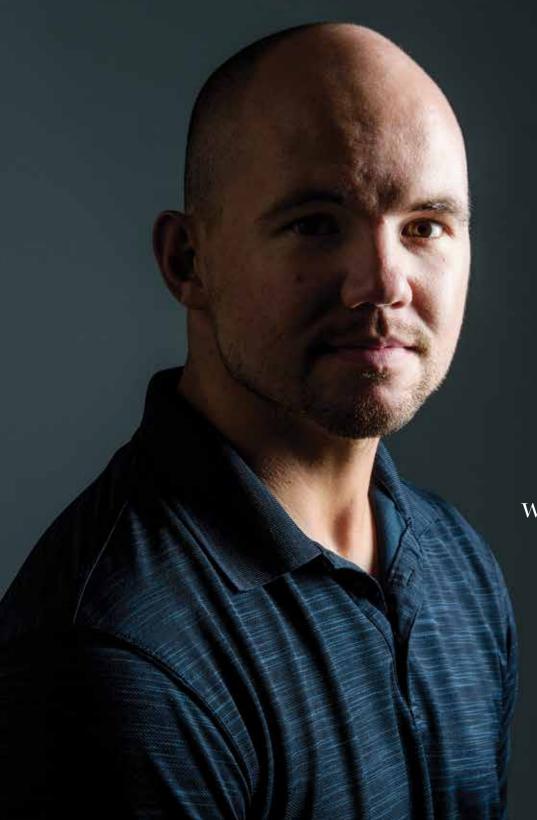
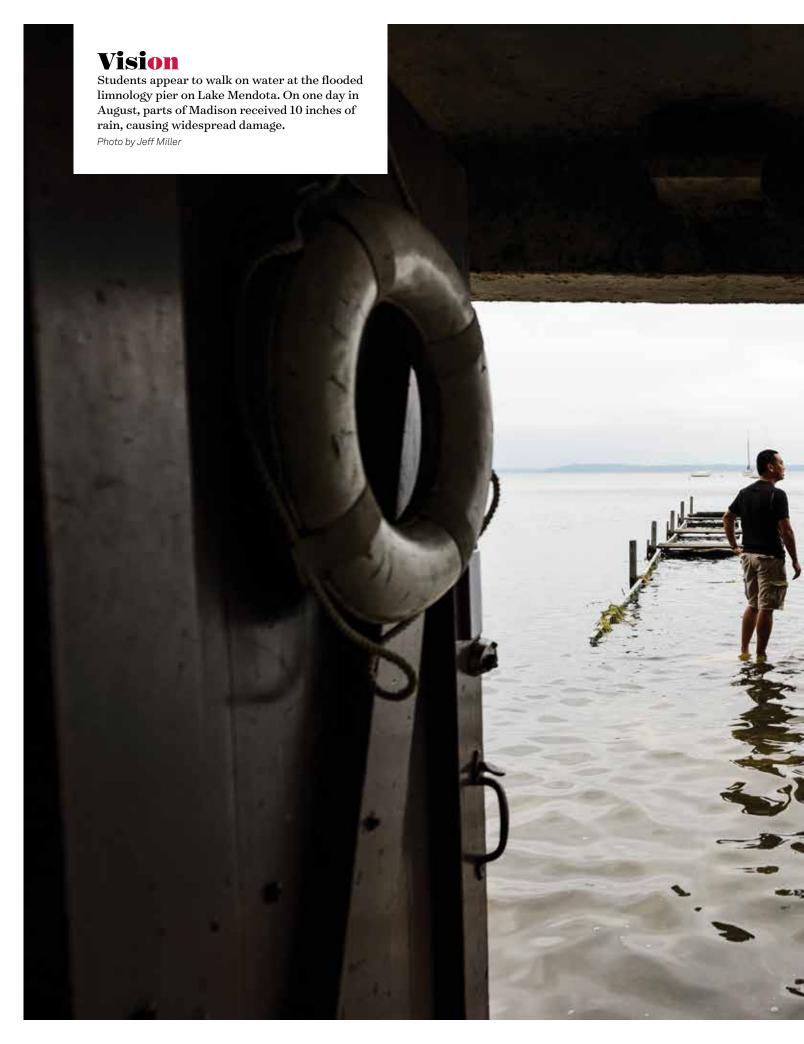
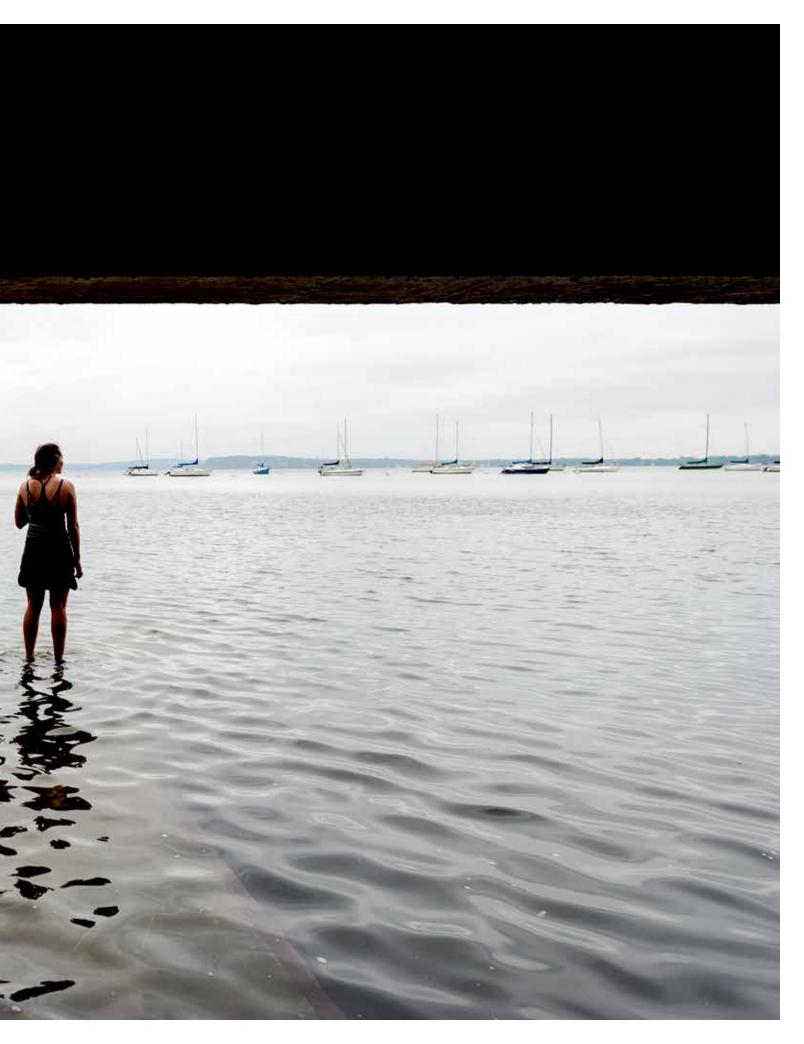
onWisconsin

FOR UNIVERSITY OF WISCONSIN-MADISON ALUMNI AND FRIENDS WINTER 2018



Hard Truth
Why Chris Borland '13
left football
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OnWisconsin

UW band director Mike Leckrone built Badger traditions. See page 30.

DEPARTMENTS

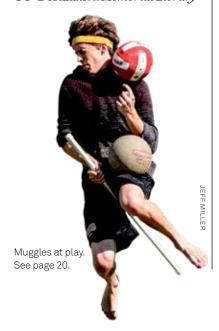
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As a rising NFL star, Chris Borland '13 did the unthinkable: he abruptly retired to preserve his health, bringing the unseen dangers of the sport to the forefront of American consciousness. *By Preston Schmitt '14*

28 Raw Talent

What Marie Moody '90 started in her Manhattan apartment has turned into a multimillion-dollar pet-food brand, all thanks to a mutt named Chewy. By Kate Kail Dixon '01, MA'07

30 Stop at the Top

Mike Leckrone is as synonymous with the Badger spirit as Bucky. This year he's saying his good-byes after 50 years with the UW Marching Band. *By Meg Jones* '84'

36 Stem Cells at 20

It's been two decades since the first human embryonic stem cell lines were derived at UW-Madison. What effect has the discovery had on scientific research and human health? By Terry Devitt '78, MA'85

38 The Hunt for Answers

The country's population of whitetail deer is at record numbers, and a UW scientist's work grapples with what that means for the environment. By Jason Stein MA'03

44 A Search for Simple Life

Adam Steltzner PhD'99 just wanted a regular job, so he became an engineer — eventually, one of NASA's top engineers. Now he's helping lead the search for life on Mars. By John Allen



See page 28.

Cover Chris Borland, October 8, 2018. Photo by Bryce

Richter.



You may have left Wisconsin, but hopefully it hasn't left you. The places to visit, things to do and types of people that make this a great place to live are all still here. And now, thanks to a booming economy, abundant career opportunities and low cost of living, there's never been a better time to come back and make a new life in the place you once called home. Wisconsin. It's more **you**.

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Communications

Listen, Learn, Legislate

This is the kind of leadership we need ["Science Faction," Fall 2018 On Wisconsin]. Tommy Thompson was a great governor. Listen to our scientists. Surround yourself with experts in many different areas and listen and learn and legislate.

Laura Weber

Offended by Caption

I was offended by a caption in the Fall 2018 issue ["Play Time"]. The bowling section features a 1944 photo captioned "U.S. Navy sailors mansplain a bowling ball to female students."

Merriam-Webster [dictionary] defines mansplain as "to explain something to a woman in a condescending way that assumes she has no knowledge about the topic." Do you have documentation from the women in the photo that they felt they were being condescended to? Do you have any proof of what was being said, or is the implicit assumption now that any time a man instructs a woman on any topic there is condescension involved, making it de facto mansplaining?

William Kucharski '88 Louisville, Colorado

Union Memories

[In regard to "Play Time," Fall 2018]: Since I am a bit older than the Union and worked there while in school (and met my husband there), I would like to add my bit of history. I was a waitress in the Georgian Grill. My husband, John Wyse '46, was a part of catering. He personally served Alfred Lunt and Lynn Fontanne when they appeared at the Union. They gave him a ticket as a tip.

Angela Bewick
Wyse '45, MM'46
Evansville, Wisconsin

Lack of Gender Balance

On first pass, I was struck by how many stories in the [Fall 2018] magazine were about men. Mostly white men. Yes, the token black athlete (student) and female researcher each got a page. The white men got several features and pages. Irrelevant and behind the times.

Ann Garvin MS'90, PhD'97 Whitewater, Wisconsin

Roses for Richter

I enjoyed the Pat Richter Conversation in the Fall 2018 issue. I graduated from the UW in 1962 and landed my first big job at Stanford University that fall. My boyfriend (and now husband of 50 years) was in grad school at Madison and came to California for what turned out to be the most exciting Rose Bowl game ever!

With the UW far behind in the third quarter, most fans had departed — but we stayed. And we were among the favored few who witnessed the UW's dazzling fourth-quarter play by Pat Richter and quarterback Ron Vander Kelen even as darkness began to descend. Even though the UW did not win, happy memories of that stirring experience have endured a lifetime.

Janice Winter Yager '62' Oakland, California

Missing Bucky Artists

I was thrilled to see you feature select Buckys on Parade [Fall 2018 Exhibition]. Nevertheless, you failed to mention the artists behind these endeavors. They deserve recognition for the creativity behind the Buckys we love.

Caitlin Artz'09

La Crosse, Wisconsin

Editor's Note: To read more about the 64 artists, visit buckyonparade.com and click on each individual Bucky.

Correction

"When Crazylegs Went Hollywood" [Fall 2018] incorrectly stated that Elroy Hirsch won the Heisman Trophy. Although he won numerous awards, the Heisman was not one of them.

20 YEARS ON



"It's going to be really annoying, but it's not going to be a disaster." Y2K fatalists would have been wise to listen to Robert Irons, a former UW computer specialist who led campus efforts to update online systems by January 1, 2000. Many feared that the dawn of the new millennium would cause digital doom, as computers had been built to process dates as two digits (unable to differentiate 00 as 1900 or 2000). "The TYME [cash] machine might not work for a day or two, but the university is definitely going to work. I guarantee it," Irons prophesied to On Wisconsin in 1998. We're glad he was right.

SLIDESHOW



Madison, a city between two lakes, dealt with the damaging effects of a swollen watershed before the start of the fall semester. On August 22 — after historic amounts of rainfall in a 24-hour period — Lake Mendota crested at 852.3 feet above sea level. See more images of the flooding and high water levels that occurred on and near campus at onwisconsin.uwalumni.com.



Downtown Madison is renowned as a vibrant cultural hub with endless opportunities—art festivals, jazz bands, farmers markets, UW-Madison events—while university life infuses the area with dynamic energy. And at Capitol Lakes, you're right in the middle of it all.

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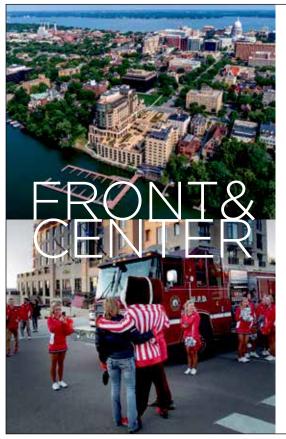
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First Person

OnWisconsin

Winter 2018

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Langdon Street wasn't always the sole province of Greek-letter houses and student residences. Fred Milverstedt '69, who grew up on the street, says, "I would sit on the front steps of the Pillars [apartment building], morning and night, and watch the parade [of] post-WWII students go by." His mother would walk him partway to school and then have a police officer usher him across the street. In 1949, Officer Hector Naze posed with a seven-year-old Milverstedt on a State Street corner for a safety campaign. Milverstedt went on to major in journalism at the UW and spent time working for the Wisconsin State Journal, the Milwaukee Journal, the Associated Press, and the Capital Times. In 1975, he cofounded and became the first editor of the Isthmus, Madison's free weekly, eventually becoming a writer and editor with the UW Foundation before his retirement.

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On Campus News from UW-Madison DUS

Mind Games

Changing the brain and teaching empathy.



A video game designed by UW researchers to teach empathy has helped inform other games being submitted to the FDA for clinical applications.

At the age when kids first encounter anxiety, depression, and bullying, they're also spending a lot of time with a game controller in their hands. So a team of UW–Madison researchers at the Center for Healthy Minds and Gear Learning developed an experimental game for middle schoolers to study whether video games can be a force for good during this critical period of brain development.

In the game, players advance by building emotional rapport with aliens on a distant planet who speak a different language but have remarkably humanlike facial expressions. The researchers measured how accurate the youth players in *Crystals of Kaydor* were in identifying the emotions of the characters in the game, such as anger, fear, happiness, surprise, disgust, and sadness.

Before and after two weeks of gameplay, the team obtained brain scans from kids who played the experimental game as well as kids who played a "control" game. They looked at connections among areas of the brain, including those associated with empathy and emotion regulation, as well as how the kids performed on empathy tests during the scans.

Many kids who played the game showed greater connectivity in brain networks related to empathy and perspective taking. Those who improved at empathy tests also showed altered neural networks commonly linked to emotion regulation, a crucial skill that this age group is beginning to develop.

Tammi Kral '05, MS'14, PhDx'20, a UW graduate student in psychology who led the research, says these skills are predictors of emotional well-being and can be practiced anytime — with or without video games.

MARIANNE ENGLISH SPOON MA'11

STONE SURVIVOR

After 70 secretive years, a gargovle has been reunited with its twin. One of the sandstone statues, which sat atop the old Law School, was thought to have been destroyed during the building's 1963 demolition. But the children of Paul Been '49 LLB'53 grew up hearing a different story. Been, along with a fellow law student, hauled it away in a wheelbarrow after a storm, according to the family. His children returned the statue in September. Read the entire tale: go.wisc.edu/d9z79e.



Zika's Toll

A new UW-Madison-led study on the effects of Zika virus, recently associated with South American babies born with severe birth defects, suggests the disease may have quietly done a great deal more damage. Six National Primate Research Centers pooled data and found that 26 percent of pregnancies in 50 monkeys infected with Zika virus during the first trimester ended in miscarriage or stillbirth. The rate was nearly 8 percent in another recent study of women infected with Zika early in pregnancy.

OnCampus



"She had the regality without any pomposity or practiced behavior. She was a natural woman, and she made that regal. For me, she threw back the curtain that had been segregation and showed the rest of America how black America took its joy."

— Thulani Davis, a UW assistant professor of Afro-American studies, after Aretha Franklin's death in September. Davis wrote the liner notes to the legendary singer's 1992 box set, Queen of Soul: The Atlantic Recordings.

THE NEXT DIMENSION

3D printing seems like science fiction come to life.

"It's kind of *Star Trek*-like," says **Dan Thoma MS'88, PhD'92,** director of the Grainger Institute for Engineering, who has researched the technology for 25 years.

Remember when Captain Picard commanded the replicator on the *Enterprise* to make a cup of Earl Grey tea?

"Well, we can't make the tea, but we can [print] the cup," Thoma says.

There are several steps to 3D printing an object: convert a physical model into a virtual design, translate it into a software that reads the object's surfaces and stores information about its shape, and then use a second software to divide the digital model into sections and instructions the printer can understand. Once the printer is set up, it reads the digital language and prints the object in layers — a cup would have roughly 10,000 layers.

The concept is simple enough, Thoma says. Conventional manufacturing methods cut components from blocks of material and sometimes weld multiple pieces together. But 3D printing builds an entire piece from the ground up, allowing users to create new materials and design internal structures.

"You get increased functionality that you can't get any other way," Thoma says.

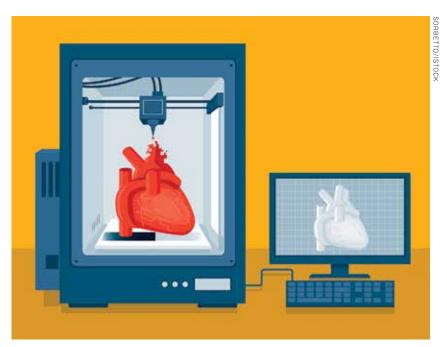
Still, 3D printing has been overhyped, he adds. It takes training to use programming software, operate the machines, pick material, and choose from dozens of different printing techniques. The technology is also expensive and can't produce high volumes. Extensive finishing and testing to control defects on a single part can cost thousands, if not millions, of dollars.

