UNIVERSITY OF WISCONSIN–MADISON COLLEGE OF LETTERS & SCIENCE

SPRING 2021

Letters&Science

THE VIEW FROM HERE

page 20

The serotinous cone of a lodgepole pine, opened by the flames of the Maple Fire in Yellowstone National Park in 2016.

PHOTO: NATIONAL PARK SERVICE / JENNIFER JERRETT

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DEPARTMENTS

FEATURES

A nurse vaccinates an eligible Phase 1 recipient with the first of a two-dose shot of the Moderna COVID-19 vaccine at University Health Services.

PHOTO: JEFF MILLER

#WeAreLS

It takes a lot to be caring and understanding to others when you are going through a lot yourself. These L&S professors (and more) earned shout-outs from our L&S students when we asked them (via an Instagram story post): Who made a difference for you this semester? The individual thank-yous can be found in the Profs highlight on our profile!

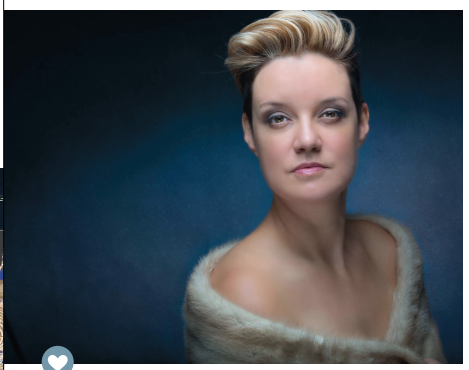
@UWMadisonLS December 21, 2020

Linda Thomas-Greenfield, President-elect Joe Biden's pick for Ambassador to the United Nations, earned a master's degree in Public Administration from UW-Madison, and was given an honorary degree in political science in 2018.

@UWMadisonLS November 24, 2020

He studies Russian, he scores! Tim Butler, a 2014 grad, parlayed his language and history degrees into a dream job with the @NHL.

@UWMadisonLS December 22, 2020



University of Wisconsin-Madison Mead Witter School of Music graduate student Sarah Brailey won a Grammy on Sunday for her recorded performance of "Smyth: The Prison," the world premiere of British composer Dame Ethel Smyth's 1930 work. Congratulations, Sarah!

@UWMadisonLS March 16, 2021

Letters&Science

SPRING 2021

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FROM THE DEAN

Pulling Together

When I look back on this academic year, I feel immensely proud — of our students, who endured social isolation while mastering new ways of learning; of our faculty, who worked tirelessly to adapt to remote teaching and devised countless creative ways to keep students engaged; and of our staff, who kept operations running smoothly, during this incredibly challenging time. I do not want to minimize the difficulty; we recognize that many in our campus community — students, staff, and faculty — are struggling. We are here for them.

As spring arrives, I feel hopeful that our campus life will return to a more familiar state in the coming months. Like so many of you, we are looking forward to the widespread distribution of effective vaccines that will help put an end to this pandemic. I am reminded again of the immense value of basic, curiosity-driven research—the kind of research that happens at a place like UW-Madison. COVID-19 vaccine development drew on discoveries made decades ago. Our biggest breakthroughs, as a society, start with scientists asking, "Why?" and "What if?"

For me, this was also a year in which the value and importance of a liberal arts education was very clear. The trials of the pandemic, a stressed economy, political strife, and racial unrest called for skills that we work to impart in our L&S classrooms every day. We prepare generations of Badgers to be lifelong learners, to think critically, to understand this country's history and its meaning, and to understand the world around them. A democratic society depends on citizens who carry with them the important lessons of the liberal arts education we provide.

We took an important step forward earlier this spring in our mission to make this College, and this campus, a place where all can feel at home and thrive. Our first-ever Associate Dean for Diversity, Equity and Inclusion, DeVon Wilson, will take on the role of elevating these priorities and making sure our minority students and faculty feel not only welcomed but at home here. I am looking forward to the energy and determination that DeVon will apply to our pursuit of this goal.

Our spring magazine highlights, as always, exciting research around challenges we face as a society. An NSF-funded team is studying how to control the COVID-19 pandemic in our prison system. Our climate scientists are collaborating with community partners to share their knowledge about climate change impacts and think collectively about ways to adapt. Colleagues in journalism, political science and philosophy offer perspectives on the nature of truth, which has taken a beating in the age of social media.

You'll hear from our students, too. A story about our Center for Academic Excellence (the program led so successfully by DeVon Wilson, mentioned above) features first-person accounts of how this valuable program builds community and changes lives. The final Sift & Winnow column, penned by L&S student and co-editor of *The Black Voice*, Chelsea Hylton, reveals the potential to be tapped among our underrepresented students in L&S.

One of the many lessons of the past year is that we must meet the challenges of this moment together — be it a global pandemic, climate change, or social injustice. One of my favorite astronomical images is a picture taken of Saturn's rings by the Cassini spacecraft during its mission orbiting Saturn. Just below the rings, if you look hard enough, you can see a little blue dot. That's us. All of us. For me, that is a powerful reminder of one basic fact: This is our home, and we are in this together.

Eric M. Wilcots
Dean and Mary C. Jacoby Professor of Astronomy, College of Letters & Science

Front to back: Calla Ward Olson, Ben Martin, Joe Mrnak in Dr. Emily Stanley's graduate limnology seminar last fall.

PHOTO: MARY ELLEN GABRIEL

1

Making It Work

As part of a series this year, L&S took a look at how professors were adapting their teaching strategies during the global coronavirus pandemic. What we found was great dedication to making virtual classrooms engaging, inclusive and supportive.

Associate Professor of Economics Dan Quint built a lightboard studio in his home office, aimed his webcam the right way, and demonstrated proofs in real time. Assistant Professor of History Mou Banerjee relied on structure and compulsory one-on-one meetings to keep her freshmen on track and engaged. (At the end of Fall semester, her students surprised her with a touching thank-you video.) Integrative biology associate lecturer Scott Hartman and his graduate assistants filmed multimedia-enhanced videos to mimic the intensive hands-on learning that's a hallmark of Hartman's anatomy class. Dr. Emily Stanley and her graduate limnology seminar met outside. The students chose a different park each week. "Collaboration is so important when doing science," says Stanley. "You need to bounce ideas off of one another, analyze samples together. It's a difficult proposition to do research alone from your bedroom."

PHOTO: COURTESY OF WISCONSIN HISTORICAL SOCIETY

2

Inclusive History

The history of Latinx people in Wisconsin is a rich one, but archival documentation is limited at best. Over the next five years, a new project will draw together a group of scholars and community researchers in communities across Wisconsin to document Latinx history in our state and work with the Wisconsin Historical Society to strengthen existing Latinx archival collections. Not only will the Wisconsin Latinx History Collective (WLHC) add critical perspectives and missing facts to the historical record, but it will also help combat ongoing racism and bias, according to Andrea-Teresa "Tess" Arenas, an emerita faculty affiliate of the UW-Madison Chican@ & Latin@ Studies Program, and WHLC founder and project lead. The goal is to "retrofit" the existing narrative of Wisconsin's history with new information about people of Latin American descent. The scope of the project is unprecedented in Wisconsin, according to Armando Ibarra, director of the Chican@ & Latin@ Studies Program at UW-Madison.

3

35,0

4

Pool the Drool

Though it is a saliva-based test, UW–Madison students, faculty and staff are not "spitting" into a tube. It's more like dribbling or drooling. What the lab needs in order to successfully run a test for COVID-19 is the liquid portion of saliva. Within 24 hours, results are available in the Safer Badgers app or through University Health Services. On the app, a screen called Badger Badge serves as a virtual access pass for entry into campus buildings. Those students, faculty and staff who have been fully vaccinated do not need to continue testing, in order to access campus buildings.

PHOTO: BRYCE RICHTER

PHOTO: EXPLORA_2005 / GETTY

5

Polar Hires

As the planet continues to warm, the polar cryosphere (land and sea ice), ocean and atmosphere, and ecosystems face unprecedented changes. A recent hiring initiative aimed at advancing our understanding of polar climate adds four faculty whose research focuses on polar ecology, ice sheet modeling and polar climate modeling: Till Wagner and Hannah Zanowski in the Department of Atmospheric and Oceanic Sciences, Marianne Haseloff in the Department of Geoscience, and Min Chen in the Department of Forest and Wildlife Ecology.

The Emerging Polar Regions hiring initiative joins a diverse landscape of existing and historical strengths in aspects of polar research here at UW–Madison.

6

Dean's Ambassadors Launch

Earlier this year, the College of Letters & Science recruited and launched its first cohort of Dean's Ambassadors, a new program designed to leverage the wisdom and energy of some of the College's brightest students.

Eighteen L&S sophomores, juniors and seniors, representing a wide variety of majors, were selected to become Ambassadors. Among their responsibilities: taking part in listening sessions with Dean Eric Wilcots, offering their perspective on key priorities such as diversity, equity and inclusion initiatives, as well as on admissions and recruiting.

000+

Unique students served since SuccessWorks launched its full-service career preparation program in 2017.

Can parents help reduce racial biases?

BY MARY ANDERSON

PHOTO: FATCAMERA / GETTY

As a PhD student, Katharine Scott focused her research on a multitude of forces that lead to the creation and perpetuation of children's biases. In one of her early studies, non-Black children ages 4–6 played a game in which they received help from Black or White players. Helpful players were all members of one racial group (e.g., Black) and unhelpful players were members of the other group (e.g., White). After receiving help from Black players, participants became more favorable toward both Black players who helped and those helpers' Black friends, but not toward unfamiliar Black people.

Scott concluded that "one-shot laboratory interventions often only produce effects that are short-lived."

Scott, who works in the Social Kids Lab (run by psychology professor Kristin Shutts) and the Prejudice and Intergroup Relations Lab (run by psychology professor Patricia Devine), knew that children have trouble identifying discrimination prior to 8 years of age, making it unlikely that they could recognize and reduce their own biases. Even if they could do so, young children do not have the requisite self-regulatory skills to monitor and adjust their behavior over time. Long-term interventions, Scott concluded, would require adult assistance.

