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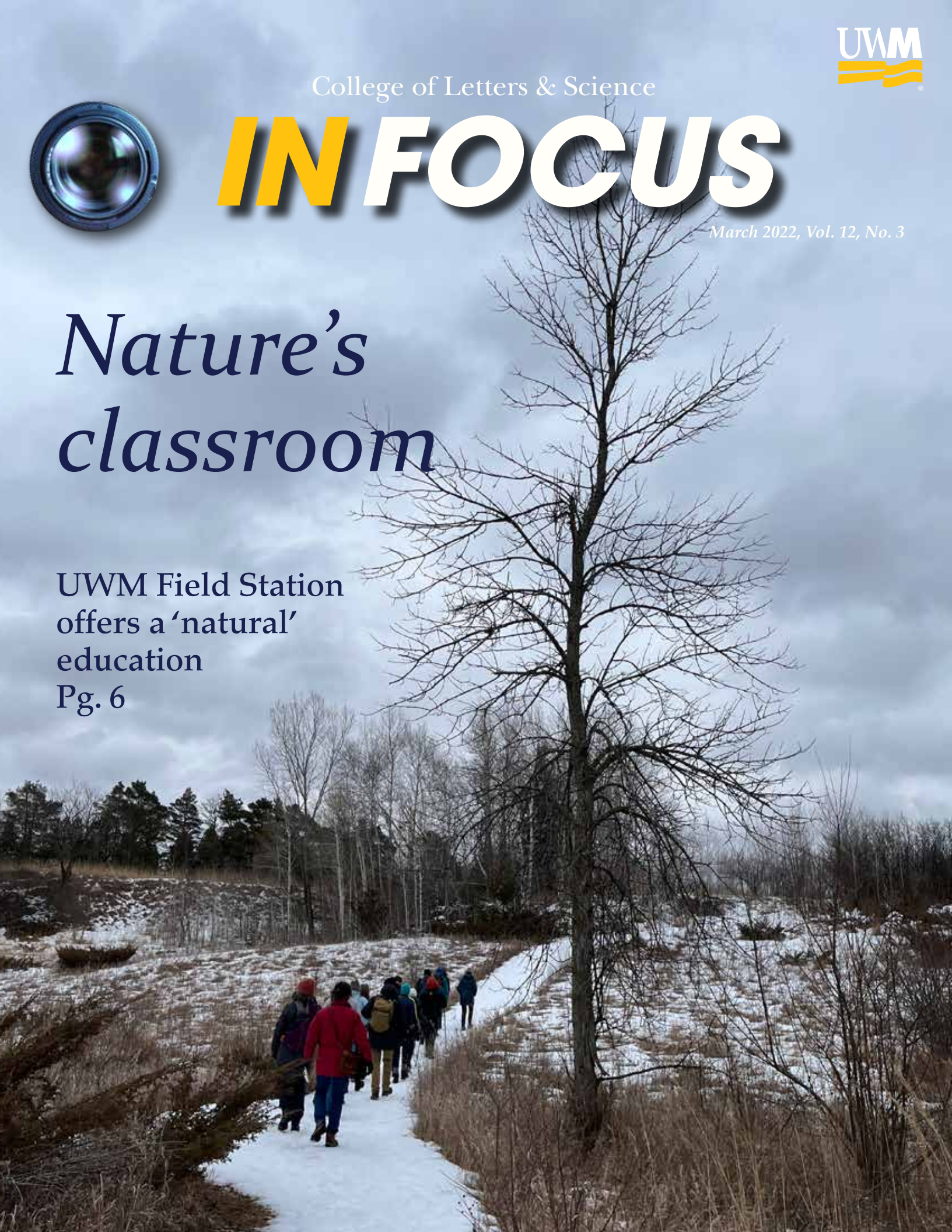

Nature's classroom

UWM Field Station offers a 'natural' education

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Mapping the echoes of property deed covenants in Milwaukee

For half of the 20th century, Black people in Milwaukee and other cities were not legally allowed to live where they wanted. A list of policies and institutional processes were in place to keep Black and white neighborhoods separate.

One lesser-known means to that end was covenants. Clauses in a property's deed, covenants were conditions of sale that stipulated that only members of the white race could purchase, own or live on that piece of real estate.

Covenants were commonplace by the turn of the 20th century. And, although their use declined in the 1950s when they were no longer enforceable, covenants have relevance today. To understand today's segregation, where it happened in the past and how people responded are vital parts of the story that are often unknown.

On this episode of Curious Campus, researchers Anne Bonds, associate professor of geography at UWM, and Derek Handley, assistant professor of English, discuss their research project, "Mapping Racism and Resistance in Milwaukee County." Here's a bit of what you'll hear on the full episode.

Give us a little more information about covenants and how this project began.

Bonds: Covenants began appearing after a Supreme Court ruling in 1917 struck down what's called racial zoning – where a city would actually designate a certain area to be the only area where the African American community could live. Covenants emerged as a mechanism to continue white control of where non-whites could live.

By 1928, roughly half of all homes owned by white Americans had race-restrictive covenants attached to their deeds, including many suburban areas of Milwaukee – Wauwatosa, Shorewood, West Allis, and Greenfield, to name a few.

Derek and I had the idea to produce a map for Milwaukee County that would depict both the location of past covenants and the stories of resistance to restrictive housing so people could see the effects of covenants.

The hope is that seeing them documented on a map can educate people and help ease the public conversation about segregation.

Anne Bonds and Derek Handley will produce a map for Milwaukee County that will show both the location of past deed covenants and the stories of resistance to restrictive housing so people can easier see the effects of covenants today. (UWM Photo/Troye Fox)

What is the point of studying covenants today? They no longer exist, right?

Bonds: Right. But what the covenants show is that segregation during the 1910-1960 period wasn't accidental. It was by conscious design, and it was something that was not only legal, but required the backing and participation of multiple kinds of institutions and agencies – from realtors and developers to banks.

