

UNIVERSITY OF WISCONSIN-MADISON COLLEGE OF LETTERS & SCIENCE

SPRING 2024

Letters & Science



WHOSE BRIGHT IDEA?

Five entrepreneurial success stories from L&S alumni *page 18*



One of the five entrepreneurs you meet in our cover story, "Bright Startups," is restaurateur Henry Aschauer, who opened Forage Kitchen on State Street in 2015. Now, the brand has several locations and a new kombucha line in grocery stores.

PHOTO: COURTESY OF FORAGE KITCHEN

Contents

DEPARTMENTS

- 02 #WeAreLS
- 03 From the Dean
- 04 Here & Now
- 06 Asked & Answered
How do humans and nature interact at a border? Graduate student Alicia Barceinas Cruz explores the connection at the Mexico–Guatemala border.
- 08 Explore & Discover
RESEARCH What AI Doesn't Know
TEACHING On the Rocks
STUDENTS A Catalyst for Change
CULTURE Speaking Volumes
FACULTY Helping With Healing
- 16 News & Notes
- 32 Life & Work
Alumna Shannon Hay Seeberan has revolutionized the medical aesthetics field with her company CloudMedSpas.
- 34 Give & Transform
Louis Holland Jr. and Darcy Holland believe the Wisconsin Experience is meant to be shared.
- 36 Sift & Winnow
Vilas Research Professor and Irven DeVore Professor in the Department of Anthropology Karen Strier shares lessons learned from researching the critically endangered northern muriqui monkeys for more than 40 years.

FEATURES

18 Bright Startups

Meet five College of Letters & Science alumni who have found entrepreneurial success post-graduation.

BY ARCHER PARQUETTE

24 Putting Down Roots

Thousands of plants live in the Botany Garden and Greenhouse. Here's what it takes to maintain the collection and why it is such an asset for teaching, research and the community.

BY ALLI WATTERS



Ingrid Jordon-Thaden is the director of the Botany Garden and Greenhouse.

PHOTO: ALTHEA DOTZOUR

28 Toward a Just City

Researchers in the Department of Planning and Landscape Architecture see well-planned city infrastructure as a form of social justice.

BY AARON R. CONKLIN

#WeAreLS



Views from _____.
Fill in the blank and
share your guess on
which L&S building
this is in the comments.
#WeAreLS

@UWMadisonLS January 8, 2024



@uwdeanwilcots had
a blast tonight with the
t-shirt cannon! So glad
we spent the first day
of spring semester with
our L&S community and
the @badgerwbb team.

@UWMadisonLS January 23, 2024



Professor of Mathematics
Jordan Ellenberg
answering questions
from social media users
about geometry for
Wired Magazine. Where
else are you going to
learn about the unique
geometry of a Pringle
and whether the
Pythagorean theorem
can solve your
real-life problems?

@UWMadisonLS December 6, 2023



A little snow on
campus can't deter
that @UWMadisonLS
spirit. Bring it on!
#WeAreLS

X @UWMadisonLS January 11, 2024

Letters&Science

SPRING 2024

EDITORIAL STAFF

Assistant Dean for Strategic Communications
and Advancement: Denise Hickey
Editor & Content Strategist: Alli Watters
Staff Writer: Aaron R. Conklin
Creative Services: Carlin Sood
Digital Content Strategist: Marlita Bevenue
Design: Landesberg Design

EDITORIAL OFFICES

UW-Madison College of Letters & Science
405 South Hall, 1055 Bascom Mall
Madison, WI 53706
info@ls.wisc.edu

To make a gift, please visit:
supportuw.org/giveto/ls24spring

Enjoy the digital experience of the magazine
at lsmagazine.wisc.edu

We welcome your comments and story ideas
for future issues: info@ls.wisc.edu

Follow us on Facebook, X, Instagram
and LinkedIn @UWMadisonLS

BOARD OF VISITORS

Joy Amundson
Herman Baumann III
Joel Berman
Michele Boal
Nancy Borghesi
Robert Buono, Vice-Chair
James Chosy
Donna Wills Colson
Shoshana Dichter
Kristi Ebong
David Hammond
Robert Harty
Louis Holland Jr., Chair
Prashanth Jayachandran
William Jordan
Kay Koplovitz
Cora Marrett
Robert McGinnis
Samir Murty
Martin Preizler
Phillip Schemel
George Shinnars
Greg Sinaiko
John Stanoch
Nancy Sukenik
Konrad Testwuide IV
Patricia Donovan Wright

FROM THE DEAN

That's the Entrepreneurial Spirit



The College of Letters & Science's alumni list is jam-packed with entrepreneurial success stories and inventive industry influencers. Choosing just five to feature in our "Bright Startups" cover story was no easy task — and you can expect to see a lot more entrepreneurial profiles in this magazine's future, as well as online at ls.wisc.edu/news.

When I read the profiles of these remarkable entrepreneurs, beginning on page 18, I was proud to see how often they pointed to their education in L&S as pivotal in helping them gain the skills, resources, connections and confidence they needed to succeed in the business world. The liberal arts education we provide is the best preparation for a career, and our investment in core values — curiosity, critical and creative thinking and working together toward a common good — is developing tomorrow's leaders.

"Putting Down Roots" on page 24 shares a different kind of investment. With thousands of individual plants, the Department of Botany is home to one of the largest living teaching collections around. It was inspiring to hear how the Botany Garden and Greenhouse plants are used to support students in classrooms, create a space for community members to appreciate our planet's biodiversity and lead to out-of-this-world research discoveries. And that's not an exaggeration — some of the tomatoes grown in the greenhouse were launched into space earlier this year.

In this issue, we also hear from a new crop of researchers in the Department of Planning and Landscape Architecture. "Toward a Just City" on page 28 reminds us that our cities are not designed by accident. These faculty members are parsing the ways that urban designs can be seen as a form of social justice and better support the people who live there. This work in DPLA is just one example of how L&S is tackling challenging issues that have significant societal impact.

Plus, you'll read about a new innovative approach to learning less commonly taught languages, how a student's internship with Jay-Z's entertainment company Roc Nation taught her leadership skills, and a geoscience professor with a passion for Wisconsin's unique landscape. The stories curated for this issue of the magazine are a celebration of all things L&S.

As we reflect on these stories about alumni who are now leaders in the community, professors who are making waves with groundbreaking research and students who are catalysts toward a brighter future, we are reminded that all of this is made possible by you. Your continued support of our mission allows us to provide each new generation of Badgers with a world-class liberal arts education. Thank you for championing the College of Letters & Science.

On, Wisconsin!

Eric M. Wilcots

*Dean and Mary C. Jacoby Professor of Astronomy,
College of Letters & Science*



1

PHOTO: JEFF MILLER

Beaming With Pride

In one year, construction of the new Computer, Data & Information Sciences Building (CDIS) on University Avenue will be complete. The foundation of the 340,000-square-foot building — projected to open in Spring 2025 — has been poured, and many of the massive, multi-ton steel beams and trusses that form the building's skeleton are now in place.

The building's design includes green roofs, a massive atrium, collaboration space, labs, skylights and a striking staircase. The facility will house multiple departments and centers, including Computer Sciences, Statistics and the Information School, as well as Biostatistics and Medical Informatics, the Center for High Throughput Computing, the Data Science Institute and the N+1 Institute.

"As much as computing and data are part of our everyday lives, we hope our new facility will become a part of the everyday life of all students," said CDIS Founding Director Tom Erickson at a beam-signing ceremony for alumni, donors and students.

Go behind the scenes with the construction crew at go.wisc.edu/lscdisconstruction.

2

MEDIA MENTION

"If we're thinking about how we want to manage or protect groundwater resources in the future, we really need to be thinking about what's happening on the land surface. And if you look at Wisconsin, greater than 90% of the land is, really, rural land."

MICHAEL CARDIFF

associate professor of geoscience, speaking to the *Milwaukee Journal Sentinel* about PFAS, farm runoff and other looming threats to Wisconsin's drinking water





3

ILLUSTRATION: NASA EXOPLANET CATALOG

Intragalactic Planetary

There's an Earth-like planet circling around a star similar to our planet's sun in the nearby constellation of Ursa Major. It was discovered by a team of researchers that includes incoming assistant professor of astronomy Melinda Soares-Furtado, a current NASA Hubble Fellow. The planet, called HD 63433 d, offers researchers the opportunity to study how planets evolve.

While the new planet has some similarities to an early Earth in terms of its atmospheric development, it's dramatically different in other ways. Astronomers believe the planet is tidally

locked, which means one side perpetually faces the star around which it rotates, while the other side remains in total darkness. Because it's so close, scientists believe temperatures on the side of the planet that faces the star could reach as high as 2,300 degrees Fahrenheit.

"This is our solar backyard, and that's kind of exciting," Soares-Furtado says. "What sort of information can a star this close, with such a crowded system around it, give away? How will it help us as we move on to look for planets among the maybe 100 other, similar stars in this young group it's part of?"

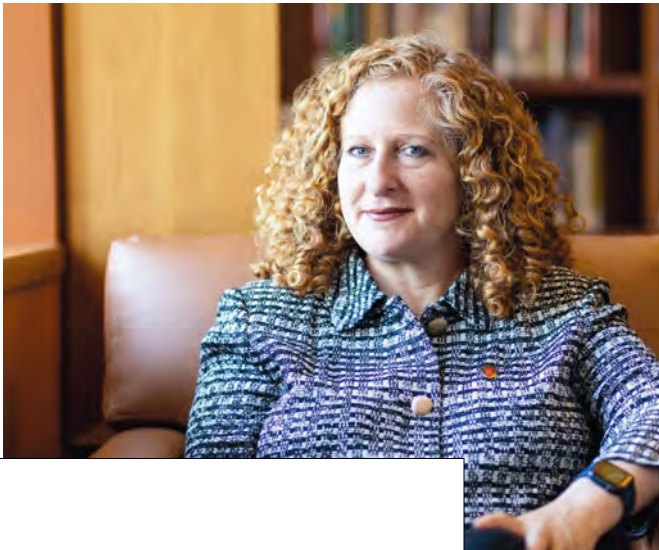
4

RISE Up

UW-Madison Chancellor Jennifer Mnookin recently announced the debut of the Wisconsin Research, Innovation and Scholarly Excellence (RISE) Initiative, an effort designed to address significant and complex problems facing our society. Over the next three to five years, UW-Madison plans to hire 120-150 new faculty members through the initiative, focusing those new professors on key issues such as artificial intelligence, environmental sustainability and fostering entrepreneurship.

"We're going to look at the grand challenges facing our state and the world and grow the faculty in a targeted way that builds on our existing strengths, in places where, with strategy and investment, we can accelerate discovery and world-changing research and education, innovate for the public good ... and be absolutely best in class," Mnookin says.

PHOTO: MAX S. GERBER



5



257

The number of instruments that will be featured as part of the University of Wisconsin Marching Band's annual Spring Concert performances on April 19 and 20

How do humans and nature interact at a border?

Graduate student Alicia Barceinas Cruz explores the connection between nature and humans, seeking to unveil how they shape the Mexico–Guatemala border.

BY SOPHIA VENTO

Animals, people, food, products and more regularly cross the border lines we see drawn on maps and globes. But not everyone has access to this freedom of movement.