Scott decided to focus her dissertation research on evaluating the extent to which parents can be trained as interventionists to address young children's racial bias.

So far, Scott reports deep engagement from parents and children. "They love the materials that we are sending them, and they are flying through lessons," she says.

After piloting, the full study will be rolled out and run through spring 2021.

The work has already caught the attention of EmbraceRace, a nonprofit dedicated to identifying and creating tools, resources and networks to nurture resilience in children of color and "support a movement of kid and adult racial justice advocates for all children."

The organization made a gift of $46,000 to the Prejudice and Intergroup Relations Lab to help further research that focuses on the experiences of children and youth, with specific direction to fund Scott's efforts to understand how parents can interrupt the development of racial biases in their children. While not a granting institution, EmbraceRace wanted to share some of the donations it received after the killing of George Floyd.

"Katharine's work builds on the only intervention of which I'm aware that has real effects over time — two years — on the attitudes and dispositions of people who undertake it," says Andrew Grant-Thomas, director of EmbraceRace.

Devine says people have asked her for years about the benefits of "starting earlier" to prevent the development of biases.

"As it turns out, biases in children are evident at an early age, but the prospect of intervening with the help of parents before the biases become deeply entrenched holds considerable promise for reducing biases," she says.

Ultimately, Scott says, she strives for her research to have a meaningful impact in the world.

"If my dissertation work proves beneficial, I'll continue conducting research to evaluate under which conditions my intervention yields positive effects," she says. "I hope to collaborate with organizations to disseminate my intervention program broadly to parents across the country." ■

Polish soldiers pose with a mother and child in northern Volhynia during the Polish-Bolshevik war of 1919–20.

FACULTY

Civilizing Influence

Kathryn Ciancia explores how "civilization" has been used to include and exclude certain groups.

BY AARON R. CONKLIN

Kathryn Ciancia's fascination with how people have historically mobilized the idea of "civilization" began with the stories her Polish grandfather shared.

As a child growing up in a town near Liverpool in the United Kingdom, Ciancia, now an associate professor of history, would listen to him describe his childhood in Poland in the 1920s. He would talk about his own father, who maintained the bridge over the Vistula River, which had, prior to the First World War, marked the border between the Russian and Habsburg empires. When the family had to travel beyond their village, they preferred to go to what had formerly been part of the Habsburg empire because they believed that levels of civilization were higher there.

But while she reveled in the personal and emotional connections such conversations sparked, she didn't fully understand what these stories meant.

"He told me about a world that was so alien to me as a British teenager," she recalls. "At the time, I didn't know the historical context — all I knew was what he told me."

In graduate school, that childhood fascination was part of what drove her to unearth the deeper history behind her grandfather's memories. She set out to study how some Poles tried to modernize and, in their eyes, bring "civilization" to the poorest parts of Poland in

PHOTO: COURTESY OF KATHRYN CIANCIA

the wake of the First World War. It's the story she tells in *On Civilization's Edge: A Polish Borderland in the Interwar World,* her recently published first book.

"I didn't end up researching my grandfather's personal trajectory, but rather his sense of Polishness, what it meant and why it was so important to him," she explains.

Instead of focusing on the politicians who sometimes dominate historical narratives, Ciancia decided to look at the folks "in the middle"— including public health workers, schoolteachers, urban planners, and border guards — who journeyed to a province in Poland's multiethnic eastern borderlands. Using photographs, published articles and records from archives, she pieced together the story of how these groups tried to modernize agricultural and building techniques, increase literacy rates and establish sewer systems and usable paved roads.

Ciancia, who had planned to pursue journalism before deciding on academia, had to use a reporter's skills to track down individual stories and place them in their proper context. She also worked on using her sources to communicate the character of a place and time in the past, while simultaneously highlighting the very particular viewpoints those sources offered.

"The important thing was to recognize that my sources were not simply a window into a world, but a staging of that world," Ciancia says. "There was always an agenda behind them."

The book is also about the ways in which mobilizing ideas of civilization involves excluding certain groups, sometimes under the very guise of inclusivity.

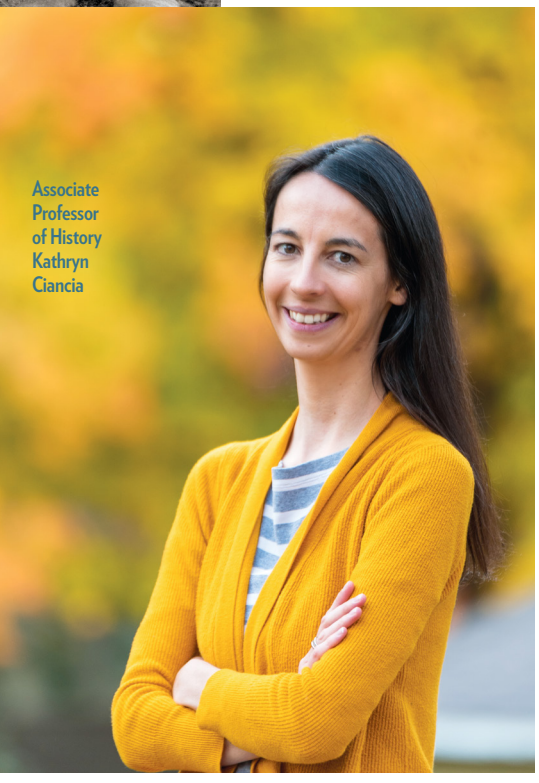
"Who gets to be a member of the nation and who gets to make that decision?" asks Ciancia. "It's a debate we're continuing to have today in the United States and across the world. This book is about Poland, but it's also about a lot more."

During the period covered in Ciancia's book, her historical actors often described an inclusive vision of Polish nationalism, one that encompassed both Ukrainian-speaking Orthodox Christians and Jews. But there were limits to inclusion. Even as some Poles celebrated what they saw as Jewish cultural contributions, like the architecture of historic synagogues, they also attempted to reduce the number of Jews on town councils. Efforts to improve local sewer systems and water quality were often not-so-subtle criticisms of Jewish-run communities.

"Even when people say they are being inclusive, there are often exclusions built into the narrative," says Ciancia.

Ciancia's next project involves exploring the history of how Polish citizenship was managed between 1918 and the early period of the Cold War in locations beyond the geographical borders of Poland — including in China, one of the more unexpected places one might find a community of Polish citizens. She's focusing on the powerful and complex role the staff at Polish consulates held.

"It was often these people who decided on the fate of someone else," she argues. "Such individuals can — and did — change people's lives completely." ■



Associate Professor of History Kathryn Ciancia

PHOTO: KOLIN GOLDSCHMIDT

"Who gets to be a member of the nation and who gets to make that decision? It's a debate we're continuing to have today in the United States and across the world. This book is about Poland, but it's also about a lot more."

KATHRYN CIANCIA
Associate Professor of History

STUDENTS

Building Community

The Center for Academic Excellence supports underrepresented students every step of the way, thanks to determined, compassionate leaders and a strong sense of community.

BY MARY ELLEN GABRIEL

For the last fifty-five years, the L&S Center for Academic Excellence (CAE) has offered support, guidance and a sense of community to underrepresented students at UW–Madison. Known in earlier years as the Academic Advancement Program, and at its inception in 1966 as the Five-Year Program, CAE's foundational goal, set by its first director, Dr. James Baugh (PhD '73), was ambitious: Change the trajectory of students' lives in a way that will lift up their families and influence succeeding generations.

It's that potential to transform that motivates DeVon Wilson, director of CAE, and his team.

"I watch young people come in, unsure, and I see them seize opportunities and take things to the next level while they're here," Wilson says. "They graduate and do things they never thought they could do when they came in. Some of these students feel that people doubt them. We never doubt them. There is an expectation of excellence, and students can feel that energy."

The push to create the Five-Year Program came from trailblazing politician and educator Ruth Doyle (the late mother of former Wisconsin governor Jim Doyle). Today, CAE provides academic advising, leadership development, access to career preparation, and lots of opportunities for students to connect with each other and with groups across campus and beyond.

"We are best described as a one-stop shop," says Wilson. "We want to make the Wisconsin Experience a reality for all students."

CAE academic advisors build long-term relationships with students, helping them articulate their goals and dreams and pointing out high-impact learning opportunities they might otherwise miss, such as undergraduate research opportunities and First-Year Interest Groups (FIGs). They listen. They build trust.

"Our team understands that the students we work with have a lot of talent. Our advising starts with assets, rather than deficits," says Wilson.

Peer mentors are key: They help others new to college break down the complexities of the academic environment. They model effective study habits, share tips on exam-taking and time-management skills, and encourage interaction with faculty. Students can join the Student Advisory Council, sharing ideas and perspectives. They can also just come to CAE and hang out in a safe space, with people who care.

"Community building is critical," says Wilson. "We come at it in multiple ways. We host Study Jams during finals week. We just hosted an online cooking class. It was the greatest experience ever."

Wilson navigated a steep challenge last fall when COVID-19 made in-person, high-touch experiences impossible. The biggest risk, he says, was losing some of the cohort of new students he tries so hard to bring in every year.

"We had a level of determination to get it done," he says. "We had to try new things, not be afraid to fail. Through it all, we really tried to make them feel they were coming to a place where we would help them and be committed to their success. We stayed present with them, and I think they could feel it."

The effort paid off: Wilson and his team ended up bringing in the largest cohort of CAE students ever.

Among Wilson's long-term goals for the program: Make CAE a destination resource for graduate schools and employers looking for skilled, motivated, diverse employees. Develop students as leaders and mentors. Make UW–Madison accessible to as many people as possible. Above all, change lives.

"If we fulfill Dr. Baugh's vision, we're doing great work," he says.

