professor **Melissa Blair’s** History of Baltimore class when I went to Hampton National Historic Site in north Baltimore County that I can remember visiting something like that.”

In 2023, Garcia went to Jewel Cave through the Latino Heritage Internship Program,

Clockwise from top left: Garcia spelunking on an after-hours Wild Caving Tour; Garcia standing in front of the Jewel Cave visitor’s center; Draperies and flowstone in the Formation Room; Garcia guides a group on the Scenic Tour. Photos courtesy of Garcia.



ALUMNI ESSAY

Creativity in the C-Suite

As Kent Malwitz '92, information systems, moved up through the world of technology leadership, he kept wondering if an MBA was in the cards. But what he found ultimately most useful and fulfilling, as someone already steeped in the CEO-world, was pursuing an M.F.A. in creative writing. Malwitz, who is the director of strategic partnerships at UMBC Training Centers—a nonprofit providing private workforce training in technology, cybersecurity, project management, and leadership development—nurtured this early creative emphasis as an IS student who wanted to explore the empowering and vulnerable world of writing workshops. Now, he corrals his curiosity and storyteller-instincts to become a more empathetic teammate and leader.

While I knew from a very young age that I loved technology, it wasn't until my junior year at UMBC that I discovered that I also love to write. Working and playing with technology was natural to me as a kid, and since personal computers, modems, and bulletin boards were all fairly new to the public in the late '80s, I was drawn to technology for exactly that reason—it was new. There was an element of discovery and creativity in trying to figure out how to do certain things with computers, leading me to pursue a degree in information systems at UMBC and a career in technology.

While at UMBC, I worked at a co-op with IBM, which allowed me to gain technical and business experience. I would drive to Gaithersburg daily from UMBC to provide technical support to IBM's sales teams, and at certain times, I would take night classes alongside my 40-hour-a-week job at IBM, which gave me a

heavy dose of the “real world,” as I tried to balance work, school, a social life, and a lengthy commute. The grind did not leave a lot of space for creativity.

After completing the required technical writing courses for my major, I felt a creative pull in me and acknowledged that my best chance of exploring that would be through writing, as I had shown no promise in the visual arts. I took a creative writing class and fell in love. It felt amazing to be doing something creative alongside my very technical work, and what I loved the most was sharing work with my fellow students and seeing and hearing their work—their thoughts and ideas, their fears. It made me feel extremely vulnerable, as well, but hearing my peers' feedback was empowering, and I felt inspired by their talent.

Back then, IBM was known for having an unofficial dress code—blue suit, white shirt, red tie. I conformed. The people were



very nice, and it was a great introduction into the work world, but I knew that I wanted to work in an environment with a different kind of energy.

I found myself drawn to smaller, entrepreneurial companies where you got to—and had to—do many things based on the limited resources available. I found these environments to be conducive to learning, problem solving, and creativity. Where there were many challenges, there were equal opportunities to think critically and creatively and to lead through them. I found great joy in creating elegant technical solutions to address our customers' business needs. I loved trying to figure things out that had not yet been figured out, and as my career grew, I took on bigger and bigger projects and teams.

After 10 years of technology consulting, I learned about a nonprofit that UMBC

founded focused on the delivery of technical training—the UMBC Computer Certification and Training Center (UMBC CCTC—way too many Cs!). I was recruited by the president of CCTC at the time, Doug Kenzierski, my former instructor who connected me to IBM for my co-op. I got involved in 2003 to help lead business development efforts with organizations and government agencies to train their employees. We renamed UMBC CCTC to UMBC Training Centers and started winning contracts with regional businesses and key agencies in the intelligence community, the military, and civilian government.

In true grit fashion, UMBC was very early to grasp the concept of a research university that provides workforce development programs as well as having a related business entity that extends the mission of the university to new audiences. Today, UMBC Training Centers is a significant provider of workforce training in technology, cybersecurity, project management, and leadership development, serving many individuals and employers in the region through our private training programs and our robust open enrollment schedule that reaches more than 10,000 learners a year.

Throughout my career, I often thought about pursuing an MBA, and while I know I would have learned a lot, I already had significant hands-on experience from leading business development at UMBC Training Centers and then later becoming the CEO. Instead, I realized what I really needed was to nurture my curiosity and interest in creativity. I thought that tapping into my own personal beliefs and values and becoming a better storyteller would help me become a more empathetic and more effective teammate and leader.