This kind of institutionalized racism is invisible – a lot of white people today don't know it ever existed. So, covenants help us understand the way institutional racism works.

Handley: Segregation wasn't just in the South. That's why Minneapolis and Milwaukee are consistently ranked among the top five worst U.S. cities for Black people.

And then there's this issue of passing down intergenerational wealth. For the average American, owning a home is one of the main ways to accrue wealth or pass it on to the next generation.

Today in Milwaukee, that inequality in homeownership between whites and Blacks is also among the largest in the country. Only 26% of Blacks own their homes, while 72% of whites do.

What are some of the stories you've uncovered while working on "Mapping Racism"?

Bonds: The story has always been told that Milwaukee never had racial zoning. But what we found through going through the Milwaukee Board of Realtors scrapbooks is that, in fact, that board was proposing an effort in 1924 to designate an area that they were calling a "Black Belt." That would have been against the law. It sparked incredible protest and members of the African Black Episcopal churches were organizing with the NAACP. In the end, the Board of Realtors backed off.

Handley: Specific community organizations formed in cities, not only to teach citizens how to organize, but also to teach them how to speak at public hearings or talk to landlords. That happened in Milwaukee, where the Walnut Avenue Improvement Committee Organization formed to rehab houses to address blight.

We also saw the establishment of the Black-owned Columbia Savings and Loan in Milwaukee. Because of racism, Black people could not get a loan to buy a home. So Black people created something for themselves. So, to me, that's resistance!

Derek, tell us more about your research into African American rhetoric in protests.

Handley: The term "rhetoric" is often associated with speeches. But in this case, rhetoric refers to the arguments used to form the basis of community activism. It can be argumentation theory. It can be writing that people used. It could be visuals.

My research deals with rhetorical strategies of civil rights and segregation protests – the arguments that drove African American resistance in the urban North. I'm currently finishing a book that examines urban renewal policies that came out in 1950s but played out differently in Pittsburgh, Milwaukee and St. Paul. So, I'm looking at rhetorical strategies in response to the demolition that occurred during the urban renewal period and also in the northern civil rights struggles over housing.

By Laura Otto, University Relations

Pong turns 50

The game was simple: Move your paddle up and down to bounce the little digital "ball" to the other side of the screen, where your partner's paddle was waiting. If you missed, the ball disappeared offscreen. It was easy, novel, and sparked the genesis of a billion-dollar gaming industry.

This year marks the 50th anniversary of the release of Pong, the first widely-available commercial video game to hit the market. Developed by Atari, Inc., Pong was a huge hit. UWM English professor Michael Newman recalls how the first Pong arcade game was placed in a tavern in Sunnyvale, California. Legend has it that the game stopped working because it was jammed too full of quarters.

"That suggests something about the popularity or the appeal (of Pong)," Newman said. "There were other coin-operated amusements in public places … like coin pinball machines. But now video games used the advanced electronics technology of the TV screen. Soon enough, there were a lot of articles in magazines and newspapers about this leap forward in amusement."

Newman studies the history of television, and tangentially, because they can be played on TV screens, the history of video games. He's the author of **Atari Age: The Emergence of Video Games in America** (2018), and he's a fan of the Ms. Pac-Man arcade game.

As Pong marks a milestone anniversary, Newman had some insights into the past 50 years of gaming history.

1. Pong was not the first

Despite its popularity and its place in history, Pong was not actually the first video game on the market.

There's not much point to asking which was actually the first, Newman said.

"There were many and they came out at different times," he said. "Some were computer programs; some were not. The same folks who made Pong, Atari Inc., had come out with a video game a year earlier called Computer Space that wasn't very successful."

Michael Newman

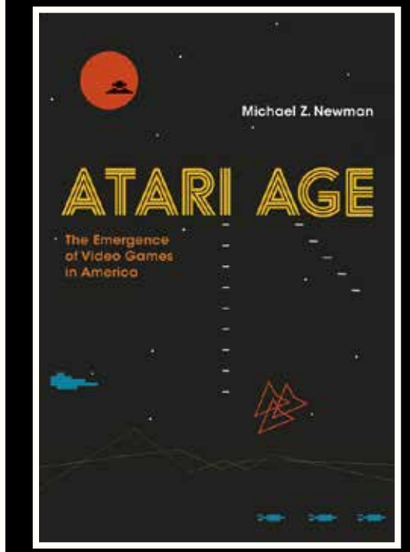
Though Pong wasn't the first, Newman added, it *was* the first game widely available for people to play. You could find it in public places like taverns, arcades, or bowling alleys, or play it at home on a version that could plug into a TV set.

2. Simple sells

One of the reasons that Pong was so popular, Newman speculates, was its simplicity. As its name suggests, Pong was just the game of ping pong played on a screen.

Some of the most popular video games of all time are the simplest ones, he noted. Games like Tetris or Angry Birds have a nearly universal appeal because they're easy to play.

English professor reflects on 50 years of video game history



Michael Newman's book, "Atari Age: The Emergence of Video Games in America" outlines the the nation's history with gaming.

"The most recent really, really successful game – though it doesn't seem like a video game, maybe – is Wordle, the word game that people are talking about. It's intuitive; everyone knows five-letter words," Newman said. "And it's easy to share your success or failure with other people, so there's a social dimension to it.

"I think that for games to become really, really popular, it helps if they're obvious, simple, and fun."

3. Pong's success set the stage

Pong wasn't the first video game on the market, but it was the most popular and it turned into a huge moneymaker for Atari. The company was acquired by Warner Communications, Inc., and turned into a household name.

In a few years, Atari released its first console that could accept video game cartridges. While there were rivals, Newman said, that console defined the first generation of at-home gameplay. The next decade saw a sort of race as games grew more sophisticated – adding color graphics or adding new control features for the players.