Jaylah Batemon ’22

HOMETOWN *Milwaukee, Wis.*
MAJOR *Psychology*

It can be intimidating coming to a prestigious university. If I’m being honest, without CAE I probably would have transferred. Transition to college is definitely hard, especially for a first-generation student. Adding to that, being a black woman on a predominantly white campus would be a lot harder to navigate without this community. CAE is a place to go and see people like me, which may not sound that important, but after a long day in lecture halls with people who don’t look like you, it is great to have this space to just breathe. I can debrief, break some things down, ask questions, and get support.

Meeting with my CAE advisor, Blaine Harvey, has had a lot to do with my success here at UW. He encouraged me to try new things outside my comfort zone. Hearing about his travel experiences encouraged me to apply for a Global Gateway Fellowship to go to Botswana. It was canceled due to COVID, but I still have the stipend to apply for another program in Ghana. I was encouraged to apply to be a peer mentor for the Multicultural Learning Community. I serve in a leadership position on the CAE student advisory board. What I love most about that is how responsive they are to our feedback about what’s making life difficult for us here on campus.

Here at UW, I am majoring in psychology with a certificate in disability rights and services. I know I want to go to graduate school. I know I want to work with kids. It is a matter of figuring out the career that suits me. It is a journey.

PHOTOS: PAULIUS MUSTEIKIS

Mia Farias '23

HOMETOWN *South Bend, Ind.*
MAJOR *Psychology*

I went to a large high school, but I was the only one in my graduating class to come to UW–Madison. I didn't think I would get in or know how I'd fit in.

Through CAE's summer program [Summer Collegiate Experience, or SCE], I was put into a cohort of kids who are very much like me. They want similar things out of college. Being a minority student at a school that is predominantly white, you are looking for that community. You look at those statistics and it can be intimidating. CAE is very good at creating community for us.

The journey of belonging for me started with my academic advisor, Almira Karajic. She has always promoted my growth. She gave me a token of wisdom: Your major does not define your path. It's all about building a skill set and your narrative. Almira always encouraged me to hold onto my curiosity, and she's helped me find a lot of different opportunities. I took a Criminal Justice FIG [First-Year Interest Group] that made me want to be a lawyer. I've changed my thinking on that. I am doing my own research now and am interested in media psychology. I have a Sophomore Research Fellowship and am working with the faculty director of the UW Survey Center, Jennifer Dykema. We talk about what it's like to find work in this field.

I am part of the new CAE student advisory board. We're working to help CAE make stronger connections with other organizations on campus that have similar missions and goals. That is what's great about CAE: They encourage each of us as individuals to branch out, network with other organizations, meet our business goals, and just generally feel more confident.

Demitrius Nelson '21

HOMETOWN *Milwaukee, Wis.*
MAJOR *Communication Arts/English*

I am a first-generation student. My mom didn't go to college. My dad was not in the picture. Out of 2,000 kids in my high school, I was the only one to go to UW–Madison. To me, that's surprising — my school is right here in Wisconsin, just two hours away in Milwaukee. I saw CAE mentioned in my acceptance letter. I didn't know what that was. I did participate in SCE [Summer Collegiate Experience, for incoming first-gen students]. But even that didn't really prepare me — I was pretty lost at first. It wasn't until I came to CAE and met a few people there — including my advisor and Rachel, my current boss, that I began to feel more connection. Working for CAE has helped me find my groove. I developed a sense of stability in my new environment. CAE not only put me onto a few jobs, they put me onto my fraternity, too. I met a lot of people through CAE. And those people were like me.

Whenever I have imposter syndrome, and I start feeling like I can't do it, and asking myself what am I doing here, someone at CAE will say, "But you *are* doing it." And look at me now: graduating in May.

What I would tell a freshman: Who you are now does not determine who you will be. In high school, I thought: Is this all there is for me? Coming to college, I have been able to explore so much, and I realize that, yeah, there are going to be a lot of things I can do. I am an English/Creative Writing major and a Communication Arts/Radio, TV and Film major. CAE set me up with career and academic career advising. My resume is ready to go! ■

PHOTO: BILL OXFORD / GETTY

Many cellular phone towers are at risk of an outage due to wildfires.

RESEARCH

Protecting Infrastructure

Wildfires damage cellphone towers, and researchers offer site-specific solutions.

BY CHRIS BARNCARD

About one in four people in the United States lives in an area served by cellular phone towers at risk of an outage caused by wildfires, according to a recent study by Paul Barford, a UW–Madison professor of computer sciences, and Carol Barford, who directs UW–Madison's Center for Sustainability and the Global Environment. More than 430,000 cell network transceivers covering approximately 85 million people are in areas the U.S. Forest Service considers at moderate or high wildfire risk, the researchers found. Their study suggests ways to make the sites more fire-hardy.

"This is a kind of road map for cell service providers to make assessments, allocate resources and take steps to make their infrastructure more resilient in the face of this threat," says Paul Barford. The two also collaborated on a 2018 project describing how thousands of miles of fiber-optic cable in the U.S. are likely to be inundated by rising sea levels. Wildfire danger has a distinctly different footprint and presented a complex set of prediction problems.

"Fires are a fact of life for many ecosystems," says graduate student Scott Anderson, first author of the study, which was supported by the National Science Foundation and the U.S. Department of Homeland Security and presented at the ACM Internet Measurement Conference. "Assessing the risk of fire, though, is complex. It varies a lot over time based on the amount of fuel available, how dry that fuel can get as climate changes, and almost unpredictable factors like the source of ignition."

The researchers worked with historical records of wildfires, and matched the Forest Service's map of Wildfire Hazard Potential to a crowdsourced database of cellular network equipment locations from OpenCelliD.

Six states — California, Florida, Texas, South Carolina, Georgia, and North Carolina — each have at least 5,000 transceivers in high-risk areas.

"We think of the wildfire threat as being concentrated only in the western part of the United States," Anderson says. "But we did see that there are areas that are at risk outside of the West, including the southeastern United States — especially in Florida — and even up around Philadelphia."

The threat will only grow as climate change makes many areas more fire prone, and as more Americans make their homes near the cusp of both wilderness and civilization.

"The areas that need the most attention are those where urban growth has gotten very close to forests and other sources of fuel for wildfires," Paul Barford says.

Key among the researchers' recommendations for protecting cellular networks: emergency power.

"Cell towers in high-risk areas all need to have backup power — battery backup or generator backup — that can enable them to continue to operate," Barford says.

The stakes can be high. More than 80 percent of California's 911 calls come from cellphones, and cellular networks are vital to first responders trying to contain a fire and organize in an emergency. ■

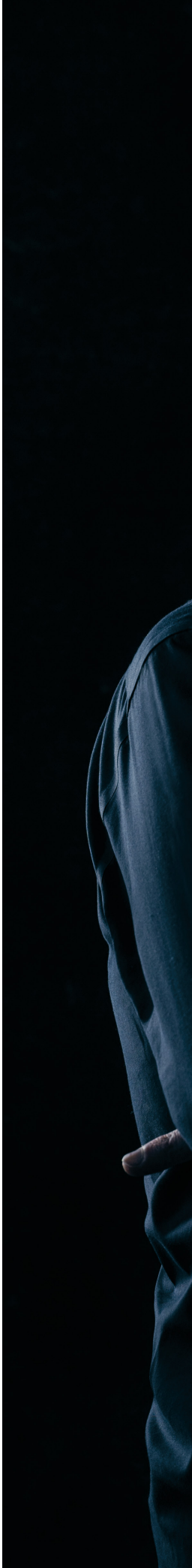


PHOTO: PAULIUS MUSTEIKIS

TEACHING

Of Gods and Monsters

Will Brockliss first encountered Perseus beheading the snake-haired Gorgon Medusa when he was in second grade. The story sparked a lifelong passion for the ancient world in the associate professor of classics, who received the Class of 1955 Teaching Excellence Reward in 2020. In his popular Ancient Greek and Roman Monsters course on campus, and in classes he teaches to students in the Odyssey Project (a UW-Madison program designed to offer low-income adult learners the chance to earn college credit), Brockliss wows his students with the horrors of ancient Greek and Roman mythology.

INTERVIEW BY
AARON R. CONKLIN

I hope that the diverse constituencies of students I work with take away new perspectives on their experiences and the world. But, to be honest, I'd be gratified if they benefit from encountering me to anywhere near the extent that I benefit from meeting them. Every time I visit the Wisconsin Junior Classical League [a statewide consortium of high-school classics clubs] or the Odyssey Project, I come away with a renewed sense of purpose. I've known nothing quite like the electric, boisterous, joyful atmosphere of the WJCL: The students' enthusiasm for the ancient world is infectious.

When it comes to the particular things we do in class, I could go on about projects comparing modern and ancient serial killers or students writing Valentine's cards from the Gorgon. But I'm very fortunate in that the subject matter that I teach tends to speak for itself. My three-year-old daughter is excited about constellations, dinosaurs and monsters — anything that provokes a sense of wonder. We shouldn't ever lose our sense of childlike wonder. Monsters are wonderful in that they remove us utterly from the humdrum everyday world. To the extent that students respond to a particular aspect of my teaching, they often talk about my enthusiasm for the material. That requires no special thought or preparation — I simply love this stuff.

The Greeks and Romans have their child-killers (Medea), their cannibals (the Cyclops), and perhaps even their serial killers (Procrustes, his ax, and his bed). We've built on the foundations offered by ancient artists and authors and added some new kinds of monsters, such as vampires and zombies. These creatures speak to our fear of disease. Up until recently, for many of us in the West, that was only a fear, and put off to some distant future.

Horror is perhaps the most honest of aesthetic modes. It refuses to let us ignore the most basic facts about our bodies (our physical corruptibility, our general *ickiness*) and our minds. Yes, it taps one of our most basic, powerful, and (sometimes) thrilling of emotions (fear), but it also develops from, and explores, other facets of our psychological makeup, which may provide us with less intense experiences than fear but are nonetheless constant presences in our lives. Things like grief and memory. The past (and not just, or perhaps not even mainly, our personal experiences) haunts us, like the revenants of horror. It is always about to return. ■

SOCIETY

COVID, Behind Bars

John Eason maps the connections between the pandemic and prisons.