"Even if I'm [just] making a coffee cup, and I have hot coffee [in it], I don't want the handle breaking," Thoma says.

Whatever its limitations, the possibilities still seem endless. There's hope in the medical industry for printing 3D organs.

"I don't know what the next great idea is going to be," Thoma says. "I just hope [it comes from] one of my students."

NINA BERTELSEN X'19



Bygone Bad News Badgers



In 2017, the Badgers lost just one football game. In 1968, they couldn't win one.

It's almost impossible to believe in these days of annual bowl game appearances, but the UW once suffered through 23 straight winless games — 22 losses and a tie. A key contributor was the ill-fated 1968 squad, whose 0–10 finish remains, 50 years later, the worst record in the school's history.

I'm the poor soul who covered that team for the *Daily Cardinal*, which gave me a front-row seat for a debacle that was as hard to watch as it was to stomach. The Badgers scored an average of just 8.6 points per game — while allowing more than 30 — and endured three straight shutouts. There were blowout losses to the likes of Arizona State (55–7), Michigan State (39–0), Iowa (41–0), and Ohio State (43–8).

That, though, was merely

misery. Agony was witnessing the gut-wrenching ways the Badgers squandered their few shots at victory. In a 21–17 home loss to heavily favored Washington, the UW threw four interceptions in the game's last four minutes.

At Northwestern, the Badgers led 10–6 in the fourth quarter when their tailback broke free up the middle, only to pull up with a leg injury. Three straight Wisconsin penalties killed the drive, and the Wildcats won 13–10.

The ultimate heartbreaker was the UW's Homecoming game against Indiana. The underdog Badgers lost 21–20 after missing six field goal attempts, the last one coming with 22 seconds to play after the holder mishandled the snap.

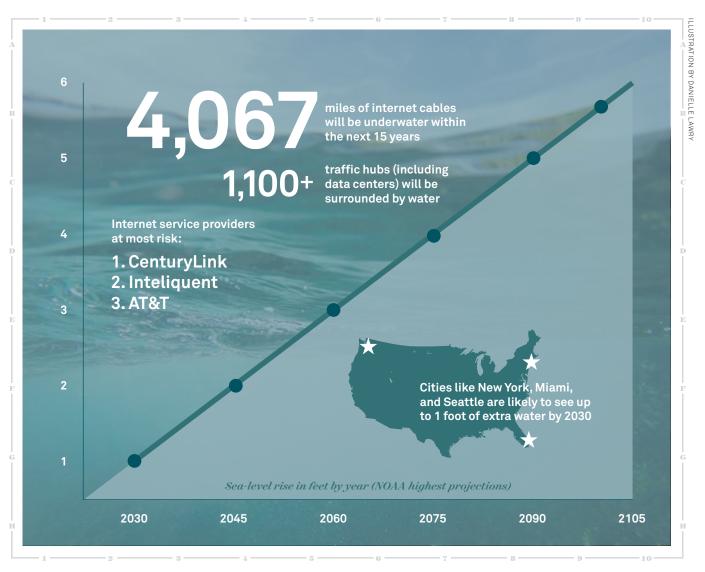
While the players never quit, they couldn't overcome a shortage of talent and an oversupply of injuries and penalties, some the result of officiating blunders. It all Support was sparse in the Camp Randall student section during the Badgers' 0–10 season in 1968. added up to the first — and still only — season that failed to produce even a tie since 1889, when the inaugural Badger squad finished 0–2. The season ended with many of the team's African American players boycotting the football banquet, saying the coaching staff treated them unequally.

The captain of this sinking ship was second-year head coach and former UW star quarterback John Coatta '53, MS'59, who had inherited a mess and went 0–9–1 in his debut season.

Victory finally arrived four games into the 1969 season, when the UW scored 23 straight fourth-quarter points to upset visiting Iowa, 23–17. Those Badgers won three games, but Coatta's contract was not renewed. Only six winning seasons followed in the next 23 years — until a guy named Alvarez turned weeds into roses in 1993 and beyond.

BARRY TEMKIN '70

Calculation Infrastructure at Risk



Internet Underwater

The digital wonders of the internet are only made possible by physical infrastructure: buried fiber-optic cables. But rising sea levels pose a threat to that very foundation.

"The expectation was that we'd have 50 years to plan for it. We don't have 50 years," says **Paul Barford,** a UW-Madison professor of computer sciences who recently published the first assessment of how climate change could affect the internet.

Thousands of miles of buried fiber-optic cables are located in densely populated coastal regions of the United States, connecting with data centers, traf-

fic exchanges, and termination points to form the vast global information network. The cables are designed to be water-resistant, but unlike the marine cables that ferry data from continent to continent under the ocean, they are not waterproof. This critical communications infrastructure could be submerged in as soon as 15 years, according to Barford, who conducted the study with Ramakrishnan Durairajan MS'14, PhD'17 and Carol Barford, who directs the UW's Center for Sustainability and the Global Environment.

The researchers combined data from the Internet Atlas, a



"The expectation was that we'd have 50 years to plan for it. We don't have 50 years," says Paul Barford, a UW professor of computer sciences.

comprehensive global map of the internet's physical structure that Paul Barford and others previously created, and projections of sea-level incursion from the National Oceanic and Atmospheric Administration. The effects would ripple across the internet, says Barford.

Much of the infrastructure follows long-established rights of way, typically paralleling highways and coastlines. "When it was built 20 [to] 25 years ago, no thought was given to climate change," he adds.

The findings of the study, Barford argues, serve notice to industry and government. "This is a wake-up call."

TERRY DEVITT '78, MA'85

OnCampus

Diplomatic Dilemma

It's been 47 years since Russ Feingold '75 first walked up Bascom Hill as a freshman from Janesville, Wisconsin. He would go on to earn degrees in history and political science, win a Rhodes Scholarship, and eventually serve in the Wisconsin State



Legislature and the U.S. Senate.

This fall, he made the same walk — as a visiting lecturer in UW-Madison's African Studies Program. Feingold is teaching a capstone course for international studies based on his experiences as a special envoy to the Great Lakes region of Africa, which includes Rwanda, the Democratic Republic of Congo, and surrounding countries.

Millions have died there since the 1994 Rwandan genocide, as armed groups fight for control of lucrative land and minerals. From 2013 to 2015, Feingold worked with envoys from the African Union, Europe, and the United Nations to successfully get Rwanda to stop supporting the March 23 Movement, a brutal rebel group. But conflict and violence remain in the region, which has a multilayered history.

"By the time we get to the end of this course, you'll want to pull your hair out. Some things aren't knowable," Feingold told his students in September. "Some things are simply that complicated." And that's one reason why Americans don't know more about what Feingold calls "one of the greatest catastrophes in human history" during a class discussion on Dancing in the Glory of Monsters: The Collapse of the Congo and the Great War of Africa. (The author, Jason Stearns, worked for the UN in Congo.) The book — from a reading list Feingold received when he was appointed to his diplomatic position — explains how the conflict has involved at least 20 rebel groups and the armies of nine countries.

"There's no one bad guy" — no single figure like Hitler or Mussolini, Feingold tells the class. That ambiguity has led to less news coverage compared to other parts of Africa, such as Darfur, despite how many have suffered and died in the Congo.

Like Feingold, most of the course's 17 students are Wisconsin natives. "I really feel at home here," Feingold says. "There couldn't be a more special place in my life and the lives of many Wisconsinites." **JENNY PRICE '96**



BUG BITES

More than two billion people around the world regularly consume insects — a good source of protein, vitamins, minerals, and healthy fats. More than two billion people around the world UW-Madison researchers have documented, for the first time, the health effects of eating $\ddot{\mathbb{S}}$ them. Their clinical trial, which had particshakes, shows that consuming the insects can help support the growth of her bacteria. Researchers also found that eating the insects is not only safe but may also reduce inflammation in the body. "Food is very tied to culture, and 20 or 30 years ago, no one in the U.S. was eating sushi because we thought it was disgusting, but now you can get it at a gas station in Nebraska," says Valerie Stull PhD'18, the study's lead author and a postdoctoral researcher with the UW's Global Health Institute.

KELLY APRIL TYRRELL MS'11

NEWS FEED

U.S. News & World Report ranked UW-Madison the

nation's 15th best public university, and Times Higher Education placed the university among the top 50 worldwide. The UW also scored high in affordability on Money magazine's "Best Colleges for Your Money" survey.



National Parks are warming at twice the rate of anywhere else in the country, according to a study by researchers from UW-Madison and the University of California-Berkeley that examined rainfall and temperatures between 1895 and 2010 at all 417 U.S. parks.



The School of Medicine and Public Health has teamed up with Facebook to research how digital technology affects teens' social and mental health. The study is part of a \$1 million project and will develop family guidelines for healthy internet use.

How High?

The tallest building on the UW-Madison campus isn't Van Hise Hall, which stands 196 feet from the ground (not sea level). The Atmospheric, Oceanic, and Space Sciences building holds that title, measuring at 205 feet (not including its satellite dishes), according to the Divison of Facilities Planning & Management. The shortest building? The Poultry Research Lab — a

paltry 20 feet high.





REST IN PIECES: Tragedy struck the west side of campus this summer when Elmer, a century-old elm tree, succumbed to Dutch elm disease and was cut down. Elmer stood outside the Hector F. DeLuca Biochemistry Building. The university had been working for 20 years to prevent Elmer's demise, but the disease, which is caused by fungus and spread by beetles, finally won out. The elm was thought to be the largest tree on campus by trunk diameter, and biochemistry and horticulture staff hope to use its wood to make furniture.

CLEAN CORN

Nitrogen fertilizer has helped corn feed the world. But 2 percent of the world's energy is used to make these fertilizers, which are expensive and pollute waterways when they leach from fields. Reducing corn's need for fertilizer would be a boon for farmers and the environment, which makes a recent discovery by UW professor of bacteriology and agronomy Jean-Michel Ané so stunning. With collaborators at the University of California-Davis and Mars. Inc., Ané identified indigenous corn from Mexico that can acquire up to 80 percent of the nitrogen it needs from the air, essentially self-fertilizing — a first for the crop. The 16-foottall corn secretes gel from aboveground roots. The gel harbors bacteria capable of fixing nitrogen, which the plant absorbs. If the trait can be bred into cultivated corn, it could mean less fertilizer, cheaper farming, and cleaner water. **ERIC HAMILTON**

NEWS FEED

Lori Reesor is UW-Madison's first vice chancellor for student affairs. A Wisconsin native with 30 years of experience in university administration, Reesor will oversee the Division of Recreational Sports, Division of Student Life, University Health Services, and Wisconsin Union.



A \$100 million pledge

launched the Foxconn Institute for Research in Science and Technology at the UW. It will work closely with the Taiwanese technology group's new facilities in southeast Wisconsin. University officials plan to raise an equal amount to match the gift.



Team USA took four Badgers to the 2018 World Rowing Championships: Dariush Aghai '12, MS'14; Michael Knippen '16; Vicky Opitz '11; and Maddie Wanamaker '17 (left). Wanamaker (women's 4) and Opitz (women's 8) won their events, and Team USA placed second overall.

Conversation Suicide Prevention

Suicide rates have increased 25 percent over the last two decades, according to a Centers for Disease Control and Prevention (CDC) report released the same week that celebrity chef Anthony Bourdain and fashion designer Kate Spade took their own lives. As the UW's suicide prevention coordinator, Valerie Donovan '11, MA'12 is developing proactive policies and coordinating resources and support networks across campus.

National Suicide The third element that is actu-Prevention Lifeline: ally important and powerful is 800-273-8255 that people are becoming more and more comfortable talking about mental health ... and I see this reflected on our campus, where we do have some data

> If we're discussing and researching suicide prevention more, why are suicide rates still rising?

about decreases in stigma.

That's a complex question and I don't have a single answer for that. One thing that we're taking a look [at] intentionally on

> that other groups are doing, too, is thinking about means restriction and environmental

> > are the leading means for suicide. We know that access

tolethal means increases suicide risk. So we can do a lot of great work in prevention and education and in how we communicate about suicide, but it's also important that we're thinking about things like access to lethal means and some of those other environmental strategies.

How can we address suicide as a public health issue on campus?

Relationships are foundational to effective prevention. When I think about changing the culture, especially in a complex system like UW-Madison, I often come back to this quote that I heard: "Change happens at the speed of trust." So having those trusting relationships with [campus and community] partners is foundational to moving the needle on some of these big, complex issues.

What should I do if I'm worried a loved one is at risk?

Warning signs look different from person to person. I tell people to trust your gut, and if something seems like it might be off, it's always worth checking in with your friends and loved ones. [Respond by] practicing empathy, listening without judgment, asking open-ended questions, validating, and recognizing how challenging that must be for that person. It's also really important, if you're concerned about suicide, to ask

directly about it. A lot of people are worried that if [you ask], that might put the idea in their head. But research shows that's actually an effective prevention strategy that makes you a safe person to talk to about those feelings.

> Interview conducted. edited, and condensed by Nina Bertelsen x'19 Photo by Bryce Richter



Exhibition Say Cheese

Wrestling bears, a soaring eagle, and curious fawns are among the 22 million images captured by a first-of-its-kind network of volunteer-run trail cameras in Wisconsin.

The project — called Snapshot Wisconsin — was launched in 2016 by the state's Department of Natural Resources to monitor wildlife and to help officials track the deer population. But it also provides UW-Madison researchers with an unprecedented, candid look at animals.

The cameras have already provided new insights into wildlife. Weasel-like fishers have been spotted in Marquette County, farther south than reported previously, and the first moose (or its knees, anyway) recently made an appearance.

More than 1,000 volunteers monitor the trail cameras. Recently, officials began accepting applications from residents in all 72 Wisconsin counties and allowing volunteers to manage cameras on public land for the first time.

The statewide expansion helps move UW research on wildlife populations into more ecosystems, says **Ben Zuckerberg**, a UW forest and wildlife ecology associate professor. That means getting a fuller look at the creatures that call Wisconsin home.

ERIC HAMILTON













OnCampus

Local News

For **Nash Weiss x'19**, the path to a career in journalism returned him to his hometown of Mondovi, Wisconsin. Over the summer, Weiss, a senior in the UW School of Journalism and Mass Communication, served as interim editor of the *Mondovi Herald-News*, which ran his birth announcement years ago. He stepped in at the



local weekly during the current editor's maternity leave. "I grew up here. I care about the community. I always will," Weiss told the *Milwaukee Journal Sentinel*. "This is the way I could give back."

Safety Check

After a doctor affiliated with Michigan State University was convicted of sexually assaulting numerous young women under his care, including student-athletes, UW Athletic Director **Barry Alvarez** requested a wide-ranging review of his department's health- and safety-related policies and procedures. "We are treating this with the seriousness that it deserves, and I am determined that something of this magnitude will not happen at UW-Madison," Alvarez told the UW Athletic Board in February.

Walter Dickey '68, JD'71 a professor emeritus of law and special assistant to Alvarez, directed the review, which included individual interviews, group meetings, and a survey of more than 1,000 student-athletes and staff. In September, the athletics department released its report, which found no major issues but identified areas for improvement, including better mental-health services, more secure access to athletic facilities, clearer reporting mechanisms, and stronger policies to cement current safety practices.

Staff and student-athletes surveyed said they would be comfortable reporting problems to people inside and outside of their team, but some were unclear on how to report concerns — such as sexual harassment and assault — and to whom. Some of the recommendations in the review are already in the process of being implemented and others will be addressed in the weeks and months to come, Alvarez says. "The bottom line is that this review will make Wisconsin Athletics better."

FOR THE BIRDS

Nomen est omen, said the ancient Romans, who liked their maxims to rhyme: one's name is one's destiny. And while there's little empirical evidence about this aphorism, put **Anna Pidgeon PhD'00** down on the side of support. The professor with the columbiform name has taught Birds of Southern Wisconsin for the last three years.

"I get a bit of office guff," she says.

Birds of Southern Wisconsin is offered each spring, and most of its students are undergrads studying biology or wildlife ecology. In addition to class work, students take field trips around Dane County and southern Wisconsin on Saturdays through the semester. By the course's end, students are expected to be able to identify 235 bird species by sight and 145 species by sound alone.

Pidgeon says students also discover how Wisconsin's landscape is changing. From the 1850s to the 1950s, logging cleared away a lot of the state's forests, sending arboreal birds into retreat. But in the last 60 years, the forests have been returning; forest and urban birds have returned, while grassland birds are in decline.

JOHN ALLEN



NEWS FEED

The Korean Language Flagship Program

launched at UW– Madison this fall. It will prepare students from any major to be competent in Korean language and culture for professional settings. The UW's Multicultural Student Center opened new Latinx and Asian Pacific Islander Desi American (APIDA) cultural spaces this fall, a year after students started actively lobbying for the centers. Office construction will start in January and finish for an official grand opening in the spring.



UW men's hockey will face Notre Dame at the United Center, home of the NHL's Chicago Blackhawks, in January. The two teams also met there last year, when the Badgers upset the No. 1 Fighting Irish 5–0.



Contender Wisconsin Quidditch

On a chilly fall evening, the Wisconsin Quidditch team is trying to sell its game to the newest recruits: a pair of students who happened to be tossing a football on the Gordon Dining and Event Center lawn.

"It's just like that, but with a volleyball," one of the players shouts over to them. Her teammates chime in: it's a combination of many sports, including rugby, dodgeball, basketball, and tag. They brag that a former UW football player has even joined their ranks.

Quidditch looks like organized chaos. Words can only start to describe it; YouTube videos do it much better. There are three chasers, who score points by passing and throwing a volleyball — or *quaffle* — through the opponent's goals (three hoops propped up with PVC piping). There's a keeper, who serves as the goalie and blocks scoring attempts. There are two beaters, who throw dodgeballs — or *bludgers* — at opponents to briefly knock them out of the who attempts to end the match and score a bounty of points by catching the snitch, a tennis

players must hold a PVC pipe — or broom — between their legs at all times.

"Wait." One of the recruits reaches an epiphany: "Is this, like, the Harry Potter thing?"

Twenty years after the U.S. release of the first Harry Potter

book, quidditch — sans
the wizardry and magic
— is still found on
many college campuses. "We're working
on the flying," says a
deadpan Chris Noble
PhDx'20, president
of Wisconsin
Quidditch.