Eventually, Nintendo ousted Atari as having the most popular console, but it couldn't have captured the market without Atari paving the way.

4. Suspicion started early

Early on, Newman said, video games like Pong were viewed as a positive. Instead of staring passively at their television screens, people could play games on them and engage in a more interactive pastime. But, as games grew in popularity, people's fears grew along with them. By the 1980s, some began to worry that video games might have a negative impact on America's youth – from being exposed to violent games to becoming addicted to gaming.

"There are worries about people spending their lunch money stuffing quarters into (gaming) cabinets," Newman said. "The sense of a new medium or new technology being threatening, especially to young people, is just a constant in the history of new media. Every new thing is going to be feared if it becomes popular."

Today, video games are everywhere, from arcades to our consoles to our phones. When you're playing your next round of "Call of Duty" or making matches in Candy Crush, take a moment to appreciate how this all grew from that simple bouncing ball in Pong.

By Sarah Vickery, College of Letters & Science

This background image shows an approximation of the original display of Pong. The "ball" is about to hit the "paddle" on the right. Graphics by Sarah Vickery.

The campus in the bog

UWM Field Station aids in research and outreach

A carpet of freshly-fallen snow lays over the Cedarburg Bog, and Liz Herzmann is thrilled. She's leading a group of 18 hikers through the bog to look for signs of animal activity.

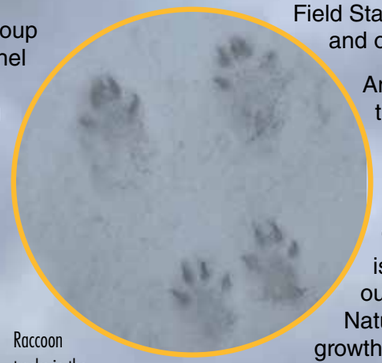
"Mammals are tough (to see) on a hike like this because they're secretive," she said. "But with fresh snow cover, it will be easier to see tracks."

Herzmann is an educator with the Wisconsin Department of Natural Resources. The hike she leads is sponsored by the **Friends of the Cedarburg Bog**, an organization that works to connect people to this natural area through various hikes, community service opportunities, and other outreach efforts.

The group wends their way down a snow-covered trail, eyes peeled for chickadees, juncos, tree swallows, and redpolls that are flitting from tree to tree looking for seeds to eat. "We've got a mating cardinal calling," Herzmann observes when she hears a distinctive bird song. "You know spring is coming!"

Further down the trail, she stops the group to show them evidence of a rodent tunnel through the snow, and then again to look at a set of raccoon tracks heading towards a small stream. There are deer hoofprints too, and Herzmann points out the path the deer have worn through a field to and from the water.

The mammals might be hard to see, but they've left signs of themselves everywhere. Even in the middle of winter, the Cedarburg Bog is teeming with life.



Raccoon tracks in the snow at the Cedarburg Bog.

The Field Station

The **Cedarburg Bog**, located outside of Saukville, Wisconsin, is home to stunning views and abundant wildlife. It's also the home of UW-Milwaukee's **Field Station**, which serves as a base of sorts for UWM students and faculty who are taking classes or conducting research that can't be done in a lab.

"The UWM campus is right in the city," said Field Station Director Gretchen Meyer. "It's very important for researchers and students to have access to quality field sites, both for education and to do their research. We get a tremendous amount of use."

Meyer oversees all of it. Previously the Field Station manager, she took over as the Director in 2019 after the previous director, Jim Reinartz, retired. She now fills both roles with aplomb. As director, Meyer coordinates, and occasionally teaches, any classes that meet at the field station. One class for conservation and environmental science majors makes use of the classroom inside the Field Station's main building, and then use of the Bog and other natural areas as an outdoor classroom.

And what better place for an outdoor classroom than in a state natural area?

"State natural areas are areas that are … supposed to represent the best examples of natural communities in Wisconsin," Meyer said. "We're adjacent to the Cedarburg Bog, which is actually a State Natural Area. The woods on our property is the Cedarburg Beechwood State Natural Area. So our woodland here is an old growth forest … so that's another significant natural area. And the university also owns the Sapa Spruce Bog, one of the southern-most spruce bogs in the state.

Gretchen Meyer is the director of the UWM Field Station at the Cedarburg Bog. Photo by Sarah Vickery.

"So at the Field Station alone," she said, "we've got these three very different state natural areas and we just have this high quality habitat that supports a lot of rare and unusual species."

Research in the bog

Though the Field Station is located adjacent to the Cedarburg Bog, the bog itself is a protected area in Wisconsin. Parts of it are open to everyone, but the portion of the land that UWM oversees is closed to the public to help protect researcher's experiments.

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Field Station

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Meyer is the person who coordinates that research. Any faculty or students wanting to gather data or conduct experiments at the bog have to submit a proposal to Meyer before they can begin. She not only helps facilitate their work by storing equipment, cordoning off important work areas, or helping to gather data, but she also has researchers write a brief abstract of their work to include in a year-end **report** covering the Field Station's activities.

"Erica Young works on carnivorous plants – the **pitcher plants** that are in the Bog," Meyer noted. "For **Rafa (Sevilla)** we provide a site for him to come and collect his insects. In addition to the natural areas, we can also support researchers like Peter Dunn, for example … He needs a protected area where he can have arrays of (bird) boxes that bring in the **tree swallows** that he studies."

Other UWM researchers who use the Field Station include biological sciences professor Jeffrey Karron, who studies **pollinators**; biological sciences associate professor Gerlinde Höbel, who works with **frogs**; and distinguished professor of geography Mark Schwartz, who studies **phenology** (indicators of the start of spring), among others.

Meyer also welcomes academics from beyond UWM to conduct experiments. One scientist from Florida has sent graduate students to work in the bog, Meyer said, and she's gathered up oak leaves to send to a geneticist in New York interested in phenology.