BY AARON R. CONKLIN

For John Eason, the equation is very simple: If you want to slow the continued spread of COVID-19 in America, you need to focus on the country's prison system.

Backed by funding from the National Science Foundation (NSF), Eason, a professor of sociology, is part of a national team working on a project under the NSF's "Rapid Response Research" banner. Eason and colleagues are mapping the correlation between COVID-19 infections in prisoners and prison staff and infections occurring in nearby rural and urban communities.

"I'm trying to produce good scholarship to show how we improve public safety and public health by reducing our overreliance on the prison systems," he explains.

According to the Marshall Project, a joint effort between the Associated Press and a network of nonprofit journalism outlets designed to track the number of COVID-19 infections among U.S. prisoners, as of early February, more than 377,000 prisoners had been infected, and more than 76,000 have died. At the end of 2020, the rate of COVID-19 infection among prisoners was four times higher than that of the general population.

Eason, who's been studying racial inequities in the prison system for years, isn't surprised by this at all.

"The prison, as an institution, is a symbol of stratification, and it's an inequality generator," Eason asserts, pointing to overrepresentation of Black and Latinx individuals in the prison system, both in terms of prisoners and prison staffing. Nearly 35 percent of staff in state and federal prisons (think bailiffs, jailors, and correction officers) are Black, and 12 percent are Latinx.

"Understanding how the disease gets in is key," says Eason. "There are staff members coming in and out of what we perceive to be a closed system. We think of these facilities as self-contained islands, and they're not."

Eason's initial analysis has shown that the spikes in COVID-19 infections are going both ways, affecting staff and nearby communities. Because COVID testing in prisons isn't mandatory in all states, it's impossible to draw a causal relation. But the correlation is clearly strong.

By looking at the data, Eason is hoping to make policy recommendations to decrease infections and control the spread of the disease. At the top of the list is prioritizing the vaccination of prisoners, an issue that, in many states, including Wisconsin, has been politically controversial.

Eason says it's critical to look past politics to see the bigger picture.

"This disease will hang around longer if you don't go to the hottest spots," he says. "If you want to slow down the incidence and disease rate of COVID-19, the center of the storm is prisons." ■

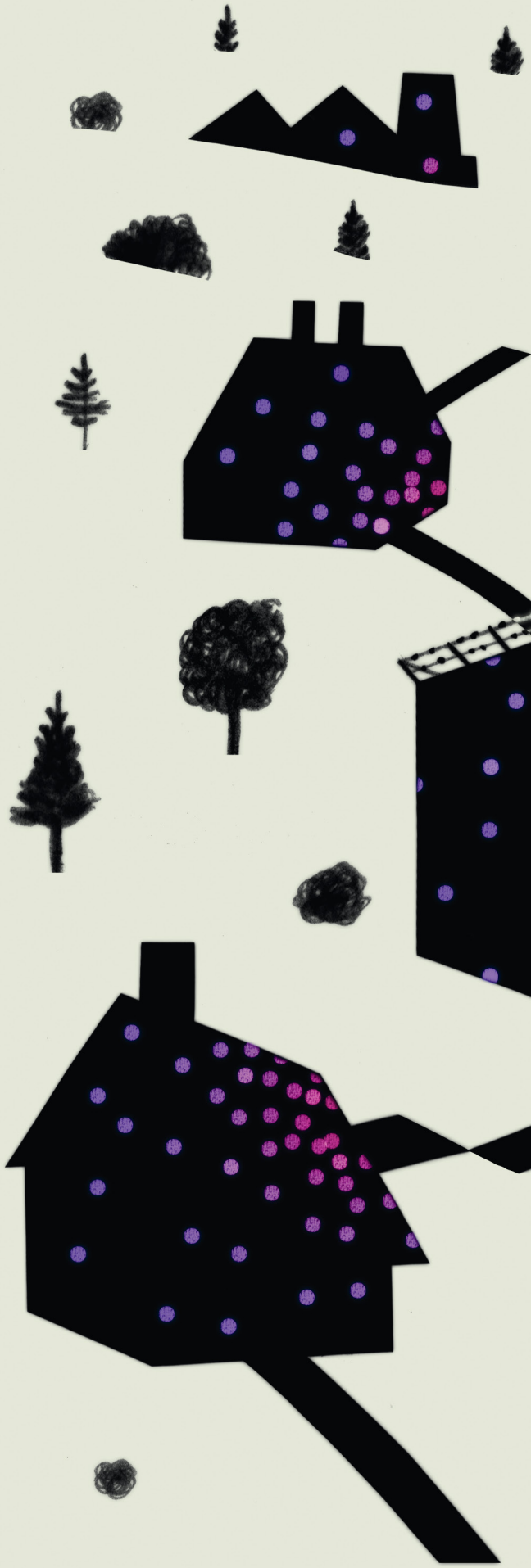


ILLUSTRATION: JR BEE

PHOTO: COURTESY OF THE DEPARTMENT OF COMPUTER SCIENCES

UW-Madison computer sciences students at the Grace Hopper Celebration of Women in Computing in Orlando, FL in 2018.

Engaging Women

The University of Wisconsin–Madison received a Best Practice grant of $279,211 from the Center for Inclusive Computing to increase the number of women graduating with bachelor's degrees in computer sciences. Strategies supported by the grant include initiatives to attract and retain women in computer sciences, develop programs that address disparities, and create a community of support for women. Ten other universities, including Barnard College, Columbia University, Rutgers, and the University of Minnesota, also received the Best Practice grant. While the percentage of women graduating with computer sciences degrees at UW–Madison has increased over the past few years, it was still only 16 percent of computer sciences degrees earned this year. That's lower than the national average of 19 percent, according to the U.S. Department of Education's National Center for Education Statistics.

"Women must be at the table in shaping the future of technology, but that can only happen if we inspire, educate and create opportunities," says Kristin Eschenfelder, associate director of the School of Computer, Data & Information Sciences.

Democratizing Data

DataChat, the fourth tech startup from University of Wisconsin–Madison computer sciences professor Jignesh Patel, makes data science accessible to anyone. Founded in 2017, it has grown quickly to 20 employees and recently received $4 million in funding from Silicon Valley venture capital firms.

DataChat's growth illustrates the many ways UW–Madison nurtures start-ups that arise from university research. It received support and early funding from the Wisconsin Alumni Research fund and a home in a University Research Park site for its Madison headquarters.

Business users can "chat" with DataChat's Conversational Intelligence (CI) platform to obtain insights from their data themselves, without programming expertise. This democratization of big data helps companies build their analytics capabilities easily and economically.

Advancing Anti-Racism

The Andrew W. Mellon Foundation has awarded $5 million to fund an interdisciplinary, multi-year project to advance anti-racist practices and pedagogy in science, technology, engineering, mathematics, and medicine (STEMM). The University of Wisconsin–Madison–based Humanities Education for Anti-Racism Literacy (HEAL) in the Sciences and Medicine, will bring together faculty, students, community members, and Tribal partners to address a lack of awareness of histories of racism in academic disciplines, especially in science disciplines, and a

Alex Plum, a senior from Whitefish Bay, Wis., majoring in Mathematics and Engineering Physics with Honors in Liberal Arts and certificates in Computer Sciences and Physics, was a finalist for a 2021 Rhodes Scholarship. Only 32 American students received the prestigious award.

Professor of History **Jim Sweet** has been selected as the president-elect of the Washington DC–based American Historical Association (AHA), a national organization that supports historians in all fields and professions, as well as advocating for the critical role of historical thinking in public life.

A trio of astronomy professors — **Amy Barger, Jay Gallagher and Ellen Zweibel** — were among 31 elected as 2021 fellows to the American Astronomical Society (AAS). All three were cited for their long-term contributions to the field, from mapping of galaxies and black holes to theoretical astrophysics.

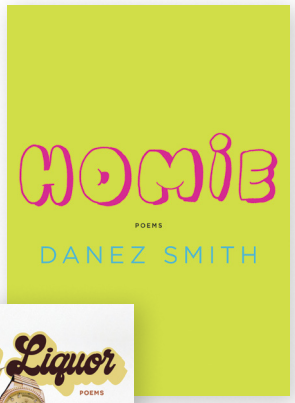
lack of diverse representation in STEMM across sectors, from academia to industry.

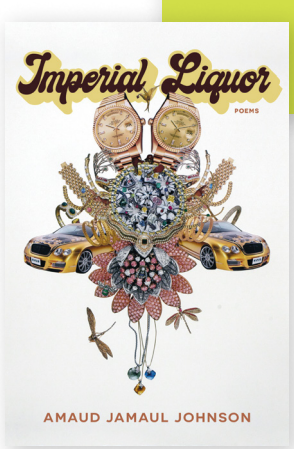
Led by Elizabeth Hennessy, a professor of history, UW's team is cross-university, and even inter-institutional, with a co-PI from the University of Washington, another collaborator at Duke University, and several community partners. L&S team members include Christy Clark-Pujara (Afro-American studies), Erika Marín-Spiotta (Geography), and Cheryl Bauer-Armstrong (Planning and Landscape Architecture). See news.wisc.edu for more.

Elevating Poetry

Two of the five finalists for the 2020 National Book Critics Circle Award for Poetry have L&S connections. Professor of English Amaud Jamaul Johnson is nominated for his *Imperial Liquor*, a collection of poems reacting to the melancholy and monotony of racism, while Danez Smith, a 2012 graduate of UW-Madison's First Wave Urban Arts Scholar program, is nominated for *Homie*, their book of poems about friendship, joy and intimacy in a troubled America.

Finalists for the National Book Critics Circle Award for Poetry.





