

College of Letters & Science



IN FOCUS

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**Anthropology
alumna
helps protect
humanity's closest
primate relatives**
Pg. 6

**Getting to know the
bonobos**

CONTENTS

Feature Stories

Film studies student attends SBIFF	p.2
Sociology prof honors former student with book	p.4
Anthropology alum works at Ape Initiative	p.6
Story Fellows build community via C21 program	p.9
Undergrad researchers study water quality	p.10
Urban Studies marks annual research forum	p.13
UWM marks 2023 Commencement	p.17

Columns

Laurels and Accolades	p.14
Alumni Accomplishments	p.14
In the Media	p.15
Video Stories	p.16
People in Print	p.16
Passings	p.16

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Film Studies student rubs elbows with actors and directors at Santa Barbara Film Festival

What you need to know:

- Film studies minor Devon Boyer was among a select number of students from across the country who were selected to attend the Film Studies program at the Santa Barbara International Film Festival.
- The program allows students behind-the-scenes access and networking opportunities with writers, actors, directors, and other film industry professionals.

The [Santa Barbara International Film Festival \(SBIFF\)](#) is one of the largest in the United States. For 35 years, the event has brought in more than 100,000 guests and screened 200+ films annually, hosted countless actors and directors for panels and talk-backs, and has also given select college students the chance to peer behind the theater curtain of one of the biggest events on the film festival circuit.

This year, Devon Boyer was one of those students.

Boyer is an architecture major with a minor in film studies. It might seem like an odd pairing, but it's perfect for Boyer, who would like to someday break into the world of film production design. He graduated this May, but not before traveling to Santa Barbara in February to attend the Festival's [Film Studies program](#). He was encouraged to apply for the program by UWM associate professor and director of the Film Studies program Jocelyn Szczepaniak-Gillece.

"It was a very cool experience, just for the fact that you could meet other people from around the country who had similar interests with you," Boyer said. "It was also just a good experience to travel and see other places with a different culture than ours. Santa Barbara is a very entertainment-based city, which is very different than Milwaukee."

The SBIFF Film Studies program aims to get young people involved in the film industry, especially students who may not have access to a film program at their university or who may have never attended a film festival in person. This year, the program took 30 students from across the country, including Boyer. For three days, the students were invited to all aspects of the festival.



The 2023 Santa Barbara International Film Festival Film Studies program cohort stands outside a marquis for a group photo. Devon Boyer, who is pursuing a film studies minor at UWM, participated in the program this February. Boyer stands fifth from the right in the second row. Photo courtesy of Devon Boyer.

"We've got VIP access to *everything*," Boyer said. "We got special opportunities to talk with certain directors and have conversations about stuff that we liked and how to get into the industry. ... There was access to any movie we wanted to see. There were a lot of talks from actors – we saw Jamie Lee Curtis, Cate Blanchett, and Angela Bassett."

The actor panels were especially interesting, Boyer said. He enjoyed discussions where the stars of films gave talks about their careers and acting styles. There were panels with film directors, including with Rian Johnson, who directed "Glass Onion" (2022), and panels with writers – Boyer particularly enjoyed those, he said.

His favorite film was a new drama called "A Bit of Light" that starred his favorite actress, Anna Paquin. The film was directed by Paquin's husband, Stephen Moyer.

"That was a standout film for me," Boyer said. "It was also the last one I saw on the last night, so it was special, and (Moyer) was there to talk about it, too."

There were also plenty of networking opportunities. Students not only were able to meet with Roger Durling, the executive director of the SBIFF, but also industry experts and seasoned professionals who gave the

students advice about filmmaking and forging a career in the business.

Boyer appreciated the opportunities, but he admits he's not ready to take on California. Instead, he's using his degree in a new job with a construction company that works on theme parks. He hopes to stay involved with filmmaking by exploring Milwaukee's independent filmmaking scene and working on amateur films with friends.

Even so, the SBIFF Film Studies program was an amazing experience for Boyer, who describes himself and his brothers – the three are triplets – as movie buffs. They grew up watching movies together, and their film forays inspired Boyer's interest in the film studies minor. Attending the SBIFF was the culmination of a lifetime love of movies.

There was one more thing that made the experience special.

"The weekend we went was my birthday weekend," Boyer said. "I was like, this is perfect."

By Sarah Vickery, College of Letters & Science

Sociology prof honors student's legacy with posthumous book

What you need to know:

- UWM sociology professor Jennifer Jordan mentored Ashkan Rezvani Naraghi when he was an urban studies PhD student.
- When Rezvani Naraghi died in 2020, Jordan was determined to finish his book.
- The book details the history of Tehran.

Ashkan Rezvani Naraghi was a man who loved fiercely. He loved his growing family. He loved rock climbing. He loved his country, Iran, and its rich and vibrant history. He loved teaching and learning, first as a PhD student in urban studies at UWM, and then as a faculty member in urban planning and design at the University of Tehran.

After his death, the people whose lives he touched returned that love to create a legacy for his family.

Rezvani Naraghi was killed in December of 2020 when he and his party were caught in an [avalanche](#) while mountain climbing in the Alborz Mountains north of Tehran. Jennifer Jordan learned the news from a colleague, who sent a message to express his condolences.

"I was completely stunned by the news," said Jordan, a UWM professor of sociology and Rezvani Naraghi's PhD mentor. "I looked up news coverage of the avalanche. That really brought it home, how fragile we all are and how horrible this event was."

While she grieved, Jordan was also thinking of ways to preserve Rezvani Naraghi's legacy. By the end of the day, she knew exactly how: She would take Rezvani Naraghi's unfinished manuscript and turn it into a published book that she could give to his family and the world.

A mentorship and friendship

Rezvani Naraghi was an intelligent, curious person. After earning his undergraduate degree in architecture in 2007 and a Master's degree in urban design in 2010 from the University of Tehran, he applied to UWM for his doctoral studies, where he and Jordan met in one of her seminar classes.

"We realized we had curiosities about the world in common, even though my work is in a very different geographic area. But there was a kind of harmony in the ways that we investigated things," Jordan recalled. "A lot of us were really impressed by him from the get-go. I was honored when he chose me ... to be the chair of his (doctoral) committee."

Their research areas were indeed very different: Jordan's work has focused on urban change in Berlin, the sociology of food and memory, and most recently, beer and hops in 19th century Wisconsin, while Rezvani Naraghi's dissertation focused on the changing landscape of the Iranian capital of Tehran. Titled "From Mosques and Coffeehouses to Squares and Cafés: the Production and Transformation of Political Public Spaces and Social Life in Modern Tehran," the thesis revealed how the city's geography impacted its politics and culture, and vice versa. He completed his doctoral work, graduated with his PhD in 2017, and joined the University of Tehran faculty soon after.