The human — or *muggle* — version of quidditch was created in 2005 by imaginative students at Middlebury College in Vermont. In those early days, it stayed as true as humanly possible to author J. K. Rowling's once fictional sport, with players using actual brooms and wearing capes. Quidditch has since evolved into an international phenomenon, with several governing bodies, a major league in the United States, and a world cup featuring nearly 30 150 college and community teams nationwide.

Quidditch is a rare coed sport. No more than four of the six active players (or five of the seven, when the seeker enters) can identify as the same gender. While intense and competitive on the pitch, the sport is known for its congenial spirit among players and teams. "There seemed to be so much animosity in some of the [other] sports that I tried to play." Noble says.

vanished after a year or two, but its Facebook page remained. Noble — who began playing quidditch in his native United Kingdom — arrived on campus in 2015. After posting on the Facebook page, he eventually mustered up enough interest to revive the squad. Around 20 players now make up the roster and compete against nearby schools, including Marquette, Loyola, and Columbia College. Last year, the team qualified for the Midwest regional tournament for the first time tournament was held at Breese Stevens Field in Madison.

As practice unfolds, it's easy to tell the veterans from the beginners. Newer players often fall to temptation, channeling their inner Steph Curry and futilely chucking quaffles from 30 feet away. The veteran players strategically and

"[Defenders] don't always necessarily look at [the women], even if they're standing wide open in the backfield," says UW chaser Alison Pujanauski x'20 (pictured). "So it kind of makes you a secret weapon." patiently align, pass, and weave until they're in Giannis Antetokounmpo dunking range. Skilled players can momentarily move with their brooms tightly tucked between their legs, freeing up two hands for catching and throwing.

It's clear that the athletes take this game seriously, even if some passersby don't. During practice, a few students on their way to the dining hall sneak a Snapchat or point and laugh with their friends. The Harry Potter charm comes attached with a nerdy stigma. But the longer you watch quidditch, the more you notice the feats of athleticism and teamwork and less the quirks of its fantasy origin.

Perhaps the best description for quidditch is that it's simply a sport — as real as any other. PRESTON SCHMITT '14 PHOTO BY JEFF MILLER





"It's essentially heresy to walk away from football in America."

BY PRESTON SCHMITT '14

OVER THE SUMMER, CHRIS BORLAND '13 attended the largest athletics fundraiser in Lawrence University's history. He was an odd fit. There among players, coaches, and boosters was the "most dangerous man in football," a nickname the former Badger star earned from ESPN after his unprecedented decision to leave the NFL over the long-term risk of brain trauma.

Borland made the trip to Appleton, Wisconsin, to support his new friend Ann McKee '75, the night's keynote speaker, whose brother was a star quarterback at Lawrence in the '60s. To a stunned and largely unsuspecting audience, the foremost researcher on chronic traumatic encephalopathy (CTE) in football and other contact sports laid out her decade-long body of research on the degenerative brain disease that's linked to minor, repetitive hits to the head.

Audible gasps interrupted the room's silence when McKee projected side-by-side scans of healthy brains and brains riddled with damage. One had belonged to a 17-year-old high school football player who died by suicide and showed signs of CTE. "I'm not sure I'm giving the right speech for this crowd," McKee confessed beforehand. By the time she was done, the night felt less like a celebration of sport and more like a cautioning of it.

As Borland was leaving, an attendee approached

him. She wanted a picture to text to her partner — a huge football fan. "It's ironic to me," Borland says later. "Everyone tells me, 'I loved watching you play at Wisconsin.' And then they will say, 'I really commend your decision [to leave football].'"

WHEN YOU MEET BORLAND, the unassuming history major sticks out more than the football player, with the wisdom and receding hairline of a man well beyond his years. His smile is welcoming; his tone is soft, reserved, and polite. He speaks with equal parts curiosity and conviction. Each word is carefully considered. He's read hundreds of books since he left football. His word choice — from "disequilibrium" to "abyss" in a seamless sentence — bears it out.

Borland was born in Kettering, Ohio, a midsized suburb of Dayton. He was the sixth of seven active kids, with the oldest, a daughter, followed by six sons. They excelled in many sports growing up, except one: football. "I begged my dad to play every fall," says Borland, who watched Wisconsin, Notre Dame, and the Green Bay Packers religiously.

Jeff Borland, who owns an investment advisory firm, played college football briefly at Miami University of Ohio. He was adamant that none of the boys would play organized football until high school. "I can't say my concern was concussions—that would be too easy," Jeff says. "It was more

After a shocking NFL exit, Chris Borland found peace — and meaning through daily meditation. [broadly] head and neck injury based on the lack of form and technique."

Borland fell in love with the game within five minutes of his first freshman practice. He took quickly to running back and receiver. On defense, his coaches designed a play for him — called "Badger" — to roam the field and target any player he saw fit. Once, he jumped and somersaulted over the offensive line, piledriving the running back into the ground in a single motion. It was violent — and it went viral.

THE COLLEGE RECRUITING PROCESS was brief. Borland's dream school was always the UW. His grandfather, Henry Borland '52, was an alumnus, and his father grew up in Madison. Most colleges projected him as a linebacker, even though he had never played the position formally.

Ultimately, when Borland and McKee are asked how to make football safer, their answer is simple: football — at least the sport as we know it today — cannot be safe.

Borland outperformed modest expectations and higher-rated recruits at his first two summer camps. His only preparation had been 20 minutes in a gym with his father, who relayed what he could remember from playing the position decades prior. By the end of a three-day camp at the UW — "When I showed up, they didn't know who I was," he says — head coach Bret Bielema saw enough potential to offer a scholarship. Borland jumped for joy — literally. He did a backflip in the Camp Randall parking lot and accepted the offer within an hour.

Borland went on to become one of the UW's most dependable tacklers of all time. His aggressive, hardnosed style on the field — combined with a school record for volunteer hours off of it — endeared him to fans. "You will be hard pressed to find a more genuine, empathetic human being," said Kayla Gross '15, community relations coordinator for UW athletics, in 2013.

Borland helped lead the UW to three conference championships, earning Big Ten Freshman of the Year in 2009 and Big Ten Defensive Player of the Year in 2013. His 420 career tackles rank sixth in school history.

During the 2014 NFL Draft, Borland's reputation reigned. "He's too short. He's too slow. I don't care — he can play," proclaimed NFL Network draft expert Mike Mayock, describing Borland (endearingly, if later ironically) as a "thundering hardhead." The San Francisco 49ers agreed, selecting him in the third round and signing him to a \$2.9 million contract.

Coach Jim Harbaugh spoke glowingly of his middle linebacker throughout the year, telling reporters, "He's so physical. You can see when he takes on the lead blocker that there is some rattling of fillings." By season's end, Borland led the 49ers' top-five defense in tackles, was named to the All-Rookie Team, and was selected as an alternate for the Pro Bowl. He was just 24.

And then he walked away from it all.

BORLAND BEGAN LOOKING into CTE during training camp of his rookie season. He had never given head injury serious thought until he ran head first into a nearly 300-pound fullback in practice. He almost certainly suffered a concussion, but he didn't report it to the team, fearing that missing time could jeopardize his place on the roster.

Borland felt increasingly isolated in the 49ers' locker room as he read *A League of Denial*. The book revealed the NFL's resistance to acknowledging the link between football and CTE. When teammates and coaches were around, he hid it within another book's cover.

Borland learned to compartmentalize. "I was living a very binary life, out of necessity," he says. During practices, games, and training, his focus was remarkably singular. But in the back of his mind, he was thinking of his long-term brain health. And he was learning that with each collision he was compromising it.

Borland wrote a letter to his parents and handed it to them after a preseason game. It outlined his concerns and suggested that he might not be long for football. (Earlier in the summer, he had jotted down his career goals, including playing for at least 10 years.) They were surprised — and then relieved. Jeff Borland thought back to the UW days. His cousin, cheering emphatically, once remarked that the parents' section at Camp Randall felt oddly quiet and dull. "What you've got to understand," Jeff told her, "is we want them to do real, real well — and we want the team to win. But mostly we want them to be able to walk off the field at the end."

BORLAND STARTED WITH SIMPLE Google searches, then research papers, then books. He learned of the tragedy of "Iron Mike" Webster x'74, a star center for the Badgers who retired in 1990 after a Hall of Fame career with the Pittsburgh Steelers and Kansas City Chiefs. Legendary for his durability and toughness on the field, Webster later experienced chronic pain, dementia, depression, and homelessness. He died in 2002, becoming the first former NFL player diagnosed with CTE.

Borland went straight to the source: researchers. That's how he met McKee, who leads the world's largest brain bank at Boston University. She's analyzed several hundred brains of former football players — far more than anyone else. She told him



the hard truth.

By the end of his rookie season, Borland had seen, read, and heard enough. He was leaving football to preserve his long-term health. He informed the 49ers in March 2015, to the shock of teammates and NFL fans alike.

"It's essentially heresy to walk away from football in America," Borland acknowledges. Extreme fans called him, in the nicest of terms, soft and weak. Wrote one on Twitter: "All due respect to Chris Borland, and head injuries are no joke, but what a p----."

But to others, like David Meggyesy, Borland's decision was a courageous act. Meggyesy would know: 50 years ago, he also walked away from the NFL in his prime. An outspoken civil rights advocate and Vietnam War critic, he was benched for silently protesting during the national anthem. He retired and released *Out of Their League*, a scathing account of racism, sexism, and abuses of power he witnessed in the NFL. After hearing Meggyesy speak at the UW in 2013, Borland picked up a copy of his book and consulted with him during his rookie season.

"When Chris retired, he had a lot of influence because he had such integrity and perspective about what he was saying," says Meggyesy, who later worked for the NFL Players Association. "It was believable for a lot of people. He really loved to play the game. He was a hell of a player."

IF BORLAND HAD ANY lingering doubt, it disappeared in July 2017. McKee and her team at Boston University's CTE Center had finished analyzing the brains of 111 former NFL players, ranging from ages 23 to 89. All but one showed signs of CTE.

The condition's degenerative (and currently untreatable) nature means that the damage doesn't cease even when the collisions do. CTE isn't diagnosable in the living, but the symptoms often arise later in life, sometimes decades after the exposure to contact. The most common symptoms are memory loss, dementia, and behavioral changes such as aggression—similar to the effects of Alzheimer's disease, but with different lesions and indicators in the brain.

The research points to a numbers game. The more blows to the head, the more likely the disease.

"The Grand Canyon wasn't created by lightning strikes — it was just the daily wearing away of the Colorado River," Borland says. "The same is true of linebackers taking 10,000 hits."

TIME named Ann McKee as one of the 100 most influential people in the world in 2018. McKee's work was central to Borland's decision to retire, and "she may have saved my life," he wrote in the magazine.



Notably, these include minor — or subconcussive — impacts. Because players rarely feel or show pain at the time of small, indirect hits, the damage is easy to ignore. But they add up to much more than the occasional big hit. Twenty percent of those with CTE never suffer a diagnosable concussion, according to McKee.

Critics are eager to point out the limitations of McKee's research. Her work relies on donated brains. Families are more likely to donate their loved one's brain if they had noticed signs of cognitive decline, and McKee readily acknowledges this selective sample.

But she returns to the numbers game. Some 1,300 former NFL players died over the eight-year span of her study. She has proof that 110 had CTE. Even in the unlikeliest event that not a single one of the other 1,190 former players developed CTE, the prevalence of the disease would still be close to 10 percent of all players. "That's a public health problem," she says.

When discussing her research, McKee oscillates between a rigorous scientist consumed with the hard data and a concerned citizen visibly affected by the human toll of CTE. To avoid preconceived notions, she analyzes each brain without knowledge of whom it belonged to. Afterward, for statistical comparison, she sets out to learn as much as she can. For hours on end, she listens as family members' memories

and stories turn to grief and anger. When McKee presents her research, she feels compelled to show more than the subjects' shocking brain scans — she shows their smiling faces, too.

McKee, like Borland, no longer watches football. A lifelong Packers fan, her breaking point was Donnovan Hill in 2016. At age 13, he broke his neck and was paralyzed from a head-first collision while playing youth football. At age 18, he died from complications stemming from his injury. "That hit didn't just cause paralysis," McKee says. "He had tremendous brain damage."

The current strategies to make football safer — better helmets, lower tackling, improved concussion protocols — might reduce some harm. But these ideas are rooted in a misguided focus, perpetuated at the very top of athletics, McKee says.

"The NFL has decided that this is a *concussion* issue, which it is not," she continues. "It's about the subconcussive, repetitive hits that happen with every collision." Framing the issue around concussions, which can be managed and treated without fundamentally altering the sport, is a strategic choice.

According to McKee, the way to reduce the risk of CTE is to reduce collisions. In football, that's no easy task. Collision is intrinsic; linemen surge together and crash helmets nearly every play. Fewer collisions translates to fewer practices, fewer plays, fewer games.

Ultimately, when Borland and McKee are asked how to make football safer, their answer is simple: football — at least the sport as we know it today — cannot be safe.

BORLAND INSISTS THAT he's not anti-football. He's pro-information. He wants players — many of whom remain "willfully ignorant," he says — to learn the risks and to make informed decisions.

"I don't [subscribe] to the notion that football is inherently evil or that there's this impending doom and the game needs to go away," Borland says. His primary concern is youth football, which often has the least regulated contact rules of all levels.

Earlier this year, he testified in support of the Dave Duerson Act, a proposal to ban tackle football for children under the age of 12 in Illinois. Those who started playing contact football before age 12 began to show signs of CTE an average of 13 years earlier compared to those who started playing later in life, according to McKee's research.

Borland also volunteers for nonprofits dedicated to brain injuries in sports, including the Concussion Legacy Foundation and the After the Impact Fund. He travels and speaks frequently at conferences, and occasionally chats with players (including former UW receiver Jared Abbrederis '13, who retired from the NFL in January) about his decision to leave football. Only a handful of NFL players have followed in Borland's footsteps. That likely won't change until

CTE is more visible and can be traced in the living — which could be as soon as five years from now, McKee estimates.

The advocacy does not come naturally for Borland, who notes that the sport has afforded him lifelong memories and friendships. "I think the advocate struggles with [the question], 'How much do I owe?' "Jeff Borland says. "As a parent, I would say I'm not sure he owes any more than he's already done."

While occasionally tempted, Chris Borland believes scaling back now would be a betrayal. "I've had wives of players tell me, 'I wish he was dead, because he's not the man I married, and I've just become a full-time caregiver for the last two decades.' I can't imagine saying no to someone who asks for something from that world," he says.

IN ADDITION TO THE TRUTH, Borland is searching for peace. The conversation surrounding safety in football provides anything but that. "The irony that I quit not to deal with this and [now], at least intellectually, deal with it every day isn't lost on me," says Borland. "And it's tiring."

Perhaps unintentionally, his favorite activities since leaving football share a common thread of escape: both physical, with traveling, surfing, hiking; and mental, with yoga and meditation.

Borland's foray into mindfulness and meditative practice began when his brother-in-law gave him a copy of *Zen Mind*, *Beginner's Mind*, which prompted him to meditate "pretty clumsily." Soon after, a mutual friend connected him with Richard Davidson, founder of the UW's Center for Healthy Minds and a leading researcher on how meditative practices can affect emotional health and the brain.

Borland was immediately struck by Davidson's candor and scientific rigor (something he particularly appreciated after being approached for endorsements of "concussion-curing" pills and other pseudo-therapies). For years, Borland had learned to train his physical body to prepare for the next play, but never his mind to prepare for what's next in life.

The difficulty of transitioning from the intensity of professional sports to the slog of everyday life is well documented. Similar to military veterans, retired athletes can struggle with the sudden loss of structure, camaraderie, serviceable skills, and even a sense of identity. Daily meditation has helped him to work through personal anxiety and depression, and more simply, to relax and clear his mind. He thought it could help others, too.

Last spring, Borland and Chad McGehee, an instructor for the Center for Healthy Minds, collaborated on a first-of-its-kind meditative program for former NFL players. Seventeen participants met in Madison over a span of two months. McGehee taught them a new meditative practice each week and

A REALITY CHECK

Once every couple of weeks, Ann McKee will hear from a former NFL player who wants to know more about her research and his reality. One of them is Don Davey '90, a former UW defensive lineman (and the only four-time Academic All-American in NCAA history) who played 10 years in the NFL. While he hasn't experienced any signs of CTE, he acknowledges the possibility. Davey, 50, has adopted an active lifestyle — competing regularly in Ironman triathlons — in hopes of promoting long-term brain health. He stopped by McKee's brain bank last spring during a college visit with his daughter, who aspires to be a doctor. "I was in the lab with about 500 brains from guys who I played with and played against," Davey says. "It was a very moving experience for me. I couldn't help but have the thought of someday my daughter looking at my own brain and trying to find a cause or a treatment or a cure for this disease."

assigned a training plan for home. Although some of the former players were initially skeptical — particularly when they were handed a recruiting brochure titled "Love and Compassion Cultivation," Borland says, laughing — many of them later reported that the practices helped them to sleep better and to manage stress and physical pain.

"One guy talked about how he trained as a football player at 1,000 miles an hour, maximum effort, all the time," McGehee says. "But that same tenacity at all times didn't serve him well [after] football. The way he put it is that [mindfulness] felt like a way of deprogramming some of those [tendencies], to become aware that they were there."

Encouraged by the success of the pilot, Borland continues to collaborate with the UW's center and also works with the Search Inside Yourself Leadership Institute, which teaches a mindfulness curriculum originally developed at Google. He's facilitated meditative programs for teams at the UW, Michigan, and West Point, aiming to help active athletes cope with pressures on and off the playing field

"The mindfulness [work] has been such a release valve for me," says Borland, who now lives in Los Angeles. "It's such a pivot to positivity and to optimism."

When he meets former players, Borland pays special attention to how they introduce themselves. Some who have been retired from the NFL for as long as four decades will start with their name immediately followed by their past team or position.

"There's a cliché that athletes live two lives: athlete and former athlete," he says. "I don't think it has to ring true. But it takes work to create a new identity."

Preston Schmitt '14 is a staff writer for On Wisconsin.

99% Former NFL players with CTE (2017 BU study)

Former college football players with CTE (2017 BU study)

Former high school football players with CTE (2017 BU study)



Marie Moody '90 started a national brand of pet food that mimics what dogs and cats would eat in the wild.