MORE L&S NEWS AT **LS.WISC.EDU/NEWS**

The HEAL project leadership team is pictured. Top row, from left: Maxine McKinney de Royston, R. Justin Hougham, Cheryl Bauer-Armstrong, Christy Clark-Pujara; middle row: Erika Marín-Spiotta, Robin Rider, Troy Reeves, Monica M. White; bottom row: Elizabeth Hennessy, Todd Michelson-Ambelang, Cleo Woelfle-Erskine.


The
View
from
Here

PHOTO: ALEKSANDAR GEORGIEV / GETTY

Planet Earth is changing. UW's climate scientists study how much, how fast and whether we can adapt. Here's an inside look at their world — which is also ours.

BY MARY ELLEN GABRIEL

The year 2014 stands out for Dan Vimont for a couple of reasons. It's the year his daughter turned one, and it was also the year that the Earth's atmosphere passed a carbon dioxide content of 400 parts per million for the first time in human history. In November of the following year, that threshold became permanent. There is no going back.

"That weighs on me," admits the professor of Atmospheric and Oceanic Sciences. "My kids are going to grow up in this world."

Vimont has the cheerful bearing of an outdoors enthusiast — he's an avid fly fisherman and says he got into his field, twenty years ago, because "I liked math and I liked being outside" — but he turns sober when talking about the implications of climate change.

"I worry about the human health aspects of it, and how it disproportionately affects certain communities," he says. "I wonder, what will our world look like? Will we use climate change as a way to come together to solve a massive problem that we all share? Or will my kids end up inheriting a world where we are at odds?"

UW–Madison is home to dozens of scientists studying climate change and its impacts on our earth. Experts are working not only in Vimont's home department, but in geoscience, geography, ecology, and many other fields. Over the decades, their work has helped shape our understanding of what could happen if humans continue to pump massive amounts of greenhouse gases into the atmosphere. They work together across disciplines and with partners outside the university. They give TEDx presentations, talk to Kiwanis and Rotary Clubs, visit classrooms, lead international consortia, win awards.

They also worry — a lot.

"One of the great challenges we are facing is, we are moving the earth system to a climate state we've never seen in our human lifetimes," says Jack Williams, a geographer who uses the geological record to study how plants and other species respond to climate change. "We have to go beyond the present and even the last couple of centuries to find analogs to what we're seeing today." Williams points to the end of the last ice age as one such period, in which Wisconsin was completely transformed as a result of five degrees Celsius of warming.

Monica Turner, a leading landscape ecologist well-known for her studies of forests' resilience to fires in Yellowstone National Park, says there is an incredible amount of human suffering ahead if we don't act now.

"The consequences of not changing society's behavior at a global scale are really dire," she says.

You may draw a blank trying to think of another realm where the scholarly findings point so inexorably toward future suffering and upheaval. But geoscientist Andrea Dutton has an answer at the ready.

"Epidemiology," says Dutton, a recent winner of the MacArthur Foundation's "Genius" grant for her work on sea level rise. "Epidemiologists have entered this arena where climate scientists have been sitting for a long time. Welcome to the party, we tell them. Like us, they see trouble coming. It's not a question of if, it's a question of when. And they encounter denialism, too."

With President Biden setting an aggressive agenda on climate-related measures, Dutton says she is cautiously optimistic that "denialism," at least, may take a back seat to activism and change. But will it be enough? Will it come in time?

On one level, climate science is painstaking and precise, and unfolds slowly over time. Scholars look hard at small things in order to understand larger phenomena. Turner's graduate students, for example, re-create the conditions for lodgepole pine seedlings to germinate and then watch them grow — trying to understand the soil conditions that allow Yellowstone's iconic trees to establish again after huge fires. Dutton examines the skeletons of coral to track sea level rise through time. Vimont runs models of ocean and atmosphere interactions in the tropical Pacific, inserting one alternate hypothesis after another to test their reliability. For Williams, something as tiny as spruce pollen in a soil sample tells a sweeping story of a Wisconsin landscape long since lost.

Along with hundreds of minute scholarly research inquiries, though, they are asking the same big questions that tease worryingly at many of us: How high will the water rise? How fierce will the fires burn? What will our food systems look like? What new threats will we face?

Vimont, who started out thinking of his work, at a basic level, as "two fluids interacting on a rotating sphere," now realizes that big-picture societal impacts — and the risk assessments and policy decisions that can mitigate them — are critical to his climate research.

"I evolved from being a pure climate scientist into recognizing how climate science interacts with other fields in order to ask new questions," he says. "Back in the early 2000s, there was a sense that climate scientists are going to tell you what the climate is going to be, and others will use that information to make good decisions. It doesn't work that way."

Vimont, whose primary focus is El Niño (the "biggest thing that regularly happens in our climate system"), first had this epiphany years ago, when he began working with some applied economists from Stanford University to determine how El Niño could impact rainfall and hence food security in Indonesia. El Niño events are associated with reduced rice production in Java.

"But when I ran the analysis, I saw it was plenty wet during the monsoon," he says. "The economists found that the problem isn't rainfall amounts, it's that the rain is delayed. There is a period of time at the end of the harvest where they were expecting to produce rice, but it's not there yet. They call it the 'season of hunger.'"

Rather than asking how much rain falls, Vimont says, the question then became: What causes the delay of the monsoon onset, and how do I verify that, rather than changes in rainfall?

PHOTO: ANDREA DUTTON

Looking down on a partially eroded Goniastrea sp. coral that grew during a past warm period, when sea level was higher than today.

Jatiluwih rice terraces under a cloudy sky during a storm in Bali, in Indonesia.

"There's no way I would have known that, without having conversations with economists and farmers who know how rice is grown," he says.

A few years later, Vimont used that conversational model to help spearhead a group called the Wisconsin Initiative on Climate Change Impacts (WICCI). WICCI brings people together to better understand and prepare for the impacts of climate change in Wisconsin. That effort took off, with partners in a wide range of fields and sectors of our economy and across the state, including the Wisconsin Department of Natural Resources. The group has put UW–Madison on the map, nationally, as a leader in climate adaptation.

"That kind of collaboration is a signature of Wisconsin," Vimont says. He tells his graduate students that here at UW, "the bars are high, but the walls are low."

> "We have to go beyond the present and even the last couple of centuries to find analogs to what we're seeing today."
>
> **DAN VIMONT**
> Professor, Atmospheric and Oceanic Sciences

Elevating the importance of outreach and conversations may have helped put Andrea Dutton on the MacArthur Foundation's radar. When she gave a TEDx talk in 2017 ("Reframing Sea Level Rise"), she told the audience, "I am a mother, a sister, and a daughter... The reason I came here today is not to save the planet ... Planet Earth is going to survive. I came here today to save human lives."

Dutton feels a moral and ethical obligation to share her knowledge with the greater public.

"I'm a human, too," she says, her voice cracking a little.

Dutton arrived at UW–Madison last year from the University of Florida, bringing with her a unique expertise in dating the timing of coral growth. Because they need sunlight to survive and live close to the sea surface, corals offer clues to the history of past sea level rise.

"I tell my students it's like *CSI: Planet Earth*," she says. "We are figuring out the puzzles of what happened in Earth's history from these bits and pieces in the geologic record."

The past is a yardstick for the future—up to a point. Dutton and her global collaborators are working to understand how high seas have risen in past warming events, and how quickly that has occurred. They are most concerned about the west Antarctic ice sheet, the underside of which is being bathed by warmer water in the Southern Ocean. Ice sheets have melted in the past—but unlike in the past, when one hemisphere or the other might warm because of slight changes in the geometry of our orbit around the sun, our climate is now warming at both poles due to the concentrations of greenhouse gases that warm the entire atmosphere. In a worst-case scenario, Dutton says, eight feet of sea level rise by 2100 will drown many coastal areas.

Even in Florida, where people can see sea level rise happening, the profound impact shocks her listeners.

"After a talk, people will come up and say, wow, I wasn't aware of just how bad this really is. What I get to do, in these public settings, is wear my scientist cap while showing my human side. We need to understand how this is going to affect us, the people we love, the communities where we live, and global communities, too."

Dutton's outreach spans everything from Kiwanis Clubs to real estate investors, documentaries to radio interviews, webinars to city council meetings to the U.S. Congress (she testified in front of a U.S. Senate subcommittee on greenhouse emissions in 2019), and it's in these settings that Dutton feels increasing momentum around what she calls "a social problem, not a science problem."

"If there was a silver lining to the rollback of environmental policies of the last few years, it's that people began paying attention," she says. "The most important thing we can do is talk about it. You don't have to push an agenda. Listen to people, get their thoughts on what they value. Even if you are at a dinner party, bring it up."

"The most important thing we can do is talk about it. You don't have to push an agenda. Listen to people, get their thoughts on what they value. Even if you are at a dinner party, bring it up.

ANDREA DUTTON
Professor of Geology

Whatever the potential scenarios, the concern is how quickly we will get there. Williams, who uses the geological record of the last 20,000 years to study how plants and other species respond to climate change, ponders the meaning of "abrupt change," a key term in climate science.

"One way to look at it is, a forcing point is reached," he says. "We see a quick flip in ecosystem state. Will this happen more quickly than we can adapt?"

In a 2018 paper published in the Proceedings of the National Academy of Sciences, Williams caused a stir with analyses of future climate analogs showing that Earth's climate is expected to resemble that of the mid-Pliocene by the year 2030. That's going back 3 million years in geologic time. If greenhouse gas emissions continue unabated, climates by 2150 could compare to the Eocene of 50 million years ago.

Relics of the last ice age, hemlock trees have survived for more than 10,000 years in cooler micro-climates like this ravine in the Baraboo Hills.

Fire creates ideal conditions for certain species in the Yellowstone forest system (like lodgepole pines), but the frequency and intensity of fires is making it difficult for new seedlings to establish and grow.

"That study helped put things into context," says Williams. "We have to look much further into the past to understand what things will look like."

Pollen extracted from lake sediments tells Williams that Wisconsin and points south were once covered by spruce woodlands, during the last ice age. They aren't here anymore, because when the ice retreated, the climate warmed too much for spruce to survive. Oak woodlands and prairie ecosystems took their place. But how quickly? In the case of the last great warming here, "quickly" was centuries. Today, it might be decades.