Beyond UWM

Though the Field Station is closed to the public, Meyer still wants to make sure others can learn about the unique ecosystem of the Bog. That's why she regularly organizes workshops where community members and students can sign up to learn about things like identiffying sedges ("which is actually our most popular workshop," Meyers said) to herpetology, where participants actually get down in the grass to catch snakes.

She also works closely with the Friends of the Cedarburg Bog, which was formed as a support group for the Field Station. The FOCB works with both UWM and the Wisconsin Department of Natural Resources to organize activities like hikes, birdwatching excursion, and Bog cleanup days, all of which the public can participate in.

"The Friends are great at increasing our outreach," Meyer said. "They also make a donation to us every year, which is really, really valuable to us. They do things like invasive plant control, which is another thing which with our limited staff, we can't manage as much as we would like."

Wisconsin Department of Natural Resources educator Liz Herzmann (middle, gray hat) points out natural features in the Cedarburg Bog to a group of hikers. Photo by Sarah Vickery.

In fact, the winter hike that Herzmann is leading was organized by the FCOB.

Back on the trail, Herzmann points out a series of bird boxes – the same kind that UWM biologist Peter Dunn uses to study tree swallows – and describes what hikers might find inside.

"These bird boxes can produce multiple broods from multiple species," she explains as they pass by.

Across the field, other bird boxes on posts dot the horizon. Birds flit between the tamarack trees in the distance. In the spring, Meyer said, sandhill cranes will return to the area to raise a brood. She's seen bald eagles and heard barred owls, in addition to the many mammals that call the Bog their home.

Meyer smiles as she talks about the view from her office.

"I love working out here," she said, "because I come to such a beautiful spot every day and I get to see so many things."

By Sarah Vickery, College of Letters & Science

Spotting a winning yellowthroat mate

For female common yellowthroats, beauty isn't just skin – or features – deep. New research provides evidence that large or showy physical features of males attract females because they signal high-quality male genes, such as those linked with robust immunity or stress resistance.

Peter Dunn and Linda Whittingham

This association has previously been unclear, particularly in cases where females in different populations prefer different male ornaments. Yellowthroats are small songbirds found throughout the U.S.

In comparative studies across two decades, researchers at the University of Wisconsin-Milwaukee and Skidmore College have determined that different types of ornaments in male yellowthroats are linked to the same superior genes that enhance survival of offspring.

The work was published Feb. 14 in the *Proceedings of the National Academy of Sciences*. UWM postdoctoral researcher Nicholas Sly is first author on the study.

Peter Dunn and Linda Whittingham at UWM tracked female preferences for male ornaments in Wisconsin, while Corey Freeman-Gallant at Skidmore College studied preferences in upstate New York.

"We found that the particular ornaments that females tended to prefer in each of our locations didn't match," said Dunn, distinguished professor of biological sciences, "even though both characteristics are found among males in both areas."

Females in the Wisconsin studies favored a large black mask that extends across the eyes, while females in the New York population chose males with large yellow "bibs."

To investigate this behavior, the researchers studied the genes of feathers on birds with larger-sized features, using techniques that have become feasible to use only in the last five years.

The verdict: Despite being produced by different pigments in different parts of the body, the size of the ornament preferred by females in each population was linked to numerous genes that govern beneficial survival traits.

The findings don't explain why the females have different preferences geographically, Dunn said, but they have implications for evolution. The availability of more than one ornament as a mating signal allows females to potentially respond to a different choice if their environment changes.

Very few researchers have examined the female appeal of male ornaments in different populations. For example, Dunn pointed to studies of swallows that indicate that females prefer longer tails in some locations and browner bellies in other areas.

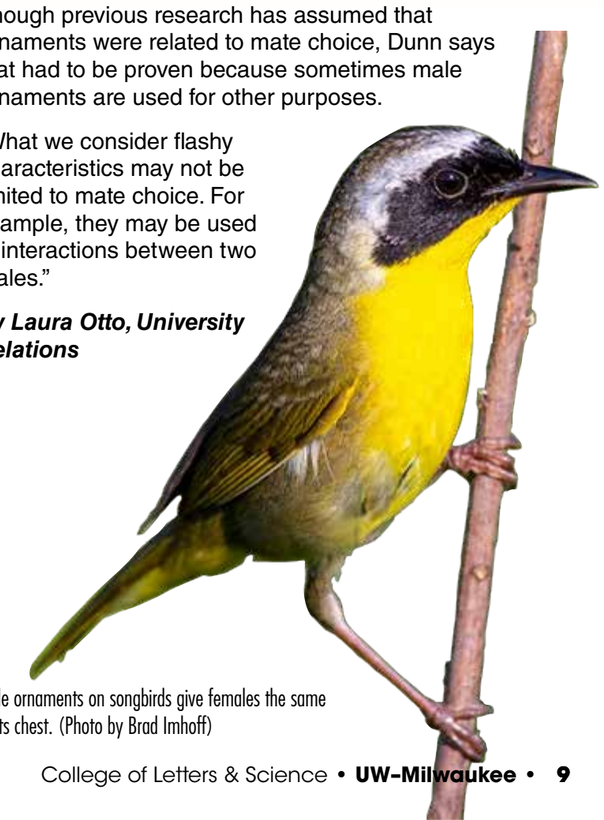
Even fewer studies exist that explore the size of ornaments at the genetic level, he said.

"With this study, we not only found genes related to ornaments, but we also showed that similar genes can be linked to different types of ornaments in different populations," Dunn said. "It brings us much closer to understanding the function of ornaments."

Though previous research has assumed that ornaments were related to mate choice, Dunn says that had to be proven because sometimes male ornaments are used for other purposes.

"What we consider flashy characteristics may not be limited to mate choice. For example, they may be used in interactions between two males."