Alicia Barceinas Cruz (x'24), a graduate student affiliated with the Department of Geography and the Nelson Institute for Environmental Studies, researches human interactions with the natural world at the Mexico–Guatemala border. This movement, as well as the restrictions around it, are a big part of her studies.

“Not everyone can migrate,” says Barceinas Cruz, who is from Veracruz, Mexico. “There is privilege in being able to move across borders or not.”

Barceinas Cruz's focus is the southern state of Chiapas in Mexico, a region known for its vast rain-forest and mountains, bordering Guatemala. Chiapas has experienced extensive deforestation. Since 2000, there has been a 15% loss of total tree cover, according to the World Resources Institute.

As a researcher, Barceinas Cruz is particularly interested in everyday life found along the border — and what that means within a broader geopolitical context. Working from the Mexico side of the border, she explores the passage of people, commercial goods and animals into and from Guatemala. Between 2000 and 2010, the percentage of Guatemalan workers in Chiapas increased by 30%.

“There is not a wall,” Barceinas Cruz says. “It’s a forest. There’s a lot of fluidity between the communities on both sides of the border. People cross without showing papers.”

In Chiapas, Barceinas Cruz has found that some migrants are permanently leaving the region, often for other Mexican states or the United States, in search of employment opportunities and selling their land. She chalks it up to increasingly restrictive immigration policies and the high price to migrate. But the land left behind is not getting bought by neighbors or community members. Instead, businesses are sweeping in.

Cattle ranchers and palm oil producers are infiltrating the region, contributing to deforestation and other environmental crises, Barceinas Cruz says. Globally, palm oil production has grown exponentially over the years. In 1970, the world produced just 2 million tons of oil. By 2018, 71 million tons were produced annually.

“If this region is changing toward producing more commodities, the commodities have to move across the border,” she says. “It’s interesting that the restrictions on people’s mobility are facilitating the movement and the production of global commodities.”

For Barceinas Cruz, this exemplifies a contradictory development along the border, showcasing the web connecting humans with the natural world.

“That’s paradoxical,” she says. “Usually, if you don’t have people, the forest will take over. In this case, when people leave, the forest is taken down.”

This close examination of the border is not what originally piqued Barceinas Cruz’s academic interest as an undergraduate student. After studying biology at the Universidad Nacional Autónoma de México and working as a conservation biologist in Chiapas for seven years, she found herself ill-equipped for the job.

“I only knew biology, ecology and evolution,” says Barceinas Cruz. “I didn’t have enough skills to deal with social issues related to conservation of biodiversity.”

Studying the humanities helped Barceinas Cruz contextualize different perceptions of the border as well as environmental conservation within the region. Her work with Indigenous peoples in Chiapas and other communities across the region further informed this development. She found it particularly important to reconsider human connections to nature within the context of migrations.

“Some people don’t see mountains or forests as separate from the human experience,” Barceinas Cruz says.

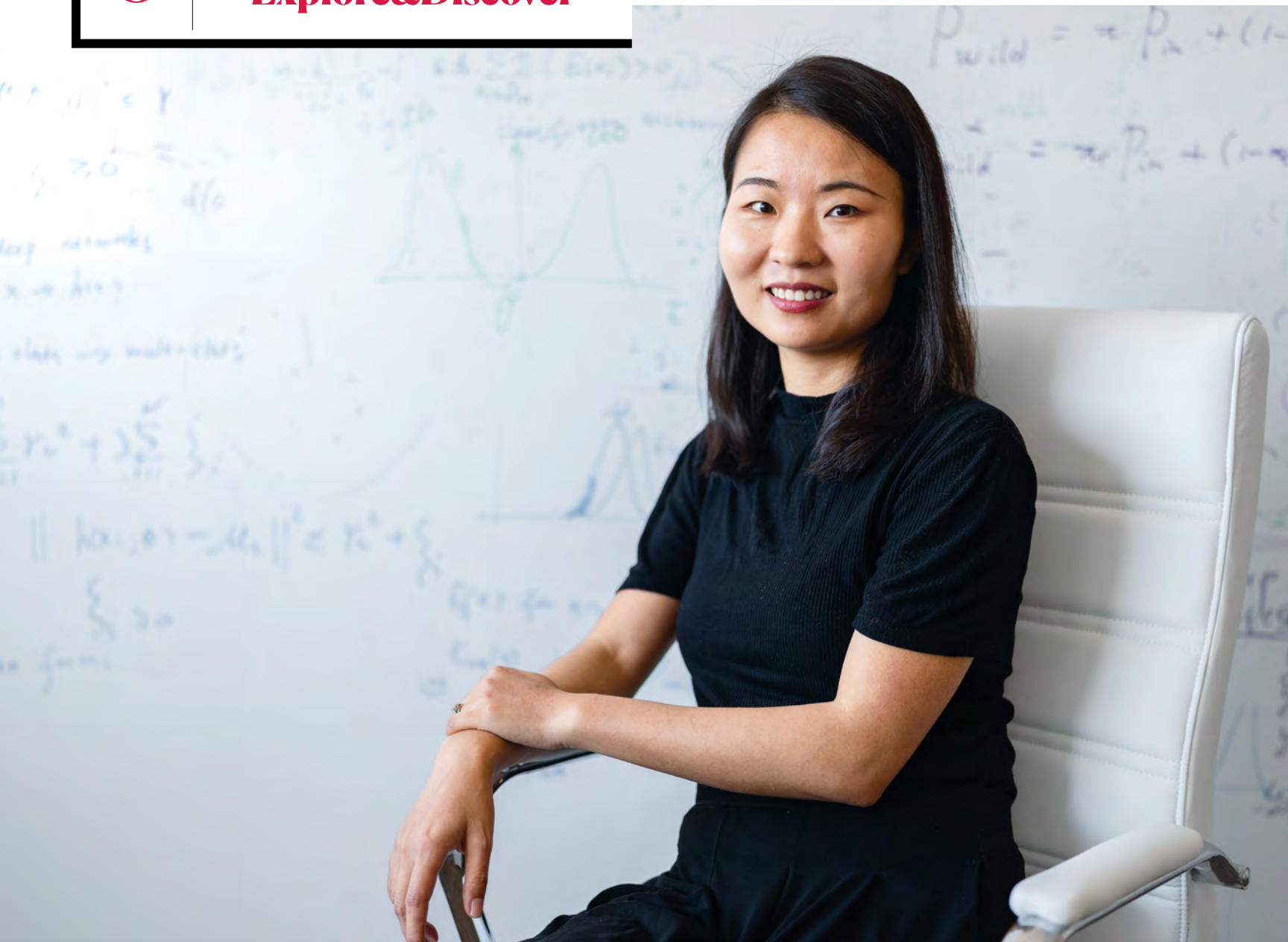
“They see us all as a part of nature.”

Barceinas Cruz hopes to develop strategies to cultivate a world where all individuals, regardless of background, can exert the freedom to move but also exercise the choice to remain in place. The manifestation of how ethnicity, citizenship and other identities shape migration patterns and access makes her question why the border is there in the first place. In her opinion, the movement of humans is only natural.

“Borders restrict mobility and portray migration as aberrant,” Barceinas Cruz says. “But what is aberrant is a system that produces forced displacements, violence, conflict and environmental disasters.” ■

**“Usually,
if you don’t
have people,
the forest
will take over.
In this case,
when people
leave, the
forest is
taken down.”**

ALICIA BARCEINAS CRUZ



RESEARCH

What AI Doesn't Know

As the world becomes increasingly dependent on AI, Sharon Li researches how these systems respond in the face of blind spots. Her findings could be a matter of life or death.

BY AARON R. CONKLIN

A self-driving, autonomous car. A generative AI that can compose your cover letter. An AI-driven medical imaging system. Each of these technologies carries the potential to make our lives easier and more efficient. But if they're not well-designed, each of them also carries the potential to wreak devastating havoc.

It's the latter part of that equation that concerns Sharon Li, an assistant professor of computer sciences and faculty affiliate with the Data Science Institute. Li focuses on ensuring that machine learning systems — from automated machinery to the large language models that fuel generative AI — are as safe and accurate as possible when they're unleashed onto the world.

Li, who joined UW-Madison in 2020, points to an ongoing assumption in machine learning research that the data an AI model was trained on will always match what the model will see in the real world in the future.

"What we want is for the model to abstain from making a prediction when it encounters something new it doesn't know," Li explains. "That's really the virtue of teaching AI to know what it doesn't know — so it can be more conservative and honest

in answering a question and operating in the zone about which it is knowledgeable. That has been the central theme of my research.”

The problems can crop up in many ways — and not just when ChatGPT coughs up an incorrect set of facts. Li cites a serious example: In December of last year, a driver was killed when his car’s autopilot function failed to correctly recognize a tractor-trailer crossing the road.

“Most people tend to focus on all the amazing things a model can do, but the blind spots are something the industry is not investing enough in exploring,” says Li.

For Li, the answer has been creating a more sound and reasonable approach to how researchers train deep learning and neural network models — a strategy that is sometimes at odds with the rush to quickly release technology into the market. But significant progress is being made. When she started her research efforts six years ago, the error detection rate was an alarming 50% for a simple image classification task (is the image a cat, a dog or a truck?). Improvements have reduced that number to less than five percent.

Initially — maybe even astoundingly — Li’s early efforts to improve AI machine learning were dismissed by some members of the computing community.

At the time, many researchers were focused on improving a massive dataset of visual images called ImageNet, aiming to make it a few tenths of a percentage more accurate. Li was focused on the dataset’s potential blind spots — images that didn’t fall into its prescribed training categories.

“How would the model react?” she asked. “Would it actually know that it’s failing in some sound manner?”

When Li and her collaborators presented the first set of out-of-distribution (OOD) detection algorithms they had created to begin addressing the issue, some in the AI community openly wondered if it was even a problem worth solving.

Li’s stint in industry at Meta from 2017 to 2019 gave her real-world experience with machine learning models and convinced her she was on the right track. At UW-Madison, she’s been able to focus much more directly on the problem. Just last year, *MIT Technology Review* named her “Innovator of the Year” for her

“Most people tend to focus on all the amazing things [an AI] model can do, but the blind spots are something the industry is not investing enough in exploring.”

SHARON LI

work on OOD detection, and she received a prestigious CAREER Award from the National Science Foundation.

Large language models — the kind that fuel generative AI like OpenAI’s ChatGPT — is a much more problematic space, one that can’t be improved by simply porting improvements from image classification models. In many cases, the mountains of data that fuel large language models are proprietary.

“That makes research harder, determining what the model doesn’t know,” she notes.

The technical term to describe the phenomenon is “hallucinations.” These are the instances when a generative AI produces factually incorrect information.

“There are multiple stages when things could go wrong,” says Li. “The training data might already contain some misinformation because the data is crawled from the entire internet. Solving that requires the industry to really put more effort into having transparency about their training data and how they go after ensuring the factuality of that data.”

Li remains driven both by a passion for advancing her field and the opportunity to work with her students, mentoring them to influence a future wave of AI researchers.

“We’ve made a lot more progress than we could have done in the industry,” she says, “because here, we’re able to dedicate our time to understanding how these systems work. What are the capabilities? But more importantly, how do we fix those blind spots in a more reliable manner?” ■

Sharon Li stresses the importance of creating a more sound and reasonable approach to how researchers train deep learning and neural network models.