Jordan says that she learned a lot from her former student.

"He was an amazing person. He really was one of those people who stands out," Jordan said. "He was a uniquely kind, energetic, compelling, principled person, someone who inspired people all around him."

"He was beginning to create a legacy and you could tell that his students there really adored him, just in the way that his colleagues and his professors at UWM also adored him," she added.

From manuscript to book

To continue that legacy, Jordan was determined that the manuscript Rezvani Naraghi was working on would become a book. The two had corresponded frequently, so she knew that he was working on a publication based off of his doctoral dissertation.

Creating a book is no easy feat – especially when that book is not your own. Jordan started by tracking Rezvani Naraghi's editor at Cambridge University Press, and proposing that she finish the work.

Luckily for Jordan, Rezvani Naraghi had his manuscript mostly polished, though there was still a lot to do. Jordan busied herself tracking down sources to shore up footnotes, requesting permissions for images to use in the book, choosing a photograph for the cover, and working on an index.

Along the way, Jordan discovered just how many people's lives Rezvani Naraghi had touched.

Cambridge University Press helped Jordan connect with copyeditors to read over the book. The Sharmin and Bijan Mossavar-Rahmani Center for Iran and Persian Gulf Studies at Princeton University, where Rezvani Naraghi had applied for a postdoctoral position, donated



UWM sociology professor Jennifer Jordan smiles with Ashkan Rezvani Naraghi. Jordan was Rezvani Naraghi's mentor as he pursued his PhD in urban studies at UWM. Rezvani Naraghi passed away in 2020. Photo courtesy of Jennifer Jordan.

money to cover the cost of the book's index. Rezvani Naraghi's friends, colleagues, and mentors from Iran and around the world gave Jordan advice on imagery and formatting. Jordan's colleagues at UWM stepped in to help as well.

"I think that speaks to Ashkan, that he had a network of people who cared about him. He was very good at creating community," she said. "In return, that community came together to bring this book into the world."

Rezvani Naraghi's book, [A Social History of Modern Tehran: Space, Power, and the City](#), was published in February, two years after his death. As political protests in Iran have dominated many national headlines in recent months, Jordan says the book is a puzzle piece that can help modern audiences understand the city's history and that history's impact on Iran today.

While she's happy that Rezvani Naraghi's research can now be shared with the world, Jordan is most happy that his children will someday be able to read their father's work. Rezvani Naraghi had a young son and his wife was eight months pregnant with their daughter at the time of his death.

"When they're older, they'll be able to hear his voice again in his academic voice," Jordan said.

If he'd had the time, she added, Rezvani Naraghi would have made so many more contributions to the world. This book represents an important part of his life's work – a life of research, community, and love.

By Sarah Vickery, College of Letters & Science

UWM also remembers the life of Cassy Doolittle



Ashkan Rezvani Naraghi was not the only UW-Milwaukee alum to lose his life in a rock climbing accident.

In December 2022, just two years after Rezvani Naraghi's death, Cassy Doolittle, a UWM alumna who majored in psychology, was caught in a storm after she completed a solo trip on Aguja Guillaumet in Argentina. Buffeted by wind and rain, she became disoriented after she descended the peak and missed the trail that would have taken her back to her base camp. Doolittle passed away from exposure.

Doolittle graduated from UWM in 2019 with double majors in psychology and vocal performance, alongside a minor in biological sciences. She was an undergraduate researcher and worked with mentor Adam Greenberg, who was a faculty member in the Department of Psychology at the time. Their work focused on musical training and its impact on auditory perception.

Doolittle enjoyed research and wanted to continue her work; at the time of her death, she was working toward a PhD in neuroscience at the University of Las Vegas.

Friends and family contributed to an article published on [Climbing.com](#) that detailed Doolittle's accomplishments and zest for life.

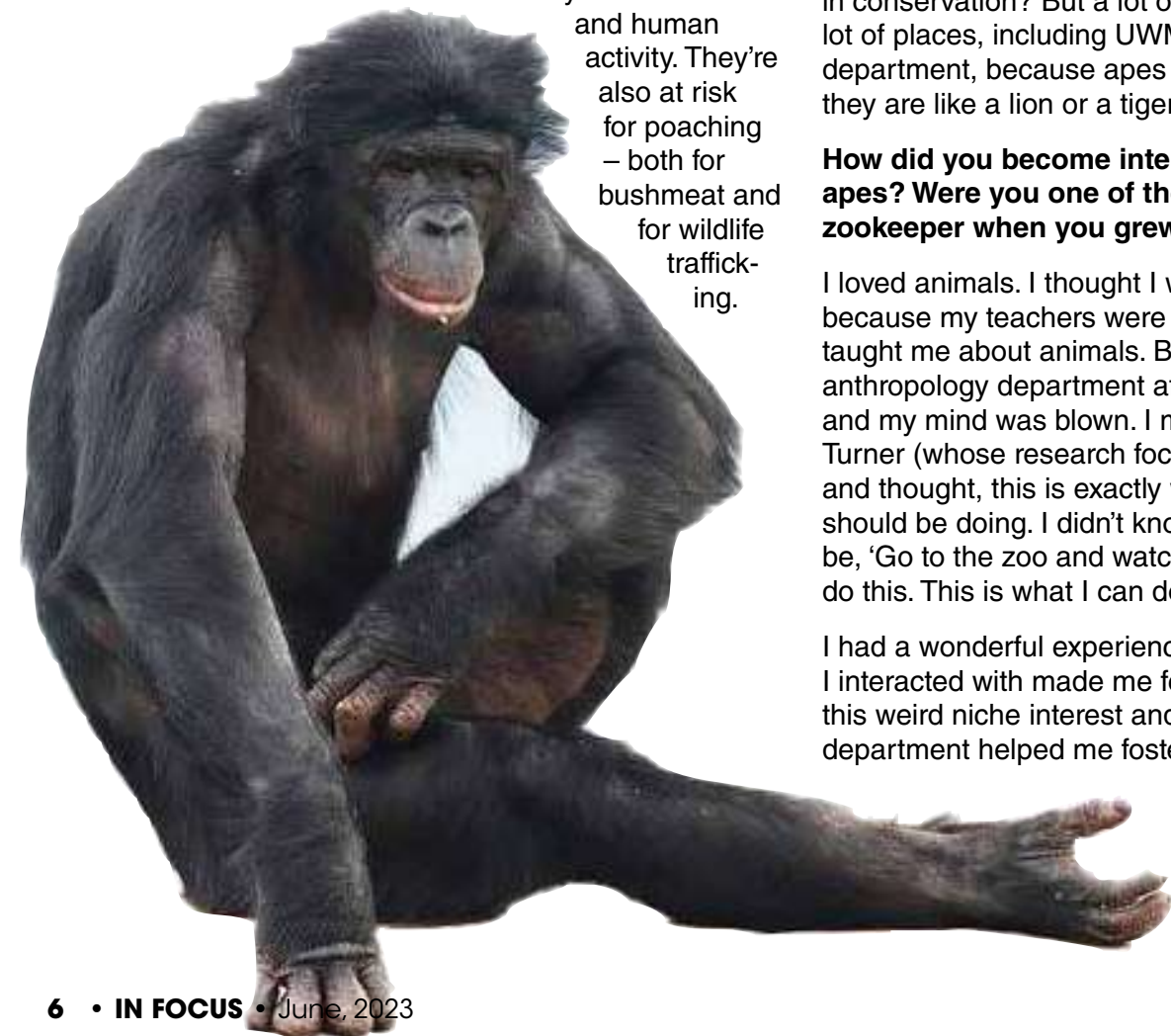
Anthropology alum champions bonobo research and education at the Ape Initiative