After hearing from other UMBC staff who had gone this route, including Jenny O’Grady, the editor of this magazine, I applied for the Master of Fine Arts creative writing program at the University of Baltimore. In many ways, I was a fish out of water in the program, but I loved it. I was much older than most of the students, and I was working full-time as the CEO of UMBC Training Centers. I was the only one who would show up in a suit on many nights, but my classmates welcomed me. I delved into writing workshop after workshop. Just like when I was an undergrad, sharing my work with others and having their work shared with me was my favorite part of the program. I loved the feedback and the support—both giving and receiving.

While I haven’t completed the M.F.A. program, I intend to and feel that I have already benefited from it greatly as a business person and as a leader. Thinking critically and creatively and being open minded and unafraid of the unknown has been a key factor in the growth of my career.

After 17 years at UMBC Training Centers, I was recruited to go work again for IBM, despite my concerns from my earlier experience working there as a student. I worried about how I would feel working for such a large, corporate organization after having been in a small, entrepreneurial environment for my entire career. I was there for four years and learned a lot—about corporate culture, about scale, and about leadership, and I was reminded about the critical nature of strategic partnerships.

In August of this year I had the opportunity to return to my beloved UMBC and UMBC Training Centers in the capacity of director of strategic partnerships. Here, I intend to work collaboratively—and creatively—with our partners, UMBC being our most strategic partner, to scale up the impact we have on the communities we serve, including finding ways to allow UMBC students to more directly benefit from our offerings, and to make UMBC Training Centers no longer the best-kept secret at UMBC.



Opposite page: Headshot of Malwitz at UMBC Training Centers. Left, Malwitz meeting with regional partners. Below: Malwitz, center with the white sleeves, played on intramural teams as a student at UMBC.



CLASS NOTES

UMBC Class Notes is compiled by *UMBC Magazine* staff from items submitted online and by mail from alumni as well as from news articles and press releases received by the university. This edition of Class Notes contains information processed by October 21, 2024.

How to Submit Class Notes

The deadline for submitting Class Notes for the next print issue of *UMBC Magazine* is April 21, 2025. Submit your class note and photos online at umbc.edu/magazine or by email to magazine@umbc.edu.



Yao Adentor '14, (wearing a black hat) chaired UXCON24 in October at the Silver Spring Civic Center. Other alumni volunteered alongside him to bring this user experience professional development to life.

1979

Mary Jumbelic, biological sciences, wrote about her experiences as a medical examiner in her memoir, *Here, Where Death Delights*, an international award-winning book that demystifies death and provides inspiration for life. Jumbelic says that her major, combined with the creative writing classes she took at UMBC, prepared her for medical school and authorship.

1981

Raphael Santini, political science, was sworn in as 128th president of the Maryland State Bar Association in June. Santini is a top-rated criminal defense attorney in Baltimore, Maryland.

Howard Siskind, M.S. '85, psychology, released his 17th original song, "Planets Align," in July 2024. His second book, *Honabeats Says: Crazy Words 2!*, came out this fall.

1987

Marian Saunders White, information systems management, is president of The Refinery LLC, a business and management consulting firm, and the owner of Refined Vending Solutions. She is also a current member of the UMBC Alumni Association Board of Directors and earned

her doctorate of business administration in June 2023 from William Howard Taft University. She was featured in the Marquis Who's Who 2024 directory.

1989

Lori Struss Weatherly, dance, now teaches at St. Timothy's School in the International Baccalaureate program, where she integrates dance technique with history for a deeper understanding of society. After owning a dance studio for 25 years, Weatherly uses her choreography background to create unique performances with the school's dance company, showcasing a variety of dance styles.

1990

William Rowell, computer science, retired as a captain from the Commissioned Corps of the U.S. Public Health Service in early 2024 after 30 years of uniformed service.

1992

Heather Cook Woodie, biological sciences, taught 6th and 7th grade general and life science for five years before completing an M.S. in curriculum and instruction from McDaniel College. After homeschooling her four children

through high school, she founded Heather Woodie Media LLC. Now, she mentors homeschooling families with sick and neurodiverse teens, offering membership, courses, and consulting to help them prepare for college. Woodie also writes high school STEM courses, her favorite being "Microscopic Marvels: Explorations in Historical & Modern Microscopy," which was inspired by her background in biological sciences.

2000

Quan Nhu, biochemistry and molecular biology, is a board-certified gastroenterologist and physician-scientist who specializes in diseases of the gastrointestinal tract at Scripps Clinic in La Jolla, California. In August, Nhu co-directed and co-chaired the Scripps inaugural Eosinophilic Esophagitis & Eosinophilic Gastrointestinal Disease Conference in Southern California.

Tina Williams-Koroma, computer science, was featured in the *Baltimore Business Journal's* "People on the Move in Baltimore" list. As the leader of CyDeploy, Williams-Koroma is transforming organizational resilience against digital disasters. Under her leadership, CyDeploy has achieved several milestones, including winning the 2024 Products that Count Award and a \$10,000 grant from the inaugural Agora Initiative pitch competition.