BY KATE KAIL DIXON '01, MA'07



After college, Marie Moody '90 moved to New York City, studied acting, got fired from waitressing jobs, worked in fashion marketing, and adopted two dogs: first Stella, then Chewy.

Chewy's health was failing, and Moody learned that changing his diet had the potential to help. She began preparing her pups meals of raw meats, fruits, and vegetables: a fresh, unprocessed menu intended to be closer to the animals' ancestral fare. The raw-food diet helped Chewy fully recover — and fired up Moody's entrepreneurial spirit. She filled her tiny Manhattan apartment with industrial freezers, made her own raw-food blends, and took taxis to personally deliver her small-batch product to customers.

Fifteen years later, Stella & Chewy's is a multimillion-dollar, national pet-food brand, headquartered in Oak Creek, Wisconsin. Moody has stepped away from her role as chief executive; she now serves as founder and chairman of the board.

What keeps you most engaged with Stella & Chewy's?

Getting people on board who are much smarter than me has been so much fun. To build a brand is like pushing a boulder uphill, so the more people doing it, the better it is.

How have the preferences of pet owners changed over time?

People are able to access so much information, and I think that helps [them] make more educated and intelligent decisions about what they want to feed both themselves and their pets. Pets are our family members, and the kind of unconditional love they give has become really important. With the evolution of the internet and social media, there's something in between us and other people oftentimes. With your pets, you communicate in person.

You were one of the first entrepreneurs to bring raw pet food to market.

When I started, raw was a bad word. People were like, "Oh, you can't call it raw. Can you call it gently uncooked?" When people hear raw meat, they still need to sometimes be talked through it, because they might think there could be a food-safety concern. But openness to raw feeding has come a long way.

Is it true that you collaborated with UW scientists on food safety?

I could not have done it without people at the UW. It's funny, because I was an English major and a women's studies major, and I came back and worked with

an animal nutritionist and a meat scientist. I didn't even know there was a building for meat science [on campus].

You know more about pathogens than the average person.

I know all about bacteria. More than I want to.

When you worked with UW scientists, was there a breakthrough moment?

They were able to point me to a technology called HPP [high pressure processing, a food-preservation method that retains nutrition and eliminates harmful bacteria]. There was one place to have it done [on a fee-for-service basis] in the United States 10 years ago, and it was in Milwaukee. It was pretty serendipitous.

How did your women's studies major influence the Stella & Chewy's brand?

I was coming out of the fashion industry, so I was looking at things like how to name it something besides "Natural Champion," you know, like a really boring name. Because raw diets were already a brand-new way of thinking, I wanted something that was a little more approachable and friendly. Women's studies really forced me to question the existing corporate hierarchy. For example, when I wanted to build a manufacturing plant, it never occurred to me that I couldn't. And that's thanks to the women who came before us. So I do feel a sense of responsibility to pass that on and to help women coming up now. That gives me great joy.

Has your advice changed for those who want to step forward in business as you did 15 years ago?

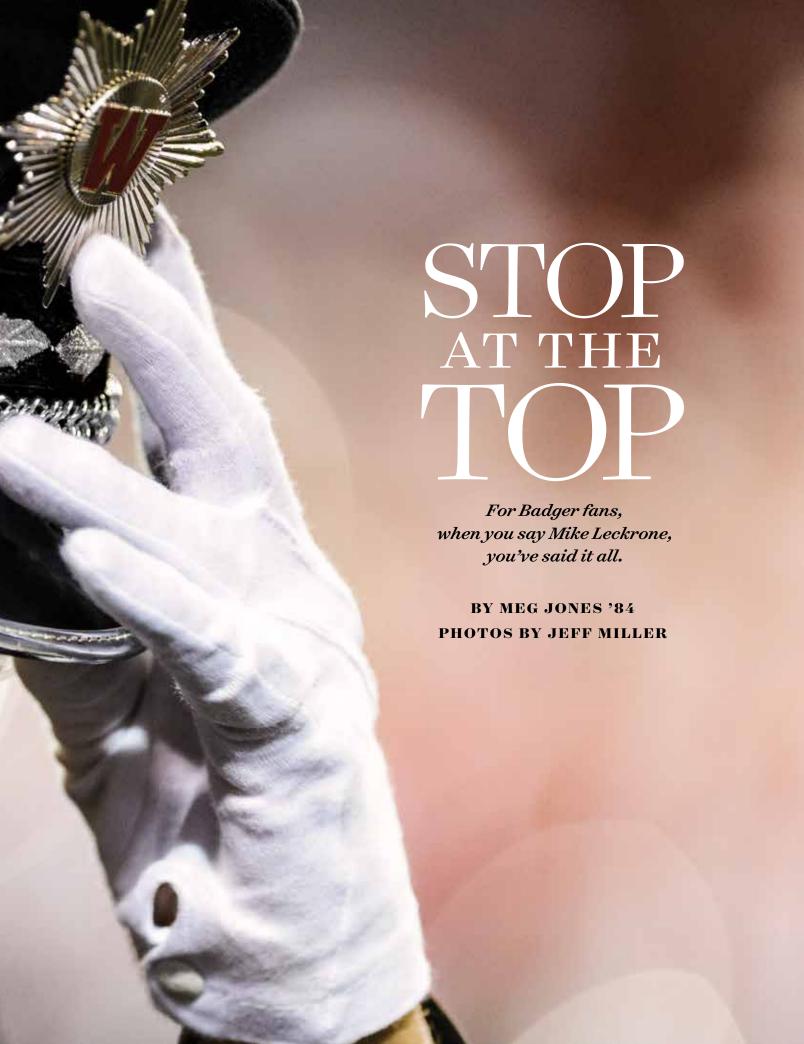
It's fun to be at this point in my life and to have anything to offer the next generation in terms of advice. People complain about millennials, but I love millennials. I love the way they're going about building businesses that are more concerned about the environment and sustainability and giving back.

How many pets do you have at home?

One cat, one dog, one kid. We were getting hate mail at Stella & Chewy's that we weren't focused enough on cats. My son and I were at a rescue event, and I told him he could pick one out. I just wanted to understand. You know how cats are.

Interview conducted, edited, and condensed by Kate Kail Dixon '01, MA'07





s he had done at the end of countless UW Marching Band practices, director Mike Leckrone stood on top of a ladder on a hot, sunny August afternoon. The band's veterans, along with rookies who had just won a coveted spot, crowded around to listen.

It had been a year since Leckrone had lost his wife of 62 years, Phyllis. Seven months before that, he had undergone heart surgery. Today, he would tell the band of the decision he had shared with only a few senior university officials: he was ending his remarkable half-century reign. He would lead them through one more football season, followed by hockey and basketball and the spring concert.

In this moment, Leckrone told his musicians what he expected of them.

"You must maintain the traditions, the intensity, the desire, and everything that everybody for the last 50 years has brought to this group," he said. "I would be sorely disappointed if I see that doesn't happen, because it's in your hands to do that."

Later that day as the news quickly spread, alumni band members began posting decades-old photos of themselves in their band uniforms on Facebook with the hashtag #IMarchedforMike. In September, the annual alumni band day — when former members march during the football pregame and halftime shows — drew record numbers. So many people wanted to play under Leckrone's direction for one last time that organizers had difficulty creating a routine that would fit more than 500 people on the field, all wearing red T-shirts emblazoned with his name.

"Any one of us whose paths have crossed Mike's feel that ... he deeply touched us and continues to do so," Sarah Halstead '87, a cymbal player who spent four years in the band, said shortly before the alumni band took the field. "We're here to honor him and, in some way, say, 'Thank you.' We've heard so many times from him — 'Just one more time.' And this really is the last time."

t may seem strange to think now, but Leckrone could have spent decades performing the University of Minnesota fight song.

Every Badger fan who has attended a home basketball, football, or hockey game since 1969 knows the man wielding the baton — a beloved, charismatic musical leader who exhorts crowds to shout, "When you say Wis-con-sin, you've said it all!" So it's hard to picture Leckrone leading a stadium full of Gopher fans through their signature chant of "M-I-N-E-S-O-T-A."

But in 1968, seeking a step up from his job as marching band director at Butler University, Leckrone looked to the Big Ten and applied for openings at Minnesota and Wisconsin. Both schools turned him down.

A year later, the UW called and asked if he was



Leckrone (previous pages) on August 31, the first game of his final football season. still interested. Leckrone said yes, even though it did not have the makings of a dream gig. At that point, the band had cycled through three different directors in as many years. And in the last 20 games, the football team had logged 19 losses and one tie (see page 13). The band's ranks had dwindled — from around 130 participants to just 96 — and they frequently played to partially empty stands. It was also the height of the antiwar protest era on campus.

"It wasn't really politically correct to put on a uniform and march around campus in those days," says Leckrone, 82, an Indiana native and the son of a marching band director.

Unimpressed with the band's lack of energy, Leckrone changed its marching style. He made the switch to a high step, which requires a musician's knee to hesitate while lifted at 90 degrees, which he calls "stop at the top." Leckrone stressed pride in the band and worked on small details like the snap of the "horns up" movement. Gradually, more students joined and, by his third year, the band began to transform into a cohesive unit.

Initially there was some resistance, recalls Ray Luick '73, the band's drum major when Leckrone took over. Luick played tuba his freshman year in 1968 before serving as drum major for the next three seasons.

"He had such a clear idea of what he wanted to do and we didn't have a clue. Here's a guy whose lifelong ambition was to be a Big Ten band director, and we were just part of the group he inherited," says Luick,



who returns each year with his drum major baton to lead the alumni band.

Fifty years after watching Leckrone take over the band, Luick is not surprised to see the director in charge this long.

"He has never lost the enthusiasm or the realization that this is just a lot of fun for a lot of people," Luick says. "I think that recognition of how all these insane pieces fit together is very important to him and allowed him not to see this as 50 years of work but a continuation of something he enjoys doing."

When he was hired, Leckrone figured he would transition to an administrative role in the School of Music within 10 years. But he enjoyed the marching band so much that, within a few years, he put aside thoughts of taking off the black uniform he wore for football games.

He says he's lucky Minnesota turned him down. With a smile, Leckrone explains that Wisconsin has a much better fight song.

"Part of that is the cleverness [songwriter William] Purdy used in the song. That first four-note interchange — da, da, da, dum — you can turn it into all sorts of musical ideas. It doesn't sound forced. It has a flow to it," he says.

It has been decades since Leckrone struggled to find enough players to fill the band's ranks. About 300 students make up the current band; 230 march at halftime. Others, usually freshmen, serve as alternates ready to step in for an injured player.

When you say Wisconsin ...

The UW band first played its rendition of one of its signature songs more than four decades ago, when rowdy Badger hockey fans wanted to hear a polka.

Leckrone instructed the band to play the Budweiser jingle, but switch up the drum beat to make it sound more like a polka. At the next hockey game, fans chanted, "We want a polka!" The band responded by playing "You've Said It All," also known as "The Bud Song." Soon, Wisconsin replaced Budweiser in the lyrics, a substitution Leckrone suggested for fear "the crowd would get the wrong idea of the drinking habits of the band or the audience."

Fans demanded the song throughout the season as the men's hockey team played its way to the 1973 NCAA championship. Gradually the band began playing it at other events, including football games. But worried fans, who did not like the way people jumping and dancing to the song made Camp Randall's upper deck sway, complained to Athletic Director Elroy Hirsch x'45, who asked Leckrone to stop playing it.

Leckrone had another idea.

"Wouldn't it be fun if you make a production of it, and announce the band will not play the song right after the game, but give five minutes for those of you who are faint of heart [to leave the upper deck]," Leckrone says. "Elroy thought it was fun. So we did it, and it just blossomed from there."

And so, "You've Said It All" became the cornerstone of the Fifth Quarter.



To his musicians, Leckrone is more than a band director — he's a mentor and coach who instills the necessity of hard work and having fun. And as the fortunes of Badger sports teams have soared and sunk over the years, there's always been one constant: the appeal of the band.

"Mike is without question one of the most beloved figures in the history of UW-Madison. He has made a significant impact on campus, in Madison, throughout the state, and beyond," says UW Athletic Director Barry Alvarez. "When we speak with officials from bowl games each year, I tell them that Wisconsin will bring the whole package — team, fans, and band. Mike's leadership of the band has certainly been an important part of that package for our school for many, many years."

Although it might look seamless to fans at Camp Randall, each band performance at home games represents much thought, planning, and practice. Leckrone is one of the few — if not the only — college marching band director to continue to arrange all the band's music as well as write charts for the pregame and halftime shows.

In addition to leading the marching and pep bands at sports events, Leckrone also teaches classes and conducts the symphonic band. A fan of big band music, his jazz and pop music courses are popular because of his encyclopedic knowledge and his infectious excitement for the tunes of Duke Ellington, Count Basie, Benny Goodman, and other early jazz legends. During a lecture on his favorite jazz artist — trumpeter Bix Beiderbecke — Leckrone has been known to dramatically rip open his overshirt to reveal a "Bix Lives!" T-shirt.

"It's pretty amazing to keep up with his schedule. He's a very energetic guy. I hope I have at least a quarter of his energy when I'm his age," says assistant director of bands Darin Olson, who's some 50 years Leckrone's junior.

Leckrone knows the students who crowded around his ladder in August are the last group of young adults he'll lead at the UW. They are the ones who will play his last football games at Camp Randall. They will tell the musicians who join the band next year and the year after that, what it was like to play for a legend.

He reminded them to keep up the intensity — but, most of all, to have fun.

"You have provided me with so many moments of happiness," an emotional Leckrone said during his August address. "I can't even begin to thank you. I will tell you those moments of happiness have gotten me through difficult times. I hope they can do that for you. Live for those moments of happiness."

Then Leckrone climbed down and sang "Varsity" with his band. •

Meg Jones '84 is a reporter for the Milwaukee Journal Sentinel who played drums in the band for four years.







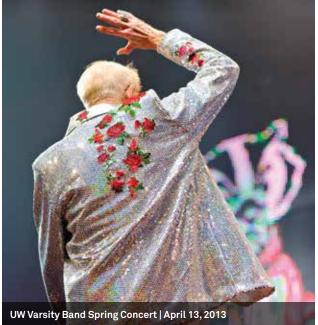














STEM CELLS at 20

BY TERRY DEVITT '78, MA'85

In the lab dish, a human embryonic stem cell can live forever. If the conditions are right, the cell will divide endlessly, providing a limitless supply of the blank-slate cells now used widely in biomedical science.

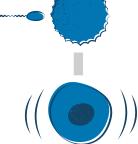
Immortality is an astonishing quality, certainly, but the feature of stem cells that has most captured the public's imagination since they were first cultured at UW-Madison 20 years ago is the ability to manipulate them to become any of the myriad cells in the human body. The idea that specialized cells could be whipped up in large quantities to treat any number of afflictions — from dopaminergic cells for Parkinson's to islet cells for diabetes — is a powerful one.

"For the first time, we had unlimited access to all of the basic cellular building blocks of the human body," says James Thomson, the UW developmental biologist who first derived the original cells in 1998. "And if you make an embryonic stem cell line, that's infinite. You can make as many cells as you want."

But two decades on, stem cells have yet to live up to that grand clinical aspiration. Embryonic and now genetically induced stem cells from adult tissue have become lab workhorses and underpin the new field of stem cell and regenerative medicine. Worldwide, there is a score of clinical trials using stem cells, including trials for heart disease, the blinding disease macular degeneration, and spinal cord injury. And some of those trials are using the original cells Thomson made.

"I think where things are right now is pretty promising," Thomson says. "There are a number of trials underway. Most will fail because clinical trials are hard, but some will succeed. The whole field just needs one to work."

STEM CELLS 101



Sperm fertilizes an egg.

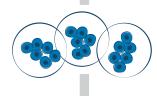




Within five to seven days, the fertilized egg has divided into 100 cells (a blastocyst), containing cells that would form an embryo. The UW's James Thomson used blastocysts produced through in vitro fertilization (IVF) and donated for research purposes.



Those cells are placed in a culture dish, where they continue to divide, becoming what's known as a stem cell line.



The dividing cluster of cells is removed and separated into new culture dishes before it can become different types of cells. There, the cells continue to divide and remain stem cells.



Researchers use biological and chemical signals to coax stem cells — the Swiss Army knife of cells — into becoming various kinds of cells.

Stem cells provide a limitless source of cells that scienists hope will one day be used for therapy to treat conditions including heart disease, diabetes, Parkinson's disease, spinal cord injury, and macular degeneration.

The number of original stem cell lines



5,200

The number of times the original five stem cell lines have been distributed around the world to:

2,350 investigators | 820 institutions | 45 countries

\$1.43 billion

U.S. funding for stem cell research (1998-2017)



1.300

U.S. scientists work with any of the original UW-MADISON IMPACT

stem cell-related patents have been issued to the Wisconsin Alumni Research Foundation (May 2018)

people — faculty, staff, and students — work with stem cells on the UW campus

Grants supporting stem cell projects at the UW (fiscal year 2017)

Wisconsin companies are devising stem cell-based products, mostly used to test drugs in lieu of using research animals

THEN AND NOW

The UW's Thomson had high hopes for the technology in 1998. Today, he remains convinced that the legacy of stem cells will not necessarily be as therapy for replacing diseased or damaged cells, but

1998: STEM CELL PREDICTIONS

- Revolutionize basic research and understanding of human and animal development
- Use to screen drugs before using in humans
- Develop treatments including tranplants and replacement of diseased cells and neurons — within 10 years

in basic understanding of human development and — using engineered stem cells from patients — the cause of cell-based diseases, including diabetes, Parkinson's, and ALS.

2018: STEM CELL REALITY

- Use to study basic development and to model diseases in the laboratory
- Test the good and bad effects of potential new drugs on human cells, rather than in animal models
- The first clinical trials for treating condtions like spinal cord injury, eye disease, heart disease, and Parkinson's are underway; therapeutic applications of stem cells have not yet been realized



"It all started with Jamie Thomson's discoveries. There's been a domino effect."

Bill Murphy, a professor of biomedical engineering and the former co-director of the UW Stem Cell and Regenerative Medicine Center.

Learn more: news.wisc.edu/stem-cells





The Hunt for Answers

Are there too many deer?
A UW scientist says reducing the herd will help our forests.