What you need to know:

- Anthropology alumna Amanda Epping is the research coordinator at the Ape Initiative in Des Moines, Iowa.
- AI is the only bonobo research institution in the world and promotes conservation and education.
- Bonobos have unique personalities and even participate in research studies.

The Ape Initiative in Des Moines, Iowa, is the only research facility in the world that is dedicated to the care and preservation of humanity's closest primate relative: Bonobo apes. Bonobos are an endangered species, with their habitats threatened

by deforestation and human activity. They're also at risk for poaching – both for bushmeat and for wildlife trafficking.



That's one of the reasons that Amanda Epping is so dedicated to her role. As the research coordinator at the [Ape Initiative](#), she is responsible for not only caring for the seven bonobos who call the facility home, but also in charge of helping researchers, students, and the public understand more about this fascinating species.

Epping is a two-time graduate of UWM who earned both her Bachelor's and Master's degrees in anthropology. She sat down to talk about her work, her education, and of course, her bonobos.

First, I think we have to address a misconception: Isn't anthropology the study of humans? How did you end up working with apes with an anthropology major?

Primate studies are all over in different universities. There's biological anthropology, and includes evolutionary sciences, right? Obviously, apes are a part of that conversation. But there are still apes alive today. Where do they fit in? Is that zoology, or ecology? Should it be in conservation? But a lot of the primate classes in a lot of places, including UWM, are in the anthropology department, because apes are far more human-like than they are like a lion or a tiger or a bear.

How did you become interested in working with apes? Were you one of those kids who wanted to be a zookeeper when you grew up?

I loved animals. I thought I wanted to be a teacher, because my teachers were really awesome and they taught me about animals. But at UWM, I ended up in the anthropology department after I took a gen ed course, and my mind was blown. I met (professor emerita) Trudy Turner (whose research focuses on vervet monkeys), and thought, this is exactly where I should be and what I should be doing. I didn't know a class assignment could be, 'Go to the zoo and watch the gorillas.' I was like, I can do this. This is what I can do for a job.

I had a wonderful experience at UWM. Everybody that I interacted with made me feel like an individual. I have this weird niche interest and the whole anthropology department helped me foster that.

You held internships with Lincoln Park Zoo in Chicago with their ape research center and eventually were invited to work at the Ape Initiative after you graduated. What exactly is the Ape Initiative?

The Ape Initiative is the only bonobo research facility in the whole world. There are only eight institutions in all of North America that even have bonobos. Seven of them are zoos (Milwaukee County Zoo is one), and then we are the other one.

We are a nonprofit; we don't make money, but we make enough money to take good care of the apes. We work with universities all over the world. They approach us and say, hey, I'm studying memory or laughter or sleep, and I'd like to include the bonobos in this study. If we think that the bonobos might think the research is fun and engaging and want to participate in it, we have those researchers send a protocol to our Animal Use Committee, and they can approve or deny it.

We take all the rest of the free time that we can find and we work with school groups to talk about conservation and preservation. Kids in Iowa can come and see the apes on site. We feel really strongly that you can't look into the eyes of an ape or play with them through the glass and not feel inspired to go find out what's in your own backyard. We're teaching science for the sake of scientific discovery and hopefully fostering that interest right through adulthood.



Amanda Epping plays with bonobo Clara through the glass of Clara's enclosure at the Ape Initiative in Des Moines, Iowa. Epping is the organization's research coordinator. Photo by Perry Beeman.

Left: Bonobo Maisha is Epping's "bonobo bestie." Photo courtesy of the Ape Initiative.

Cover: Bonobo Teco is a juvenile who enjoys touchscreens and video games. Photo courtesy of the Ape Initiative.

What do you hope these kids learn? Is there anything you particularly want people to know about bonobos?

One of the things that I think we should all be aware of is that research has shown, time and time again, that apes in human settings – wearing clothes, being in movies, on greeting cards – makes people think that they make good pets and they aren't endangered. Those are two very scary things for animals that do *not* make good pets and *are* very endangered. That can be absolutely detrimental to conservation efforts for these exotic animals. While it's fun and cool to see them doing things that are relatable and human-like, it's extremely dangerous for them.

[Continued on Page 8](#)

Alum and the Ape Initiative

[Continued from Page 7](#)

What kind of research do people do with bonobos?

We have researchers from countless fields, which is one of the absolute coolest things about Ape Initiative. The projects usually fall into one of three categories: Manual, touchscreen, or behavioral. Touchscreen tasks include things like a cognitive test, or navigating virtual spaces. Manual tasks include things like a token exchange or having the apes make a choice by pointing. Behavioral projects are the bonobos going about their normal routines while we take data with an ethogram.

We don't ever go into the bonobos' enclosures with them. We let them choose to interact with us. The same goes for research projects. They get a choice if they want to participate. If they don't, they walk away to go do something else.

One neat, recent study that is relatable to us all was a sleep study. The researcher had cameras that could zoom in very closely, and then they had some machines that are actually used in human sleep studies. Humans and apes are so similar that a lot of time, you can use the same equipment for them. The machines track your breathing overnight. The researcher studied the apes' sleep patterns and she found that their sleep patterns follow their age. We have a 42-year-old male whose sleep pattern followed a 42-year-old human male – he was up a lot of times in the night. The youngsters were sleeping hard, probably because they're running around more throughout the day.

Back up - the apes have computers?