RENAISSANCE WOMAN

Khadijah Ali-Coleman '95, interdisciplinary studies



As the second poet laureate of Prince George's County, Maryland, **Khadijah Z. Ali-Coleman** embodies the role's commitment to both the arts and community. She describes the work as an ambassador for literature and writing, creating courses and spaces for writers to share their voices. "What I've found the greatest joy in," says Ali-Coleman '95, interdisciplinary studies, "is partnering with local libraries and schools to share the different literary eras that have impacted our world." Through this position, she has launched a symposium series, focusing on the Black Arts Movement, with plans for an exploration of the Harlem Renaissance in 2025.

Early mentorship at UMBC, layered with her continued education and formative life experiences, has shaped Ali-Coleman's voice and purpose. From her transformative years at UMBC—where she wrangled her array of interests into a self-designed major—to her current varied roles, Ali-Coleman's commitment to the arts, education, and advocacy is clear.

Her leadership roles in various nonprofits provided her with the skills to formalize her initiatives with integrity and a systems mindset, she says. Collaborations with fellow UMBC alum **Maceo Thomas** '93, biochemistry and molecular biology—like the Capital Hip Hop Soul Festival in Marvin Gaye Park in Washington, D.C.—arose from her desire to create spaces for artistic expression.

Ali-Coleman's path to UMBC was heavily influenced by her mother, who encouraged her to stay local. During a family tour of UMBC, she felt an unexpected connection. It was, as she describes it, "love at first sight," enamored by the warmth of the campus community and the support from then admissions counselor **Yvette Mozie-Ross** '88.

Now the vice provost for enrollment management and planning, Mozie-Ross was present when Ali-Coleman won the UMBC 2024 Outstanding Alumni Award. "It's great to see that the same passion and compassion for the genuine well-being of others that ignited and drove Khadijah as a student leader has not waned a bit," says Mozie-Ross. "Her work in our communities continues to reflect her deep sense of humanity. We (UMBC) couldn't be more proud of her."

Once at UMBC, Ali-Coleman quickly realized that a traditional major wouldn't fit her needs, and after reading the entire course catalog, she discovered the interdisciplinary studies (INDS) program. The major let her weave courses from African American studies, American studies, and English into a unique educational path that laid the groundwork for her future in communications and education.

Key figures at UMBC also played a significant role in shaping her journey. One of her favorite classes was Afro-American studies professor **Acklyn Lynch's** course on the Black Experience, where Ali-Coleman formed a lasting friendship with **William Honable** '95. This course not only stimulated intellectual discussions but also fostered ongoing connections among both students and Lynch long after graduation. Another influential mentor was **Jamie Washington**, who taught Ali-Coleman during her time as a student peer advisor. Washington's ability to facilitate difficult conversations around racial tolerance during pivotal moments—such as the Rodney King trial verdict—left a lasting impression on Ali-Coleman. "Jamie Washington is by far the most impacting role model and person that I think of," she says.

Ali-Coleman draws on her inspiring mentors in her own classrooms as an associate professor of English at Coppin State University. "Baltimore is really my second home," she shares, which started with her time at UMBC, followed by earning her master's from Towson University and her doctorate from Morgan State University. As someone familiar with area institutions, Ali-Coleman calls UMBC a "gem." Aside from having high academic standards, she said it was also ahead of its time.

"Many aspects we now take for granted—like diversity, equity, and inclusion—were already being prioritized at UMBC," says Ali-Coleman. "The university created a culture around inclusion, which was evident during my time as both a student-employee and a student." As a member of the second cohort of UMBC McNair Scholars, Ali-Coleman experienced firsthand UMBC's commitment to supporting underrepresented students in pursuing doctoral degrees. "I realized how ahead of the curve UMBC was," said Ali-Coleman. "It didn't sacrifice academics or cultural experiences. I don't think people fully appreciate that."

As she continues to navigate her role as poet laureate, professor, and nonprofit leader, her story showcases how pivotal moments, resilience, and a little bit of serendipity have shaped her path. "UMBC was one of the best experiences I've ever had, and it has been incredibly impactful," Ali-Coleman reflects. "I've drawn from my time there in countless ways in all different areas of my life."

—Katharine Scrivener

Above: Ali-Coleman speaks at the Festival of Literary Arts' Poets Day Party presented by the Prince George's Arts and Humanities Council in April 2024. Photos courtesy of Ali-Coleman.