TEACHING

On the Rocks

Luke Zoet teaches one of the toughest geoscience classes on campus, yet he manages to make it a student favorite year after year.

BY ALLI WATTERS

It would make sense for Luke Zoet's favorite class to be the one that travels to Iceland for an adventurous glacier study. Or you might suspect that the Dean L. Morgridge Associate Professor of Geoscience's ideal lecture is Geology of the National Parks — a course so popular, it attracts hundreds of auditors each year.

But no.

The class Zoet looks forward to most each semester is Geomorphology, which is all about explaining the intricate, curious landscape of... Wisconsin. The class does have field trips, but they start locally in Madison then head west to the driftless area with stops at Wyalusing State Park and Cave of the Mounds — never leaving the Badger State.

"Wisconsin is really nice because everything is right here," Zoet says. "I always tell people, I have students going to all of these crazy places [like New Zealand and Antarctica], but I'd rather just be digging holes in the dirt around here because that's the thing I'm interested in."

He's referring to the rich geological significance of the state, thanks in part to the Great Lakes, the Mississippi River and the varied landscapes carved out by glaciers. To teach on the subject, he splits the class into four main categories: rivers, glaciers, mass wasting (landslides and hill/slope processes) and the coastline.

"My main learning objective for the students in the class is that I want them to be able to tell me why Wisconsin looks the way that it does," Zoet says. "What is going on with these hills here? What is going on with this coastline here? What is going on with these caves over here? What is going on with these rivers over here? All those things have to be covered in this class."

But just because the class is close to home doesn't mean it's easy. Zoet's former student Cam Shepherd ('21) remembers being surprised at the technical challenges involved.

"It was kind of difficult. There were concepts like physics, and there was definitely a lot of math involved," Shepherd says. "But he structured it in a way where it felt like it was more of a discussion in a smaller group that felt very open."

"I've had a lot of feedback at the end of the class that, 'This is the most difficult class I've ever taken, but it's also the best class I've ever taken.'"

LUKE ZOET

PHOTOS: COURTESY OF LUKE ZOET

That's part of Zoet's teaching philosophy, to make his classes as collaborative as possible. He won't move on from the fundamentals until his students make it clear they understand, and he'll spend more time teaching on subjects that have sparked the students' curiosity, taking the time to answer extra questions that encourage class discussion. Because of this, his class looks different semester to semester. This interactive format might explain why his teaching scores are so high every semester — even getting a perfect score a couple years in a row — despite the fact that the class is technically challenging.

"The classes I teach are probably the most difficult in terms of connecting different concepts together and using that knowledge to try to work through new problems," Zoet says. "I've had a lot of feedback at the end of the

Luke Zoet teaches a class that takes students to Iceland for a study on glaciers, yet his favorite course to teach is the one that studies the unique landscape of Wisconsin.



class that, “This is the most difficult class I’ve ever taken, but it’s also the best class I’ve ever taken.”

For Shepherd, the class was also an opportunity to learn more about his home state. Even though he took the course three years ago, he still likes to tell people about the fact that the Wisconsin River had a reversal and used to flow in the opposite direction. It’s a tidbit he learned in Zoet’s classroom.

“I know more about the area and its history,” Shepherd says. “Some [Wisconsinites] don’t know why there are rolling hills in the farmland, and the class taught me exactly how the physical processes behind the formation of these landscapes worked.”

And there’s still a lot to learn about Wisconsin’s geological features. In fact, Geomorphology is the class that has most inspired and informed Zoet’s research. For years, he’s been studying the physics of how glaciers move and the processes of building landforms. But teaching Geomorphology has also inspired him to dig into another subject: coastal erosion, specifically along the Great Lakes.

“A lot of times, [a class] sparks my interest in a topic,” Zoet says. “Part of the class is trying to understand how coastlines evolve, and to do that you have to learn a lot of the processes that drive coastlines to evolve. People ask me questions like, ‘Oh, what’s this?’ and ‘Oh, what’s that?’ I thought, I can actually take a stab at trying to answer these types of questions.”

Now, he and a team of researchers with the Department of Geoscience are looking at bluff erosion and sediment movement at two Wisconsin coastal points, Port Washington and Point Beach State Forest. He hopes his research will eventually be used to help provide guidance on shore protection and bluff stabilization.

“When people think of geoscience, they think of rocks. Like, ‘What’s this rock?’ And that’s certainly a big component of it, but that’s only half of geoscience,” Zoet says. “The other side is trying to look at processes and how things work on the surface of the Earth They’re just trying to gather that information from the rocks whereas in Geomorphology we can, a lot of the time, just observe the processes directly.” ■

Students in Luke Zoet’s Geomorphology class go on a field trip that starts in Madison then heads west to the driftless area.



STUDENTS

A Catalyst for Change

Deanna Frater's internship with Roc Nation helped her gain on-the-job experience and drive social change thanks to support from SuccessWorks.

INTERVIEW BY ISABELLA RUDER

Deanna Frater (x'26) spent last summer swimming in a pool of opportunities while soaking up knowledge from her internship with Roc Nation, the entertainment company owned by rapper and record producer Jay-Z. With the help of SuccessWorks' internship fund and winter job shadowing programs, Frater, a sophomore majoring in political science, explored solutions to some of the toughest social issues facing Wisconsin. She recruited nonprofit organizations that aligned with her mission to create resources for social justice in her state. We sat down with her to ask about her experience in the program.

Tell us about your summer internship and role.

I was the Wisconsin Student State Ambassador for the United Justice Coalition created by both Team Roc and Roc Nation. I represented the state of Wisconsin. The three problems I chose were mass incarceration for Black people, food deserts and racial segregation in places such as Milwaukee. We were addressing those problems by reaching out to nonprofits and

trying to recruit them to come to our [United Justice Coalition] Summit. I worked with different brands to bring Wisconsinites to the event and was in communication with a lot of nonprofits from Wisconsin.

What is the United Justice Coalition Summit?

The UJC Summit is a one-day event in New York City focused on being a catalyst for change — building that bridge and connecting that gap between the older generation and the younger generation. They bring nonprofit organizations and community leaders doing big work in their fields into one space to lead discussions about social justice issues happening right now. What can we do to make change in our communities? We have panels at the summit, and this year several were focused on family matters — how people being incarcerated affects and destroys entire families.

What impact has your work had?

The most important impact I'd say was being able to educate such a large group of people. The event was more of a conference, so our goal was to educate attendees about the issues that we found prevalent in our states, which I believe was successfully completed. For me the biggest thing was being able to educate so many school-aged children. Many students visited the conference as a part of a school trip, and that was beautiful because I'm sure that they will grow with this information. Even though I'm not too sure of the immediate change that has happened, I am confident that on that day, we planted a seed for the change that we are hoping to see. ■





ILLUSTRATION: ANDREA PIPPINS

CULTURE

Speaking Volumes

This innovative approach to learning languages opens up a world of opportunities.

BY KATIE VAUGHN

When it came to language courses, the Department of African

Cultural Studies had a numbers problem.

More than 2,000 languages are spoken across Africa, yet the department could teach only four or five each semester. The common offerings were Yorùbá, Swahili,

Arabic and Zulu, depending on which instructors were available. But some students need to learn infrequently taught languages to aid in their research or learn the core four at higher levels than can be regularly offered.

While the department was hardly alone in facing this challenge, it created an innovative solution, and a new grant is allowing two faculty members to study it and eventually share their insights with others.

In 2013, Katrina Daly Thompson, Evjue-Bascom Professor in the Humanities and director of the doctoral program in second language acquisition, was hired to run the African Languages Program and redesigned it seeking to answer the question, “With limited resources, how do we maximize the number of languages students can learn and ensure that they reach high levels of proficiency?”

The following year, Thompson launched the Multilanguage Seminar, a two-semester course that sets up students — mostly graduate students, plus a few highly motivated undergrads — to teach themselves a language. They create self-directed

learning plans and rely on peers as well as expert speakers for support.

“Students share weekly updates, feedback and encouragement,” says Thompson. They use Slack to stay in touch, and the online communication platform also lets them read messages — and glean tips and resources — from past students who studied the language they’re learning.

Those messages also serve as a rich database representing the nearly 80 students who have independently studied more than 20 African (and a few Southeast Asian) languages over the past 10 years.

Thompson and Adeola Agoke, who has directed the African Languages Program since 2019, are now digging into the data using a grant from the U.S. Department of Education’s International Research and Studies Program, which is providing them with over \$304,000 to support three years of research in self-instruction in less commonly taught languages.

After analyzing the data, Thompson and Agoke will share their findings through a workshop and a book, with the goal of helping other units and institutions expand their language offerings.

“Innovation really is key here,” Agoke says, “and what our research does is call attention to new ways of doing things.”

And if others can utilize this new approach, there’s no limit to the languages that could be learned.

“We’re really trying to better understand how students can be autonomous learners and lifelong learners,” Thompson says. “We’d like to see more people be able to learn more languages to high proficiency levels.” ■

FACULTY

Helping With Healing

Kate Walsh is building innovative support systems to make help more accessible for sexual assault survivors.

BY AARON R. CONKLIN



Kate Walsh found her professional calling on a work-study project. She was a psychology student, trying to decide which specialty she wanted to pursue, when she signed up to screen community members for a treatment outcome study on post-traumatic stress disorder (PTSD). Many of the individuals who called in were survivors of sexual violence.

Walsh, now an associate professor in the Departments of Psychology and Gender & Women's Studies, was struck by the number of callers who had experienced more than one sexual assault. In the aftermath, many of the victims were struggling with their mental health and with substance abuse. They were also grappling with the flawed "Just World Theory," which is the notion that good things happen to good people and bad things happen to bad people. Walsh has focused her career on changing this victim-blaming mindset because she saw the devastating impact it had on survivors' recovery.

"I became interested in how we can do a better job of preventing trauma from happening in the first place and responding to trauma when it does happen in a way that really supports people and allows for healing and growth," she says. "A lot of the work that



Kate Walsh's research and clinical work is about helping survivors of sexual violence avoid the impact of post-traumatic stress disorder.

PHOTO: ANDY MANIS

“I became interested in how we can do a better job of preventing trauma from happening in the first place and responding to trauma when it does happen in a way that really supports people and allows for healing and growth.”

KATE WALSH

I do is at this intersection of very stigmatized experiences and behaviors.”

Walsh was hired in 2020 as part of the Sexual Violence Research Initiative, a project involving multiple campus schools and departments aimed at translating social science research into policy.

Just months after she arrived, Walsh landed a \$500,000 grant from the U.S. Department of Justice’s Office for Victims of Crime to bring forensic nurses to campus to provide post-assault care and to hire a full-time advocate to expand services for survivors. Since 2021, those nurses have made it so that students no longer need to leave campus to get care.

“It’s really hard when you’ve just been assaulted to figure out, ‘What do I need, who do I talk to and what number do I even call?’” says Walsh. “I think [the accessibility] has been huge.”

Lately, her focus has shifted to supporting survivors with marginalized identities and finding early interventions that could reduce their trauma. Her goal is to improve medical care experiences and connect survivors to mental health care, legal rights advocates and other impactful services.