The apes are touchscreen-trained, so we can put a touchscreen up to the mesh of their enclosure and they can play with it through that. We also have a couple of free-standing touchscreens that some of them can use without the mesh barrier.

I have to ask – do you have to limit the apes' screen time like humans do for their children?

For one of them, we do! **Teco** turned 13 on June 1, and he would probably go all day on the touchscreen if we let him. He has a video game right now where he can navigate through a world of trees, and he'll do that for a solid 40 minutes. For an ape, that's a really long time.

Working with these apes for so long, have you noticed that they have different personalities?

They all have extremely unique personalities. They are a matriarchal society, so all of the female bonobos are going to be ranked higher than all of the male bonobos, and female bonding is extremely important in bonobo society.



Kanzi the bonobo is a 42-year-old male who, according to the Ape Initiative's website, is regarded as the first great ape to demonstrate an understanding of spoken English. He enjoys communicating with his carers through his lexigram keyboard. Photo courtesy of the Ape Initiative.

We've got three females – one older one who is the matriarch and then two young daughters who are sort of new. We've all been to high school – if you think of "Mean Girls," it's very much like that. They're cliquy and they can be bullies when they're all together. Then we've got four males who have vastly different personalities.

Who is your bonobo bestie right now?

My bestie right now is **Maisha**. He's a goofy bonobo. He's very playful with the apes and with the humans, and he's got the goofiest play face. You can't help but crack up when he makes that face at you.

If you would like to help support the Ape Initiative, you can [donate](#) or purchase items from the organization's [Amazon Wishlist](#).

By Sarah Vickery, College of Letters & Science

Story Experience celebrates collaboration between students and community

Jake Clements, a UWM English major, worked with the Milwaukee Parks Foundation to produce a video sharing the history of the foundation's new home, the Martin Luther King Community Center.

Sara Issa, a UWM linguistics doctoral student, brought creativity and community to residents at the Ovation Chai Point senior living center through cross-cultural conversations and lessons on making origami.

Ken Bartelt, a doctoral student in history, began a project to help the Beckum-Stapleton Little League, the oldest area league focusing primarily on African American youth, gather oral histories and develop signage about its history for its ball fields.

All of these students are among the 2022-2023 fellows in the Story Experience Program.

The program, which includes UWM and Marquette students, builds collaborations with communities and organizations across the city to shape and share stories, according to Anne Basting, professor of English and director of UWM's Center for 21st Century Studies, which houses the project. She and Sarah Wadsworth, English professor and director of the university press at Marquette, are the lead instructors for the project.

Students use a variety of techniques – writing, oral history interviews, story circles, podcasts and videos – to help community members share their stories. Each project includes a mentor from the community organization, who alongside community members works with the Project fellows to design projects.

The Wisconsin Humanities Council and the President's and Chancellor's Challenge Award support the Story Experience Project. (The President's



Sara Issa, a linguistics doctoral student, demonstrated flower making at the showcase. She used origami and other creative crafts to connect with residents at the Ovation Chai Point senior living center. (UWM Photo/Troye Fox)

and Chancellor's Challenge Award is a collaborative effort of Marquette President Mike Lovell and UWM Chancellor Mark Mone.)

The students have a two-semester experiential learning opportunity – developing communications, research, archiving and other skills while building relationships with community members.

This year's Story Experience Projects were featured at an event May 12 at Milwaukee's Turner Hall.

"It's been a great experience," said Donna Robinson, a UWM student who is working toward a certificate in applied gerontology. She worked with residents at Manor Pointe Senior Living to come up with stories to share on different topics through a Storytellers Studio. Residents wrote down their stories, presented them verbally, and even created poetry. The results are being compiled in a book for all residents.

Issa enjoyed working with the seniors at Chai Point, sharing stories and creating with origami.

"I liked building relationships with them and becoming part of a community."

Bartelt, who did his master's thesis on the Negro Leagues in Milwaukee, had the opportunity to meet and interview James

Beckum, now in his 90s, who is the founder of the Beckum-Stapleton Little League. Bartelt became so immersed in the project that he'll be coaching a team of 11- and 12-year-olds in the league this summer. He's continuing the project, and the experiences he had will eventually become part of his doctoral thesis on the intersection of sports and race, he said.

While the projects are all different, they are connected by the human passion for telling stories to connect and thrive, Basting said.

"Telling stories helps us connect with the past, understand the present and imagine the future."

A goal for the project is to help with recruitment, Basting said.

"The biggest dream is for this to build it into an annual MKE Story Festival with an archive of Milwaukee story projects," she added.

The Story Experience course for 2023-24 is open for application on both campuses.

By Kathy Quirk, University Relations

UWM's Undergrad Research Symposium features water researchers

UWM held its annual Undergraduate Research Symposium in April, showcasing the work of student researchers across many disciplines. Here, meet four students in the College of Letters & Science who presented their work focusing on water quality.

Hungry hemimysis eat plastics and algae

Hemimysis are tiny, invasive, aquatic creatures that have infiltrated the Great Lakes over the last decade, including Lake Michigan. Invasive species obviously pose a threat by disrupting ecosystems, but two biological sciences majors have identified two specific harms that these animals may bring to the local environment.

Xiayou Lowery and Kristin Huelsbeck presented their project, titled **“Experimental Evidence That Invasive, Crustacean Zooplankton Hemimysis Feeds on Both Microalgae and Microplastic Particles,”** at the UWM Undergraduate Research Symposium in April. Mentored by Professor John Berges, the pair’s experiment explored how hemimysis’ diets may impact the foodchain in Lake Michigan.

Specifically, hemimysis are voracious eaters who like to feast on both microplastics and microalgae.

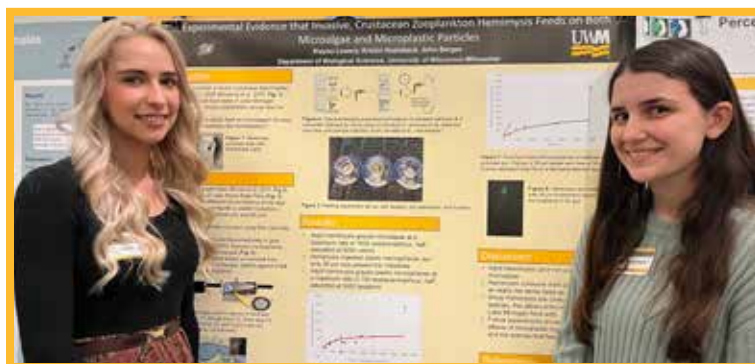
Using a device built by one of Berges’ graduate students, Lowery and Huelsbeck captured hemimysis from Lake Michigan. Lowery focused on microplastics; Huelsbeck on microalgae.