CLASS NOTES



Shannon Clancy '19, mechanical engineering, celebrates graduating with a Ph.D. in mechanical engineering from the University of Michigan.

2002

David Williams, M.S., emergency health services, published his first book, *Quality as an Organizational Strategy*, in September. Williams is a globally recognized expert in ambulance system design whose focus on improving the EMS system has led to work in healthcare and education reform with the Institute for Healthcare Improvement, the Carnegie Foundation for the Advancement of Teaching, and the Gates Foundation.

2003

Swapnil Bhargava, Ph.D., chemical engineering, was recently appointed chief technical officer of CG Oncology, an oncolytic immunotherapy company focused on developing bladder-saving therapeutics for patients with urologic cancer.

2004

Christopher Clemons, financial economics, was promoted in August to executive vice president and chief commercial banking officer at Woodsboro Bank in Frederick County, Maryland.

Delali Dzirasa, computer engineering, was an award finalist for 2024 WashingtonExec's Chief Officer Awards. Dzirasa is the CEO of Fearless, a Baltimore-based digital services integrator building "software with a soul" while creating the conditions for organizations and their people to thrive.

2006

Lauren Buckler, mechanical engineering, has been appointed as the director of Baltimore County's Department of Public Works and Transportation. As a Baltimore County native, Buckler brings nearly 20 years of experience in engineering, design, construction, and public works.

Dennis McIver, M.A., historical studies, earned his Ph.D. in leadership studies from California Baptist University in August. McIver is the equity, diversity, and inclusion program manager at the University of California Office of the President.

LieAnn Van-Tull, environmental science, a former McNair scholar, recently received the Gold President's Volunteer Service Award, a civil honor bestowed by President Joe Biden. She is a lawyer who also serves as president of the Washington Bar Association.

2007

Sarah Butts, social work and political science, is now the vice president of government relations at Service Coordination Inc. (SCI). SCI is a nonprofit case management organization providing care for more than 16,000 individuals of all ages with disabilities and medically complex needs. Butts was hired to set up a Government Relations Center of Excellence.

Sherece West-Scantlebury, Ph.D., public policy, was named by *Women We Admire* as one of the "Top 50 Women Leaders in Non-Profit for 2024." West-Scantlebury is president and CEO of the Winthrop Rockefeller Foundation, which seeks to disrupt the systems that block Arkansans who are striving to get out of poverty.

2008

Mi "Jemi" Cho, financial economics, principal attorney for firm Offit Kurman, was elected president of the Asian Pacific American Bar Association of Maryland for the 2024 – 2025 term, helming the organization's mission to improve legal services for the Asian Pacific American community while promoting and supporting its lawyers, judges, and law students.

Kizzmekia Corbett-Helaire, biological sciences and sociology, is an assistant professor of immunology and infectious diseases at Harvard's T.H. Chan School of Public Health. Corbett-Helaire was featured on the podcast "Science Friday" in a discussion with producer Kathlene Davis and answered questions about the updated COVID-19 vaccines.

2011

Kaitlyn Sadtler, biological sciences, was selected for the 2024 TIME100 Next list. In its fifth year, the list aims "to introduce you to the people who we believe will play an important role in leading the future." Sadtler is a tenure-track researcher and chief of the section on immunoengineering at the National Institute of Biomedical Imaging and Bioengineering.

2012

Katie Hileman, acting, wrote and directed “I Will Eat You Alive,” which made its Philadelphia premiere in co-production with Cannonball Festival at the Philadelphia Fringe Festival in September.

2014

Yao Adentor, psychology, a senior UX researcher at Ford Motor Co., chaired UXCON24 in October at the Silver Spring Civic Center. Adentor shared that half of the event volunteers were UMBC alums, showcasing the university’s strong commitment to education and professional development in the field of user experience.

Mary Hester Dell’Erba, dance and interdisciplinary studies, M.P.P. ’15, is assistant director of the Arts Education Partnership at the Education Commission of the States. She recently attended the Arts Education Partnership Annual Convening in Pittsburgh, where she led an event that brought 200 arts, education, and STEAM (science, technology, engineering, arts, and mathematics) leaders together.

Kionne Agent Abdul-Malik, M.S. ’24, human-centered computing, gave birth to her daughter, Inaja Abdul-Malik, 20 days before graduation.



2015

Hannah Jones, history, earned master’s degrees in library and information science and history from Catholic University in 2019. After working in Washington, D.C., for four years, she now works as a cataloging and metadata librarian at UMBC. Jones celebrated one year in this role in May.

Sahand Yazdanyar, political science and media and communication studies, and **Tré Lundy** ’16, English, in late 2023 launched PaySync, an income review automation software that provides bankruptcy attorneys a simple and efficient solution to streamline their workflow.