"I try to focus now on the adaptation part," Williams says. "I work with conservation managers on looking at this in a new way: there is a strong tradition of preserving and conserving what was here 200 years ago, but that's just a moment in time. If species like, say, magnolia are starting to move up here, outside their historic range, maybe we should be helping them, not rooting them out."

Extending the survival of species now native to the region may depend on a strategy to identify "resilient landscapes."

"The Driftless area, for example, has lots of microclimates where species can survive for a while," he says. "Maybe a species that is cold-adapted can find a cold zone, like a spring-fed pool, and hang out there. Identifying these pockets of resiliency is going to be the key to climate adaptation strategy."

As a geographer, Williams has compared today's environmental analysts to Old World mapmakers, charting unknown territories.

"There will be novel ecosystems unlike any we have seen today," he says.

Over the decades, even as scientists have learned more about the importance of using the past as a yardstick for the future, and have applied ever more rigorous thinking to analogs and projections for future climate impacts, there have been "well-funded efforts to sow uncertainty around climate change," according to ecologist Turner.

"It is frustrating and sad that as a society we have such a poor ability to act collectively for the common good," she says. "We are certain now that this is a statistically significant detectable trend, and it's going consistently in the direction that we expected."

Turner herself has had to pivot to keep up with rapidly changing conditions. Her work on the massive fires that consumed Yellowstone in 1988 showed that forests were resilient to fire. But, she says, those conclusions were based on patterns over the last 10,000 years, when big fires like that occurred once every 100 to 300 years.

When large fires in 2016 re-burned some of the same areas that had burned just 28 years earlier, she began to ask different questions: What if the next 100 years look a lot different than the last 10,000? What if it's hotter and drier every year? Could we undermine the resilience of those forest systems? What she found was disturbing.

"Our ecosystems have withstood many changes in the environment over thousands of years," she says. "They have resilience built in, otherwise they wouldn't be here today. But are we creating conditions for multiple events—fires followed by more drought, for example—that push the system so it's not able to recover? The answer is yes."

In the worst-case scenario, in which we continue our "business-as-usual" approach, about half of the forested area in Yellowstone will be lost.

The national park is an iconic landscape for many, and Turner found her calling there as a 19-year-old ranger naturalist.

"I was a kid from New York who had never been west. I fell in love with Yellowstone's remoteness and its expansive forests. I love hearing the wolves howl around the bay of Yellowstone Lake."

She feels a personal mission to convey what's at stake, to other park visitors. Working with funds from the Camp Monaco Prize she won in 2020, Turner and her graduate students have been turning observations and data into visualizations for the park.

"I would like for visitors to understand that this is what this landscape could look like if we restore our atmosphere. And this is what it will look like when your grandchildren come here, if we don't do anything. I feel the urgency of finding a way to help people to understand, because it *can* be really hard to grasp," she says.

The enormity of the problem can be overwhelming. Guilt or denial are common responses. And while big, societal changes are what's needed to solve it, these scientists say, individual actions help them stay motivated and hopeful. Ride a bike. Use renewable energy. Talk to people. Push for systemic change.

As Williams says, "Despair is not a strategy." ■

PHOTO: JOHN HART / WISCONSIN STATE JOURNAL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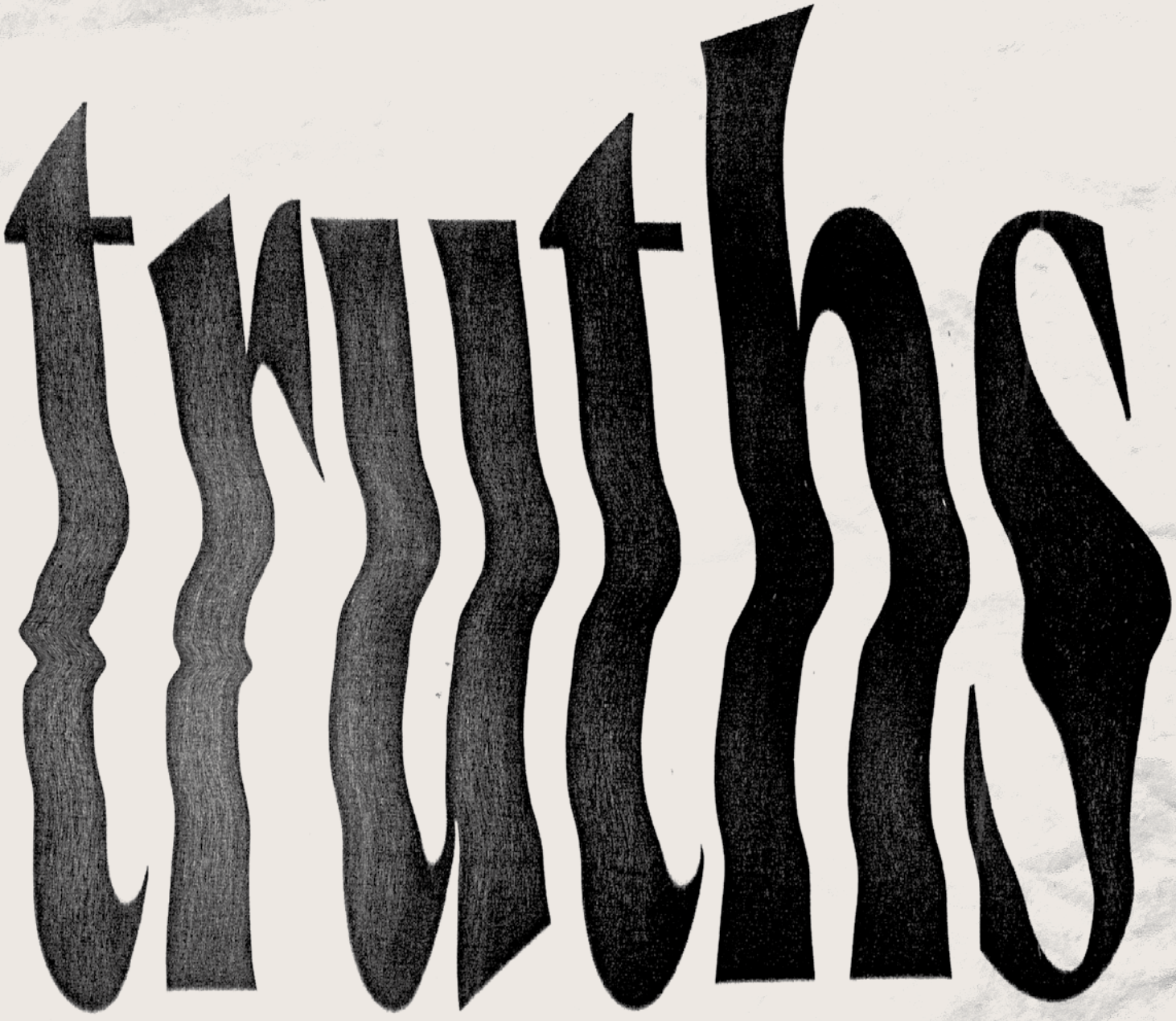

Our ability to agree on a shared sense of what is true — based on a set of facts — seems like it's never been quite so damaged. UW experts across multiple disciplines are researching the problem — and they see plenty of reasons for hope.

BY AARON R. CONKLIN

The concept of truth has taken a massive beating over the past several years. Our political discourse on critical topics facing our nation — Who won the 2020 presidential election? Is climate change real? Can masks and social distancing help prevent the spread of COVID-19? — has been warped by rampant waves of disinformation, spread by social media platforms, manipulative politicians and a proliferating number of partisan news outlets.

"We're in the middle of this toxic stew that leads a substantial portion of citizens to refuse to believe the plain and verifiable truth," says Mike Wagner, a professor of journalism whose research sits at the intersection of media and politics.

While this modern truth-trashing phenomenon has accelerated over the past four years, it began four decades ago. Wagner pins it to the rise of conservative talk radio in the 1980s, led by pundits such as the late Rush Limbaugh. The rise of the conservative-leaning Fox News Network in the 1990s quickly became the second pillar.

"Both of these sources provided an alternative to mainstream news coverage, and both of these sources told their audiences that mainstream news coverage was not to be trusted," Wagner explains. Fast-forward to today, where our social-media-driven world makes big lies and wild conspiracy theories easier to spread than carefully researched facts. It's hard to imagine how we return to widespread trust of institutions such as the Centers for Disease Control, or longstanding news outlets with more than a century's worth of adherence to rigorous standards of journalism and awards recognizing that rigor.

Through a range of disciplines that includes political science, journalism and philosophy, UW-Madison professors have been examining the issue and charting a way to return to a fact-based vision of the truth. Professor of Journalism Young Mie Kim has become a national expert in tracking the sources and impact of misleading targeted ad campaigns on social media platforms like Facebook, while Professor Sijia Yang has studied the elements that go into creating successful, fact-based health campaigns, a topic that's only grown in importance during the COVID-19 pandemic. Meanwhile, philosophy professors Steven Nadler and Larry Shapiro have been examining how a wave of nonrigorous thinking has infected Americans.

Most experts agree that our access to and use of social media (primarily Facebook and Twitter) has been at the center of the disinformation storm, amplifying the ability of bad actors and uninformed citizens to spread wild conspiracy theories that sow division and influence the outcome of elections. Through her Project DATA (Digital Ad Tracking and Analysis), a research effort aimed at tracking the sources of targeted ad campaigns on digital platforms, including Facebook, Kim has been able to shine the light on election interference by both foreign and domestic groups. In a recent "UW Now" town hall broadcast, Kim talked about the ways these misleading ads are designed to promote voter suppression and stoke anger among extremist groups. Her group's findings have already convinced social media companies to step up monitoring and regulating political advertisements on their platforms.