“I fed them different sizes of microplastics ranging from about 50 to 30 micrometers to see what they would and could ingest,” Lowery explained. The creatures took readily to fluorescent plastic beads about 30 micrometers in diameter. Once they had ingested the microplastics, Lowery could track their consumption by examining the animals under a microscope with a blue light to illuminate the fluorescence.

Microplastics are particles that have been broken down from larger pieces of plastic over time. They can be introduced into the environment through pollution, littering, the sewer system, and even through washing machine water – plastics in synthetic fabrics are also a source of microplastics.



Xiayou Lowery shows off several hemimysis and the microplastic she fed them. Photo by Sarah Vickery.



Biological sciences majors Xiayou Lowery and Kristin Huelsbeck studied the invasive species hemimysis and its diet. Photo by Sarah Vickery.

“Those microplastics can make their way through the food web when smaller fish eat those hemimysis, and so on. Eventually, we eat those fish, and we could be ingesting microplastics,” Lowery said.

There is some good news, however: “This species secretes often. Within three hours, they’ll clear their entire digestive tract,” Lowery said. “Most of the time, when fish eat them, they might not even have microplastics in their system.”

Huelsbeck’s experiment has implications for the species that rely on microalgae in Lake Michigan.

“We knew that they ate zooplankton, but we didn’t know if they eat native species of algae,” Huelsbeck said. “I exposed them to low-tide concentrations of algae and let them feed, and we found that they were eating (the algae). The implication of that is this might affect other species that might rely on the algae, and how this could impact algae populations in the Lake.”

Huelsbeck measured the amount of algae in the water before and after she let the hemimysis eat using a flow cytometer. She found the creatures were avid munchers: They ate 1,000 cells per creature per hour.

Both students agree more research is needed. Huelsbeck would like to study the species that rely on hemimysis for food. Lowery wants to know about the long-term effects of microplastics on the hemimysis, and if they will cause a decrease in the population – and a subsequent decrease in populations that depend on hemimysis as food. ♦

A phosphate failure leads to new ideas

John Folena was looking for a way to remove phosphorus from wastewater and runoff. He didn’t find it – but he did accidentally find a way to filter out nitrates instead.

Folena, a geosciences major working under the mentorship of UWM postdoctoral researcher Martin Dangelmayr, presented his research at the UWM Undergraduate Research Symposium in April. Folena’s project, **“Phosphate Sorption and Removal From Dairy Effluent Using Zeolites and Pumice,”** was aimed at finding a way to filter a harmful chemical from the wastewater of Clockshadow Creamery, a Milwaukee-based cheesemaker.

Phosphates are known to cause adverse environmental impacts. While their presence in fertilizers can help plants grow, phosphates in wastewater can lead to harmful algal blooms in local waterways. The state of Wisconsin recently lowered the acceptable threshold of those chemicals allowable in wastewater, down to .05 milligrams per liter.

Unfortunately, phosphates are extremely difficult to remove.

Folena hoped to start with the “cheapest, fastest, easiest,” potential solution so that wastewater producers could use the research as a starting point. Zeolites – think aquarium gravel – and pumice – a ground-up volcanic rock – are easily available and inexpensive, so they were an ideal material to try as a filter.

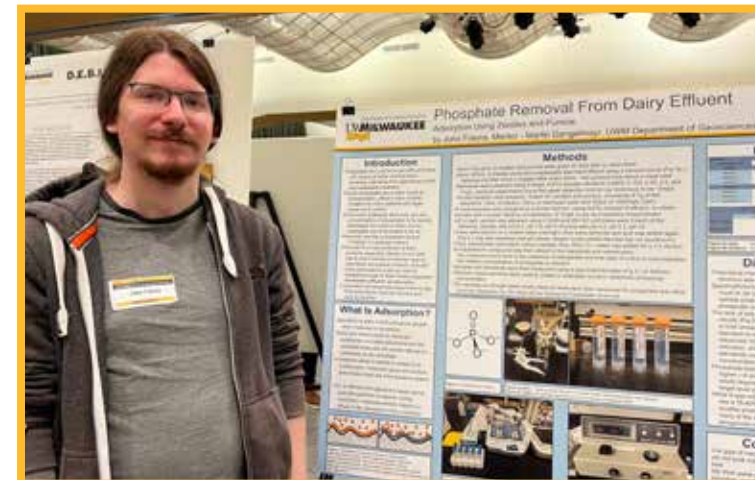
He started by taking the wastewater and removing the solid matter with a vacuum pump (“There were a couple of inches of organic crud at the bottom,” Folena said). When he had plain wastewater left, he added it to test tubes with samples of zeolites and pumice, and even varied the levels of acidity of the water to see if that impacted the phosphate sorption.

What is sorption, exactly?

“Adsorption is like adhesion, where it’s only surface-level,” Folena explained. “The idea is that the phosphate would be attracted to the surface of the (material).”

After the samples had time to sit, Folena added a molybdenum compound to the water that turns blue in the presence of phosphates. The bluer the water, the higher the concentration of phosphates. Then, he used a spectrometer to measure the wavelengths of the blue light emitted and compared the samples to known values to measure how much phosphorus was left in the water.

It was a lot.



Geosciences major John Folena’s research project searched for ways to remove phosphorus from wastewater. Photo by Sarah Vickery.

“We saw basically no reduction,” Folena said. “We found that the untreated (wastewater) contained about 6.5 milligrams of phosphate per liter, and in the treated wastewater, we had about 6 milligrams per liter.”

That’s a reduction of just .5 milligrams per liter. Given that the reduction was fairly consistent across the samples, Dangelmayr, Folena’s advisor, thinks that the phosphate that was removed was probably consumed by microbes in the wastewater, rather than filtered out by the zeolites or pumice.

But there was an unexpected finding. Dangelmayr and Folena asked a scientist in UWM’s School of Freshwater Sciences to test the water, just to collect additional data. His data showed something surprising.

“It wasn’t our goal, but it was still a good result. We got an almost 80% reduction in nitrates,” Folena said. “Nitrates and phosphates do very similar things in the environment. We failed what we were aiming for, but we saw massive reductions where we weren’t.

“As far as I’m concerned, we were always testing nitrate,” he joked.

Folena and his advisor still aren’t sure exactly why nitrate instead of phosphate was filtered out, but they would like to continue testing to find the reason. Even though their initial hypothesis was incorrect, the experiment shows what a challenge municipalities face as they try to remove harmful chemicals from their wastewater. ♦

Continued on Page 12

PFAS infiltrates Milwaukee waterways

Continued from Page 11

Perfluoroalkyl and polyfluoroalkyl substances, or PFAS substances, are commonly known as “forever chemicals.” Composed of long chains of carbon atoms bonded with a fluorine atom, these compounds are infiltrating groundwater across the United States.