2016

Sayre Posey, history, was named the 2025 Utah Teacher of the Year. The U.S. history teacher—a Sondeim Scholar—is known for her engaging historical reenactments and her students’ impressive track record of winning National History Day competitions.

Scott Seiss, media and communication studies, known for his online persona as Angry Retail Guy and for playing the paramedic in the cult thriller *Cocaine Bear*, published his first book, *The Customer Is Always Wrong*, this September.

2017

Bridget Simmons Jordan, modern languages, linguistics, and intercultural communication, M.A. ’19, TESOL, is an ESOL teacher at Baltimore Highlands Elementary who was one of 14 teachers in the U.S. selected for the 2024 Fulbright-Hays Group Projects Abroad program to Peru. The goal of this program is to build teachers’ Spanish language competence and develop knowledge of Latin American culture.

2018

Naomi Mburu, chemical engineering, UMBC’s first Rhodes Scholar, successfully defended her doctoral dissertation at Oxford University in June.

2019

Shannon Clancy, mechanical engineering, graduated in August with a Ph.D. in mechanical engineering from the University of Michigan and is now assistant professor of engineering at Elizabethtown College.

Damarius Johnson, Africana studies, co-edited the 2024 anthology *Picturing Black History*, which features historical essays about rare images of African American history from Getty Images’ photography archive. The book reflects Johnson’s experiences in Africana studies at UMBC, where faculty emphasized content knowledge as well as accessible communication.

2021

Olúmidé Fagboyegun, biochemistry and molecular biology, is a Ph.D. student at the Harvard Kenneth C. Griffin Graduate School of Arts and Sciences. He is working in the lab of Beth Stevens, Harvard Medical School associate professor of neurology at Boston Children’s Hospital. Fagboyegun and Stevens were recently awarded a Gilliam Fellowship by the Howard Hughes Medical Institute as a mentee-mentor pair. Fagboyegun will receive \$53,000 in annual support for his dissertation research, with Stevens as his advisor.

Angel Munoz Osorio, psychology, started the clinical psychology doctoral program at the University of Cincinnati in fall 2024.

CLASS NOTES

2023

Keerthana Baradi, M.P.S., health information technology, is now a data analyst at Solstice. She works with electronic health records and messaging standards, performing analysis and data mapping of various healthcare data sources.

Emma Gebhard, psychology, was one of 74 Americans selected to study and work in Germany as part of the Congress-Bundestag Youth Exchange for Young Professionals program. About 500 participants from a wide variety of career fields in the U.S. vied for a spot in this prestigious program.



Olúmidé Fagboyegun '21, biochemistry and molecular biology, is a Ph.D. student at the Harvard Kenneth C. Griffin Graduate School of Arts and Sciences Program, studying star-shaped glial cells that help maintain the blood-brain barrier and influence the formation of synapses between neurons.

2024

Kionne Agent Abdul-Malik, M.S., human-centered computing, is the acting executive officer at the Social Security Administration. After struggling with her studies in the late 1990s and leaving UMBC, Abdul-Malik worked in the government for many years. When she returned to her education, she eventually re-enrolled at UMBC and is so proud to have completed her degree.

FRIENDS WE WILL MISS

Sheldon Caplis, former vice president for Institutional Advancement and UMBC emeritus staff member, passed away on June 11. A member of the President's Council from 1993 to 2008, Caplis believed deeply in education and was passionate about philanthropy. The team he built at UMBC met challenging goals and helped establish many initiatives that are part of the campus fabric today. He guided the university in securing its first charitable gift of \$1 million and was especially proud to be a champion for the creation of the award-winning *UMBC Magazine*.

Paul Dresler '74, biology, passed away on January 14. Dresler dedicated 31 years of his life as a researcher, science policy advisor, and program manager at the U.S. Geological Survey. Dresler enjoyed gardening, fishing, and woodworking upon retirement.

Dave Hollander, a former registrar at UMBC, passed away on May 21. According to his friends, after his retirement he enjoyed attending activities through the Wisdom Institute, UMBC's association for retired faculty and staff, and stayed in touch with the UMBC community.

Ann McKim, Ph.D. '95, human services psychology, died on June 19. McKim worked as a clinical psychologist for several years and was a professor at Goucher College from 1995 to 2015. She also taught at the University of Botswana for three years. She established a Positive Psychology research laboratory at Goucher and conducted several scientific studies on how to live happier and more fulfilled lives.