By Laura Otto, University Relations



Two UWM scholars and a collaborator found in a new study that two different kinds of flashy male ornaments on songbirds give females the same message: "I have superior genes." This male yellowthroat shows a larger-sized yellow "bib" on its chest. (Photo by Brad Imhoff)

Anthropology student's job helps preserve evidence of Illinois' past

Whenever federal or state agencies undertake a new building project, they are required by federal, and often state, laws to consider their impact on any historical resources in their vicinity before they begin.

Those laws help keep Allison Densmore employed.

Densmore is a graduate student working toward her Master's in anthropology at UWM. She's also an archaeologist with the **Illinois State Archaeological Survey** (ISAS), an agency that provides cultural resource management services to entities like the Illinois Department of Transportation and others that must comply with historic preservation laws.

She sat down to talk about her education, her work, and her love of archaeology.

First things first: Where are you from and what inspired you to pursue anthropology?

I'm from Elgin, Illinois, which happens to also be where my job is. I came (to UWM) for my undergrad in 2017 and graduated in three years, and then went straight into the Master's program.

For anthropology – I've always thought people were cool. I originally started out doing cultural anthropology, which is more like ethnography and (studying) living people, but then I did an archaeology **field school** through UWM at Aztalan State Park in Lake Mills. I was like, whoa! This is so much cooler.

What was it about field school that drew you in?

To me, it was cool to be super hands-on. I like writing; I like the academic side of things. But I think practice and getting dirty – literally – on the archaeology side of it is really cool. It's cool to find things that no one else has found before, and to put yourself in the shoes of the people that used to live there.

(We also worked with) ground-penetrating radar and instruments, and that's how I got into GIS, which is Geographic Information Systems (working with software to attach datapoints to points on a map). I'm doing a certificate in GIS as well.

You've found a cool way to put those skills to use. Tell me about your job with the Illinois State Archaeological Survey.

ISAS is actually run through the University of Illinois at Champaign. There so happens to be a field station in Elgin, Illinois, which is 10 minutes from my house. … I found out about the job last year and was like, duh, of course I'll do that! It makes it really easy to live at home for free.

What exactly is cultural resource management? What kind of work do you do with ISAS?

Cultural resource management is all about finding archaeological sites before people destroy them. At ISAS, we are contracted through the Illinois Department of Transportation (IDOT). Any time they are expanding a road, building a road, doing anything with roads, we go out there ahead of time and check out their proposed building site. That way, we can be sure that we're protecting what we can and recording whatever information we can collect before it gets destroyed.

What is the process for doing your job?

It's a pretty long process. We get documentation (from IDOT) that says, hey, we have plans to build this road. From that point, we'll look at maps. We'll look at historic aerial imagery … We'll refer to our (files) with known archaeological sites..

Once we have our study area figured out – and that can be tricky because the Department of Transportation changes their mind about what they want to do all the time – then we'll send people out in the field. We can do a pedestrian survey, which is just walking and scanning the ground, or shovel testing, which is digging a hole every couple of meters.

From there, depending on what we find, we write up a big report that will contain an essay about the history of the area, what we ended up finding, what the ecology is like, and then we send it off to them. There are a few different reasons why we might say, 'For sure, don't dig here!' and we'll put that in a report.

And IDOT has to listen – they are required by law, it seems.

They literally have to pay us to look at these areas. It's good job security in that sense. … So much destruction has taken place already, so a lot of cultural resources are far-gone at this point. Our field station does (contracts) in the northern Illinois counties. A lot of the (sites) near Cook and Will County, everyone has built everything up. A lot of times, it's really too late to make much of a difference. But, there are times when we do find things, like mounds or projectile points. Or if we do find human remains or whatever it may be, we have the opportunity to protect what they may otherwise build a road over.

What kinds of artifacts and cultural evidence do you uncover?

There are a lot. In a lot of the field projects I did this summer, we would find nothing – or if we did find something it would be a lithic flake. Essentially, someone 1,000 years ago was making a projectile point by hacking away at this rock, and part of it flew off, and that's what we find. It can be hard to tell who it's from and what's going on with that. A lot of times, it isn't necessarily discernable. But when we do find stuff, like projectile points, those can be diagnosed to a specific time period, and you can get an idea of the cultural group in that area at the time.

When you get further out to the northwestern corner (of Illinois), like in Jo Daviess County, there are a lot of cool mounds. Those are from about 1,000 years ago. It's hard to wrap your head around how many people have been in the same area throughout various centuries.

You did most of your fieldwork during the summer. What projects did you work on?

Over by Six Flags (amusement park in Gurnee, Illinois), there is a little tiny airport. They are changing a runway, so we spent a lot of time walking through the woods in Lake County, which was horrible. I sprained my ankle in the woods and then was out for a month. We did projects along different rivers to make different trails.

There was something I was able to take part in, with my GIS background. ISAS is compiling a dataset about every diagnostic projectile point found in Illinois. I was responsible for putting all of the northern counties together. It's going to be a really cool project when it's complete. We can get a better idea of which points come from where, and that gives us an idea of who was where and when.

How has your UWM education contributed to your success?

It's helping a lot with networking. Our department is great. We have good connections to Midwest archaeology, and that helped me get this job. But even the education to get here … I learned everything I know about archaeology through UWM. I really owe them literally everything. And they made it really easy to do the GIS certificate alongside the Master's. It's been a great opportunity and I'm very grateful for my time here.

What do you wish people understood about archaeology?

We don't look for dinosaurs! That's the biggest thing. Even my own family has been repeatedly confused about that.

Not a lot of people realize that archaeology is everywhere and why it's important. What people have done in the past is still what people do today. We're all the same. We haven't changed much at all. You can learn a lot from how people lived in the past, and I think it's a really cool way to connect to your local area.

By Sarah Vickery, College of Letters & Science

(Right) UWM anthropology graduate student Allison Densmore mans a shovel during a cultural resource management job this past summer. Photo courtesy of Allison Densmore.