Walsh’s own research shows that one of the biggest predictors of repeated sexual violence is annual income level — if it’s below \$10,000, the statistics get significantly worse. The federal government’s Crime Victim Compensation Fund is available to help survivors pay for things like therapy appointments, but applying for it requires reporting the assault, cooperating with law enforcement and waiting months for the process to resolve. In the absence of counseling, survivors may not even be aware the fund exists.

“There could be a lot more attention paid across the U.S. to how we treat folks in the aftermath of violence,” says Walsh. “There are some systems that just don’t serve people in the ways that they need to be served.”

In 2022, Walsh was part of a group that interviewed students and campus stakeholders to come up with recommendations on how UW could better address issues surrounding sexual violence on campus. Recently, the group began moving forward on several recommendations, including hiring a sexual assault response team coordinator who could break down silos and coordinate direct service provision to survivors.

Walsh also sees progress and promising signs at the federal level: She recently received a sizable grant from the National Institutes of Health to support emergency-room patient interventions that could help prevent PTSD and opioid misuse in the wake of an assault. She is hopeful that it’s the start of a new trend in grant funding.

“I’m very excited about the possibility of being able to potentially do some really valuable intervention that’s low burden and low cost for victims when they’re seeking care,” says Walsh. ■



PHOTO: COURTESY OF GENERATION GENIUS

Producing “Out-of-the-Box Science,” an Emmy-nominated series of kid-oriented chemistry demonstration videos featuring the Department of Chemistry’s Jim Maynard and UW alumnus Jeff Vinokur, is as fun as it looks.

The Right Kind of Chemistry

We typically think of the Emmy Awards honoring popular television shows and actors, but they also recognize accomplishments in other video venues — including educational videos. Jim Maynard, a longtime lecture demonstrator in the Department of Chemistry, scored a 2023 Emmy nomination for work he did in helping produce “Out-of-the-Box Science,” a series of chemistry demonstration videos featuring UW–Madison alumnus and Generation Genius CEO Jeff Vinokur (’12). The videos were nominated in the Outstanding Interactive Media category, and Maynard’s role involved identifying safe alternatives

to some of the demonstration reagents used in the videos.

Maynard and Vinokur’s project didn’t end up winning the award, but Maynard, who has been working with the Department of Chemistry for the past 23 years, took the nomination in stride — with a dash of humor-inflected pride.

“It was a surprise to be included in the nomination,” he said. “But if I had won a trophy, I would have walked around the building with it.”

Truly Outstanding

A pair of L&S graduate students were among those selected to receive 2023 UW–Madison Outstanding Women of Color Awards. Molli Pauliot (’19, ’20), a doctoral candidate in the

Department of Anthropology, and Alexandra Villa (’20), a doctoral candidate in the Department of Geoscience, received the awards at a ceremony held in March. The awards honor women of color whose advocacy, activism or scholarship has fostered social justice and organizational change while improving the climate for, or status of, people of color.

Pauliot, a member of the Ho–Chunk Nation Buffalo Clan, has worked to support the enforcement of the Indian Child Welfare Act through social work practice, historical education, training and programs addressing social issues while emphasizing the importance of the family kinship system in American Indian communities. Her academic

research builds on that, emphasizing community collaboration with the Ho–Chunk Nation and its many partners.

After years of being one of the only Latina members of her various academic communities, Villa, who grew up in California, connected with a supportive faculty mentor who helped her to thrive in her research of paleoclimate and paleoceanography, the study of past climates. At UW–Madison, Villa has created, developed, implemented and showcased effective methods for creating and sustaining a more inclusive, diverse, just and equitable community, both in the Department of Geoscience and other campus spaces.

“While national indicators may suggest that the economy is strong, the Americans we listened to are mostly not thriving.”

KATHY CRAMER

Co-chair of the American Academy of Arts & Sciences’
Commission on Reimagining Our Economy

A Rigged System?

In 2022, Professor of Political Science Kathy Cramer agreed to co-chair the American Academy of Arts & Sciences’ Commission on Reimagining Our Economy, a national effort to research and make recommendations to make the U.S. economy fairer for all its citizens. Two years into the project, the commission is beginning to share some of its early findings.

Cramer, who forged her reputation as a political scientist by hosting fireside chats and interviewing everyday Wisconsin citizens about their opinions on difficult topics like political polarization and the rural–urban divide, used the same techniques to chart Americans’ opinions on whether the U.S. economy

is rigged against individuals with lower incomes. Writing in *The New York Times*, Cramer and collaborator Jonathan D. Cohen shared that many of the individuals they interviewed believe the U.S. economy is driven primarily by “greed.”

“While national indicators may suggest that the economy is strong, the Americans we listened to are mostly not thriving,” Cramer and Cohen wrote. “They do not see the economy as nourishing or supporting them. Instead, they tend to see it as an obstacle, a set of external forces out of their control that nonetheless seems to hold sway over their lives.”

Cramer and Cohen suggest that erasing benefit cliffs—a scenario in which a slight increase in annual income makes a family ineligible to receive health care benefits that might help them build up enough wealth to no longer need government support—would reduce the economic stress many Americans report feeling.

A Dog’s Life, Re-Examined

How much would you pay to extend or save the life of your dog? According to David L. Weimer, the Edwin E. Witte

Professor of Political Economy with the La Follette School of Public Affairs, in adjusted dollars, it’s around \$12,000 in 2024. This number, in research terms, is known as the value of a statistical dog’s life (VSDL), and it’s something Weimer has been discussing for years.

He expands on his research in a new book he co-authored with emeritus professor Aidan Vining of Simon Fraser University. *Dog Economics: Perspectives on Our Canine Relationships* explores the complex relationship between humans and dogs through an economic lens, covering everything from a dog’s dual role as both property and family member to the market failures of American puppy mills and the social value of guide dogs.

Surprise!

George B. Dantzig Chair and Professor for the Department of Computer Sciences Steven J. Wright was “shocked and delighted” to be one of the 114 members elected to the 2024 class of the National Academy of Engineering (NAE). Wright was recognized for his research involving the design and theory of optimization algorithms and the application of optimization to areas like machine learning and signal processing.

NAE membership honors those who have made outstanding contributions to “engineering research, practice or education, including, where appropriate, significant contributions to the engineering literature.”



Dan Cavanagh—
Director of the Mead Witter School of Music, Pamela O. Hamel Music Board of Advisors Chair and Professor of Jazz Studies and Composition—won the 2023 American Prize in the “Composition (social justice related)” category for his wind symphony composition, “Even If the Last Bullet Hits My Chest.”



Alfonso Morales, the chair of the Department of Planning and Landscape Architecture and Vilas Distinguished Achievement Professor, received a Campus Sustainability Award from the Association for the Advancement of Sustainability in Higher Education for his paper analyzing how higher education institutions in the United States define sustainability.




Associate Dean for Diversity, Equity & Inclusion **DeVon Wilson** received a Diamond Award for Academic Leadership and Excellence in Higher Education from the Not Alone Foundation.

DOG ECONOMICS

*Perspectives on
Our Canine Relationships*



DAVID L. WEIMER AND AIDAN R. VINING



BRIGHT STARTUPS

What do kombucha, cloud configuration, fusion energy, career coaching and the flute have in common? These disparate fields all have College of Letters & Science graduates and faculty entrepreneurs achieving success with their own ventures. Meet five L&S alumni building businesses and careers from the ground up.

BY ARCHER PARQUETTE

"There's no grander challenge for humanity than harnessing fusion. We've been to the moon; we've figured out quantum mechanics ... this is the final frontier."

CARY FOREST



THE SCIENTIST

Google "fusion energy" and you'll find it referred to as a "holy grail" more than once. That's a lofty claim — but it's not unfounded. Fusion energy is created by thermonuclear reactions. It occurs in the sun and in stars, and for decades scientists have been trying to harness it because, unlike fossil fuels, it's carbon-free. And unlike other, greener energy sources like wind and solar, it could operate 24/7. On top of that, in principle, it would be safer than nuclear power, with a less radioactive waste stream. If fusion energy was fully realized, it could be a revolution in long-term, abundant, sustainable energy.

Cary Forest, a 1986 graduate of L&S and a current professor in the Department of Physics, is helping to bring about that revolution in energy with his company, Realta Fusion. He started his research career 30 years ago interested in fusion, but the time horizon for a meaningful breakthrough seemed so far off that he didn't think his work would have much impact.

So, he put fusion on the backburner and shifted his primary focus to plasma astrophysics. Even though he left Wisconsin to get his Ph.D. at Princeton, he returned to the University in 1997 to teach and conduct research. And about seven years ago, a series of fusion breakthroughs across the globe piqued his interest.

"We started thinking that we could use a simpler fusion concept, take advantage of [new technologies] and make a neutron source that was much more powerful than anything that's out there," Forest says. "There's a commercial appetite for fusion now. Investors are interested in fusion for power."

Forest drafted a proposal to the Department of Energy to get funding for the idea. The DOE provided approximately \$10 million to build the Wisconsin HTS Axisymmetric Mirror (WHAM) to get the research started. With the money secured, Forest and the University enlisted the help of Kieran Furlong, a venture capitalist who brought business acumen to match Forest's scientific skill. Together, the two men founded Realta Fusion.

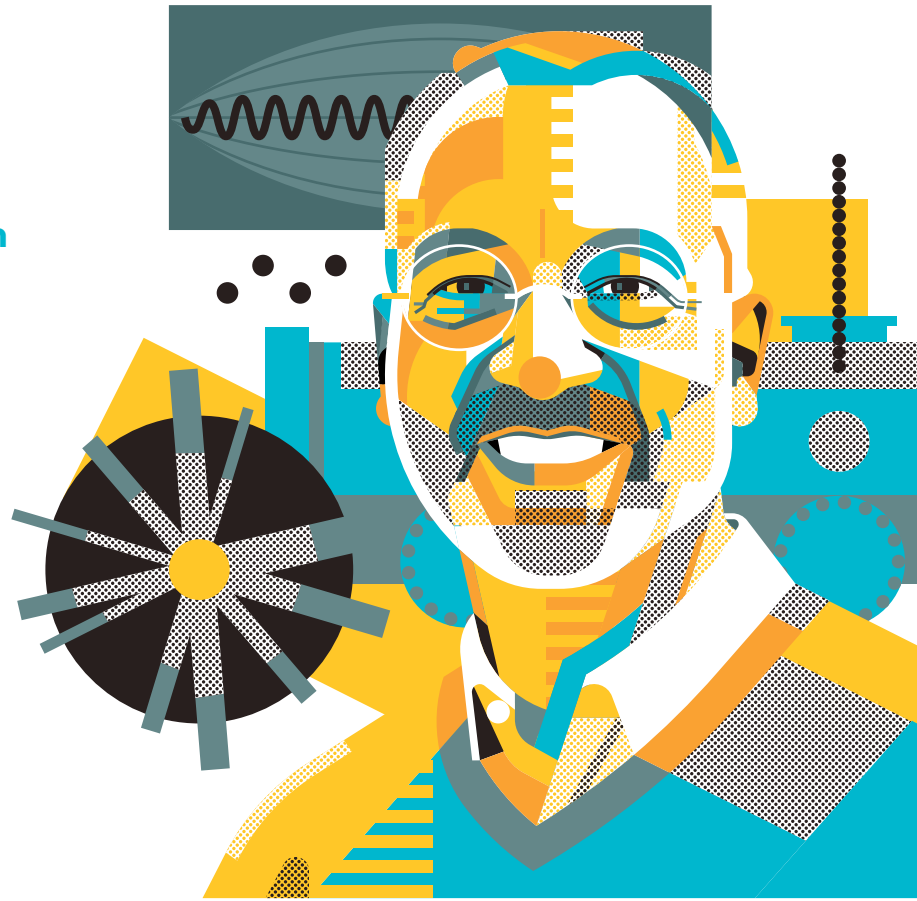
While WHAM is now being built, the next milestone is to construct a larger,

high-powered device called a Break Even Axisymmetric Mirror, which will operate at the temperature and densities of the core of the sun to produce fusion energy. Forest anticipates starting operation on the device in about five years.