"Disinformation campaigns feed on our vulnerabilities — our political/social divides, fear, lack of confidence in institutions like governments, courts and media," says Kim. "And data-driven, algorithms-based, micro-targeted platforms amplify disinformation and its problems."

Meanwhile, Wagner has led multiple research projects related to misinformation and the process by which people can be convinced to change their views and believe in facts. In a recently published study in the *Journal of Communication*, working with graduate student Jianing Li, Wagner discovered that the most important step for individuals is to admit you don't know something.

Wagner and Li asked a group of participants questions about what they knew about 50 different issues, and how confident they were in their answers. They found that respondents who were misinformed and supremely confident about what they believed — think climate change deniers and those who believe the 2020 election was "stolen" — were not swayed by being given accurate information about the topic. Not being able to admit you're unsure, in other words, makes you less susceptible to the truth.

"But when people are willing to admit they just don't know the answer to something related to current affairs, they are way more likely to benefit from seeing news coverage about that issue or a fact check about that issue," says Wagner.

In separate studies, Wagner examined other factors that might influence whether an individual is more likely to endorse a lie or conspiracy theory. Not surprisingly, it's linked closely to the information environment. Individuals who "let the news come to them" in their social media feeds, rather than seek out and engage with diverse media sources in places other than social media, were the most likely to buy into bizarre conspiracy theories such as QAnon.

"It's because they're not staying informed and they're not doing the work of being critical about some of what they see in their social media feeds," Wagner explains. "People's orientation toward their own responsibility as citizens can really influence the flow of conspiracy theories."

So why is it that so many Americans keep choosing to subscribe to arguments and beliefs that are demonstrably false? It's a question Nadler and Shapiro, the philosophy professors, have been considering for some time — in fact, they have even written a book about the subject that's coming out later this year. It's called *Why Bad Thinking Happens to Good People: How Philosophy Can Save Us From Ourselves*. According to the authors, the problem comes back to a question of evidence.

"By 'bad thinking,' we mean people forming beliefs in the absence of evidence, or the presence of evidence to the contrary, and then holding onto these beliefs when all evidence shows them to be false," says Nadler. In the book, the two address a wide range of these people, from anti-vaxxers to school shooting deniers and, of course, those who refused — and continue to refuse — to accept the results of the 2020 election.

For Nadler and Shapiro, bad thinkers are guilty of both epistemic stubbornness — clinging to beliefs in the face of contrary evidence — and normative stubbornness. The latter term describes people who don't just hold unsupported beliefs but take it a step further and act on them, like the rioters who stormed the Capitol.

As their book title suggests, both philosophers believe that their chosen discipline could hold the key to solving the problem.

"Philosophy teaches you about evidence and proper belief formation and responsible thinking," says Nadler who, like Shapiro, would like to see students learn the basic principles of philosophy in both elementary and high school.

"Subjects like logic and critical thinking are no more complicated than other topics kids learn in their math classes," says Shapiro. "You have an obligation as a citizen to educate yourself as to what constitutes a good reason and what constitutes a wise action." ■

"Disinformation campaigns feed on our vulnerabilities — *our political/social* divides, fear, lack of confidence in institutions like *governments,* courts and media. And data-driven, *algorithms-based,* micro-targeted platforms amplify *disinformation and its problems.*"

YOUNG MIE KIM
Professor of Journalism

PURSUING C*VID-19

Across UW's campus, $45 million and 67 new grants were awarded in COVID-19–related research in 2020. In the best tradition of the Wisconsin Idea, L&S researchers have tackled the issue from multiple angles, adding critical insights to the ways in which the pandemic has affected lives in Wisconsin and beyond.

ILLUSTRATIONS BY MIGUEL PORLAN

Reka Sundaram-Stuke, a research fellow in the Center for Research on the Wisconsin Economy (CROWE), released a report on the threats to food, employment, housing, and mental health security experienced by Wisconsinites in the early weeks of the pandemic. The analysis showed that the COVID-19 pandemic had real economic fallouts in key areas: job loss, food security, and housing security. Sundaram-Stuke also found an increase in anxiety levels across all income groups, pointing to a correlation between threats to economic security and mental health.

As part of its ongoing effort to document and analyze the economic fallout of the COVID-19 pandemic, CROWE featured research briefs throughout the fall on a variety of impacts.

Using anonymized data from hundreds of thousands of cell phones, Professor of Geography Song Gao was able to create maps and models that tracked the movements of Americans during the COVID-19 pandemic, when most of them were living in communities under stay-at-home orders designed to prevent the spread of the virus. Using a tool available through Gao's Geospatial Data Science Lab, experts were able to track, on a day-by-day basis, how maximum travel distances increased or decreased. While the tool wasn't designed to track specific individuals — it used proxies instead — it did give researchers a clear sense of the relationship between movement and virus spread.

"The way behavior changes as orders and messages change tells us what was successful," says Gao.

Adeline Lo, an assistant professor of political science, was part of an international team that calculated the number of years of life lost to the virus, measured across 81 countries, including the United States: 20,507,518 years, with the average years of life lost per death at 16. Researchers used population and country life expectancy data to make their projection, also comparing years of life lost to COVID-19 to two other significant sources of fatality — heart conditions and traffic accidents. The group's findings, published in *Nature*, confirmed that the elderly are hardest hit by the virus, and that policies are needed to protect the most vulnerable demographics in each country.

Last spring, Brian Yandell, professor of statistics and interim director of the American Family Insurance Data Science Institute at UW–Madison, began to wonder about the ways in which mathematical modeling could help inform policy-makers and the general public about the pandemic.

Yandell reached out to researchers at UW Health, the School of Medicine and Public Health, and others on campus, such as Michael Ferris, professor of computer sciences and director of the Data Science Hub at the Wisconsin Institute for Discovery.

Within three weeks, Yandell had heard from more than 100 people across campus and throughout the U.S. who are now participating in various ways. The COVID-19 Data Science Research Group works under a charter focusing them in three areas: interpreting data, using that data to create models, and sharing information and findings. For example, researchers have used data visualization tools to track infectious disease trends. The data science research group has also collaborated with the Wisconsin Department of Health Services, most recently on problems with hospital overcrowding and vaccine delivery.

Masks reduce the risks of COVID-19 infection, but they also cover most of our faces, masking the facial cues that often help children know what and how we're feeling.

Ashley Ruba, a graduate student in the Department of Psychology, and Professor of Psychology Seth Pollak, the director of the UW-Madison Child Emotion Lab, conducted a study that concluded masks are not preventing kids from understanding adults' facial expressions.

Ruba and Pollak showed more than 80 children, ages 7 to 13, photos of faces displaying sadness, anger or fear that were unobstructed, covered by a surgical mask, or wearing sunglasses. Asked to assign an emotion to each face from a list of six labels, the kids were correct about the uncovered faces as often as 66 percent of the time, well above the odds had they simply guessed from the six options they were presented.

"Even with a mask covering the nose and mouth, the kids were able to identify these emotions at a rate better than chance," says Ruba.

In a study from the UW School of Workers, funded by the Wisconsin Department of Health Services and prepared in partnership with UW's Population Health Institute, authors Alexia Kulwiec and Armando Ibarra (Chican@ and Latin@ studies) found that COVID-19 has devastated the lives of essential workers, their families and their communities. While many in the U.S. can work from home during the pandemic, those who grow and prepare the country's food, care for the sick, maintain the state's infrastructure, and educate the nation's children must leave home to do their jobs. Workers of color and Latinx workers face greater risks than their non-Latinx, white counterparts and suffer poorer health outcomes as a result. This report presents the concerns about workplace safety expressed by workers in several industries deemed essential. ■

Music Man

Jeremy Vuernick (BA '11) makes it his mission to find the next big breakout music star.

BY AARON R. CONKLIN

Jeremy Vuernick still remembers the call.

It was 2014, and Vuernick, a recent UW–Madison graduate in journalism and mass communication, was hanging in a New York City bar with friends, when another friend buzzed his cell, raving about an artist he "had" to meet. Vuernick, who worked as an artist and repertoire (A&R) manager for Astralwerks Records, managed to connect with her a few days later.

That artist turned out to be Halsey, then an unknown, struggling singer-songwriter who'd only just begun making her name on Tumblr and Facebook. Over a meal of lobster rolls, Vuernick signed her to a recording contract. Today, she's a Grammy-nominated artist, named one of *People* magazine's most influential people of 2020.

"She was couch-surfing at friends' houses," Vuernick recalls. "She dropped her duffel bag in my cubicle, and we talked about life and experience. I was mesmerized, blown away by her."

That experience is the epitome of Vuernick's current gig. As of January 2021, he's the executive vice president of Capitol Music Group, one of the largest record labels in the music industry. Vuernick's roster includes Marshmello, Katy Perry and Troye Sivan, as well as projects with Paul McCartney and Tom Misch. It's also his job to always be searching for — and then signing and taking care of — the Next Big One.

"As an A&R guy, you're only as good as the projects you work on and the people you sign," Vuernick says, from his office

in Los Angeles. "My job is being the artist's protector, making sure their message doesn't get messed up along the way. For me, it's about the love of and passion for music."

Vuernick, 31, grew up in New York and had always been inspired by poetry, drawing and music. When his older brother went to UW–Madison, he decided to follow him there, but sitting in his entry-level art and art history classes, he found his mind beginning to wander.

"I started to wonder, what would my career path be?" he recalls. "I realized I wanted something at the intersection of art and commerce."

He found it at the J-School, focusing on marketing and strategic communications. But he also did some important learning outside the classroom. At every step, his decisions about what to study, and which skills to add to his repertoire, positioned him to take advantage of opportunities when they arose. As a result, doors have opened all the way to the top.

As an undergraduate, Vuernick became a student brand ambassador for Electronic Arts, surveying students and organizing events at Madison bars to promote the massive video game publisher's latest releases. At the same time, he was also splashing the local music scene, bringing friends into Madison bars to DJ at a time when electronic music, one of his favorite musical genres, was just beginning to explode.

"That's always been the key," he says. "Understanding audiences."