BY JASON STEIN MA'03 PHOTOS BY JEFF MILLER

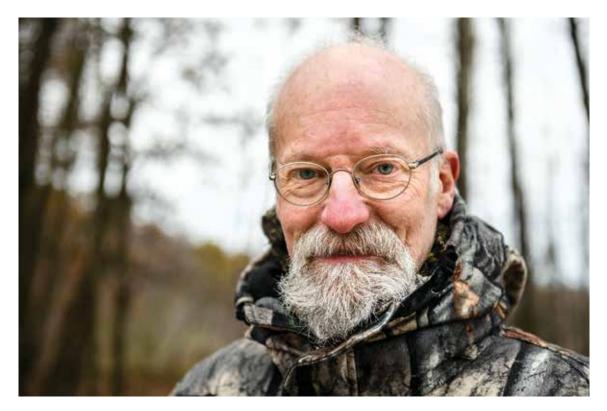
Don Waller first saw them near sundown: a wall of whitetail deer, coming doe after doe through an abandoned apple orchard about 15 miles west of campus. In many ways, Waller was well acquainted with these animals, having tracked their numbers and effect on the state for decades. In other ways, it was an introduction. He had never been so close to a deer — let alone a dozen — before he clambered into a tree stand in October 2011.

Waller had long documented how deer are eating trilliums and other wildflowers close to extinction and devastating white cedar, hemlock, and oak saplings across much of Wisconsin. His research has helped to show that the huge number of deer in recent decades is throwing the natural world off balance. But in spite of all that, Waller was still not expecting to see so many deer so quickly.

Up the trunk of an ash tree, the then 58-year-old scientist seemed about to succeed on the first hunt of his life. Following in the footsteps of Aldo Leopold — a UW professor and hunter who had also warned about deer impacts — Waller had for years been urging state officials to let hunters harvest more deer to blunt the animals' effects. For Waller there was a powerful logic to what he did next: he drew his bow.



Waller (pictured throughout), a UW professor of botany and environmental studies, took up hunting, in part, to help him understand hunters better.



he image of an archer aiming at a clearing full of deer might seem more a part of Wisconsin's past than its present. But there's never been a better time to be a deer hunter in this state — and many other parts of the nation — than the past several decades. Wildlife experts think that, in recent years, the country's whitetail herd has been as large or even larger than the one that existed before white settlers arrived two centuries ago. The landscape of Wisconsin has been upended since then. In northern Wisconsin and Michigan's Upper Peninsula, where Waller has focused much of his research, old-growth forests have given way to young forests, edge habitat, and farm fields that are far more favorable to whitetails.

Deer rely on the forest's understory and the plants that they can reach to survive. But towering trees block the sunlight and limit growth on the ground. Logging, fires, and anything else that clear the way for sunlight and undergrowth in a forest provide more food for whitetails. Add farm fields and row crops, and suddenly deer have enough food to reach densities that Wisconsin's native peoples might not have imagined.

Scientists estimate that when white people first arrived in Wisconsin, the northern forests of the state held four to eight deer per square mile. As a result of human intervention, there are now roughly 15 to 30 deer per square mile in parts of northern Wisconsin, and double that in some middle and southern counties. The same challenge extends to many other parts of the country.

In Virginia, state wildlife officials estimate that deer densities in Fairfax County parks — not far from Washington, DC — have reached more than 100 animals per square mile. Scientists in New York and Pennsylvania have turned up ecological impacts from whitetails as well, prompting groups such as the Nature Conservancy to argue that high deer numbers may pose a greater threat to forests in the eastern United States than climate change. As adults, each of Wisconsin's 1.3 million deer will eat more than 2,000 pounds of food a year. Profound ecological damage can result, as Waller saw firsthand on a 1987 trip to northern Wisconsin.

One of his research collaborators, William Alverson '78, PhD'86 had convinced Waller to drive up that summer from Madison to Foulds Creek State Natural Area near Park Falls. The two were looking for a small, fenced-off section of woods. They wanted to examine the plants inside the roughly 20-year-old "exclosure" — so named because it excludes deer. Waller thought the fence would be difficult to find in the forest — it was anything but. Hiking in, the two men saw their destination from far away.

"You can't really see the fence from a distance. You just see the green," Alverson says.

Within the fence, whitetail favorites such as hemlock and northern red oak thrived. Outside the wire, those plants were absent or stunted — a stunning difference. At the time, wildlife managers still sometimes argued that deer had no environmental impacts. Waller could see at a glance that wasn't true.

"It converted me instantly into a believer," he says. "It made me realize, 'Wow, we need to pay more attention to this.' ... I had assumed up until then that the experts knew what they were doing."

David Clausen reached a similar, but much more costly, conclusion of his own about damage from deer. A retired veterinarian familiar with Waller's

work, Clausen once served as chair of the Wisconsin Department of Natural Resources (DNR) Board, which helps oversee wildlife and environmental policy in the state. Twenty-five years ago, Clausen planted roughly 50,000 oaks on land he owns in the northwest part of the state. Today only a handful of those trees remain — deer helped kill the rest. Most of the surviving oaks are less than three feet tall and have the strange, undersized appearance of a bonsai tree.

"I became aware of just how much having that excess of deer on the land had cost me," Clausen says.

To restore his land, Clausen would like to remove invasive species such as buckthorn — a small tree that deer won't eat — and plant other, native species like aspen. But he sees little point to doing that if deer are going to kill the plantings. Many oaks still tower over Clausen's land, dropping acorn crops each fall that nourish deer, squirrels, and turkeys. But as the trees succumb to wind and old age, he worries about whether they'll be replaced.

"You can't have a sustainable forest if you can't get regeneration," he says.

Leopold made a similar observation in the years just after World War II in his landmark work, A Sand County Almanac. In the essay "Thinking Like a Mountain," Leopold describes how the land had suffered after he and other wildlife managers had exterminated wolves in western states. In the Midwest, deer numbers had yet to rebound fully, and few were imagining any potential fallout from them. But before moving to Wisconsin and writing that essay, Leopold lived and worked in the American Southwest, where he saw how the loss of wolves contributed to an overabundance of deer that damaged the landscape.

"I have seen every edible bush and seedling browsed, first to anaemic desuetude, and then to death. I have seen every edible tree defoliated to the height of a saddlehorn," he wrote.

Decades later, Waller and his colleagues found those impacts and more: a cascade of effects on plants, other animals, and even the soil itself. The scientists built their own exclosures and also did surveys to compare current plant populations in parts of Wisconsin to those documented in the 1950s by UW professor John Curtis and his students. They found a startling result: deer accounted for at least 25 percent of the changes they observed in plant composition over the past half century. Whitetails didn't just stress some native plants and make room for invasive species — they shifted the makeup of whole plant communities toward species with unpalatable or tougher leaves. Deer also compacted the soil, altering the composition of its upper layer. By changing the plants in the understory, deer also affected the other animals and birds that rely on them.

In addition, big numbers of deer can lead to more

auto accidents, more of the ticks that carry Lyme disease, and a faster spread of threats such as chronic wasting disease (CWD), which attacks the nervous system of deer and causes them to lose weight and eventually die. The misshapen protein that causes CWD hasn't been shown to affect humans, but concerns over it are leading some hunters to avoid certain areas or give up the sport entirely. That in turn could make it harder for the remaining hunters — already an aging and dwindling group — to keep the herd in check. Nationally, the number of hunt-

"I had assumed up until then that the experts knew what they were doing."

ers dropped 16 percent from 2011 to 2016, according to a national survey released by the U.S. Fish and Wildlife Service and the U.S. Census Bureau. The level of hunting in 2016 was the lowest measured in the past 25 years.

There are other obstacles to preventing deer impacts. In deciding how many whitetails are too many, the DNR has traditionally looked at the populations in large geographic areas. But deer numbers and impacts on local plant communities can vary widely across these big zones, and the measurements aren't necessarily meaningful at the local level, says Alison Paulson PhD'18, who worked with Waller as a graduate student.

Paulson and Waller's other collaborators, including Sarah Johnson PhD'11, a Northland College professor, want scientists and wildlife managers to pay more attention to these differences and are investigating methods for easily monitoring deer impacts. They're working in iconic places such as the Apostle Islands in Lake Superior and Leopold's land near Baraboo, which was featured in *A Sand County Almanac* and is now held by his family foundation.

Not everyone is listening to Waller's warnings. He found that out in the early 1990s, when he tried to convince DNR officials to reduce the deer population over the objections of hunters.

"I was told point blank that it was politically unfeasible," Waller says.

George Meyer, the DNR secretary from 1993 to 2001, says that sounds plausible, though he doesn't recall ever speaking with Waller about it. Meyer, now the executive director of the Wisconsin Wildlife Federation, a conservation group of hunters and anglers, says many deer hunters loved the large herd sizes of that era and opposed lowering them.

"If you had talked to a wildlife manager back then, I'm sure you would've heard that kind of statement," Meyer says.

In states including Pennsylvania, Michigan, and Indiana, it's common to see state wildlife agencies come under fire from hunters if the deer population dips below record levels. In his time on the DNR board, Clausen also saw how hard it can be to convince others to thin the herd. "A lot of people don't understand what the deer herd is doing and, frankly, a lot of them don't care," he says.

Clausen has been hunting deer for nearly 60 years — he took his first buck while Dwight Eisenhower was president and deer were less plentiful. He thinks that hunters who came of age in recent decades have grown accustomed to easier hunts.

"It's a matter of perception," he says.

Waller and his research team haven't been content to document the loss of biodiversity — they've tried to stem it. Waller and other researchers sued the U.S. Forest Service in 1990, seeking to force it to set aside large swaths of mature forest without the kind of cutting that ends up providing food for deer and boosting their numbers.

"If you want to hang onto things that love old-growth forest, you have to think about that," Alverson says.

Though the lawsuit failed, Alverson believes it helped change the thinking of many land managers. In recent years, Waller's been looking for other ways to shift people's thinking about what it means to have healthy forests and a healthy herd. He decided to become a hunter, for instance, in part to understand hunters better. To do that, he says he had to overcome some of his own preconceptions.

"I sort of assumed people were into [hunting] for the bloodsport aspect of it," says Waller, who began to discover other reasons why people hunt, such as access to lean, organic meat.

He also got pointers on pursuing deer with a gun from Tim Van Deelen, a UW professor of forest and wildlife ecology and former DNR manager who read Waller's work as a graduate student and found himself fascinated by its insights. The two men have since collaborated on research.

"Having been a deer specialist my whole career, [Waller] is one of the important voices out there," Van Deelen says.

For his part, Waller's several years of hunting have given him an appreciation for its challenges. He has helped to field-dress a deer but has not yet taken one himself. One of his closest moments to success remains that first hunt. The problem that day was, ironically, that there were too many deer. With all those does and yearlings below his tree stand, Waller couldn't draw his bow — too many eyes were watching. After a long wait with no opportunity, he finally felt compelled to pull back his bow. As he did, the deer below caught the movement and scattered like marbles struck by a taw. Waller never had time to shoot. •

When Jason Stein MA'03 isn't writing, he likes to hunt deer and share the meat with family and friends.





A SEARCH FOR SIMPLE LIFE

Driven by a desire to get a real job, Adam Steltzner became a leader in NASA's search for life on Mars.

BY JOHN ALLEN

When he was deciding on a profession, Adam Steltzner PhD'99 just wanted to live a simple life: be a bit mundane, do the nine-to-five, collect a paycheck, maybe wear a tie. That's why, though he discovered in his 20s a talent for physics, he passed up pure science for engineering.

"Engineering is physics that you do," he says. "There are many physicists driving cabs, driving Ubers. But there aren't as many engineers driving, because engineers get jobs."

That desire for a regular job has led Steltzner to NASA, where he's a leader in the effort to seek out simple life-forms on other planets. As the top engineer on the Mars 2020 project, he's preparing to send into space the first project that will not only explore the red planet, but if all goes right, will pick up samples, ship them back home, and put them in the hands of Earthlings for thorough analysis.

"We know that Mars was habitable," Steltzner says. "Back in the epoch when microbial life was starting to bloom here on Earth, the conditions were ripe to support life on Mars. And so the holy grail

would be to find that, in fact, ancient Mars had supported microbial life — to find evidence of that in the rock record, to find microfossils and show them to the world."

It may sound odd to characterize a career spent designing rocket ships as mundane work, but you have to understand context: growing up, Steltzner had very few role models for what a day job should look like.

"My father didn't work much," he says.
"There was some inheritance that allowed him to coast along for a bit. My parents read, and they traveled, but they didn't build anything."

Steltzner calls his parents artists, though they didn't use the word to describe themselves. He also calls them dilettantes, people who were creative but who didn't put serious effort into their endeavors. They never pushed him to see the practicalities of life. NASA was certainly never an ambition.

"I remember distinctly Neil Armstrong [walking on the moon] when I was six years old," he says.



"That was a big deal in my family — it was a big deal in everybody's family. But I never had the picture of myself as academically inclined or a math and physics person."

Steltzner grew up in the San Francisco area, where he got involved in the new-wave music scene. His first attempt at higher education was at Boston's Berklee College of Music, where he studied jazz but dropped out. He returned to California, played in bands, and scraped out a living working at an organic market: he coasted.

Then, while watching the progress of the constellation Orion across the sky one night, he discovered that he was actually interested in science. He soon enrolled in his local community college, the College of Marin.

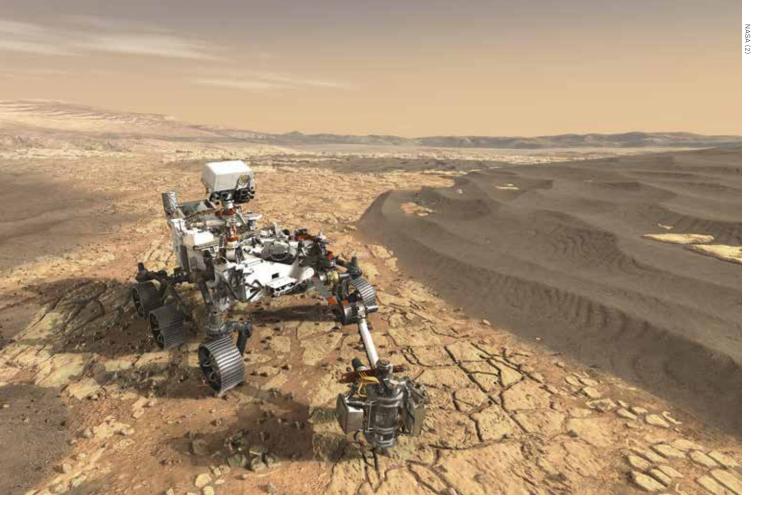
"I took an astronomy course to find out why the stars were moving," he says. "And of course they weren't; the earth was spinning on its axis. But I hadn't learned this in high school. And I fell in love with this idea that the universe was governed by just a few laws. There's like six, eight laws, like eight *ideas*. You can exploit these very basic, fundamental truths of the universe and develop about a dozen equations or governing laws that describe all of the behavior of the world around us. That is amazing."

From physics at the College of Marin, he went on to study engineering at the University of California– Davis and then applied mechanics at Cal Tech. Engineering gave him things that his parents never did: purpose, focus, and attention to persnickety detail. It gave him the pleasures of tedium.

Still, academia's demands were high, and a year into his doctoral program at Cal Tech, Steltzner found himself burning out. Shortly after completing his master's, he quit and took a job at NASA's Jet Propulsion Laboratory (JPL), where he could work in the kind of physics that didn't kill people. "This was the late 1980s, early 1990s, the Reagan Star Wars epoch," he says. "I didn't want to make weapons, and Jet Propulsion doesn't make weapons, so I pushed myself into a job at the Jet Propulsion Laboratory."

He took part in the *Cassini* space probe project, which launched in 1997 and flew by Venus and Jupiter before orbiting Saturn. Though expected to run until 2008, *Cassini* continued delivering data back to Earth until September 2017, when it finally burned up in Saturn's atmosphere.

Meanwhile, Steltzner was emerging from his own burnout. With funding from JPL, he enrolled in UW-Madison's engineering mechanics doctoral program and studied under Daniel Kammer '76, MS'77, PhD'83. And he continued to focus on the minutiae of engineering work. His dissertation, "Input Force Estimation, Inverse Structural Systems, and the Inverse Structural Filter," looked at how the U.S. space shuttles and Russia's *Mir* space station damaged each other during docking. When he received



his degree, he returned to JPL and to NASA, where he was eventually brought into the informal community of engineers and scientists who were working on Mars exploration.

"I'm a phenomenally curious person, always curious about what's over the horizon," he says. "I am filled and made happy by vistas — broad, beautiful vistas of places that I have never seen and that I am about to explore."

He helped create each of NASA's Martian rovers: Sojourner, Spirit, Opportunity, and Curiosity. Mars 2020 will be NASA's most ambitious effort since putting Armstrong on the moon.

"This is annoying to me," Steltzner says, "but it's certainly true that there are a tremendous amount of very mundane things that you have to get right to make this mission work."

Again, Mars exploration may not sound mundane, but context is important: the Mars 2020 mission was born not just out of ambition, but out of a desire to be what engineers might characterize as efficient and others might just call cheap. It began as an attempt to recycle elements of the *Curiosity* program after that mission launched into space in 2012.

"We had these spare parts," Steltzner says. "We started to sketch out what we might do, what kind of discount we might be able to achieve. By leveraging spare parts and the design expertise, how could we get back to Mars?"

NAME, PLEASE

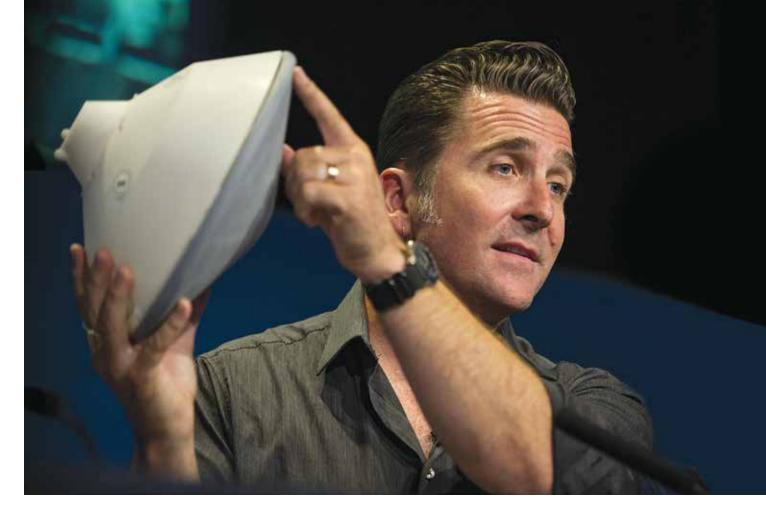
Mars 2020 is an ambitious mission, but Steltzner admits that its name is far from inspiring. But then he accepts no blame or credit for that: NASA's spaceships are named not by the agency and its staff, but by kids.