"The next step is demonstrating fusion power production at scale," he says. "We're hoping to field a first-of-its-kind reactor."

That reactor would be used in an industrial setting — powering the creation of something such as plastics or cement to demonstrate fusion's potential. If that's successful, the next step could be generating larger-scale power.

"There's no grander challenge for humanity than harnessing fusion," Forest says. "We've been to the moon; we've figured out quantum mechanics ... this is the final frontier."





THE MUSICIAN

"I know there are a lot of people who are suffering the way I am, who want to do something they love but can't because they're limited by motion and pain. My goal is really to help whoever I can."

NICOLE VAUGHN

One morning in 2019, Nicole Vaughn ('20) woke in excruciating pain. A shoulder injury she'd had since high school hurt worse than ever. She had limited neck and shoulder motion, and her ribs had shifted until they were pinching nerves. The injury would be rough for anyone to deal with, but for Vaughn it was particularly frustrating. She's a flutist — to even get her instrument to her lips was agonizing. "I couldn't play my flute for longer than maybe eight to 10 seconds," Vaughn says.

The exacerbated injury was a result of relentless practicing. She had been preparing for an audition, practicing her instrument eight hours a day and ignoring the worsening pain until it became too much to handle.

"I was sitting with my husband one night and I was really frustrated," says Vaughn, who graduated from L&S with a master's degree in music and flute performance. "I said, 'If I could just have someone hold my arm the entire time, I would be just fine.' And then I thought, 'Wait a minute, what if I actually did?'"

Vaughn started sketching an idea that night — a device that could keep her arm steady and allow her to play without pain. She talked to Tim Hagen, a former flute

professor at the University, about her idea. He saw its potential for musicians with disabilities and encouraged her to try making the device.

"Without my professor's encouragement and his help, I wouldn't have had access to a lot of resources that helped me get this started," Vaughn says.

A musician is not necessarily an engineer, so Vaughn turned to fellow Wisconsin Marching Band alum Jonah Mudge ('21), who works as a biomedical engineer.

Mudge and Vaughn drafted plans for a 3D-printed arm support, working through prototypes as they tweaked Vaughn's original design to become more compact and comfortable. By 2022, they had a working device and Vaughn had it patented. The arm support made its debut at the 2022 National Flute Association Convention, where flutists from around the world saw it in use.

"We're continuing to alter and make adjustments," Vaughn says. "My hope is to have it mass-produced in the future. I know there are a lot of people who are suffering the way I am, who want to do something they love but can't because they're limited by motion and pain. My goal is really to help whoever I can."



THE TECHIE

“Don’t be afraid to take risks in those early years, and if you’re starting a company, have an obsessive customer focus. ... And I can’t tell you how many failures you’ll encounter. Success is iterative. Be in it for the long haul.”

NIDHI AGGARWAL

After she graduated from L&S with a Ph.D. in computer sciences, Nidhi Aggarwal took a job at McKinsey & Company, a consulting firm. She was advising major companies across the country on data strategy, and she noticed a recurring problem. Clients were using physical data centers that were used to train their developers and partners. When they weren’t used for training, the physical centers were largely unused.

“This was the early days of the cloud, and my partners and I realized we could use the cloud to do the same thing much more cheaply and effectively,” Aggarwal says. At the same time, she went on maternity leave after the birth of her first daughter. “That’s when the idea started coalescing,” she says. Aggarwal left her job at McKinsey and dove full-time into the new venture, dubbing the company Qwiklabs.

“We had identified a problem that resonated with customers. It wasn’t like we created a product and then we were trying to find a buyer for it,” she says.

Aggarwal and her partners started building Qwiklabs configuration management platform. Companies that were developing training could use the platform to easily create hands-on, cloud-based learning environments, on which IT professionals, developers and more could train.

But at the time, the Qwiklabs team remained remarkably small. “We were scrappy,” Aggarwal says. “We started by finding the minimal viable product to solve the customer’s problem. ... Then [when we had that], we added other layers, concentric circles on concentric circles. That’s how, with such a small team, we built a product that scaled worldwide.”

The results were impressive to say the least.

Amazon Web Services, the largest cloud provider in the world, signed on to be Qwiklabs’ first customer, granting them the worldwide exclusive license for their customer and partner training. Qwiklabs grew from there, with more than half a million users.

In 2016, Aggarwal and her team sold the company to Google. In the years since, Aggarwal has become an influential investor in tech, with board positions in AI and quantum computing companies.

“One lesson I learned early on is to prioritize learning over titles and even pay,” Aggarwal says. “Don’t be afraid to take risks in those early years, and if you’re starting a company, have an obsessive customer focus. ... And I can’t tell you how many failures you’ll encounter. Success is iterative. Be in it for the long haul.”





THE RESTAURATEUR

Henry Aschauer left Madison in 2010 after graduating from L&S with an economics degree. Two years later, he returned with a plan. At 24 years old, he and fellow UW grad Doug Hamaker started Roast Public House — a brick-lined, sit-down restaurant serving big burgers and craft beer on the campus end of State Street. “I grew up in a household that appreciated good home cooking,” Aschauer says. He brought that spirit to the restaurant, which quickly became a hit. But he soon found his focus shifting to a very different type of food business.

He envisioned a health-centric restaurant, one serving salads and grain bowls using organic produce, as opposed to the meat-and-hops offerings at Roast. In 2015, he and Hamaker launched Forage Kitchen just a block down State Street from his first restaurant.

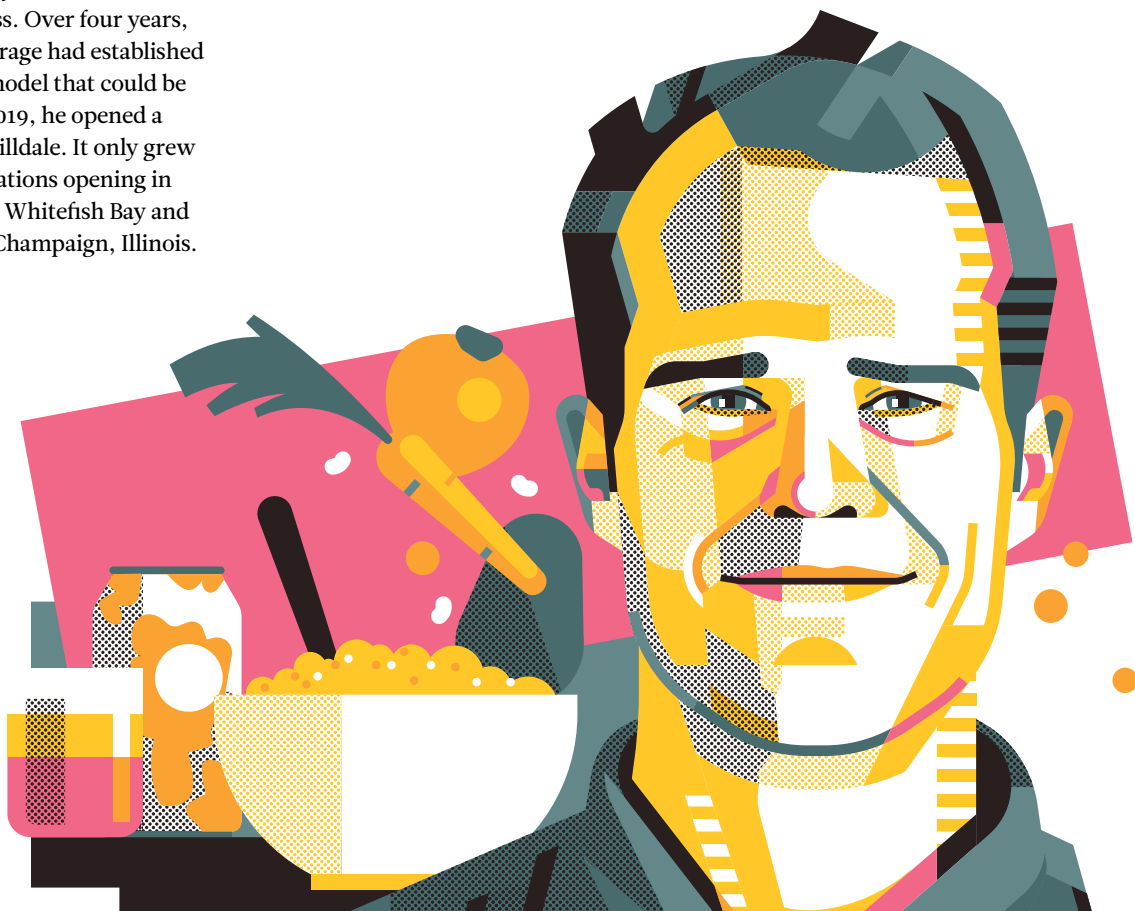
Forage took off, with pickup and delivery options of healthy, tasty salads and bowls proving surprisingly popular on a street not exactly known for its health-consciousness. Over four years, Aschauer felt that Forage had established a popular working model that could be replicated, and, in 2019, he opened a second location in Hilldale. It only grew from there, with locations opening in Middleton, Monona, Whitefish Bay and even as far south as Champaign, Illinois.

Each move Aschauer made in the restaurant business was carefully planned, but his next business “just kind of came up along the way, honestly,” he says. Forage Kombucha started simply because Aschauer liked the healthy drink and thought it might be worth serving at Forage. He began small, having just enough kombucha made to stock Forage locations. “After just a few months having it in Forage, it was selling really well, and other bars and restaurants were requesting to buy cases,” he says.

Aschauer started selling Forage Kombucha in grocery stores, and it only kept growing. Now you can find cans on shelves across dozens of states, from California to Maine. This year, he’s already planning a new Forage location in Sun Prairie, and he’s got some new projects in store for his burgeoning beverage line, too. “Keep an eye out for new Forage brand beverages hitting grocery shelves this year,” he says.

“I grew up in a household that appreciated good home cooking.”

HENRY ASCHAUER





THE COACH

"I started reaching out to companies to see if we could provide health coaching for their women employees. What I heard was, 'That's a noble cause. Great mission. Awesome. But that's not really what we want.'"

MOLLY DEWEY



There's a video on Molly Dewey's phone, recorded in 2020. In it, the 27-year-old is standing in her bathroom mirror. She stares astounded into the camera, searching for the right words. She just learned that Dell Technologies was going to hire her company, Mettacool, to coach 90 women across the globe. It was by far the biggest contract Dewey had earned, a sum in six figures, and she was recording the video journal to mark the moment.