Book traces evolution of computer from unusual to ubiquitous

Over the last 50 years, the computer has been transformed from a hulking scientific super-tool to a diverse family of devices that billions rely on to play games, shop, stream entertainment and communicate.

"A New History of Modern Computing," a new book by Thomas Haigh, UWM professor of history, and Paul Ceruzzi, author and curator emeritus at the Smithsonian Institution's National Air and Space Museum, traces these changes.

Thomas Haigh, professor of history at UWM, shows off his vintage personal computer collection, a few of which are discussed in the book "A New History of Modern Computing," which he coauthored with Paul E. Ceruzzi. The tan desktop is an Apple IIe from about 1983. The flat computer closest to Haigh is an IBM Portable PC 5155 from 1984. (UWM Photo/Troye Fox)

In this discussion, Haigh talks about how he and Ceruzzi reimagined Ceruzzi's "A History of Modern Computing," using each chapter to recount how a particular community of users and producers remade the computer into something new.

You could have just told the story as a chronicle of single inventions. But you structured it differently. Tell us about that.

Programmable electronic computers have only been around for a single human lifetime, less than 80 years. We start the book in 1946 with ENIAC, which was bulky, expensive and hard to reprogram. It filled a large room, was designed for numerical calculations and could manipulate just 200 digits of electronic memory.

Since then, computers have been transformed so many times – not just getting cheaper, faster and smaller but being fundamentally reinvented to serve different groups of users and carry out different tasks.

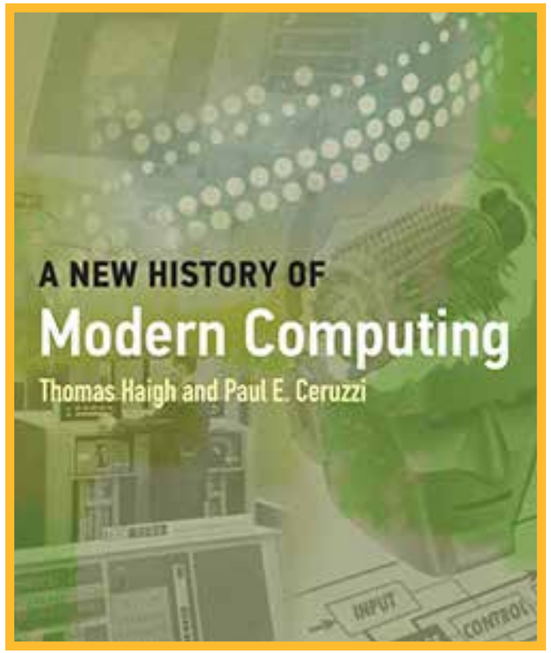
The stories, for example, of scientific, business, and military computing took place in parallel or overlapped. So, we decided to make each chapter the story of one such transformation: "The Computer Becomes a Communications Medium" for example, or "The Computer Becomes Office Equipment."

What makes the development of the computer distinct from other technologies?

The computer's journey from its origin as scientific instrument to a uniquely flexible general-purpose technology seems unique in the history of technology.

Typically, technologies change rapidly during their early years and then stabilize. Computers kept on changing fundamentally in their cost, capabilities, applications, users and physical formats for decade after decade.

What are a few of the digital devices that have come out of the evolution of computers that you discuss in the book?



UWM history professor Thomas Haigh's new book traces the history of computing.

From the 1970s onward the flood of cheap microprocessor chips made it possible to hide computers away inside consumer devices such as music synthesizers, toys like Speak & Spell or Simon, and pocket calculators. By the early 2000s a tech enthusiast might carry a GPS unit, a PDA such as a PalmPilot, a cell phone, a digital camera and an MP3 player such as an Apple iPod. They were all powerful computers with screens, running software stored on chips.

Within the last decade smartphones replaced all those devices, though there are still plenty of computers in your home disguised as televisions, home routers, video disk players and games consoles.

What aspect of PCs led to the transformation of office work – other than being efficient word processors?

Big companies had been using computers since the 1950s, but in data processing centers. Office workers saw stacks of computer printouts, but not computers. That started to change in the 1970s with smaller, "personal computers."

Early PCs had limited processing power and data storage, but they were responsive and could update their screens instantly. The most compelling applications were spreadsheet programs: first VisiCalc (1979) and the Lotus 1-2-3 (1983).

Spreadsheets allowed junior managers and professionals to produce analyses to justify their decisions, without having access to big computers or teams of assistants. Some people have pinned the whole 1980s craze for junk bonds and hostile takeovers, showcased in the movie "Wall Street," on the availability of spreadsheets.

What have gamers contributed to the development of the computer?

Most computer users' needs are met with older or lower-end systems – I have a PC from 2007 that still runs Windows 10 and Microsoft Office perfectly well. But it could never run even a kid's game like Fortnite.

Gamers have a constant thirst for computer power: faster processors, high resolution graphics, and efficient connections to move data around inside the system.

Since the 1990s, the shift to 3D games drove the development of new graphics processor chips so powerful they are also used for cryptocurrency mining and artificial intelligence.

Why did you choose to discuss the Tesla as the book's endpoint, rather than the iPhone?

We did that to underline the fact that computer technology now goes far beyond the devices we think of as computers. For decades cars have contained dozens of networked computers to run their engines, steering, air bags and other core functions.

Tesla added a giant tablet-like screen, automatic software downloads and driving automation features to make cars more visibly computer-like – the Model S was called a "tablet on wheels."

You probably spend more on the computers in your car than on all your other computer devices combined. But likely you had no idea of this until chip shortages left car factories around the world idle in 2021, emptying dealer lots and causing a huge spike in car prices.

By Laura Otto, University Relations

Chemistry Building Update

Last month, UWM broke ground on what will become the new campus Chemistry Building. The occaision was marked by a short ceremony attended by UWM leadership and several Milwaukee dignitaries.

View a video from the groundbreaking ceremony below.