“The reason these are of interest is because the carbon-fluorine bond is one of the strongest in chemistry, so it doesn’t degrade easily. The half-life is about 90 years,” said Abigail Werry. “Once these chemicals get into the environment, they stay there.”

Werry is a biological sciences major who is also pursuing a minor in chemistry and a certificate in forensic science. Her latest research, which she presented at the UWM Undergraduate Research Symposium in April, focused on [“Examining Perfluorooctane Sulfonic Acid and Perfluorooctanoic Acid Levels in Drinking Water and Groundwater in the Milwaukee Area.”](#)

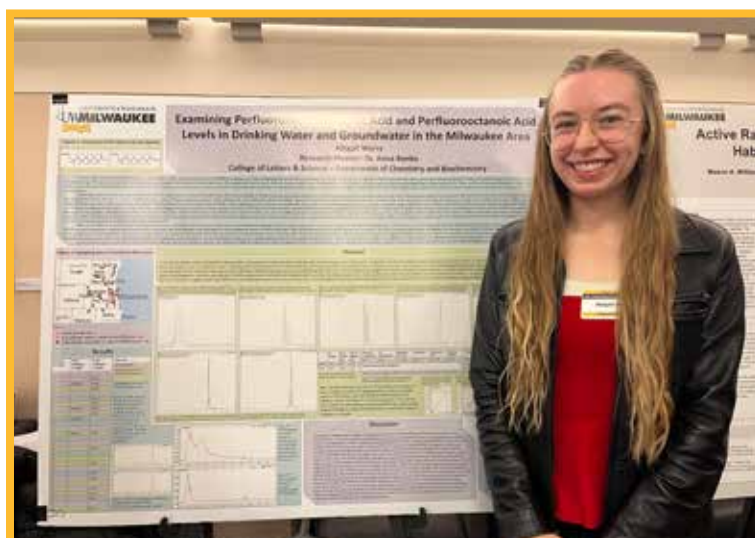
Specifically, Werry wanted to know if and where PFAS chemicals have contaminated water in and around the Milwaukee metro area. It’s important to know because, while the long-term effects of PFAS exposure are unknown, some studies have suggested that these chemicals have adverse health impacts, including impacts on reproductive and immune health.

There are about 4,700 types of PFAS chemicals, and they primarily come from a type of foam that firefighters use to quell fires. It’s also found in the spray used to de-ice planes at airports. They can also leech into the groundwater from landfills.

With that in mind, Werry decided to test for the presence of PFAS chemicals in areas near airports and landfills, as well as areas away from those places, to compare the difference. She hiked into fields and woods to take samples of natural groundwater, and she also tested drinking water by asking residents in various locales for samples from their tap. She even tested public drinking fountains – “I actually went to a lot of Kwik Trips because they have bubblers,” Werry said.

With her samples gathered, Werry went back to the lab for testing. She used a process called reverse phase liquid chromatography and paired it with mass spectrometry.

It’s an involved process, but Werry had to run different experiments to find the most effective parameters for her testing machines to achieve the highest sensitivity in her water analysis. After she found the best optimization, she applied them to the analyzation process to find the concentration of PFAS chemicals in her ground and drinking water samples.



Biological sciences major Abigail Werry tested groundwater and drinking water in and around Milwaukee County to search for the presence of PFAS chemicals. Photo by Sarah Vickery.

Her experiment focused on two chemicals: PFOA and PFOS. “We found that there were detectable samples of PFOA, but there are many PFOS contaminants. We found quantifiable amounts of it,” Werry noted.

About 46% of her drinking water samples showed amounts of PFOS contamination. In groundwater samples 5 miles or more away from airports and landfills, 43% showed PFOS contamination, whereas 80% of groundwater samples taken within a 5-mile radius of airports or landfills showed contamination.

“I was a little surprised at the difference in terms of the samples that were and weren’t near airports and landfills,” Werry said. “I don’t want to worry anyone who might live near these sites, but it is something to think about. What are the cities and counties doing about these contaminants? At the end of the day, they will keep bioaccumulating as people drink water.”

The EPA has proposed safe limits for several PFAS chemicals as 3 to 4 parts per trillion in drinking water. Some of Werry’s samples showed contamination ranging from .013-.018 parts per billion, which means that those water sources are contaminated well above the proposed limit. However, government agencies don’t think these levels will cause significant harm – Werry says no one needs to switch to bottled water just yet.

“But because we don’t have a way to get them out of the environment, we need to make sure we’re not constantly adding more,” she said. ♡

All articles by Sarah Vickery, College of Letters & Science



Urban Studies celebrates its scholars at annual Student Research Forum

Urban Studies hosted the program’s 25th Annual Student Research Forum on May 5, showcasing student research posters, panel presentations on community collaborations and urban research, and talks about the history of “nonprofit neighborhoods” and urban inequality.

In the UWM Union Alumni Fireside Lounge, urban studies majors enrolled in the 600 Capstone Seminar in Urban Studies course presented their semester-long research during a juried poster session along with graduate students in urban studies and architecture.

The afternoon event included a panel presentation titled, “Community Collaborations and Methods of Urban Research,” moderated by professor of architecture and urban studies Arijit Sen, and presentations on the Cherry Street Community Garden project in the Midtown neighborhood by his field school students: Liam Farin (urban studies major and undergraduate fellow), urban studies PhD students Maria Francis and Yuchen Zhao, and Hidayah Osman (architecture major and undergraduate fellow).

Clockwise from top left: Urban studies major Neena Taylor won the Undergraduate Best Poster award for her poster: “Monopoly Landlordism: The Tenant Experience with Berrada Properties Management, Inc.” • Urban studies PhD student Yuchen Zhao received the Graduate Best Poster award for his poster: “Navigating the Modern Food Landscape of a Segregated Neighborhood: A Close Study of Midtown, Milwaukee.” • Architecture professor and urban studies major Liam Farin hosted a panel on methods of urban research. • Urban studies graduate student Nateya Taylor presented her 15-minute documentary about a Milwaukee public artist.

Nateya Taylor, working toward her Master’s in urban studies, presented her 15-minute documentary that she directed, wrote, narrated, and edited, titled: [“The Good Land: Muneer Bahauddeen – Vision”](#) and held a talk back following the screening. The documentary examines the life and work of a Milwaukee public artist and emphasizes the need to showcase more of the positive changes happening in Milwaukee’s Black community.