"I was just blown away," she says, reflecting on the moment three years later. "Like, how did this happen?"

The Dell contract sparked a cascade of successes for Mettacool, but Dewey's journey began in 2015, when she graduated from the School of Journalism and Mass Communication. She moved to New York City, where she worked long hours, hustling as an editor for AOL. The competitive lifestyle proved overwhelming and unpleasant after about a year, and she quit to search for a new start.

She enrolled in a health coaching program at Duke University, where she met Natalie Eicher. The two quickly hit it off. After completing the program, Dewey started to envision a wellness coaching business for women in the workplace. She reached back out to Eicher with the idea, and in 2018 the two founded Mettacool with roughly \$30,000 in savings between them.

"I started reaching out to companies to see if we could provide health coaching for their women employees," Dewey says. "What I heard was, 'That's a noble cause. Great mission. Awesome. But that's not really what we want.'"

She found that companies were looking for coaching that could help women grow their careers and develop professional skills. So, Dewey and Eicher began to develop programs to do just that, creating everything from one-day workshops to yearlong programs.

After two years of relatively little business, Dewey remembers the pandemic as the moment things changed. Suddenly, companies were facing major challenges — working from home, employees quitting, women feeling increasingly undervalued. At a fast clip, many of those companies were turning to Dewey, who had been laying the sales groundwork for years, to meet those needs.

Dell was the first domino to fall, but many more followed. Dewey and Eicher built a team of coaches around the globe to meet the growing demand for their programs. Over the next three years, they grew Mettacool into a talent development company taking in nearly \$2 million in revenue and coaching women in more than 40 countries.

And to cap off three years of dramatic growth, at the end of 2023, Dewey was named to the *Forbes* 30 Under 30 List.

"It's surreal," she says. "When we started, I didn't have a [learning and development] background. But the journalism school gave me a really strong sense of confidence that I could make it work. ... I had presented in front of huge groups; I could write really well; I could talk like you wouldn't believe. So, I thought, 'Why not me?'" ■



As director for the Botany Garden and Greenhouse, Ingrid Jordon-Thaden has to think about the big picture for the living collection while also caring for thousands of individual plants.



Putting Down Roots

Tucked on the south side of Bascom Hill are a greenhouse and garden that are home to thousands of plants. Keeping a teaching collection this large is not only important to support research and classes but also extremely rare at universities around the country.

BY ALLI WATTERS



PHOTO: JEFF MILLER



PHOTO: ALTHEA DOTZOUR

It's a breezy February day,

but when Ingrid Jordon-Thaden walks into the Botany Greenhouse the temp is balmy enough for her to break a sweat. The room is set at 75% humidity, and while that's pretty warm for winter, it's nothing compared to the baking summertime heat.

"We get up to 110 degrees in here," says Jordon-Thaden, director of the Botany Garden and Greenhouse. "The building is quite old. One hundred years ago, they probably didn't have to worry about it being so hot all summer."

That's right, this spectacular 8,000-square-foot greenhouse has been standing for more than a century. The greenhouse is nestled up to Birge Hall, a plant-filled building that sits atop the south side of Bascom Hill and is home to the Department of Botany. Like Birge, the greenhouse was built in 1912, making it 112 years old. As you walk around the eight-room greenhouse, you can still see some of the original walls and flooring.

You'll also see — no surprise here — a lot of plants. So many plants, in fact, that it takes nearly five hours a day to water all of them.

"Every single plant in here is used somehow, whether it's in a class or just for a tour," Jordon-Thaden says.

Across the semesters, greenhouse plants travel to teaching rooms so students can have hands-on learning experiences. Birge Hall was designed to teach botany with special lab rooms angled for the best southern light exposure for microscope studies of plants.

The greenhouse is also instrumental for research. One house was redesigned in the early 2000s to accommodate experiments that need more advanced climate controls. It's there where Professor of Botany Simon Gilroy and his lab team grew the tomato seeds that were launched into space earlier this year — their sixth experiment with NASA and the International Space Station.

And that's just the plants in the greenhouse. The Department of Botany has also managed the Botany Garden since the '80s, when the botany department realized they had quite a few plants they wanted to grow outdoors for teaching.

"The garden is a little oasis in the middle of our urban campus," says Cara Streekstra (BS '99, MS '21), the living collections manager for the Botany Garden and Greenhouse. "A lot of people don't realize it's there, but we have about an acre and a half. One of the cool things about it is that it was one of the first gardens that was organized by molecular taxonomy."

With blooming flowers and a tranquil koi pond, there's no denying that this is a gorgeous garden — but beauty is not why it was designed. Both the garden and greenhouse were built with teaching and research at the forefront. That's why the plants are organized by taxonomy.

And the collection is rare for a lot of reasons beyond its organizational layout. There are fewer and fewer botany departments around the country, and

Growth Spurt

We asked Living Collections Manager Cara Streekstra for the official sprout count. Spoiler alert: It's a lot.

3,000

The greenhouse is home to more than 3,000 individual plants.

650

There are about 650 different plant varieties in the garden.

2,000

There are more than 2,000 unique plant species represented in both the garden and the greenhouse.

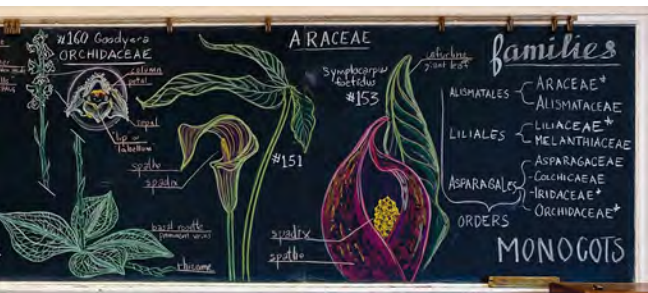


PHOTO: PATRICIA CHAN

Clockwise:
Botany Garden;
Patricia Chan's
botanical
chalkboard art;
Botany
Greenhouse

even fewer put up resources to support a collection of this magnitude. Many of the universities that had gardens or greenhouses like this have shifted their plant focus away from botany and toward agriculture, meaning the focus shifts to crop improvement instead of plant biodiversity education.

"We have a collection that is kind of rare because it was built over the past 100 years, and it has been used continuously ever since for the reason it was built, which was to study botany," Jordon-Thaden says. "The College of Letters & Science has committed to keeping us strong, and that's super different [compared to other universities]."

Patricia Chan (x'25) knows firsthand just how essential the garden and greenhouse are for teaching classes. She's a fifth-year Ph.D. candidate and a teaching assistant in the Department of Botany who's known for her intricate botanical chalkboard art. She uses live plants regularly in her classes.

"It would be difficult to teach our taxonomy and plant ID classes if we didn't have these live resources," Chan says. "Our students' eyes light up when they walk into the teaching lab and see that in this cold Wisconsin winter, their classroom has been transformed into a little green forest."

It's not just botany students who benefit from the resource. Devin Guthrie (x'26), a sophomore majoring in environmental sciences, volunteers in the gardens, helping with maintenance and upkeep – and also growing plants.

He actually learned about the garden and greenhouse in a general biology class. He had no idea that either plant space existed, but after his first visits, he was enamored with the work being done there.

"You go in there, and it's a completely different environment," Guthrie says. "It's really nice to be surrounded by a lot of plants. A lot of them are exotic, and some of them are endangered. There's so much there within a single step that might be from the other side of the world."

It's students like Guthrie that remind Jordon-Thaden why the living collection is so vital. It's an opportunity for the UW community to see some of the world's rarest biodiversity up close.

"One of the largest global threats to earth is habitat loss, invasive species, global warming and expansion of humans into rare areas," Jordon-Thaden says. "It's important that students know the biodiversity that exists. We try to give them examples of what it looks like in a rainforest or a desert, because they may never see it." ■

Both the greenhouse and the garden are open to the public. The Botany Garden (1090 University Ave.) is open from sunrise to sundown. The Botany Greenhouse (430 Lincoln Dr.) is open on weekdays, 8 a.m.–4 p.m. More info: livingcollection.botany.wisc.edu



WARNING:
Some of these
plants are
carnivorous.

The Botany Garden and Greenhouse are home to more than 40 different species of carnivorous plants. The animal-eating plants are fan favorites of students and visitors. They are also of particular interest to Tom Givnish, the Henry Allan Gleason Professor of Botany and Environmental Studies, who co-authored a textbook on carnivorous plants.

What are the distinctive qualities of a carnivorous plant?

Until the '80s, no one really had defined what they are. To me, it seemed clear that all carnivorous plants are marked by two traits. First, they have to be able to absorb mineral nutrients from dead animals next to their surfaces and thereby obtain some benefit in growth or survival or reproduction. Second, they have some kind of specialized adaptation that's clearly devoted to prey attraction, capture or digestion. At least one of these things must be present.

Why are people so fascinated by this plant species?

So many people, including myself, became very excited when as kids they got to see carnivorous plants, and see how Venus flytraps snap their leaves to trap insects, how sundews entrap and digest prey with sticky tentacles on their leaves, or how pitcher plants lure animals to the brink of the abyss. I think that made us think about plants having some agency – about their being able to behave and do something.

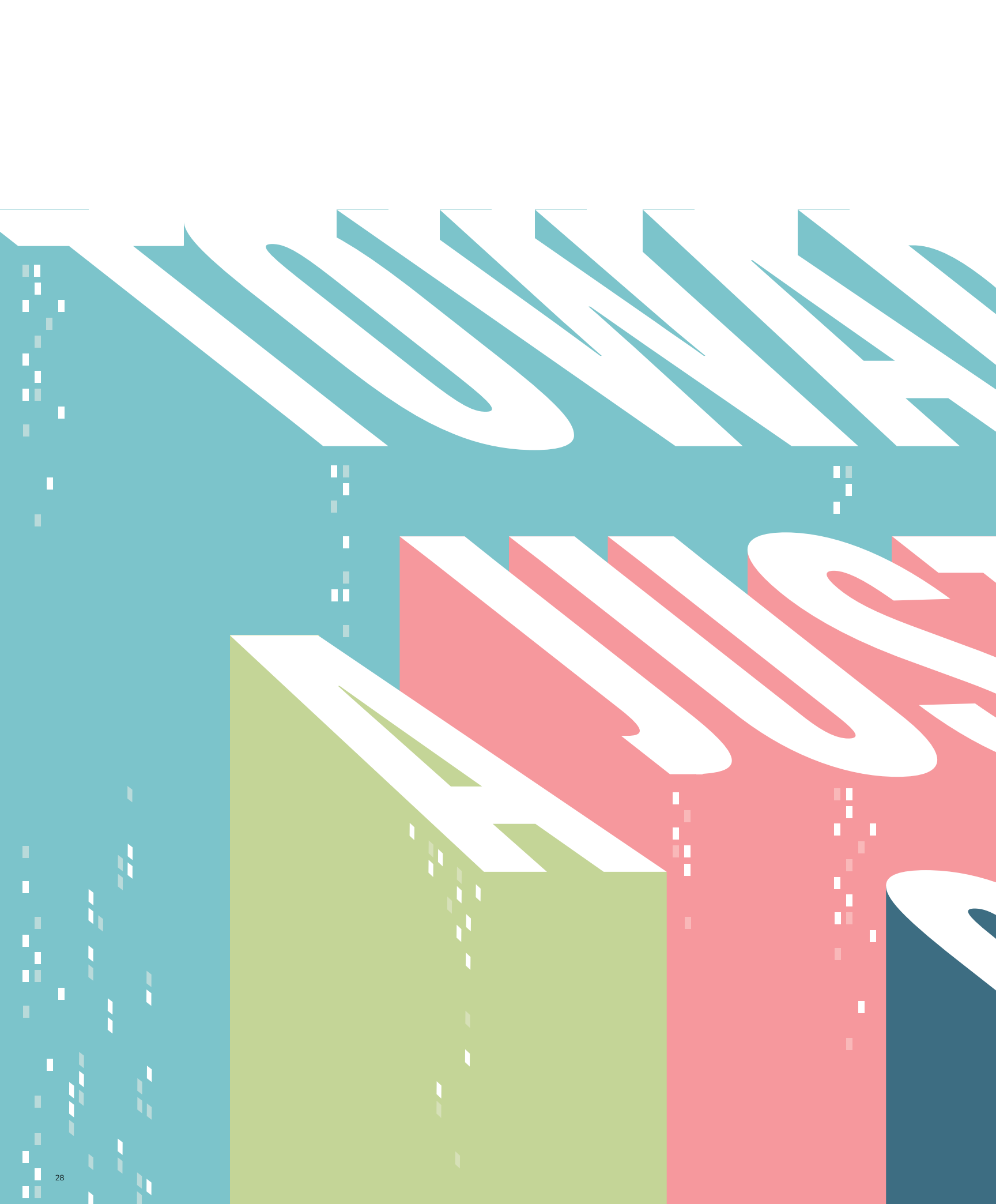
Why does the greenhouse grow these plants?