Antonio Moreira, UMBC's long-serving vice provost for academic affairs, died on May 21 after a brief battle with pancreatic cancer. Moreira was a trusted colleague and an academic leader at UMBC for decades, starting in 1990 as professor and director of the chemical and biochemical engineering program. He became vice provost in 1997, serving under five provosts during his tenure with the office. Throughout, Moreira maintained teaching and research responsibilities and mentored many graduate students.

Rochelle Sanders '08, English, died on August 16. After 38 years of service with the State of Maryland and UMBC, Sanders, director of benefits, compensation, and human resources information systems retired from UMBC on December 1, 2019.

Cooper Savage '01, sociology, an environmentalist and outdoorsman, died on August 30.

Thomas Seidman, professor emeritus, died on August 14. Seidman joined the UMBC faculty as an associate professor of mathematics in 1972. In January 2017, he retired after 45 years of distinguished scholarship and service to UMBC, with wide-ranging contributions to the mathematics community. His area of research was "all things applied analysis," which included partial differential equations, control theory, and semigroup theory and was often applied to various mathematical modeling problems.

Jon Squire, a long-term adjunct faculty member in the Department of Computer Science and Electrical Engineering, passed away on June 13. Squire joined UMBC in 1999, dedicating 22 years to educating and mentoring Retrievers. In addition to his teaching duties, Squire made significant contributions through his service as a representative on the Adjunct Advisory Committee. He also served as an advisor for the Linux User Group, where he inspired and guided students in their pursuit of knowledge.

CRABS IN THE CLASSROOM

Jessica Baniak '23, biological sciences, current ICARE master's student



Most people wouldn't guess horseshoe crabs—ancient arthropods with hard, round carapaces and long, spiky tails—when asked what animals you might find in a K12 classroom. But **Jessica Baniak '23**, biological sciences, is collaborating with the Maryland Department of Natural Resources (DNR) to shift kids' perspectives of the alien-looking critters and create opportunities for inquiry-based learning.

Today, Baniak is a student in the ICARE program, an environmental science master's program led by UMBC biology professor **Tamra Mendelson**. ICARE students study local environmental issues and include community partners on their master's thesis committees.

Horseshoe crabs congregate on Maryland and Delaware beaches to mate each spring, and the last two years Baniak has collected some of their eggs with a research permit from the Maryland DNR. Each female can produce upwards of 20,000 eggs. Baniak takes the eggs back to a lab at the Institute of Marine and Environmental Technology, a multi-institution research facility on Baltimore's Inner Harbor, and raises them until they're about a centimeter across.

Then Baniak delivers the baby crabs to elementary, middle, and high school classrooms in Howard, Carroll, and Baltimore counties. This year 10 schools received crabs. Some teachers use the crabs in their curriculum, and some crabs are tended by student environmental clubs. Students run basic experiments that develop their science reasoning skills, like comparing growth rates in different hatchery setups.

It's tricky to successfully raise the crabs to adulthood. Baniak visits each classroom a couple of times a year and makes suggestions to improve

the crab habitats. Factors like feed, temperature, salinity, and more play a role in their survival. For her master's research, Baniak is working out the ideal setup for successful crab-rearing with a focus on temperature. Higher temperatures produce faster growth, but some baby crabs perish in the heat. Cooler temps cut the mortality rate but slow growth.

Baniak's goal is to find the sweet spot that produces the most healthy crabs in a short amount of time. Why does efficiency matter? Because eager students aren't the only ones interested in raising crabs. Companies extract a compound from horseshoe crab blood that is used to detect bacterial contamination in pharmaceuticals. The blood can't be harvested until the crabs are about 10 years old, Baniak explains, so raising them in captivity

isn't economical (it's also challenging). Instead, reintroducing young crabs to their natural habitat is "a way that companies can help mitigate how much they've taken out of the wild," Baniak says. Baniak's work will help optimize these reintroduction programs for the industry—and at the same time, give kids a unique learning opportunity.

After she graduates with her master's next spring, Baniak hopes to move on to a role in a federal agency like the U.S. Fish and Wildlife Service. She wants to continue to contribute to outreach programs like the horseshoe crab project.

"That's my motivation for continuing in science, because I want to make more programs like that," Baniak says. "I like ICARE because you're working with other people in the community and not just researching a really niche subject."

After she transferred to UMBC during the pandemic to be closer to home, UMBC faculty members helped her stay committed to her biological sciences degree. **Maggie Holland**, professor of geography and environmental systems, "brought back the joy into science after returning from online learning," Baniak says. "She seemed to genuinely care about me as a student and about the subject she was teaching."

Mendelson, too, made an impact. "She's put a lot of effort into the ICARE program and wants to see all of us succeed," Baniak says.

At the end of the school year, Baniak will travel with the students to release their horseshoe crabs at Sandy Point State Park and watch them wriggle across the sand and swim into the Chesapeake Bay, heading for life's next phase.