This year’s keynote speaker was Dr. Claire Dunning, an historian and assistant professor at the School of Public Policy at the University of Maryland, College Park. She is the author of *Nonprofit Neighborhoods: An Urban History of Inequality and the American State* (University of Chicago Press, 2022). Her talk, “Nonprofit Neighborhoods: Solving Urban Problems in Public and Private,” discussed the federal government’s shift in funding and urban governance to nonprofits in the 1960s, and the ways that influenced political and economic activity and shaped urban inequality for decades to come. A reception followed the address.



★ Laurels and Accolades

WUWM Radio, operated under the umbrella of the College of Letters & Science, has garnered [numerous awards](#) in recognition for the station's excellence in reporting in 2022. Most recently, the station and its reporters were awarded six Gold, five Silver, and four Bronze awards for their work in 2022 at the Milwaukee Press Club's Annual Gridiron Awards dinner in May. That includes a Silver Award in the category of "Best Long Soft Feature Story" for a story about "[Gertie the Duck](#)," which featured an interview with **Amanda Seligman (History)**. The station also won a Regional Edward R. Murrow Award from the Radio Television Digital News Association (RTDNA) for their Bubbler Talk & Voter Guide series. WUWM now goes on to compete in the prestigious, national Edward R. Murrow Award. Winners will be announced in the fall.

On March 8, the UWM Distinguished Professors nominated three colleagues to join their ranks. Two professors hail from the College of Letters & Science.

Patrick Brady (Physics), an international scholar of general relativity, with more than 270 publications, has had a strong and transformational impact on the field. His h-index is 34, he has a strong record of mentoring students, and has attracted more than \$30M in NSF funding.



Patrick Brady



Martha Carlin (History), a scholar of medieval and early modern England, has combined three strong areas of expertise: language skills in Latin and Middle English, archeological skills, and archival skills. She is an international expert on medieval London whose works are the standards in her field.

Martha Carlin

🏆 Alumni Accomplishments

Joseph Czarnezki ('75, BA; '77, MA Political Science) was appointed to the [Wisconsin Elections Commission](#) by Gov. Tony Evers. Czarnezki is a former Milwaukee County Clerk and also served in the Wisconsin Legislature and other various elected and non-elected governmental roles. The Elections Commission oversees statewide elections and provides guidance to municipal clerks overseeing local elections.

Lindsay St. Arnold Bell ('16, MS Urban Studies) was named the executive director of [Near West Side Partners](#), a nonprofit organization charged with sustaining and revitalizing the Near West Side business corridor in Milwaukee. St. Arnold Bell previously served as the group's associate director and has secured several grants and led successful initiatives and community programs to promote safety, health, and wellness in the area.

Casey Fertnig ('05, BA Sociology) hosts "inventors workshops" at her Kids' Community Classes of Ozaukee art enrichment courses. Fertnig was lauded for her efforts to foster creativity in the [Ozaukee County Press](#).

Ryan Day ('04, BA Communication) was appointed as one of two new Vice Presidents of Customer Solutions at [DialAmerica](#), a contact center company that handles customer service calls for its clients. Day brings years of experience in sales and client relationship-building.

Scott Klimke ('91, BA History) has been named the new pastor of American Lutheran Church of [Sun City](#), based in Arizona. Rev. Klimke joins as the new senior pastor after years of experience serving congregations in Pennsylvania.

Hunter Turpin ('23, BA Journalism, Advertising, and Media Studies and Urban Studies) joined the staff of [BizTimes](#), which covers business news in Milwaukee and the Milwaukee metro area. Turpin will cover the publication's real estate beat.

Bryce Stevenson ('16, BA English) just opened his own restaurant in La Pointe, Wisconsin, on Madeline Island. The restaurant is called [Miijim](#), taken from the Ojibwe word for "food." The restaurant serves Ojibwe cuisine with a French twist, using game meats like venison and bison, alongside other natural ingredients. Stevenson grew up on the Red Cliff Band of Lake Superior Chippewa reservation. His venture was featured on [WUWM Radio](#).



In the Media and Around the Community

Noelle Chesley's (Sociology) research was highlighted in a [PR WEB](#) article highlighting the podcast "Disruption Interruption."

The internet has become an integral part of all of humanity's activities, **Thomas Haigh (History)** said on [CBS 58 News](#).

Aztalan State Park would have been home to a "bustling" indigenous settlement a millennia ago, **John Richards (emeritus Anthropology)** told the [Daily Jefferson County Union](#).

During World War II, a mother duck named "Gertie" captured the heart of Milwaukeeans. **Amanda Seligman (History)** told the story on [WUWM Radio](#). The story won a Silver Award from the Milwaukee Press Club.

He races sprint cars. He learned German, Greek, and Hebrew online for fun. He completes his school work around his races. Undergraduate **Preston Ruh (Chinese)** is doing it all - and was profiled by the [Milwaukee Journal Sentinel](#) for it.



Robin Pickering-Iazzi (Italian) was hosted by the New Jersey City University Center for the Arts on April 19 for a public discussion about her translation of the non-fiction novel, "Tina, Mafia Soldier." She also participated in a video interview on the [Italian Radio Hour of the Istituto Mondo Italiano](#), now available on [YouTube](#), [Spotify](#), [Apple Podcasts](#), and similar platforms.

Jeffrey Sommers (Global Studies and African and African Diaspora Studies) delivered an invited presentation, "Crisis of Governance," at the EU Erasmus sponsored conference on Activism at Babes-Bolyai University in Cluj-Napoca, Romania on May 5th. He also delivered an invited lecture on May 31 at the Department of Economics and Business at the University of Belgrade (organized by the Friedrich Ebert Stiftung), titled, "Latvia. From Soviet collapse to reaching high-income status: What worked? How did it work? What didn't work? What general lessons are there for economic development?"

With a focus on innovations and the future of female health, the [FemTech podcast](#) spoke with **Karyn Frick (Psychology)** about menopause and memory loss.

Kevin Muse (Ancient & Modern Languages, Literatures, & Cultures) spent spring break doing research in the library of the American Academy in Rome. From March 30 to April 1, he participated in an international conference on the topic of luxury in ancient Rome ("Luxuria: Il peccato capitale dei Romani"), sponsored by the University of Rome "La Sapienza," where he presented an invited paper on the allegorical figure of Prodigality entitled "Ἀσωτία at the Crossroads."

Trash cinema may include bad films, but it's a good foundation for understanding taste and culture, **Jocelyn Szczepaniak-Gillece (Film Studies)** told [WUWM Radio](#).