"We have open competitions among schoolchildren to name our space vehicles," he says. "They give a name and write a small essay about it. The boys always suggest names like *Dreadnought Laser Death* and *Black Scorpion* and *Ninja-Bot*. The young ladies always suggest much more meaningful and significant names. *Spirit*, *Opportunity*, *Sojourner* — they were all named by [teenage] girls."

According to Steltzner, the rover for NASA's Mars 2020 mission will receive its name in late 2018 or early 2019.

Between 2012 and 2015, the plan for Mars 2020 took a backseat to *Curiosity*'s launch, landing, and mission, which has increased the number and quality of images that we have of the surface of Mars. Well into 2018, *Curiosity* continued to send back images and data. But it will never leave the Martian surface.

By aiming to bring bits of Mars home, the 2020 mission will present all the challenges of *Curiosity*, plus add new ones, many of which require perseverance more than spectacular breakthroughs. One of the chief concerns, Steltzner notes, is protecting the integrity of collected samples. Should anything from



Earth get into the sample — a microbe or virus or organic molecule — it would contaminate the findings. Scientists wouldn't know whether they'd found evidence of life *from* Mars or life they had *taken to* Mars. Steltzner and the NASA team have been working to create what he describes as "hypersterilized containers," vessels designed to be free of any possible contamination by anything from Earth and preserved during passage through the Martian atmosphere, deep space, and reentry into Earth's atmosphere.

"The hardware elements are cleaner than anything, really, on the surface of the earth," he says. "We've had to invent techniques that [can clean objects more thoroughly] than anything has ever been cleaned. It's a lot to get right."

And it's a lot to do on a firm schedule. Due to the difference in orbit between Mars and Earth, missions can only launch once every 26 months. NASA's target window is the summer of 2020, with the rover landing in February 2021. It will mean a lot of long days in the office, in the lab, and in construction for someone whose early life didn't emphasize the value of tedium.

"I'm kind of striving against my parents' ethos," he says. "They didn't do the mundane, day-to-day, go-to-work thing. I wanted to make something real. ... Engineering has all the beauty of physics, and it's a real job."

John Allen is associate publisher of On Wisconsin.

Above, Steltzner holds a model of the Mars entry capsule, which will take the 2020 lander into the Martian atmosphere. The actual rover weighs 1,050 kilograms. The illustration at left imagines it in action, studying mineral and soil chemistry.

PATIENCE

Mars 2020 is just the first mission of three:

- Mars 2020 will put a rover on the Martian surface. It will spend a Martian year about 687 Earth days collecting samples from areas where scientists think traces of life might be found. Each sample will be a bit of rock that weighs around 15 grams, and the rover will gather between 20 and 30 of them in its hypersterile containers and cache them in a tube near a second landing site.
- In the second mission, NASA will send a smaller rover and a Mars Ascent Vehicle (MAV) to pick up the tube. The MAV is a small rocket — about six feet tall — which should be big enough to put the tube into orbit.
- The third mission is a larger spaceship, and it will travel from Earth to orbit around Mars, snag the orbiting tube, and then return to Earth.

If every step of the operation is successful, it will put samples in scientists' hands as early as 2030 — 10 years after Mars 2020's launch and 18 years after the plan was first concepted. "Mars exploration," says Steltzner, "is not for the impatient."

OnAlumni

Alumni News at Home and Abroad

Five Badger Standouts

WAA recognizes the 2018
Distinguished Alumni
Award recipients.

With more than 440,000 living alumni and a top-tier reputation, UW-Madison has no shortage of exceptional graduates. Selecting the superlative among this crowd is no easy task, but the Wisconsin Alumni Association has offered Distinguished Alumni Awards annually since 1936. This year, WAA's highest honor acknowledges five alumni who have made stellar contributions to their professions, their communities, and their alma mater. For more information, visit uwalumni.com/daa.



Carol Edler Baumann '54

As a former U.S. State Department staffer and board member for numerous diplomatic organizations, Carol Baumann built a network of professional relationships "that helped bring the world to Milwaukee," according to a longtime colleague.

Baumann earned her doctorate from the London School of Economics and was a professor of political science at UW-Madison and UW-Milwaukee. In 1979, President Carter appointed her to serve as U.S. deputy assistant secretary for the State Department's Bureau of Intelligence and Research.

At UW-Milwaukee, she directed the international relations major for 17 years and the Institute of World Affairs for 33 years. Baumann built the institute into one of the best of its kind while continuing to teach and inspire students to pursue careers in international affairs and global business. She was the first host of the institute's television program, *International Focus*, which is still broadcast on Milwaukee public TV. Baumann also hosted the Dialogues with Diplomats series, which drew ambassadors and other high-ranking officials from around the world, including President Bill Clinton and former U.S. Secretary of State Henry Kissinger.

In 1958 she ran for Congress in Wisconsin's Ninth Congressional District. Her extensive professional affiliations included the Council on Foreign Relations, the Wisconsin Governor's Commission on the United Nations, and the National Foreign Policy Association.

Baumann helped facilitate cross-participation in international programming between the Milwaukee and Madison campuses, and she helped to forge a connection between the European Union and the international studies programs at UW–Madison. She retired in 1995 as a UW–Milwaukee professor emerita. Baumann published a novel, *Journeys of the Mind*, based on her travels and career.



John Bollinger '57, PhD'61

As dean of the College of Engineering (CoE) from 1981 to 1999, John Bollinger presided over the creation of a familiar college landmark — the *Maquina* sculpture and fountain on Engineering Mall.

It was just one element of the \$16 million CoE expansion to Engineering Hall in 1993. Bollinger's 18-year tenure as dean also saw many other innovations, including a renovation of the materials science building and a new freshman course that assigned a real-world engineering project from design to final product. The college also instituted several annual competitions that encourage students to invent, patent, and commercialize their own technology. After retiring as dean, he created a new course, Technology Innovation and Entrepreneurship.

Bollinger served as director of the Data Acquisition and Simulation Laboratory and as chair of the Department of Mechanical Engineering before becoming dean. He was a Fulbright Fellow in 1962 and 1980 and he coauthored two textbooks. Among his many patents, he invented a noise-quality detector for electric motors and an automated welder that helped Milwaukee's A. O. Smith Company in manufacturing automobile frames. He founded and served as editor of the *Journal of Manufacturing Systems*.

He has served on the board of numerous companies, including Nicolet Instrument Corporation, Unico Incorporated, Kohler Company, and Berbee Information Networks. Bollinger is a member of the National Academy of Engineering, the American Society of Mechanical Engineers, and the American Society for Engineering Education.

A Bascom Hill Society member, he has also generously supported the college financially. In honor of his parents, he established the UW's Bollinger Academic Staff Distinguished Achievement Award. He also established several engineering student scholarships.



George Hamel Jr. '80

When the California wildfires swept through wine country last fall, George and Pam Hamel, co-owners of Hamel Family Wines in the Sonoma Valley, sprang into action. They quickly organized and hosted a benefit with singer John Fogerty in support of wine country wildfire relief, raising more than \$1.2 million. For the Hamels, who lost their own home in the fire, it was a typical act of generosity.

The Hamel family, which includes three generations of UW-Madison alumni (and a Badger alum daughter-in-law), has been extraordinarily generous across the campus. They provided the \$15 million lead gift for the new Hamel Music Center on campus, as well as the founding gift for SuccessWorks at the College of Letters & Science. They have been longtime supporters of the communication arts department and have provided major gifts to the Department of Athletics, the Garding Against Cancer initiative, the Office of Student Financial Aid, the Memorial Union, and several other UW programs.

Before becoming a vintner, George was a founder and served as COO of ValueAct Capital, a San Francisco-based investment firm.

For the Van Hise Society member, his support of the university has extended to giving generously of his time and advice. He serves on the Chancellor's Advisory Board, the Communication Arts Partners, and the Garding Against Cancer steering committee, and he previously served on the UW Foundation board of directors and the College of Letters & Science board of visitors.



Ann McKee '75

Ann McKee (see related story, page 22) has studied hundreds of individuals diagnosed with chronic traumatic encephalopathy (CTE) and is the leading researcher on the degenerative brain disease. CTE is triggered by repetitive blows to the head and is most commonly found in athletes participating in boxing, football, ice hockey, and other contact sports, as well as military veterans. CTE causes symptoms such as cognitive impairment, depression, memory loss, aggression, and suicidal behavior. McKee was lead author on a 2017 study that found that CTE had been diagnosed in 110 of 111 former NFL players whose brains were donated for research.

She has presented her findings to NFL officials and testified many times before Congress. Her research was highlighted on the *Frontline* special "League of Denial: The NFL's Concussion Crisis," as well as in the *New York Times, TIME, Sports Illustrated*, the *Boston Globe*, CBS's *60 Minutes*, CNN, NPR, and other outlets.

McKee is a professor of neurology and pathology at Boston University School of Medicine and directs its CTE Center. She's also the director of the brain banks at the U.S. Department of Veterans Affairs Boston Healthcare System, the Boston University Alzheimer's Disease Center, and the Framingham Heart Study.

Her game-changing findings continue to make headlines. Her data show that it's actually repetitive small blows to the head, rather than big, concussion-inducing hits, that have the strongest link to CTE — and that has the potential to drastically

OnAlumni

change the game of football as we know it today.

In 2018, she received a lifetime achievement award for Alzheimer's disease research from the Alzheimer's Association, and she was named by *TIME* magazine as one of the "100 Most Influential People in the World."

WAA is now accepting nominations for the 2019 Distinguished Alumni Awards at uwalumni.com/ go/nominatedaa. The deadline is January 2, 2019.



Allan Chi Yun Wong MS'73

Allan Chi Yun Wong is the founder, chair, and group CEO of the Hong Kong-based company VTech, one of the top 50 electronics manufacturers globally, with more than \$1.8 billion in revenue.

After a brief stint at National Cash Register

Company, Wong started VTech in 1976 as an electronics company that designed and manufactured home-gaming consoles, including Pong (an early video game based on table tennis).

In its first year, the company expanded from an initial investment of \$40,000 to an annual revenue of just under \$1 million. Under Wong's direction, the company later focused on producing children's learning products and cordless phones. In 1998, *Business Week* included him on its "World's Top 25 Executives" list.

Wong serves on the board of China-Hongkong Photo Products Holdings Limited and Li and Fung Limited, and he's also the deputy chairman and director of the Bank of East Asia, the third largest bank in Hong Kong. His government honored him with the Gold Bauhinia Star in 2008, and the United Kingdom gave him its Most Excellent Order of the British Empire award in 1997. He has an honorary doctorate from the Hong Kong Polytechnic University, and he served as a keynote speaker at the March 2017 Hong Kong chapter UW alumni event.

In 2016, Wong told CNN, "You don't go into business to make money. You need to love your business, and you need to have passion, and you need to really want to make a difference in people's lives. And making money is a byproduct, not the sole purpose."

INNOVATION STATION

The Wisconsin Alumni Research Foundation has created a website focused on innovation and the Wisconsin Idea. It features essays from Badger State thought leaders — university researchers and professors, business leaders and entrepreneurs, investors and public officials - who share their views on the crucial interdependence between university innovations and the strength of the Wisconsin economy. The essays include one by Wisconsin Foundation and Alumni Association president and CEO Mike Knetter titled "How Alumni Can Carry the Wisconsin Idea Forward." Read more at warf. org/wisconsininnovates.

9.819+

Scoops of ice cream served during WFAA's Get the Scoop 2018 tour, which made 34 stops around Wisconsin to spread Badger goodwill and dispel myths about the UW.



FLAMINGLE PARTY

Ellen Carlson '99 (left) and Kathleen Callen '98 attended a celebration for the *Flamingle*, WFAA's popular weekly e-newsletter, in August at One Alumni Place. Several dozen alumni attended the panel discussion with *Flamingle* staff before strolling around to enjoy pink cotton candy, hors d'oeuvres, and a giant Jenga game. Some 1,200 fans watched on Facebook Live. More than 200,000 alumni receive the newsletter, which is known for its campus quizzes and fun take on the news. To sign up, email flamingle@uwalumni.com.

Tradition Wheelhouse Studios



What started four years ago as a small experiment meant to encourage the campus community to tap into its creativity has expanded tenfold into a hub for the skilled and newcomers alike to come together and make art. Wheelhouse Studios' monthly Free Art Fridays draw between 300 and 400 people, and on the weekends it's getting difficult to find an open pottery wheel.

"We exceeded all of our expectations, so organizationally, we're figuring out what the sustainability plan is," says recently retired director **Jay Ekleberry '77, MS'83.** "How do we keep this going? How do we keep things fresh and new?"

Open 70 hours a week on the lower level of Memorial Union, Wheelhouse is available

WHAT'S YOUR FAVORITE UW TRADITION?

Tell On Wisconsin at onwisconsin@ uwalumni.com, and we'll find out if it's just a fond memory or still part of campus life today.

to students and union members and offers spaces dedicated to ceramic, 3D, and 2D art. The open-studio aspect is what sets the program apart, Ekleberry says. With other art spaces in Madison, "you can't just waltz into your ceramics studio anytime between your class sessions and practice or work on a project."

That time to pursue artistic passions was what inspired Wheelhouse's predecessor, the Craftshop, which opened in 1930 after student **Sally Owen Marshall '30** used her senior thesis to petition for an art space on campus. It closed in 2012 for renovations to the union and Wheelhouse opened in 2014.

Close to 2,000 students and community members enroll in Wheelhouse classes during the year, and the studio attracts additional visitors when it hosts events to encourage conversation about contemporary issues. On Martin Luther King Jr. Day, the campus community was invited to drop in and create mixed-media collages representing their favorite quote from King. Wheelhouse has also hosted painting workshops to reinforce positive messages about body image.

"When you're just sitting and talking when you're working on an art project, the dialogue becomes deeper," Ekleberry says. "It's a whole different conversation because you're engaged in this activity that's activating the whole brain, forcing you to be creative. You have an instant common ground."

MADELINE HEIM '18

OnAlumni Class Notes

40s-50s

We're a bit late, but we wish Robert Sasman '47 of Geneva, Illinois, a very happy 95th birthday. Sasman marked this milestone in July with a celebration arranged by his daughter. Although he has decided to stop driving, he says that maybe he and his caregiver will make a trip to Madison next summer. The UW campus will welcome you back with open arms, Mr. Sasman!

Husband and wife James Hecker Jr. '50 and Eunice Stabnow Hecker '49 of Middleton, Wisconsin, ages 91 and 90, respectively, are continual learners: they are still taking classes at the UW each semester, as they have for decades. Until recently, James also played at Nielsen Tennis Stadium and sailed with Hoofers, and he still rides his bicycle along Lakeshore Path. Both tell stories of living on Langdon Street as well. Thanks to James Hecker '75, MS'77 and his sister, Jamie, for writing in.

The National Mining Hall of Fame and Museum inducted **John Guilbert MS'55, PhD'62** of Oro Valley, Arizona, in September. As one of its 2018 honorees, Guilbert was selected for being a thought leader, among other traits and accomplishments. Together with J. David Lowell, Guilbert worked on the Lowell-Guilbert Model, which was used by geologists around the world to discover tons of copper metal and profitable mines.

Looking to donate a group of contemporary glass works that he and his late wife, Jane, collected, **Herb Rozoff '55** gave it to the Bergstrom-Mahler Museum of Glass in Neenah, Wisconsin. The gift, containing 25 works by some of today's revered artists, is the largest contemporary glass gift to the museum at one time by a single donor. For the past 20 years, Rozoff also has sponsored scholarships for students in the UW's School of Journalism and

Mass Communication, where he earned his degree following service in the Korean War.

William Liebhardt '58, MS'64, PhD'66 is the winner of one of Rodale Institute's 2018 Organic Pioneer Awards: the Scientist Award. The awards honor individuals who have been leaders in advancing the organic industry. Rodale Institute is a nonprofit dedicated to evolving organic farming through both research and outreach.

60s

Wisconsin Supreme Court Justice Shirley Schlanger Abrahamson DJS'62 has announced that she will not seek reelection in 2019. Abrahamson, who was appointed in 1976 by Governor Patrick Lucey, was the first woman to serve on the state's highest court and was chief justice from 1996 to 2015. She has disclosed that she has cancer but intends to serve out the remainder of her term, which ends in summer, at which point she will have served longer than any of the 77 justices who have held the position, according to the Wisconsin State Journal.

A Badger high-five goes to William Tuttle Jr. MA'64, PhD'67 of Lawrence, Kansas, who was awarded an honorary degree last May from Denison University. Tuttle, a professor emeritus at the University of Kansas, was recognized for his work in African American and modern American history.

We wish a happy belated 100th birthday to **Fannie Frazier Hicklin PhD'65**of Madison. Her centennial occurred in July and was declared "Dr. Fannie Ella
Frazier Hicklin Day" by the Village of Shorewood Hills, where she resides. Hicklin, a retired theater professor at UW-Whitewater, was the first African American professor there. The university's experimental theater, Hicklin Studio

BOOK NEWS? See page 59.

CLASS NOTES SUBMISSIONS uwalumni.com/ go/alumninotes

Class Notes, Wisconsin Foundation and Alumni Association, 1848 University Avenue, Madison, WI 53726-4090

DEATH NOTICES AND NAME, ADDRESS, TELEPHONE, AND EMAIL UPDATES alumnichanges@ uwalumni.com

ALUMNI CHANGES Wisconsin Foundation and Alumni Association, 1848 University Avenue, Madison, WI 53726-4090

608-308-5420 or 800-443-6162 Theatre, is named in her honor. Cheers to you, Dr. Hicklin!