First, to inspire students and the public. Second, to provide materials for courses and for research. And third, to provide material for observations and experiments. My lab is eager to set up a large experiment in the greenhouse to test models for the evolution of carnivorous plants by growing them and non-carnivores in a series of different environments to see which will win in competition.



**THE GREENHOUSE
ALSO HAS A BELOVED
ORCHID COLLECTION.**

Check it out at
go.wisc.edu/lis-orchids.





Researchers in the Department of Planning and Landscape Architecture parse the ways – big and small – that a city supports a sense of equity and social justice.

BY AARON R. CONKLIN

The just city. Our old friend Plato is the one who's typically credited with coming up with the concept and coining the phrase, but it's been reimagined and honed over the centuries.

Susan S. Fainstein is the most recent to do so. In 2010, the groundbreaking Harvard

University scholar of urban planning described "the just city" as a place where democracy, equity and diversity are the drivers of a city's built environment, from the placement of streets to the type of housing units it constructs.

This definition is the lens through which researchers in UW-Madison's Department of Planning and Landscape Architecture (DPLA) view their work. Approaching the topic from multiple angles – housing, transportation, green infrastructure and more – they're identifying the opportunities and obstacles involved in working toward more inclusive cities. Then, the researchers are working with designers and government officials to turn their research findings into action.

"What makes our department unique is that we're planners and landscape architects – we can bridge both professions," says Gaylan Williams, a new research associate with the department who studies green infrastructure and urban forestry. "If there's a social, environmental or economic issue, addressing them through public policy is what planners do best. And the landscape architects can give those solutions form, understanding how they will look in the built environment. This nexus happens when you have these two disciplines working together, envisioning holistic solutions."

They're doing this by homing in on urban design details and policies that most of us barely notice. But one thing is certain: Once you begin to see well-planned infrastructure as a form of social justice, you'll never look at your city the same way again.



PLANTING THE SEEDS

Have you ever walked through a city's streets and noticed the type and placement of the plants and trees? Anna Bierbrauer has.

Bierbrauer, an assistant professor who joined the DPLA faculty this academic year, studies the ways that a city's vegetation reflects not just bioregional and biophysical elements, but also its cultural values.

"What I really want to bring attention to is that plants are an expression of power in many, many ways," she says. "The plants that we see in a place are there for a lot of different reasons."

Before arriving in Madison, Bierbrauer spent years studying, among other things, the type and placement of trees in the city of Denver. Back in the early 1900s, the city's leadership planted non-invasive species that require a lot of water. Today, those early trees have survived only in neighborhoods that had consistent water infrastructure — neighborhoods that were white and wealthy in the early 1900s and remain that way today. To Bierbrauer, they're an example of the way Denver's vegetation has become racialized over time.

"You start to understand how a certain design aesthetic served one small portion of the population, and how the vegetation we continually promote as designers may be serving a smaller portion of the population," she says.

GETTING THERE

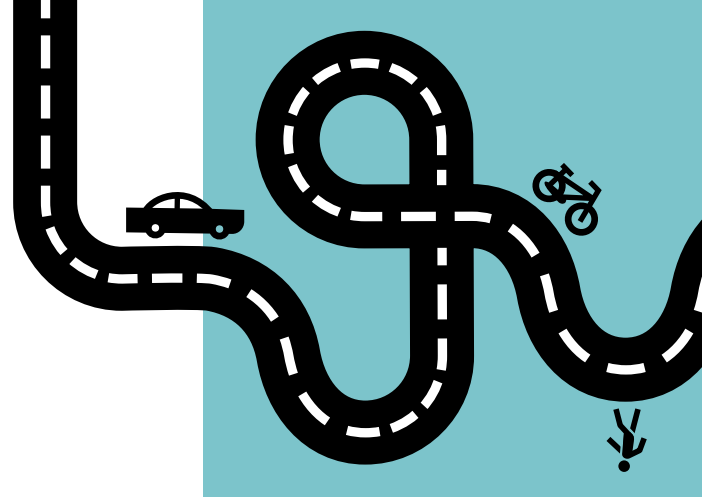
When you're driving, walking or biking to work, you might be thinking about the song on the radio or your upcoming meetings. Carey McAndrews, on the other hand, is pondering road designs, wondering why they are laid out the way they are.

McAndrews, a professor of planning and landscape architecture, is concerned about transportation infrastructure — how people travel and why. She's studied the issue in California, Colorado, Mexico and Sweden. One of her many focuses is the competing uses tied to larger roads. In Madison, for instance, a years-long expansion of Verona Road — a multiple-lane road that connects the city to bedroom communities to the south — ended up shuttering several local businesses and creating issues for the neighborhoods that surrounded it.

"It really did overlap with questions of racial equity and social justice because Verona Road was passing through a neighborhood in which residents very likely had less access to cars and everyday mobility and were more reliant on accessing the bus," McAndrews says. "Neighbors had to lobby the state to get protection from pollution and noise, and to have a safe way to cross the road."

McAndrews argues that most people aren't aware of how these key infrastructure decisions are made, from the placement of streetlights to bus transit routes and bike paths, even though they can have dramatic impacts on their lives — especially when the systems break down.

"If you're thinking about justice and fairness and how these systems work, you might ask what that process is like," says McAndrews. "And that's what makes it research-worthy."



NEW SPACE = DISPLACED

As urban density and housing shortages continue to be frontline issues for growing cities, Revel Sims, an assistant professor in DPLA and the Chican@ & Latin@ Studies Program, is paying attention to what happens when shiny new mixed-use apartment buildings are constructed in neighborhoods.

In a lot of instances, lower-income residents in the surrounding neighborhoods end up evicted or displaced, forced to retreat to less-expensive communities throughout the city or region. Sims is currently working on an analysis that draws connections between housing insecurity, evictions and housing quality.

“We’ve been able to identify three housing sub-markets in Madison, where housing insecurity through evictions and poor housing quality through code enforcement are coming together in a way that affects Black renters disproportionately,” explains Sims. “The idea is sort of what happens to the people who get pushed out directly or indirectly. Gentrifying neighborhoods, where do they end up? People with few options are moving into these special housing sub-markets that are defined by a lot of housing insecurity and poor health.”

In Madison, those submarkets are scattered. In a place like Orange County, California, which Sims is also studying, similar economic forces have created a “donut” of exclusion, where wealthy communities on the coast and in the mountains have driven low-income Vietnamese and Latino immigrants into communities in the “hole” between them.

“We’re capturing what we call dual and contradictory displacements — sort of a displacement within, through overcrowding and increasing poor housing conditions, and then also folks who are being evicted and then moving further out of either neighborhood or the city,” Sims explains.

“**THAT’S WHAT
‘THE JUST CITY’
IS ALL ABOUT.
MAKING SURE
THAT WE
DON’T FORGET
THAT WE ARE
HERE TO HELP
ONE ANOTHER.**

EDNA ELY-LEDESMA



MARKETS MATTER

If you’re fortunate, you live in a city that has a weekly farmers market — maybe even several. Edna Ely-Ledesma would tell you that’s a sign of a healthy city that values social justice.

Ely-Ledesma, an assistant professor in DPLA, came to Madison after spending years researching Latino farmers markets near the Texas border. Four years later, she’s the director of the Kaufman Lab for the Study and Design of Food Systems and Marketplaces. She collaborates with farmers markets across the country to help them tell their stories, provide survey toolkits and offer advice as an urban planner.

One of the big recent issues she’s been helping to wrangle is making it tenable for farmers markets to accept money from families in food assistance programs, when they often lack the technological infrastructure to do so.

“The market operators are saying, ‘We are constantly seen as the avenue for doing the right thing or doing the just thing, thinking about issues of equity and access to food, but the resources aren’t being offered,’” explains Ely-Ledesma. “That’s what ‘the just city’ is all about,” she says. “Making sure that we don’t forget that we are here to help one another.” ■

ILLUSTRATIONS: TIM MADLE





More Than Skin Deep

Alumna Shannon Hay Seeberan has revolutionized the medical aesthetics field with her company CloudMedSpas.

BY AARON R. CONKLIN

It's a career that has led her from the classrooms of UW-Madison to the sunny climes of Silicon Valley, where she serves as the co-founder and vice president of business development for CloudMedSpas. The thriving startup company helps aesthetics practitioners — the folks who deliver beauty-related services like Botox injections and laser procedures — operate efficiently and find affordable clinic spaces to ply their craft. Seeberan jokingly calls it “an Airbnb system for medical aesthetics.”

Over the past decade and a half, the medical aesthetics field has exploded. The pandemic was a factor in this, in part because people spent more time staring at themselves on Zoom and in mirrors.

“The culture has completely changed. It's sort of like a badge of honor being able to say, ‘Yeah, I do some stuff that makes me feel better,’” says Seeberan (Gender & Women's Studies '99).

But there was an all-too-common problem for the industry: employee retention. Employees administering the procedures were often frustrated by the percentage of profit going to the owners of the space in which they worked. Many ended up bouncing from spa to spa looking for a better deal.

Four years ago, CloudMedSpas began to change that.

“We tell spa owners, instead of having three employees, you could have 30 people renting your space, running their own business,” Seeberan explains. “It's a smarter business model. The independent practitioner now has full control of the revenue. They're deciding when they work, how much they want to work, and the owner of the location now has a very healthy revenue stream of rent.”