Through internships, Vuernick taught himself basic graphic design skills to create eyeball-grabbing concert flyers, logos, and Facebook banners. Vuernick landed an online media manager gig at Ultra Music in New York, a record company that repped several artists in Vuernick's beloved EDM genre, including Steve Aoki and deadmau5.

"I was that young kid who loved music and knew how to connect with fans, because I was one," says Vuernick. "But my Wi-Fi at the time wasn't so great. I did my interview for that job in Memorial Library."

"My job is being the artist's protector, making sure their message doesn't get messed up along the way. For me, it's about the love of and passion for music."

JEREMY VUERNICK

Three days later, he was set up in New York, coding and running digital marketing campaigns for upcoming shows. When he found himself at a club talking with Ultra Music's CEO, he took the opportunity to ask about jumping into A&R. His whirlwind experience is what put him in position to join Astralwerks in 2013, just two years after graduating from UW–Madison.

"I learned all the ins and outs," says Vuernick. "My time at Ultra was an opportunity to see the music industry from 10,000 feet."

His tireless work ethic and eye for finding talent soon caught the eye of Ashley Newton, the president of Capitol Music Group, Astralwerks' parent company. In 2017, Newton invited Vuernick to move to Los Angeles.

Vuernick's signings, meanwhile, continue to pay dividends. Six years ago, he discovered and signed synth-pop DJ Porter Robinson, helping him release his debut album, *Worlds*. This year, "Goodbye to a World," one of the singles from that album, resurfaced and went viral on TikTok, helping to push the song to more than 30 million streams on Spotify.

"I was the first one to hear his demo," says Vuernick. "You want to be the first one." ■

Jeremy Vuernick, hanging with Halsey in the studio.

PHOTO: COURTESY OF NED SMITH

Going with the Flow

An interest in meteorology at UW-Madison launched a career in ocean science and a strong desire to give back.

INTERVIEW BY MARY ELLEN GABRIEL

In 2015, Ned P. Smith (BS ’65, MS ’67, PhD ’72) saw an opportunity to create two professorships in the Department of Atmospheric and Oceanic Sciences through a match opportunity offered by John and Tashia Morgridge. Five years later, another Morgridge Match inspired Smith to turn those professorships into distinguished chairs. The retired coastal researcher hopes his gift in support of faculty excellence will further understanding of climate change and its impacts.

You received undergraduate and master's degrees in meteorology, and a PhD in oceanography and limnology, from UW-Madison. How did you decide to come here?

I was born and raised in Markesan [in Green Lake County, about 60 miles northeast of Madison], a village with about 850 residents at the time. I never really considered other schools. The decision to enroll at UW was reinforced when I learned that there was a strong meteorology program. I can trace my interest in meteorology at least as far back as the Weather merit badge I got as a Boy Scout. I must have had an above average interest in weather.

What UW memories stand out?

The large number and variety of courses, both within and outside my major, were impressive. I left UW with a solid background in meteorology and also with an introduction to numerous other fields of study. I appreciated the physical setting [Lake Mendota], and I took advantage of performances at the student union. And of course, I regularly attended football and basketball games. Like most people my age, I recall clearly where I was when I heard that President Kennedy had died: I was entering Commerce Hall and passing an administrative office where updates were coming in on the radio. Four years later, I got my first whiff of tear gas during the Dow Riots — as a spectator who happened to be downwind, not as a participant.

How did you become a research scientist specializing in currents and water flow?

As a PhD student, I collected data on field trips to the Keweenaw Peninsula and flights over Lake Superior to map surface temperatures. My major professor, Bob Ragotzkie, had just been appointed the first director of the Wisconsin Sea Grant Program. They needed students to collect data on circulation patterns in Lake Superior, and that came together easily as part of my dissertation.

I went directly from UW to the University of Texas Port Aransas Marine Laboratory [near Corpus Christi]. That was a good place to work in estuaries and in shallow waters over the continental shelf. When I heard of an opening at Harbor Branch Foundation, then a private research lab on the Atlantic coast of Florida, I was quick to apply. I spent the next 29 years at what is now Harbor Branch Oceanographic Institute at Florida Atlantic University (FAU).

I later became an affiliate professor, which opened the door to teaching. My research program at Harbor Branch — descriptive physical oceanography — was based on measurements, as opposed to modeling. I worked locally, in the coastal lagoons and along the Central Florida continental shelf, in the Bahamas and in the Florida Keys. Typically, these were cause-and-effect studies exploring some form of air–sea interaction. Examples include the wind-driven circulation and air–water heat energy exchanges. This allowed me to take advantage of my background in meteorology.

How did you decide to support faculty excellence in the Department of Atmospheric and Oceanic Sciences?

I felt I got a very good education at UW and I wanted to give something back to the department at a meaningful level, and ideally with long-term benefits. The Morgridge Matches came at a very good time in my case. I never thought of the 50:50 match in terms of reducing the cost of creating a single professorship. Rather it was an opportunity to add a second professorship for the same amount of money. When the second Morgridge Match was announced, I saw that as an opportunity to formally pledge money I was going to give anyway and double the total.

Why is it important to support climate change research at UW-Madison?

I have strong feelings about climate change. I am convinced that, at least over decadal and longer time scales, it is the most important issue among several that are repeatedly in the news these days. Rising sea level, for example, will require enormous costs and adjustments in coastal cities around the world. I would like to think that ongoing and/or future work at AOS can contribute significantly to our understanding of climate change and how to deal with it.

We have heard that you enjoy travel. Where do you hope to go?

I have visited 119 of the 195 independent countries of the world, and the list of countries I would like to visit for the first time is now quite short. I am currently planning a trip for later this year that will include Moldova, the only country in Europe I have not visited. There might be a few return trips to favorite countries, but mostly I look forward to trips around the United States for as long as my health permits. ■

"Ned Smith's generous gift has had a profound, transformative impact on faculty research portfolios, as well as enhanced the educational opportunities and research infrastructure in the department. Thanks to his support, we have been able to acquire and deploy new research platforms, instrumentation, and computing hardware, which in turn have opened up new avenues of inquiry regarding snow cover, agricultural water use, the intra-seasonal variability of the north Pacific jet stream, and the short-term atmospheric predictability."

MICHAEL MORGAN
Department Chair, Atmospheric & Oceanic Sciences

Finding Her Voice

BY CHELSEA HYLTON

ILLUSTRATION: CHERYL THUESDAY

As a graduating senior, I have recently been taking the time to reflect on my past four years at the University of Wisconsin-Madison.

Some of my fondest memories begin and end with *The Black Voice* (*TBV*), which quite simply is my family.

Joining *TBV* my sophomore year was one of the best decisions I could have made.

As a Black journalism student on this campus, I wanted to be surrounded by people who shared the same values and were interested in the same things that I was.

Chelsea Hylton, co-editor-in-chief of *The Black Voice*, graduates in May with degrees in Journalism and Spanish, along with a certificate in Gender & Women's Studies. She is a proud Posse scholar, plans to pursue a master's degree in journalism, and hopes to work in media.

Soon after I joined, *TBV* staff were asked by University Communications to help with the project of celebrating the 50th anniversary of UW-Madison's 1969 Black Student Strike. Members of *TBV* were in charge of interviewing alumni who participated in the strike.

It was with my *TBV* family that I was able to feel a part of something greater. Working on this project took a lot of time, but I was so happy that I got the opportunity to do it. After hours of interviews combined with even more hours spent transcribing the interviews, the final product was outstanding, and it told such an important and relevant story about Black activism on this campus.

TBV has been able to teach me many different things related to the journalism field like networking skills, professional development, and confidence. As one of the current co-editors-in-chief, I feel that being a member for so long has taught me so much that I will take with me even after graduation.

TBV is more than just an online publication; it is also a class that students can take for credit. I have taken *TBV* for credit for the past six semesters. This means that I have spent quite a bit of time with other *TBV* members and especially our academic advisor, Professor Sue Robinson.

Professor Robinson is one of the best people on this campus. As a white professor advising an organization for Black students, she is always making sure to acknowledge her white privilege.

I cannot thank Professor Robinson enough for her constant and overwhelming support. She is truly a professor dedicated to her students and making sure that we feel supported, seen, and heard.

You could say I have grown up in *TBV* alongside my friends Enjoyiana Nururdin and Nile Lansana. They have been with me during some of my very low points, they have been with me during some of my very high points, and they have even celebrated with me.

I am from Los Angeles and *TBV* has felt like a home away from home at UW-Madison. As I approach graduation, I am saddened at the thought of having to say goodbye to such an important part of my life. But in the end, I am happy and utterly grateful to have made memories and stories that will last me a lifetime.

As the great Winnie the Pooh once said, "How lucky I am to have something that makes saying goodbye so hard." ■

THE COLLEGE OF LETTERS & SCIENCE was formally established within UW-Madison in 1889, but it's really as old as the university itself. UW's first students took classes in chemistry, political economy, philosophy, languages, literature, and higher mathematics. A strong liberal arts foundation would shape the university over the next 150 years.

Today the College of Letters & Science is the largest unit on campus, graduating more than 4,000 students each year and teaching more than 60 percent of all the credits offered at UW-Madison.

"Fundamentally, our work is so vitally important because a democratic society depends on citizens who carry with them the important lessons of the liberal arts education we provide," says L&S Dean Eric Wilcots.

Now, more than ever, the importance of a liberal arts education is clear. L&S prepares global citizens for leadership, productive service, rewarding work, and fulfilling lives.

Thank you for your support of the College of Letters & Science at UW-Madison.

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Last Word

The UW-Madison Botany Garden is an important resource for both teaching and research. It was the first garden in the world to be based on the new Angiosperm Phylogeny Group (APG) IV system of molecular classification of plants! The Botany Garden is maintained by the Department of Botany under the direction of Dr. Ingrid Jordon-Thaden. It has remained open during the pandemic, with safety protocols observed, as a place for quiet contemplation and outdoor enjoyment.