Congratulations to **Allan Stefl '65** and his wife, Joan, of
Malibu, California, who celebrated their 50th wedding anniversary in 2018. Allan retired
from the Pepperdine University
Graziadio Business School in
May, where he was executive
professor of marketing for the
past 12 years following a career
with Nestle, Ogilvy & Mather,
and Procter & Gamble.

Judy Greenfield Faulkner MS'67, founder and CEO of Epic Systems, a medical-record software provider based in Verona, Wisconsin, has been ranked number three on Forbes's list of America's Richest Self-Made Women. Epic supports the medical records of more than 200 million patients, and Faulkner has promised to donate a majority of her fortune to philanthropic causes within her lifetime.

After 45 years of service, **Paul Nelson MS'67, MA'72, PhD'74** has retired as professor emeritus of economics at Michigan Technological University. He worked with engineering students and faculty on entrepreneurship and commercialization of new technology.

After a 44-year career at Shepherd University in West Virginia, Roland Bergman MS'69, PhD'74 is now professor emeritus of geography. He spent years teaching students and studying people in the tropical rainforests and highlands of Peru. In retirement, he plans to care for his 15-acre farm.

70s

The New York Times highlighted the marriage of **Daniel Kennedy '70** and his wife, Karin, this past May. Kennedy is a New York-based independent consultant in business writing and marketing communications, and he is an advisory board member for the Global Medical Relief Fund for Children.

Recognition Chris Linehan Freytag '87

In May, the Wisconsin State Journal published a guest column coauthored by Wisconsin state senator Luther Olsen '73 and Robert Golden, dean of the UW School of Medicine and Public Health (SMPH), reflecting on how the Wisconsin Idea makes us healthier. They cite partnerships such as the Wisconsin Academy for Rural Medicine, an SMPH education program that addresses physician shortages, as well as TRIUMPH (Training in Urban Medicine and Public Health), which addresses urban physician shortages.

Aaron Williams MBA'73 of Reston, Virginia, recently shared lessons from his lifetime of service with MBA students at the UW. Currently senior adviser in government relations with RTI International — aglobal nonprofit research institute — Williams has served in the U.S. Foreign Service, as a senior official at the U.S. Agency for International Development, and as the 18th director of the Peace Corps. "Everything started here at the University of Wisconsin," he told students. "Wisconsin prepared me for the world of business."

Since retiring from teaching, **Frank Gess '75** has been busy with his woodworking business. He recently crafted a full set of custom classroom cabinetry for the Montessori Institute of Milwaukee.

Mark Irgens '77, CEO of commercial real estate development firm Irgens, is working on the 25-story BMO Harris Bank tower in Milwaukee. The \$132.6 million project is expected to be completed in December 2019.

Father-son duo **Bob MA'77** and **Brett '98 Ladendorf** cowrote the cover story for the July/August 2018 issue of *Skeptical Inquirer* magazine, titled "Wildlife Apocalypse: How Myths and Superstitions Drive Animal Extinction." Bob is an executive assistant for the



FITNESS FAVORITE

Chris Linehan Freytag '87's first aerobics class at the UW, which she took back in the '80s, inspired a lifelong passion for exercise — and that has led to an online fitness empire. Freytag is the founder and CEO of GetHealthyU.com, a digital publishing company based in the Minneapolis suburbs. It encompasses a website, blog, newsletters, social media, and a subscription-based workout service that reaches more than 2 million women a month.

Although Freytag's first job after college was in direct-mail marketing, she never left fitness far behind. Getting certified as an aerobics instructor was quickly followed by becoming a personal trainer. Soon she was working for Lifetime Fitness in the Twin Cities, where she still teaches everything from yoga to cardio and strength conditioning.

After developing a strong following from her classes, Freytag began selling her own workouts on VHS tapes (remember those?). Before long, she had partnered with Rodale Publishing, producing dozens of fitness DVDs and serving as a contributing editor at *Prevention* magazine. She gained further exposure with appearances on the Home Shopping Network and a Twin Cities morning news program.

Then came her website, which is when things exploded for Freytag. Despite her success, the former journalism major — who composed her first stories on a typewriter — hasn't always found the digital world easy. "I've had to teach myself how to create a digital presence," she says, "everything from selling online advertising to working with brands." It also doesn't hurt that her three full-time employees are millennials, "digitally savvy and with so many ideas for execution."

A streaming subscription workout series called GetHealthyUTV is Freytag's latest project. "So many people today don't have time for the gym," she says. Her fitness series is currently bringing what she calls the "power of the group" into 10,000 homes.

Many of GetHealthyU's clients are middle-aged, like its founder, and for them she has some advice:

- Start at any time: you're never too old.
- Begin slowly so you don't get injured. (Don't start with CrossFit!)
- Consistency is key. The quick fix no longer works in your 40s or 50s.
- Aim for moving your body and eating right 80 percent of time. You don't have to become obsessive.
- Learn to love your body. And stop looking at magazines full of 20-year-olds.

LYNETTE LAMB '79

Recognition Brian Stockmaster MFA'98



SETTING THE STAGE

When Barack Obama appeared before cheering crowds in Chicago on the night he won the 2008 election, **Brian Stockmaster MFA'98** had a unique connection to the president-elect. The majestic stage in Grant Park had been mapped out, designed, and assembled in less than two weeks under Stockmaster's supervision at Chicago Scenic Studios (CSS), a design and fabrication firm. The lectern itself had been built only three days earlier.

"There was a sense of pride in being associated with such a moment in history. The energy of the crowd was amazing," Stockmaster says. Although he had a ticket to go backstage, he chose to stand outside with everyone else, not wanting to get in the way.

A quiet drive to see a job done right has fueled Stockmaster's work ethic and career. He came to UW-Madison expecting to become an engineer but studied theater technology instead, from pneumatics to architecture to electricity. Upon graduation, he honed his skills at venerable design firms in New York. He worked on Broadway shows (Aida, The Lion King, and Kiss Me, Kate among them) and cable programs, building the first big set for ESPN's SportsCenter, before taking a position at CSS in 2005.

Preparing for large events can often get stressful. After a 20-foot-wide turntable for displaying cars malfunctioned the night before an important auto show, Stockmaster drove from Chicago to Detroit, pulled apart the elaborate set, repaired the equipment, and had everything back in place before the next morning. "It was a pretty hairy evening," he admits.

Stockmaster gives a lot of credit for his career path to Dennis Dorn '70, a UW professor emeritus of theater technology and a mentor to this day. "He was a tough guy, but also very patient," Stockmaster says. "Dennis is a very thoughtful person, asks great questions, and really does listen."

Despite CSS's high-profile projects such as building sets for the *Oprah Winfrey Show* and constructing the new headquarters of the Chicago Bears at Halas Hall, Stockmaster hasn't let it go to his head. For him, the set's the thing — especially when the review of his handiwork could come from the commander in chief.

ROBERT LEROSE

Los Angeles Press Club and a freelance writer. Brett, who resides in Chicago, is a consultant for alternative investment managers and financial technology companies.

William Lee PhD'77, a journalism professor at the University of Georgia, has been named the Lothar Tresp Outstanding Honors Professor at the university. The honor recognizes Lee, who regularly teaches an honors seminar about freedom of expression, on his teaching and commitment to honors students.

80s

Alongside her husband and UW professor emeritus James Latimer, Mary Biechler MS'80 has helped to continue the traditions of Madison's Capitol City Band, which celebrated its 50th season in 2018. Latimer has been the conductor of the band, which plays in Rennebohm Park during the summers, since 1981. Mary Mandeville '73, '73, who shared this news, says the couple has enriched the lives of many simply by doing what they love.

Daniel Greve '80 of Baraboo, Wisconsin, has earned the 2018 Lifetime Achievement Award from the Wisconsin Rural Water Association. Greve, a project manager and senior environmental engineer for MSA Professional Services, has served the state's small and rural communities for nearly 40 years, representing a sustained commitment to bringing safe drinking water and effective wastewater treatment to communities throughout Wisconsin.

As vice president of sales at Novum Structures, engineering alumnus **Terry Peterson '80** is a part of a glass and structures company that has left its mark on many buildings on or near campus, including the Overture Center, the Chazen Museum, and the microbiology building. Peterson says the glass

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panels the company installed at Overture each weighed more than 2,500 pounds, and they were the largest panels installed in the U.S. at the time.

The Poetry Foundation has recognized **Martín Espada** '81, a professor at the University of Massachusetts-Amherst, as the winner of the 2018 Ruth Lilly Poetry Prize, which honors a living U.S. poet for outstanding lifetime achievement. Espada is the first Latino poet to earn this award, which includes a \$100,000 prize, since its inception in 1986.

Robert Steiner '83,

MD'87, a clinical professor of pediatrics at the UW's School of Medicine and Public Health, has been named the editor-in-chief of the American College of Medical Genetics and Genomics's peer-reviewed journal, *Genetics in Medicine*. Steiner is also chief medical officer for PreventionGenetics and geneticist and medical director at Marshfield Clinic Health System.

David Szymanski
MBA'83, PhD'87 has taken the
helm as president at the University of North Florida (UNF),
where he now leads a campus
composed of six colleges. Prior
to joining UNF, Szymanski was
the dean of the Carl H. Lindner
College of Business at the University of Cincinnati, where he
oversaw increases in enrollment,
retention, and graduation rates.

Texas-based music educator **Robert Beck '84** has retired after more than 30 years in the field. Beck earned the Richard C. Church award for the Outstanding String Student in Music Education from the UW, and he will enjoy retirement traveling with his wife, Rosa, and performing as principal bassist of the Symphony of Southeast Texas.

Taking the reins as Quantum Corporation's chief financial officer is **J. Michael Dodson '84** of Irvine, California. In this role, Dodson leads

ongoing business transformation and cost-savings initiatives at the company, which offers archive and data protection as well as expandable storage.

After 30 years at UW-Madison, budget director **Timothy Norris '84, MS'86** has retired. Norris had developed and managed the university's annual budget since 2004.

Kudos to Mary Pember '85 — an independent journalist of Cincinnati, Ohio, who focuses on Native American issues — who was selected by the Native American Journalists Association (NAJA) as the recipient of the 2018 NAJA-Medill Milestone Achievement Award. As a past NAJA president whose work has appeared in the Washington Post and the New York Times, Pember earned the award for her lifetime of service to journalism and her years of dedication to NAJA.

"I am forever proud of my degree from UW-Madison."

Rhonda Petree '99

Timothy Schmit '85,

MS'87, a Madison-based meteorologist with the National Oceanic and Atmospheric Administration, has helped to develop and innovate satellite technology for detecting and monitoring severe weather. A finalist for the 2018 Science and Environment Service to America Medal, he has also taught forecasters with the National Weather Service and television weather teams how to interpret data so the public receives accurate warnings about potential disasters early on.

Paul Stone '85, JD'95 of Los Gatos, California, has been appointed senior vice president and general counsel, head of operations, at IDEAYA Biosciences, an oncology-focused biotechnology company. He brings more than 20 years of legal, financial, and management experience to the position.

Scott Jenkins '86 is the general manager of Atlanta's Mercedes-Benz Stadium, the first stadium to win Leadership in Energy and Environmental Design Platinum certification from the United States Green Building Council. It features a 120-foot-long cistern, which supports up to 680,000 gallons of rainwater that is used to irrigate vegetation around the building. The stadium — and Jenkins — appeared in the New York Times in May.

Stephen Okland Jr. '86 has been named chief commercial officer of Second Sight Medical Products, with U.S. headquarters in Los Angeles and European headquarters in Switzerland. The company manufactures implantable visual prosthetics intended to enable artifical vision for individuals with blindness.

John Schroer II '87, MBA'90 is the new chief financial officer at Translate Bio, a company based in Lexington, Massachusetts, that specializes in mRNA (a component of gene expression) therapeutics. He holds nearly 30 years of experience in health-care investment.

David Fein '89 is now the senior vice president of governmental and regulatory affairs at Exelon Corporation, a Fortune 100 energy company headquartered in Chicago. Fein has spent nearly 30 years in the energy industry as a lawyer, policy advocate, and government and regulatory affairs expert.

Scott Petersen '89 was certified in June by the Florida Bar as a specialist in condominium and planned-development law — the first year the certification has been offered. Previously certified by the Florida Bar in the area of business litigation, Petersen opened the Law Office of Scott K. Petersen, PLLC, in 2015.

90s

Honeywell UOP, based in Des Plaines, Illinois, has named

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John Gugel '90, MS'92 as its president. Having served for more than 25 years at the company, Gugel has become a leader in the oil and gas processing industries. He previously served the company in vice president and general manager roles.

With more than 20 years of health management experience, Timothy Moore MS'90 has become the new chief medical officer at ADURO, a company in Redmond, Washington, that strives to maximize human performance for individuals and effectiveness for organizations. Moore now leads the company's practices in support of patients' journeys for health and well-being.

In October, Rick (Richard) Schepp JD'90 retired from his post as chief administrative officer at Kohl's Corporation based in Menomonee Falls, Wisconsin. Prior to his retirement, he had been with the retailer for 18 years.

Computer sciences alumnus Sanket Atal MS'91 has been appointed the vice president and managing director of Intuit Inc.'s India Development Center (IDC), where he will work to strengthen IDC's position in India. Some of Intuit's flagship products include TurboTax, QuickBooks, and Mint.

The ACLU of Maryland has announced that its new executive director is Dana Shellev '91, who brings to the position her experience advising CEOs and leading teams working in social-justice, government, political, corporate, and philanthropic organizations. Founded in 1931, the public-advocacy organization plays a role in national discussions on civil liberties.

Colette Hands '92 is the new associate vice president and chief human resources officer at Oakton Community College in Des Plaines, Illinois. Previously, Hands served as Oakton's associate vice president for continuing education, training, and workforce development.

Lynn Argraves Peterson

'92 has been elected to head Portland, Oregon's Metro Council and will begin her term in January. She previously served as the Secretary of Transportation for the State of Washington.

Frank Denton MBA'94, PhD'96, who has been a journalist for more than 50 years, has retired from his positions as editor of the Florida Times-Union and vice president for journalism at Morris Publishing Group. From 1986 to 2003, he was editor of the Madison-based Wisconsin State Journal.

Anne Kern '94 has been named dean for global strategy and international programs at Purchase College, State University of New York. She also is associate professor of cinema studies and director of a transnational, collaborative filmmaking program. In 2017, she was named a chevalier in the Ordre des Arts et des Lettres by the Cultural Minister of France for her contributions to French cinema and culture.

"Know your neighbor; love your neighbor; help your neighbor."

Jake Wood '05

The University of Central Oklahoma College of Business has named Monica Lam PhD'94 as its new dean. She most recently served as the dean of the School of Business Administration at Thomas Jefferson University in Philadelphia.

Minneapolis/St. Paul Business Journal has recognized Jennifer Olson '95, **MBA'97** as a 2018 Women in Business Award recipient. She has served for more than 15 years at Children's Minnesota, a nonprofit where she is currently senior vice president of system operations and chief strategy officer. In addition, Olson mentors emerging female leaders on their career journeys, helping to create a positive professional

culture for women.

A Badger pat on the back goes to Kara Krause Kaiser '96, who has been named a Woman of Influence in the Corporate Executive category by the Milwaukee Business Journal. The award acknowledges the determination, work ethic, and passion that she applies to her executive roles for BMO Harris Bank in retail banking and for BMO Private Bank in wealth management.

Author Tanja Pajevic '96 of Boulder, Colorado, was named a 2017 silver winner in the Nautilus Book Awards for The Secret Life of Grief: A *Memoir*, in which she reflects on grieving after her mother's death. The Nautilus Awards honor books that support conscious living, green values, wellness, positive social change, and spiritual growth. Pajevic, who has taught at the University of Colorado-Denver and Indiana University, helps others to write and publish their books and is also a recipient of a Fulbright Fellowship and a Hemingway Fellowship.

Cecily Nash Welch MBA'96 has worked 25 years in both private and public accounting and started her own firm, Welch Financial Advisors, LLC, in 2013. Welch is a board member of the Georgia Society of CPAs and is a CPA ambassador for the American Institute of CPAs (AICPA). She has served as a subgroup chair on the IRS Advisory Council and was a panelist in May for an AICPA Accounting Scholars Leadership Workshop, a program for minority accounting students who plan to pursue the CPA credential.

The American Indian College Fund's Faculty Member of the Year award was presented to Vicki Wolfe Besaw '97 in May. Besaw is an instructor at the College of Menominee Nation, where she has served since 2006, teaching human-

WINTER 2018 On Wisconsin

Contribution Radical Pedagogy

ities and liberal studies courses. She was selected for the award because of the rigor she brings to teaching and her personal commitment to helping students.

Former UW men's hockey player **Christopher Exarhos** '97 of Bainbridge Island, Washington, showed off his Badger pride while competing in the 2018 CrossFit Games in Madison in August. It was his fourth appearance at the games and his first in Madison.

Kalmbach Media of Waukesha, Wisconsin, has welcomed **Christine Faught Metcalf** '98 as its new senior vice president of finance. She joins the company from Rexnord Corporation, where she served as vice president of finance for the process motion and control division. Kalmbach's brands include *Astronomy*, *Discover*, and *Trains* magazines.

Having earned a Fulbright Award, Rhonda Petree '99 who has served as director of the English Language Transition Program at UW-River Falls since 2011 — is teaching in Estonia during the 2018-19 academic year. There, she is at Narva College of the University of Tartu, instructing on the English language. "My interest in global affairs and education is rooted in my education both on and off campus in Madison," Petree says. "Madison opened my eyes to possibilities and opportunities. I am forever proud of my degree from UW-Madison."

00s

Sam Broekema '03 and his fiancé, Eric, appear on J. Crew's website for its Love First campaign, wearing T-shirts from the brand's collection. J. Crew planned to donate 50 percent of the purchase price of the collection's T-shirts and socks to the Human Rights Campaign in celebration of LGBTQ Pride Month. "I never would have thought growing up in a small town that I would know the people I know



DANCE DISPLAY

Dance advocate **Jody Gottfried Arnhold '65** and her husband, John Arnhold, have donated an exhibit for Lathrop Hall that will highlight the university dance department's unique history and legacy. *Radical Pedagogy: Margaret H'Doubler, Anna Halprin '42, and Their Students*, honors the work of **Anna Halprin '42**, a seminal figure in the field of modern dance and the protégée of **Margaret H'Doubler 1910, MA'24**, who founded the nation's first dance major at the UW in 1926.