Ground was broken Jan. 26, 2022, on UWM's new four-story, 163,400-square-foot chemistry building, which will serve as a gateway to the STEM buildings and departments that house those subjects.

The new building will replace one that was built in 1972 and is scheduled to be completed in late 2023 or early 2024.
https://youtu.be/HZuYrpZz3F8

You can also view a livestream of the building project by clicking on the image below or visiting https://bit.ly/3JVz3YH.

Alumni Accomplishments

Casey Griffiths ('11, MA Public Administration) became the first-ever city administrator for the city of Cudahy, Wisconsin in February. He previously served as the village administrator and clerk/treasurer of the village of Wind Point.

John Weinsheim ('88, BA Journalism, Advertising, and Media Studies) was profiled on TMJ4 News for his fascinating career as a camera operator. He has notably photographed four Olympics and professional sports teams. His latest big assignment? The 2022 SuperBowl.

Chelsey Knuth ('18, BA Geography) might be better known as the "Wisconsinista." Her travel blog encouraging tourism to Wisconsin and her other social media avenues have been growing in popularity. She was recently featured on Racine County Eye.

Jay Stahl ('21, Journalism, Advertising, and Media Studies) joined News 18, an ABC affiliate television station in Eau Claire, Wisconsin, in December as a multimedia journalist. Stahl was the president of the student Minority Media Association at UWM and is a current member of the National Academy of Television Arts & Sciences Chicago chapter Junior Board.

Libby Ives ('21, PhD Geosciences) is featured in the big screen IMAX film Dinosaurs of Antarctica, which is being shown at the Milwaukee Public Museum now through June 2. The film highlights her dissertation work as well as the work of several other UWM researchers.

People in Print

Jagadeesh Kumar Uppala, Leena Sathe, Abhijit Chakraborty, Sankhajit Bhattacharjee, **Anthony Thomas Pulvino, and Madhusudan Dey (all Biological Sciences)**. 2022. The Cap-proximal Secondary Structure Inhibits Translational Inhibition by Precluding Helicase eIF4A Recruitment on HAC1 mRNA. Journal of Biological Sciences, 298(3).

Lisa Silverman (History and Jewish Studies). 2022. Schikanen um Velm. aufbau: Das jüdische Magazin, 1(89), 21-23.

Songpong Sriwongsa and **Yi Meng Zou (Mathematical Sciences)**. 2022. On automorphism groups of idempotent evolution algebras. Linear Algerbra and its Applications, 641, 143-155.

March 2022						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Upcoming Events

March 2
Planetarium Lecture: The Care and Feeding of Galaxies. 7-8 p.m. Online via Zoom. Dawn Erb (Physics) presents how new technologies reveal how galaxies interact with their environments. Not recommended for children under 4. This event is FREE. Register here.

March 5
Lá Gaeilge (Irish Language Immersion Day). All day. Mitchell and Curtin Halls. Join us for one day of Irish language courses – all levels welcome! This event is free for UWM students and $50 for others. Register here. Registration includes lunch.

March 10
Creative Writing Program Visiting Writer – Valerie Martinez. Curtin 175 and livestreamed. Craft talk at 3:30. Book reading at 7:00.

March 11 and 13
Planetarium Show: Stars in the Tropics. 7-8 p.m. Friday; 2-3 p.m. Sunday. Manfred Olson Planetarium. Join the Planetarium to "visit" different cities near the equator to view vibrant landscapes, cosmic night skies, and ancient astronomical monuments. Not recommended for children under 4. Register here. Tickets are $5 for students and $6 for the general public.

March 30
Ctr. for 21st Century Studies: Lonely No More! Lonely Infrastructure Roundtable. 1-2:30 p.m. Online via Zoom. How might we study, talk about, and address loneliness and the built environment? This conversation will include experts Jason Danely (Oxford Brookes University), Joan Johnson (Milwaukee Public Library), Eric Klinenberg (New York University), and Chikako Ozawa-de Silva (Emory University).

Family fun with Science Bag!

Join the UWM campus community for a brand new Science Bag in March!

Dive deep to explore the world's longest chain of volcanoes!

Snaking through all the world's oceans, these remarkable volcanic chains result from processes deep in the Earth. They mark the places where Earth's outermost crustal plates slowly diverge from each other, and new ocean crust is formed from the cooling magma. The heat associated with the volcanoes also allows extraordinary, diverse ecosystems to thrive in the normally dark, cold, inhospitable deep ocean. On our journey, we'll learn not just what's at the bottom of the sea, but the type of tools we use to study the deep ocean.

The March Science Bag is presented by Geosciences Associate Professor Julie Bowles.

Science Bag is a family-friendly educational program designed to engage all from ages 8 to 88. No registration necessary.

WHAT: Science Bag

WHERE: Physics 137

WHEN: March 4 at 7 p.m.
March 11 at 7 p.m.
March 13 at 2 p.m.
March 18 at 7 p.m.
March 25 at 7 p.m.

MORE INFO: https://uwm.edu/science-bag/

Passings


Brooke Barker

Brooke Barker, Department Services Associate in the Department of English, passed away peacefully in February.

Brooke earned her BA, *summa cum laude*, and her MA from Marquette University. She went on to earn her PhD in Literature from the University of North Carolina at Chapel Hill and her JD, *cum laude*, from Marquette University Law School. Prior to joining UWM, Brooke worked with the Coalition of Wisconsin Aging Groups, Elder Law Center; served as a teaching assistant at both Marquette University and UNC, as well as a lecturer at Marquette; and spent 10 years as a research and marketing coordinator at Woodland Pattern Book Center.

Brooke loved literature, cats, and cat-related humor. She was well loved in the English Department and was very helpful to faculty, staff, and students. Her reliability and stabilizing influence were the anchor of the department. Department Chair Lane Hall noted, "We will miss her wit and kindness and grieve her passing and our loss."