— Sarah L. Hansen, M.S. '15

Below: Horseshoe crabs in their home at Glenwood Middle School in Howard County to be raised by students. Photos courtesy of Baniak.



CLASS NOTES

Homecoming Highlights



Check out more Homecoming photos at [flickr.com/photos/umbcalumni/albums](https://www.flickr.com/photos/umbcalumni/albums).



WHEN THINGS JUST CLICK

Collin Sullivan '19, information systems and economics, M.P.P. '21



Collin Sullivan '19, information systems and economics, M.P.P. '21, is the program director for digital credential innovation in the Division of Professional Studies. While he started as a student worker in 2015 for the Division of Information Technology (DoIT), working with faculty to leverage the use of clickers in the classroom, he now leads university efforts to offer in-demand microcredentials, such as the Greater Washington Partnership Digital Tech credential. Two things have been constant in Sullivan's career: his interest in technology and his love of the UMBC community.

Q: What led you to your current role?

A: In many ways, my professional time at UMBC found me. I began as an undergraduate student worker in instructional technology with DoIT. I started by supporting classroom clickers in classes all across campus. I've always been interested in educational technology, so I was incredibly fortunate and lucky to have had that opportunity during my undergrad.

When I was about to graduate, like many rising seniors, I was really unsure of where I was going to go. I was feeling uneasy about looking for jobs because I knew the values of UMBC and the community that exists here, and I had a hard time thinking about other places to work that would have the same feeling. My passion for educational technology never waned, and in the end I found an opportunity at UMBC.

Q: How many hats do you wear at UMBC?

A: I have had many roles here at UMBC: undergraduate student, graduate student, alumnus, staff, and adjunct faculty member. I've studied information systems, economics, and public policy. I began my career in the Division of Information Technology, and now I am in Extended Studies with the Division of Professional Studies. It is without question that I am who I am, and where I am, because of UMBC.

Q: Tell us about someone in the community who has inspired you.

A: There are way too many people to name! The first person who comes to mind is **Craig Berger**, my Student Government Association advisor when I was an undergrad. There is no other way to put it other than Craig is the best. During my first few days at UMBC, I made my way to the Campus Life office, and Craig always made me feel welcomed and, later, truly empowered me to feel like I could make a difference on campus and beyond the loop. He taught me that even during times that feel particularly challenging, the world is still malleable. A different perspective and level-headed, strategic approach often is a meaningful path forward.

Q: What's the one thing you'd want someone who hasn't joined the UMBC community to know about the support you find here?

A: In many ways, UMBC is a small town. It feels like a close-knit community where it's easy to make meaningful connections with people from diverse backgrounds who genuinely care about each other. While we strive for excellence, there's no sense of competition—everyone supports one another in achieving personal and collective success, whether in academics, work, or relationships.

Q: Tell us about an organization you're involved in as part of your work.

A: I've had the privilege of being involved with 1EdTech, a national education technology organization, where I serve as co-chair of the Digital Credential Innovation Leadership Network. Our goal is to ensure that everyone who earns digital credentials can confidently showcase their verified competencies and achievements, using them in ways that best support whatever is next in life.

Q: What's your favorite place on campus to relax or meet friends?

A: My favorite spot has changed over the years—from the tables by the Library pond to the area outside the RAC and the Forum sculpture at the PAHB. But honestly, my go-to answer has to be the coveted comfy chairs at Starbucks! I've had so many amazing conversations with friends, mentors, and colleagues there. Plus, you never know who you'll bump into. There's just something about the possibilities of chatting over a cup of coffee.

Q: What part of your job do you enjoy the most and why?

A: Working with faculty and staff to create new pathways for learners to reach their goals. It's easy to get caught up in our own worlds and forget to pause and reflect on the progress we're all making. I love that I get to collaborate with others to create space for those reflections, where we can really think about what we want learners to achieve. The best part? Seeing the end result—acknowledging all the hard work, both seen and unseen, that helps learners improve their lives and take the next step in their journey.

UMBC's greatest strength is its people. When people meet Retrievers and hear about the passion they bring, the relationships they create, the ways they support each other, and the commitment they have to inclusive excellence, they truly get a sense of our community. That's what "Meet a Retriever" is all about. Read more in this series at umbc.edu/stories/tag/meet-a-retriever.

Above: Sullivan talks with Founding Four member Mimi Dietrich '70 at the 2019 Alumni Awards.