The exhibit includes photos, videos, scores, and drawings created by Halprin (seen above in one of her dances) and colleagues Simone Forti and Yvonne Rainer. The Arnholds also brought Anna Halprin's *Paper Dance* to the Memorial Union during the Madison Reunion last June, where it was performed by UW dance students and followed by a teleconference Q&A with Halprin. Jody says that the performance sparked a renewed interest in H'Doubler and Halprin's legacy. "I realized then that this exhibit had to be installed permanently in Lathrop Hall," she adds.

H'Doubler had a lifelong influence on Halprin, who is still teaching dance at age 98 and who often "talks" to her mentor in her imagination. "She's still in my heart and my thoughts," Halprin says. "She'll be with me forever." Although Halprin was initially horrified that H'Doubler required students to dissect cadavers, she says, it reflected her mentor's contribution to the field. H'Doubler, Halprin recalls, "really focused primarily on just the mechanics of dance. There wasn't anybody anywhere in the country approaching dance like that. … She was brilliant."

This teaching stayed with Halprin when she was nearly arrested in New York in 1967 for staging *Paper Dance*, which required dancers to disrobe. "For a dancer to have prejudices about the nude body is a disaster," she says. "You need to be able to experience the wholeness of your body, because that's your instrument."

Halprin believes that everybody needs to dance. "It does something for you that no other activity does. It integrates you in a way in your relationships, in your community," she says. She is most proud of her *Planetary Dance*, a group dance that is now performed in 46 countries around the world with an intention for peace and healing.

Arnhold, who is a respected dance educator in her own right, is the founder of the Dance Education Laboratory at the 92nd Street Y in New York City. She's also executive producer of the documentary *PS DANCE!*, created to advocate for the DANCE FOR EVERY CHILD movement, which reflects her mission to have dance taught to all children in New York City public schools.

OnAlumni Class Notes

or that I would participate in something like this," Broekema told the *Milwaukee Journal Sentinel* in June. The couple will marry in December.

Ben Schumaker '03, MSW'06 of Middleton, Wisconsin, earned the School of Social Work's 2018 Distinguished Alumni Award for directing the Memory Project, a nonprofit that invites art teachers and their students to create and donate portraits to youth around the world who have faced substantial challenges. The project was featured on the cover of the Summer 2006 issue of On Wisconsin. Since 2004, participants have created more than 100,000 portraits for children in 43 countries.

The University of Nebraska-Omaha Alumni Association has presented **Dale Eesley PhD'04** with a 2018 Alumni Outstanding Teaching Award. Eesley, an associate professor in the university's College of Business Administration, received \$1,000 and a commemorative plaque.

Former Badger women's basketball player **Shawna** Nicols '05 of Milwaukee has transitioned her talent on the court to the disc-jockey booth, where she works at clubs and live sporting events (with gigs including Badger football games at Camp Randall, Crazylegs, and the women's Final Four). Her dream? To work at an Olympics. "I honestly think being a point guard has made me a really good DJ in that aspect because I can see the whole court," she told FOX6 News in May.

Jake Wood '05, cofounder and CEO of Team Rubicon, earned the Pat Tillman Award for Service for his disaster-relief work, which was featured on the cover of the Fall 2015 issue of *On Wisconsin*. Accepting the award at the 2018 ESPYS in July, Wood said during his speech, "Know your neighbor; love your neighbor; help your neighbor."

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OBITUARIES Brief death notices for Wisconsin Alumni Association® (WAA) members and friends appear in Badger Insider, WAA's magazine for its members. You may also submit full-length obituaries (with one photo each) for online posting at uwalumni.com/ go/alumninotes.

Raine Gardner MS'06

of Baraboo, Wisconsin, who is senior project engineer for MSA Professional Services, has earned a Young Professional of the Year Award from the American Council of Engineering Companies. Gardner is the first from the state to receive the award, which recognizes those who have made significant contributions to the engineering industry and to society.

Greendale (Wisconsin) High School social studies teacher **Benjamin Hubing '06** has been selected as the James Madison Memorial Fellow for Wisconsin. As part of the fellowship program, Hubing will spend multiple weeks at Georgetown University in Washington, DC, in an upcoming summer to study the U.S. Constitution, the founding fathers, and other documents.

Megan Gussick '08, MD'12 has been making an impact since joining the City of Madison Fire Department (MFD) as its medical director in 2017. She introduced an initiative to empower its EMS providers while overseeing clinical care, developing protocols, and providing ongoing medical education for personnel. "I work hard to ensure that MFD remains an EMS service that is providing the most advanced and innovative pre-hospital care," she said on the MFD's blog in June.

Claire Wahmanholm
'09 of Saint Paul, Minnesota,
has been selected as the 2018
recipient of the Lindquist &
Vennum Prize for Poetry for
her manuscript "Wilder." The
prize — including \$10,000
and publication by Milkweed
Editions — seeks to support
outstanding poets in the upper
Midwest, bringing their work to
a national stage.

10s

Solly (Solomon) Kane '10 and Blake Roter JD'12 have been named to the 2018 Double Chai in

the Chi: 36 Under 36 list of young Jewish movers and shakers in Chicago. The list, presented by the Jewish United Fund of Metropolitan Chicago's Young Leadership Division and website Oy!Chicago, highlights the city's Jewish future and recognizes the contributions of this generation.

Professor at North Carolina State University **Rodolphe Barrangou EMBA'11** has been elected into the National Academy of Sciences. Barrangou is also the university's Todd R. Klaenhammer Distinguished Scholar in Probiotics Research and the editor-in-chief of the peer-reviewed publication *The CRISPR Journal*.

Well, bummer. Fans of *The Bachelorette* may have been rooting for former UW football player **Darius Feaster '13,** but sadly, he was one of six contestants cut on the first night of the season this past May.

We wish a happily ever after to two sets of newlyweds: Gretchen Selzer Zagzebski '13 and former UW football player Konrad Zagzebski '14, who married in June and had "heavy representation" of Badgers at the event, met during a Theatre 120 discussion in Vilas Hall. Lindsay Mosher Goyette '14, '17 and Evan Goyette '14, MDx'19, both pharmacology-toxicology graduates, celebrated their marriage at the Memorial Union's Great Hall in May.

Madison has been recognized as one of *Poets & Quants*'s 2018 Best and Brightest MBAs. In the *Poets & Quants* article, Liu says one of her proudest achievements during business school was leading a storytelling project for the Diversity in Business organization called Humans of Grainger, which was inspired by

Linda Liu MBA'18 of

Class Notes/Diversions editor Stephanie Awe '15 believes petting (at least) one pooch a day keeps the doctor away.

Humans of New York.

Diversions



A MOVE TO THE MODERN AGE



After cowriting Wreck-It Ralph, an Oscar-nominated Disney film released in 2012, **Phil Johnston '94** has done it again as codirector and cowriter for Ralph Breaks the Internet: Wreck-It Ralph 2, hitting theaters November 21.

In the first film, video game villain Ralph (voiced by John C. Reilly) longed to be a

hero; the sequel tags along with him and his friend Vanellope von Schweetz (voiced by Sarah Silverman) as they venture through the internet after finding a Wi-Fi router in their arcade.

The film features many characters whom audiences are sure to recognize (in one scene, Vanellope meets a group of Disney princesses, including Belle, Cinderella, Jasmine, Moana, Mulan, Pocahontas, Tiana, Snow White, and more), along with new faces (including Yesss, an algorithm voiced by Taraji P. Henson, whom Ralph meets along the way).

"It's not so much a clash between generations as it is the loving integration of modern technology into that older world ... and hopefully they find harmony," Johnston said in a February interview with insidethemagic.net, noting that the Wreck-It Ralph sequel still strives to show appreciation for old characters and games.

Johnston, who majored in journalism at the UW, has worked on several other films, including Zootopia, The Brothers Grimsby, and Cedar Rapids.

Submit your book news at uwalumni.com/go/bookshelf, and read more about works by Badger alumni and faculty at goodreads.com/wisalumni.

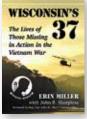
ROCKET MEN











New York Times Best Seller Rocket Men: The Daring Odyssey of Apollo 8 and the Astronauts Who Made Man's First Journey to the Moon, written by Robert Kurson'87 of Northbrook, Illinois, recounts the 1968 mission and its three astronauts (which included Jim Lovell x'50), drawing upon interviews with astronauts, their loved ones, and NASA personnel.

In I Always Wondered About That: 101 Questions and Answers About Science & Other Stuff, award-winning science teacher Larry Scheckel MS'92 of Tomah, Wisconsin, answers hypothetical and quirky questions that you never raised your hand to ask in science class. Scheckel's sequel, IAlways $Wondered\,About\,That$ Too, was released in November.

In her latest book,
Stretched Too Thin: How
Working Moms Can Lose
the Guilt, Work Smarter,
and Thrive, Jessica
Schim Turner '04 of
Nashville, Tennessee,
explains how to establish work boundaries,
set goals, and prioritize
self-care, providing
readers with the tools
they need to flourish.

In June, **Samuel Reicher '06** of Austin,
Texas, and his band,
Sam Pace and the
Gilded Grit, released

their latest rock 'n' roll album, Judgment Eve, which is available on iTunes and Spotify. The band formed in 2011 and recently concluded a 60-plus-date North American tour.

What We Were Promised, a debut novel from Lucy Tan MFA'16, the UW's 2018-19 James C. McCreight Fiction Fellow, tells the story of a family who has moved back to China from America. Living in modern Shanghai, the newly wealthy family must face its past when a relative makes an unexpected return after years with a local gang. The book made the long list for the 2018 Center for Fiction First Novel Prize.

Erin Miller '15, MS'18, with UW history professor **John** Sharpless, recollects the lives of men classified as "missing in action" in Wisconsin's 37: The Lives of Those Missing in Action in the Vietnam War. Including a foreword by retired U.S. Air Force Major General **John** Logeman Jr. '61, the book reflects on how these individuals lived — not just on the circumstances leading to their disappearances. Royalties from the book's sales will be donated to the Wisconsin Veterans Museum and the Highground Memorial.

Honor Roll Laurel Clark '83, MD'87



She died doing something she loved. We often console ourselves with that thought when someone perishes tragically.

And so it was with the adventure-loving Laurel Salton Clark. She had come to space travel later in life than most astronauts, following her work as an undersea medical officer and flight surgeon in the U.S. Navy. Her first assignment was on the *Columbia* space shuttle in 2003, conducting some of the crew's more than 80 experiments. She was studying gravity and its effect on humans, and she gardened in space to study gene transfer in plants.

But the mission suddenly ended in disaster when the *Columbia* disintegrated after 15 days in space — and just 16 minutes

Astronaut Laurel Clark died in the space shuttle Columbia disaster. She is one of many Badgers featured in the Wisconsin Alumni Association's Alumni Park. To discover their stories, visit alumnipark.com.

before its scheduled landing. At age 41, Clark died along with six crewmates as America watched in horror.

Although busy conducting experiments during the mission, Clark marveled over all that she could see from the space shuttle. "I have seen some incredible sights: lightning spreading over the Pacific, the Aurora Australis lighting up the entire visible horizon with the city glow of Australia below ... rivers breaking through tall mountain passes, the scars of humanity ... a crescent moon setting over the limb of our blue planet," she wrote in a final email sent to her family from space. "Whenever I do get to look out, it is glorious. Even the stars have a special brightness."

During a memorial at Johnson Space Center after the loss, President George W. Bush recounted a story that captured an astronaut who — while helping to open doors for women in space exploration — was also very down to earth: "A friend who heard Laurel speaking to Mission Control said there was a smile in her voice."

Clark knew the risks of space travel, yet she fully embraced the chance to be a scientist and foster her sense of wonder. Describing a silkworm cocoon that had hatched in space, she said, "There was a moth in there, and it still had its wings crumpled up, and it was just starting to pump its wings up. Life continues in lots of places, and life is a magical thing."

CINDY FOSS

Conversation Consummate Cinematographer

As an award-winning **KNOWN FOR** cinematographer, Peter Twin Peaks Oz the Great and Deming '80 made his artis-Powerful tic mark in numerous films The Cabin in the while collaborating with the Woods likes of David Lynch, Sam Last Night Raimi, and Wes Craven. He Drag Me to Hell I Heart pus for a screening at UW Huckabees Scream 2, 3 & 4 Austin Powers in **Mulholland Drive** where he has been, what got Lost Highway him there, and what's next. Evil Dead II

Why did you choose to attend UW-Madison?

I was a Wisconsin kid. My father was transferred to Beirut [Lebanon] for his job, so my sister and I were both born there, but I primarily grew up in Racine. And if you're going to go to a state university, Madison was always the choice. I had this Egyptian professor in communication arts. His name is Badia Rahman. He was fantastic very encouraging! He was one of the first to photograph through a beam-splitter, which both transmits and reflects light equally.

This enables photography of two live objects simultaneously, which is pretty much the beginning of modern visual effects.

What's the best thing about cinematography? It's a job that is highly creative, highly collaborative, and artistic, but

it's also

rooted in

technology. It combines all the things needed to create specific worlds for viewers. There are times when you're on set, and you're exhausted or conditions are miserable, and that's when you remind yourself that there aren't many people who get to do what you do, which is essentially going out every day and spending someone else's money to put your ideas on the screen.

You've worked with a variety of directors. Whom do you best collaborate with?

There is no better job in filmmaking than working with David Lynch. Every day is an adventure. While attending [the UW], I saw *Eraserhead* for the first time at the Majestic. I was sort of shell-shocked by it, and I've been fascinated with David ever since. It's that experience where you follow someone over the years, whether it's a filmmaker or musician, and you get to know their work so well that you feel like you know them. Once I got the opportunity to collaborate with David, I felt like I knew his preferences because I had seen everything he had ever done.

What's next for you?

I'm currently working on a film called Fonzo, which focuses on the last year of Al Capone's life — his reckoning with his end of days, his life, and his family. ... I am looking into directing at some point, but I have also seen what directors go through. It takes an incredible amount of time to get a project going. In my role as a cinematographer, I'm used to going into a job, and I'm in and out in three to six months - sometimes longer, if it's a bigger film. However, when you direct, it's two or three years, at least. So I'm weighing that whole part of it, too. I'm definitely looking around; let's put it that way.

Interview conducted, edited, and condensed by Nicole Heiman Photo by Sam Comen







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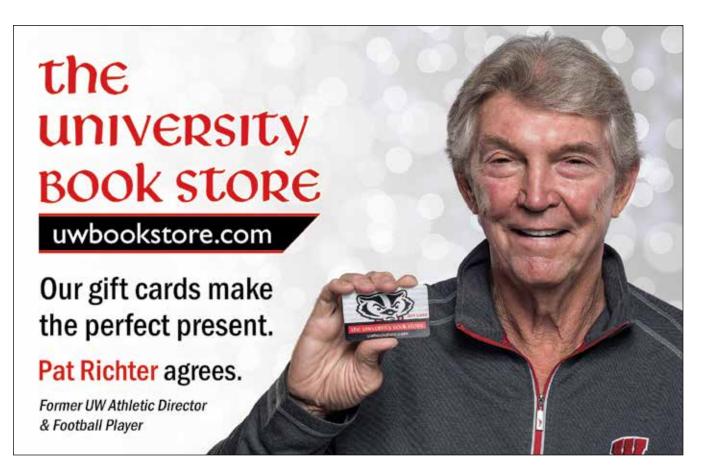


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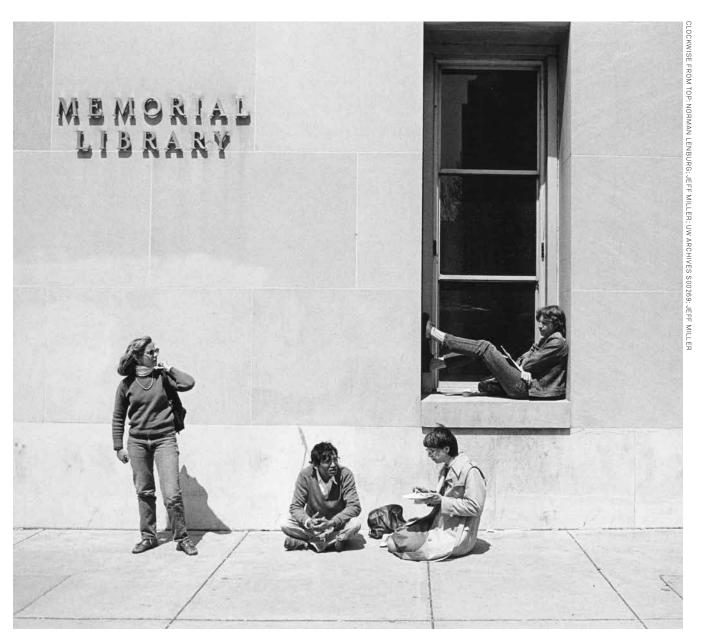
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Destination Memorial Library





Memorial Library is home to 3.5 million volumes — the largest single library collection in the state. Before the building's construction in 1953, the library shared space with the Wisconsin Historical Society.

The library was the state's biggest building project since the Wisconsin Capitol in 1917. In the 1980s, plans for an eight-story addition were reduced by one floor to avoid blocking views of the capitol.

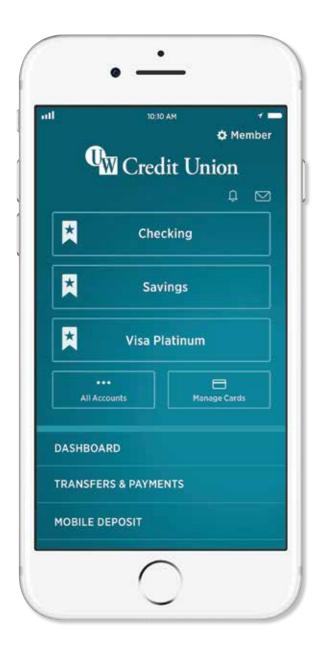


Locked carrels, frequently called "cages," are visible in this 1960s image. Second-year graduate students looking to avoid lugging books back and forth to the library can apply for one of the solitary study spaces.



The library is known as one of the best places on campus to power through solo studying, a reputation reinforced by one review posted on Google: "Quietest public place for UW students. Not suitable for group work."

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