Pat Gray

Joseph Patrick "Pat" Gray passed away on Feb. 15 in Milwaukee following complications from surgery.

Pat was born in 1949 and raised near Washington D.C. Since childhood he pursued his life goal and achieved a long and successful career as a cultural anthropologist. He graduated from Eastern Nazarene College in Boston in 1971 at the top of his class. He obtained his MA (1973) and his PhD (1976) from the University of Colorado. He taught at the University of California at Chico and the University of North Texas where he met the love of his life, Lynne. He began his position at UWM in 1982 and quickly achieved tenure. He loved his work and retired in 2020 after 38 years in the Anthropology Department.

Pat was happy and fulfilled in his personal and professional life, and possessed a sharp and insightful wit. He was a calm and steadying influence to his colleagues and students. He held a lifelong passion for acquiring knowledge, useful in activities he enjoyed such as Jeopardy and Trivia. A full obituary is available **online**.

Applying for college and choosing a major can be an exciting time. Incoming freshmen can learn more about many of the majors in the College of Letters & Science by attending our upcoming Open House events. All Open Houses are virtual.

Students should register for Open House events at **https://uwm.edu/letters-science/open-houses/**. Email **let-sci@uwm.edu** with questions.

Events are scheduled on the following dates:

March 1: Pre-Med/Pre-Physician Assistant/Pre-Pharmacy and other pre-healthcare; 4:30 p.m.

March 2: Communication; 5 p.m.

March 3: Geosciences; 5 p.m.

March 5: Physics; 11 a.m.

March. 8: English; 6:30 p.m.

March 9: Classics; 4:30 p.m.

LGBTQ+ Studies; 7 p.m.

March 10: Journalism, Advertising, and Media Studies; 4:30 p.m.

March 13: Psychology; 11 a.m.

March 14: Math / Data Science / Actuarial Science / Applied Math & Comp Sci; 6:30 p.m.

March 16: French, 4:30 p.m.

March 17: Global Studies, 4:30 p.m.

March 30: German, 5 p.m.

April 5: Geography, 4:15 p.m.

April 6: Economics, 5:30 p.m.

April 7: History, 4 p.m.

April 15: Conservation & Environmental Science; 3 p.m.

April 15: Pre-Med/Pre-Physician Assistant/Pre-Pharmacy and other pre-healthcare; 4 p.m.

In the Media and Around the Community

Put on your safety goggles and gloves - **Neal Korfhage (Chemistry)** fired up his torch and lathe to explain the art of scientific glassblowing and his role as UWM's staff glassblower to **CBS 58 News**.

Milwaukee held a mayoral primary in February, and **Paru Shah (Political Science)** explained to CBS 58 News that crime would be a top concern for the candidates. After the primary narrowed the field to Cavalier Johnson and Bob Donovan, Shah spoke on **WUWM Radio** about each candidate's platform and strategies for the general election. Finally, she noted on **WUWM Radio** that the Wisconsin Republicans' reasoning for a spate of new election bills is being met with skepticism.

Sara Benesh (Political Science) gave her thoughts on President Biden's possible picks for his Supreme Court nominee on **Wisconsin Public Radio**.

Ora John Reuter (Political Science) co-authored a piece for the **Washington Post** analyzing how native Russian's felt about the increase in tensions along the country's border with Ukraine. He also spoke about Russo-American relations as part of **St. Norbert College's** Center for Global Engagement's Great Decisions Lecture Series in February.

TMJ4 News profiled graduate student **Ken Bartelt's (History)** research into the Milwaukee Bears, the city's Negro League baseball team.

WIsconsin Public Radio detailed how **Celeste Campos-Castillo (Sociology)** has received a grant to study the efficacy of the program Islands of Brilliance aimed at autistic children.

Slate.com used **Michael Newman's (English)** class as an opening hook for an article on how Olympic television rating numbers do not present a full picture of the viewership of the Games.

Graduate student **Ryan Filbin (Geography)** warned of potential consequences if an aging Michigan dam is not soon replaced in an article in the **Lansing City Pulse**.

Graduate student **Ben Schultz (History)**, an expert on the once-popular retail chain Kmart, said in a **Philadelphia Inquirer** article that the store's "blandness" led to its downfall after enjoying decades of popularity.

Michael Mirer (Journalism, Advertising, and Media Studies) explained how professional sports organizations' attitudes toward gambling have shifted in a segment for **TMJ4 News**.

As Florida Republicans push a 15-week abortion ban through their legislature, **Kathy Dolan (Political Science)** explained their political calculus as an election year looms in the **Tampa Bay Times**. She also told **Inside Higher Ed** that she's skeptical of the claim that women in academia have published fewer papers than men in recent years due to the COVID-19 pandemic.

After a snowstorm, plows salt the roads to help melt snow and increase traction. **Charles Paradis (Geosciences)** spoke to **WUWM Radio** about what happens to that salt after the snow melts.

A day before Russian president Vladimir Putin directed troops to invade Ukraine, **Spectrum 1 News** talked with graduate student **Danylo Radevych (Physics)** about his fears for his family living in Ukraine.

Robert Baker (African and African Diaspora Studies) explained the history of Milwaukee's Bronzeville neighborhood on **WUWM Radio** after *The New York Times* named it one of the top places to visit for "a changed world."

Laurels and Accolades

Kimberly Blaeser (English; American Indian Studies) edited a guest feature on Indigenous poetry for the Scottish journal "**The Poets' Republic**," introduced the feature in a short essay, "Honor Beats: Poetry of Tribal Survivance," and participated in the **Jan. 23 issue launch.** Besides Blaeser, among the included poets is **Margaret Noodin (English; American Indian Studies)**.

PhD student **Jana Gedyman (Geography)** is the winner of the 2021 **Damon Anderson Memorial Scholarship**. The scholarship, administered by the Wisconsin Land Information Association, supports students working toward a degree related to land information.

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