Bettina Arnold (Anthropology) presented and led a graduate-level seminar entitled, [7th Theoretical Seminar on the "Multifaceted Aspects of Ritual,"](#) at the Irish Institute of Hellenic Studies at Athens, co-hosted by University College Dublin, Department of Classics. The title of her talk was, "Frequent Hearse: The Archaeology of Funeral Ritual in Early Iron Age West-Central Europe."

[Wisconsin Public Radio](#) referenced an article in the Encyclopedia of Milwaukee, run by the **UWM History Department**, in a piece about the shuttering of the city's Master Lock factory. [WISN News](#) also referenced Encyclopedia Milwaukee in a similar story.

In more media regarding the Master Lock plant closure, **John Heywood (Economics)** told [WUWM Radio](#) that Master Lock employees face a tough battle convincing the company to remain in Milwaukee.

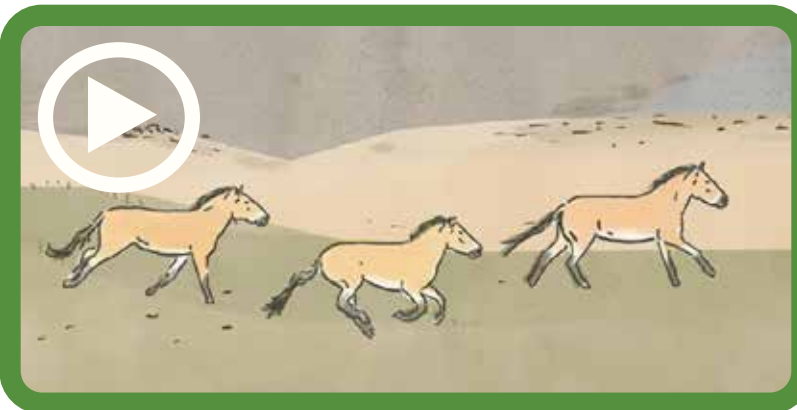
After years on pause to perform repairs, the world's gravitational wave detectors are ready to resume the search for black holes and neutron stars, **Patrick Brady (Physics)** told the [Scientific American](#). He also spoke with [Science.org](#). Brady is the spokesperson for the Laser Interferometer Gravitational-Wave Observatory, which operates the U.S. detectors.

Before King Charles III was coronated, **Martha Carlin (History)** joined [WISN News](#) to speak about the ceremony and the history of the monarchy.

Liam Callanan (English) will give a reading from his most recent novel, *When in Rome*, at the Kress Pavilion in Egg Harbor, Wisconsin, on June 8 as part of the Friends of the Door County Libraries' [Book & Author series](#).



Video Stories



History professor Nigel Rothfels crafted a TedEd talk that details the history of the Takhi horse's recovery from near-extinction, thanks to an international breeding effort. He also asks: What was the cost, and what is the role of zoos in animal conservation?

View the video at <https://youtu.be/Xj5nH5JtJAQ>.



People in Print

Bettina Arnold (Anthropology). 2023. "The Perils of a Usable Past: From Culture History to Culture Wars" Papers from the lectures and workshop of the First Spring School "The Impact of the Political on Archaeological Research" within the CAS-GETTY program "The Construction of Knowledge in Archaeology and Art History in Southeastern Europe" (19-24 April, 2021), coordinated by the [Centre for Advanced Study Sofia](#) and funded by the Getty Foundation. *CAS Sofia Working Paper Series*, 2(14):1-20.



Passings

Ann L. Greer, PhD and Professor Emerita of Sociology and Urban Studies at UWM, passed away on April 21 in Ann Arbor, Michigan.

After studying for her undergraduate degree at Lake Forest College in 1967, Ann received a PhD in Sociology at Northwestern University in 1970. She returned to teach at Lake Forest College from 1970-72 before moving with her beloved husband, Scott A. Greer, to UWM. She was a professor of Sociology and Urban Studies and served as director of the Urban Research Center. Her research started with participant observation of a mayor's office (*The Mayor's Mandate*, 1974), which showed how politics worked in a city often caricatured as a machine. While retaining her strong interests in cities, she began moving into health policy after a year in Washington, D.C. working for the federal government. In the health policy area she studied doctors' decisionmaking processes, the adoption of medical technology, mental health policy, and the history and development of hospitals. Her skill as an interviewer and many interviews with doctors gave her a perspective on health care that was often at odds with the abstract concepts that drive so much health policy.

She taught in UWM graduate programs and was deeply engaged with her PhD students and, through them, the city. She did extensive research in Britain and Canada. Later in life she divided her time between London and Ann Arbor, Michigan, where she is survived by her son, Scott L. Greer, a professor at the University of Michigan, and her granddaughter, Iris Jarman Greer.



Congratulations, class of 2023!



Left: Chandler Zolliecoffer is hooded and officially becomes a doctor of psychology.

Below: Journalism, Advertising, and Media Studies students Noah Kelly and Anthony Sabatino pose for a photo together after crossing the stage and receiving their degrees.

(UWM Photos/Elora Hennessey)



Above: Associate professor and director of Film Studies Jocelyn Szczepaniak-Gillece hugs Joni Hayward Marcum, who earned a PhD in English, after she is hooded.

Right: Classics major Audrey DeGuzman shows off her graduation mortarboard.

(UWM Photos/Elora Hennessey)



Thousands of students, family, faculty and friends gathered at the UWM Panther Arena on May 21 for the UWM community's most joyous event – graduation.

More than 3,400 degrees were awarded at ceremonies in the morning and afternoon. Honorary degrees were awarded to Peter Feigin, president of the Milwaukee Bucks and Fiserv Forum, and Mary Alfred, professor emerita of educational administration and human resource development at Texas A&M University. Peggy Williams-Smith, CEO of Visit Milwaukee, gave the keynote address at both ceremonies.

There's lots of material online for anyone who wants to join the celebration, relive the day or experience it for the first time. That includes:

- A [photo gallery](#) of the happy graduates during the ceremonies.
- [Streaming video](#) of both the black and gold ceremonies.
- A video focusing on a few [standout graduates](#) who share some memories and advice.
- A [special edition of the Panther Minute](#) guest-hosted by Chancellor Mark Mone, who asks students about the favorite memories of UWM and advice for future students.
- A [photo gallery](#) featuring several students who landed full-time jobs even before graduation.

By John Schumacher,
University Relations

A close-up photograph of a field of small, vibrant blue flowers with six petals each, growing among long, narrow green leaves. The flowers are scattered across the frame, with some in sharp focus and others slightly blurred in the background. The ground is dark and appears to be soil or mulch.

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