The software package CloudMedSpas offers its clients both helps them manage their space and gives them access to medical-grade prescription products by allowing them to be bought at scale. The company's clients now include dentists and physicians who have underutilized

PHOTOS: ELENA ZHUKOVA

Growing up, Shannon Hay Seeberan's father, a doctor, had a clinic space attached to their family home in Omro, Wisconsin. She didn't know it at the time, but that clinic-space arrangement would end up playing a major role in her eventual career.

space in their clinics. The rental revenue they gain from working with aesthetics providers is critical. The CloudMedSpas platform empowers clients to monetize their medical or health space.

CloudMedSpas began its life as a brick-and-mortar business, but now it's largely virtual, with "test kitchen" buildings in Boston and Dallas, where large groups of practitioners rent space. Seeberan hopes the company can push its practitioner base above 1,000 by the end of 2024.

"We are empowering hundreds and hopefully thousands of women, mostly nurses, who seek a better work-life balance," she notes. "We're giving them the opportunity, instead of working a 70-hour week, to work a 20-hour work week and earn additional revenue in an industry that is booming with demand. It's sort of like if you don't take control of what you're doing, someone else will."

Seeberan got her spark for business while working as the ad manager for *The Badger Herald* student newspaper on campus. A consulting gig for a dermatology practice was her first experience with the aesthetics business.

"I knew that most doctors didn't have the business mindset to run their practice

"The culture has completely changed. It's sort of like a badge of honor being able to say, 'Yeah, I do some stuff that makes me feel better.'"

SHANNON HAY SEEBERAN
CloudMedSpas

and manage staff. Their main focus was and should be the patient," she explains. "My consulting expertise added instant value to the practice, improved the flow and efficiency, and established goals for the entire team to contribute."

In 2020, after successfully growing her own consulting business, she met Ignacio Fanlo and co-founded CloudMedSpas.

"It's a lot of fun to work for a startup because you're just problem solving every day," she says.

Seeberan credits her time at UW for exposing her to different ideas and people with backgrounds different from her own.

"What UW gave me was a diverse exposure to a lot of things, and I took classes that I would have never taken had I not been encouraged to try different spaces, different studies and explorations," says Seeberan, who now lives in California with her husband and two sons. "If I had been siloed from day one into a specific school, I would not be the person that I am today."

Seeberan recently reconnected with her college roommates, all of whom are currently in professions unrelated to their backgrounds and undergraduate majors.

"We talked about our undergraduate experiences really resonating with what we bring to the table in our current careers — the ability to have healthy conversations, to build the ability to see all sides and all perspectives," she says.

Seeberan remembers her time with her sorority and running on the Lake Mendota ice as part of the year she spent on the women's crew team.

"It sounds like an older generation saying I had to walk both ways uphill to school," she laughs.

In the past few years, Seeberan has begun looking for opportunities to reconnect with UW and help recruit more students of color to Madison. Beginning with, potentially, her oldest son, who's 16.

"He's not excited about the temperature — nobody is, right?" she says. "But there are a lot of things that compensate for it." ■

Shannon Hay Seeberan's business is empowering medical aesthetic practitioners to achieve a more manageable work-life balance.





A Long Line of Badgers

For the Hollands, going to UW–Madison has become a beloved family tradition. And they believe the Wisconsin Experience is meant to be shared, which is why they support scholarships for students in the College of Letters & Science.

BY ALLI WATTERS

You'd be hard-pressed to find a family with more Badger pride than the Hollands. Not only did Louis Holland Jr. (Economics '86) and Darcy Holland (Psychology and Sociology '85, Rehabilitation Psychology '88) earn their degrees from UW–Madison, they were raised by Badger alumni, fell in love with each other on campus and have gone on to raise three now-graduated UW students.

“Our kids had the choice to go anywhere they wanted, despite what people would say to us where we live outside of Chicago,” Darcy says. “But they love Madison.”

While not mandatory, their children’s affinity for the University likely has a lot to do with their parents. Lou and Darcy’s enthusiasm for the campus is down-right infectious. The two are regulars at Badger sporting events — Lou and his father both played on the football team — and love to visit the University when they’re in town.

“My time on campus was amazing,” Lou says, remembering what it was like to be a student. “My social, my academic, my athletic — the three most important things to me then — they all just came in full circle and connected at Wisconsin.”

After graduating, Lou put his economics degree to work. He’s worked in the investment and finance industry for 38 years. Throughout his career, he received a lot of support from fellow Badgers, and he has since paid it forward by investing in fellow Wisconsin grads.

“It sounds so cliché to say, ‘Once a Badger, always a Badger,’” Darcy says. “But even when Lou is hiring, and in some of the investments we’ve made, if it’s a Wisconsin person, we are more apt to talk to them because we know their background.”

Darcy had a career as a rehabilitation counselor after graduation, with concentrations on people with brain injuries as well as adolescent populations. When the couple started their family, she stayed home to raise the kids. Together in 2008, the couple co-founded CUMOTA, LLC, which is a family office specializing in real estate, consulting and private markets investing.

“We’ve been blessed, and because of that we can give the University our time, talent and treasure,” Lou says.

As a couple, they live this belief to the fullest. Lou has served on several boards across the University and is the current chair for the College of Letters & Science’s Board of Visitors and vice chair of the Wisconsin Foundation and Alumni Association’s Board of Directors. Their philanthropic support for L&S programs like the Center for Academic Excellence and SuccessWorks has directly supported

Making an Impact

It was a scholarship that gave Lou’s mother the opportunity to go to UW–Madison in the 1960s. That’s why it’s so important to the Hollands to give back to campus initiatives that create opportunities for all students to get the Badger experience. One such organization is the College of Letters & Science Center for Academic Excellence (CAE). Beyond scholarships, CAE provides academic advising to students from historically underrepresented backgrounds in higher education, undergraduate research opportunities and a summer collegiate experience that helps ease the transition to campus. We sat down with Assistant Dean for L&S and Director of CAE Karen Stroud-Phillips.

What does success look like for this program?

We recognize that the definition of success is personal, and it looks different from one student to the next. Certainly, the big picture includes high retention, strong academic performance and timely graduation. However, we are also successful when we can empower students to have an amazing college experience that combines learning, intellectual and personal growth, and preparation to live the life they want.

How does support from donors directly benefit students?

If you’re struggling to pay for college, it’s very difficult to take advantage of all the University offers. And for some of our students, affordability issues are a semester-to-semester concern. Knowing that they have a scholarship to fund their education means they can really focus on being a college student. The generosity of people like the Hollands allows greater opportunity to pursue an internship, or to work fewer hours, or get more involved in co-curricular endeavors.

What impact does this program have on the lives of CAE scholars?

I always invite people to our CAE graduation in early May. The stories our graduating scholars share are profound and moving, and the tears flow easily for most of us in the room. Students share their feelings of accomplishment, and also about the challenges they’ve overcome and the role that their connection with CAE played in assisting them. For so many of our scholars, CAE serves as a home base as they learn to navigate the larger University community. We feel privileged to witness the amazing ways they grow from the time they enter college to when they graduate and head off to live out the Wisconsin Idea.

students through scholarships and mentorship opportunities.

“The incalculable reward you get from educating one person is enormous,” Darcy says. “You don’t know what could possibly come out of your donation to help offset the cost of school for someone who may someday do something that helps the entire world.” ■





The Power of Persistence

BY KAREN B. STRIER



ILLUSTRATION: PING ZHU

When I set out to study one of the last remaining populations of the critically endangered northern muriqui monkey in a small forest fragment in southeastern Brazil more than 40 years ago, my goals were to understand these enigmatic primates from within a comparative evolutionary perspective and contribute to conservation efforts on their behalf. It never occurred to me that it would mark the beginning of an international collaborative research and conservation project that is ongoing today.



Karen B. Strier is a Vilas Research Professor and Irvén DeVore Professor in the Department of Anthropology.

Those first months in the forest were focused on winning the muriquis' trust. This meant long days of climbing up and down steep trails, covered in scratches from thorny plants and itchy insect bites, listening for the swooshing sounds of the branches rebounding as the monkeys swung through the canopy. My efforts to locate them were also guided by their vocalizations, which resemble a horse's whinny, and by the spicy cinnamon scent they left in their wake. It seemed that while I was learning their habits, the muriquis were learning mine. It was only after their wariness gave way to tolerance that I gained my first glimpses into their uniquely peaceful way of life.

Unlike other primates, northern muriquis live in egalitarian societies in which aggression is rare and inter-individual conflicts are resolved by mutual avoidance or reassuring hugs. They mate in full view of one another, without threats or interference, and females often choose to mate with multiple partners in close succession.

Comparative studies have since confirmed that the muriquis' behavior is similar in other populations living under different ecological and demographic conditions. Their egalitarian society has also persisted across generations, even as my study population grew from some 50 individuals in two social groups to more than 350 individuals in five groups, and then declined to its current size of 230 members. Instead of increasing their antagonism toward one another, the muriquis maintain their practice of avoiding direct competition by splitting into smaller subgroups and by expanding their vertical niche to include the ground.

Deciphering which parts of the muriquis' behavioral repertory are flexible and which, like their pacifism and female dispersal patterns, are resistant to change, has been a slow but incredibly rewarding process. These discoveries have stimulated new questions and new perspectives about muriquis and other primates, and they are directly informing the Brazilian-led conservation management programs now underway.

Yet despite these advances, the future of the northern muriqui is still far from secure. Fewer than 1,000 individuals are known to live among only a dozen of the last standing tracts of Brazil's Atlantic Forest, and even populations inhabiting protected areas are increasingly at risk from the impacts of climate change. While the muriquis have captivated my scientific curiosity for more than four decades, they have also revealed what they need to survive. By establishing forest corridors to connect isolated populations, we can provide the muriquis with the protected routes they need to move freely across the landscape as local conditions change. We have the knowledge we need to save them from extinction; now it is just a question of persistence and a race against time. ■



College of Letters & Science
UNIVERSITY OF WISCONSIN-MADISON

PAY IT FORWARD

THE WISCONSIN EXPERIENCE IS MEANT TO BE SHARED

Remember the life-changing experiences and opportunities you gained in L&S?

Now, imagine paying it forward and empowering the next generation of Badgers to achieve their dreams.

Your gift to the **College of Letters & Science Annual Fund** is not just a donation, it's a ripple effect of positive change. Your support fuels the L&S experience, ensuring that students have the resources, mentorship and support they need to thrive. And with every student who flourishes, their impact ripples outward, shaping the world for the better.

Make your gift today by visiting **supportuw.org/giveto/lc24spring**

Together, we can unleash a wave of change, one Badger at a time.

**MAKE YOUR GIFT TODAY
BY SCANNING THE QR CODE.**





College of Letters & Science
UNIVERSITY OF WISCONSIN-MADISON

405 South Hall
1055 Bascom Mall
Madison, WI 53706

Nonprofit
Organization
U.S. Postage
PAID
UMS

Last Word

Lakeshore Nature Preserve—home to the beloved Picnic Point—is about to get a new, world-class visitor and education center. Department of Economics alumnus Jerry Frautschi ('56) made a \$14.3 million gift to support the new building, which is planned for the area outside the stone wall at the Picnic Point entrance. The Lakeshore Nature Preserve Frautschi Center will showcase UW-Madison's commitment to sustainability and support hands-on experiential learning and research for more than 25 academic programs. The plan is to have it certified as the state's first Living Building, meaning it will produce more energy than it consumes.

PHOTO: JEFF MILLER