THEN & NOW

Place of Play to Protected Site

The afternoon sun dances on the water of the Library pond while fish swim below the surface. Most days, you see ducks enjoying the water. Unlike many newer places on campus, the pond has been one of UMBC's iconic spots since the beginning. But the current generation of fish—and today's Retrievers—don't have a long-enough memory to know that the pond was once a place of recreation for students.

Photos from UMBC's 1969 yearbook, *Skipjack*, reveal students playing tug of war over the pond and other water activities such as rowing and ice skating. Splashing around in the pond is unimaginable today—signs tell those who come to the water feature about its importance to the natural wildlife and the delicate nature of the pond's ecosystem. The terrace and landscaping around the pond has been reshaped over the years to invite students, faculty, staff, and others to sit on nearby benches admiring the site's natural beauty.

While students no longer play in its water, the pond has never been better monitored. UMBC's Facilities Management works to keep the pond clean and safe for its many flora and fauna. "A little bit of care goes a long way," says **Ralph Ericksen**, grounds manager of maintenance, who explains that Facilities Management is currently focused on controlling vegetation (mainly phragmites—the common reed—which if left unchecked can cause major problems), keeping out invasive species, and managing oxygenation levels in the water. His group works with UMBC's Office of Sustainability to develop programs to educate students about why it's important to conserve the pond for many generations of Retrievers to come.

"Ponds create a wonderful atmosphere," Ericksen commented. The fish and the ducks would agree with him and so would the many visitors over the years.

By JJ Gee '25





WILD CARD

The Hills Are Alive...

On a sunny October afternoon, a faint melody emerges from a stand of trees just beyond the Fine Arts Building and within hearing distance of the Performing Arts and Humanities Building. We leave the paved pathway and follow our ears up the hill to find first-year music education student **Luke Heichlinger** leaning into the keys of a lone piano, playing what turns out to be “Ein Heldenleben” (“A Hero’s Life”) by Richard Strauss.

“I always look for a practice room with a window, but sometimes I can’t get one,” he says, explaining that he and his friend, Hannah, originally joked that the piano in the woods might be a hallucination. Thankfully, it wasn’t—so they came back the next day prepared with sheet music.

Installed just days before, “Piano Garden” is the latest “performance” of New Zealand-born composer Annea Lockwood’s ever-growing outdoor series of “Piano Transplants” compositions in which, since 1969, defunct pianos are burned, submerged in water, or—as is the case at UMBC—left to be taken over by trees and plant life.

In the days and weeks following the installation at UMBC, the unofficial path to the piano became well-worn as students like Heichlinger brought their best tunes, additional instruments, and voices, and performed—very often—just for themselves. Lockwood, later, visited campus as part of the annual Livewire music festival and listened while Linehan Artist Scholar and piano performance major **Ida Dierker** improvised in the woods for all to enjoy.

“UMBC has all these beautiful outdoor spaces,” says **Linda Dusman**, Livewire director, professor, and longtime Lockwood fan. “Stumbling upon a piano in the woods...kind of wakes you up to the experience of your environment. And also helps you remember what a piano does: that music can wake you up to the moment, even if you’re not directly hearing it.”

On the day we found Heichlinger, we learn he purposefully chose a romantic era composition that might fit in well with his surroundings. The dappled shadows flitted across the keyboard as he played.

“This is a really nice setting,” he said. “Nature and music go together so well, and this is the perfect example of that.”

—*Jenny O’Grady*



Erik Bhattacharyya is one of many UMBC students who have discovered and enjoyed the Piano Garden. Here, the biochemistry and molecular biology and biological sciences junior is playing a piece by Ludovico Einaudi called “Nuvole Bianche.”



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Philanthropy plays an important role in everything we do, making a profound difference in the lives of our students, faculty, staff, and alumni. This past year, your generosity led to the establishment of nine new scholarships and fellowships and helped fuel faculty research—allowing the inquiring minds of UMBC's community to continue to push the envelope of what is possible. Your gifts also went a long way in supporting our numerous championship teams, including our four-time America East championship volleyball team and our award-winning mock trial team.

The culture of giving that you have helped cultivate is making us a better place in so many ways. We can't say it enough—THANK YOU!



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UPCOMING ALUMNI EVENTS

There are so many ways to stay involved with UMBC and show your Retriever pride! Here are just a few upcoming alumni events to consider attending.

January 5: *The Princess Bride* in Concert—Meyerhoff Symphony Hall, Baltimore


February 7: Alvin Ailey Dance Theatre Tour—The Kennedy Center, Washington, D.C.


February 20: College of Engineering and Information Technology Annual Alumni Reception—Guinness Brewery, Halethorpe, Maryland

Week of March 10 – 16: Bay Area Alumni Events—California

Learn more about these and other alumni events at alumni.umbc.edu.



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