UNIVERSITY OF WISCONSIN-MADISON COLLEGE OF LETTERS & SCIENCE

FALL 2018

Letters&Science

UNEARTHING OUR ORIGINS

A road sign warning of springbok wildlife crossing is pictured along the road leading to the Southern African Large Telescope during sunrise. The astronomical facility is located in the remote desert highland of the Karoo near Sutherland, South Africa.

PHOTO: JEFF MILLER

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DEPARTMENTS

FEATURES

The Chinese humanoid robot Jiajia can interact with humans, using appropriate facial expressions and gestures. Researchers also say she's "kind, diligent and smart."

PHOTO: IMAGINECHINA / AP IMAGES

EDITOR'S NOTE

Our New Look

Greetings, dear readers, from South Hall, the narrow sandstone building that stands across from its twin, North Hall, near the crest of Bascom Hill. It is the second-oldest building on campus, originally serving as a residence hall (with wood-burning fireplaces), and later adapted for labs and classrooms. Since 1904, it has been the home of Letters & Science Administration — along with, we suspect, a few ghosts. Who else would be leaving pennies in strategic spots — along the windowsills, in corners of the stairwell — every now and then?

Like this venerable building, Letters & Science is part of the bedrock of the university. Here is where the sciences and the humanities intertwine and inform one another, students pursue a liberal arts education that is both broad and deep, and our outstanding faculty are committed not just to transmitting knowledge, but to creating it — just as UW's founders intended.

What happens here is truly life-changing. It deserves to be widely shared.

So we have created a new magazine that is intended to inform, delight and inspire. To offer visual respite from the ever-present screen. To share news and stories that will make you proud, fill you with hope and remind you of the fundamental importance of the liberal arts in today's world, as well as in your own lives.

We would love to know what you think. Did we succeed? How can we improve? In the future, this space will be reserved for letters from readers. Please write to us with your opinions, thoughts and suggestions.

We look forward to hearing from you!

Mary Ellen Gabriel
Editor

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#LS

Congrats to @WisconsinCS Professor Gurindar S. Sohi, elected to the American Academy of Arts and Sciences.

@UWMadisonLS

Mike Matucheski's recipe for making award-winning cheeses for @sartoricheese? Passion, scientific knowledge, flexibility and respect for the past, says the @UWHistoryDept grad.

@UWMadisonLS

Our interview and photo shoot with L&S alum @charlieberens of the @manitowocminute included a happy interruption: a greeting from an eager fan!

@uwmadisonls

Letters&Science
FALL 2018

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FROM THE DEAN

Blue Skies Ahead

Which sounds more poetic: blue-sky or basic research? Both phrases are used to describe research where real-world applications are not immediately apparent. I like the way "blue-sky" sounds (maybe it's because my daughters use the word "basic" as slang for "boring"). But don't throw out the "basic" when you're talking about L&S research.

Here's why:

When a UW-Madison communications team followed L&S scientists to their field sites in South Africa, the idea was to capture an "origins" story. Unpolluted night skies, dry air and exposed rock beds have made this corner of the globe an ideal laboratory for probing the biggest questions out there: How did we get here? What does it mean to be human? When did life begin?

These stories of our origins begin on page 18, and I believe they beautifully depict the scientific work that L&S anthropologists, geoscientists and astronomers are conducting in the field, along with their South African colleagues. It is awe-inspiring for a young graduate student to be allowed to operate, in person, the $10 million Southern African Large Telescope that is transforming not only the world's understanding of the universe, but also helping to unite scientists in the Southern Hemisphere with their counterparts around the world. It is thrilling to learn how anthropologist John Hawks played a crucial role in the discovery of a new relative on the human family tree. And it is incredible to realize that the bottom-most layers of the oldest rocks on the planet contain clues to how life on Earth began.

All that is the blue-sky part.

But the word "basic" captures it too, and not just in the sense that these are fundamental questions. The process of discovery involves a daily grind. It blends pointed curiosity, dogged persistence and a pioneering creativity. I think of several humanities colleagues, painstakingly poring over rare, medieval maps in order to digitize them for scholars around the world to peruse online. Knowledge accumulates, the thread of one idea is woven into another and a lifetime of work is passed from one generation to the next.

In pursuing the biggest questions, L&S researchers — in the sciences, social sciences and the humanities — fuel discoveries that are then shared with and utilized by others, sometimes in applied research in the areas of politics, medical research, education and many other fields.

To be driven by curiosity is to be a restless seeker, a creative thinker, always hopeful, always paying attention and always eager for connection. This is what we do, and it is what makes the College of Letters & Science such an amazing place to teach, learn and discover.

On, Wisconsin!

John Karl Scholz
Nellie June Gray Professor of Economics
Dean, College of Letters & Science

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PHOTO: UW-MADISON ARCHIVES

Your Generation?

The 1960s hold a special place in UW's legacy, and those who were on campus then have carried experiences and memories from that tumultuous time out into the world. This summer, they came back to relive them.

The Madison Reunion, a "party with a purpose" held June 14–16, was jam-packed with panels, meet-ups, films, live music, art, tie-dye demos and more at the Memorial Union. Organized by history-grad-turned-jazz-icon Ben Sidran and his wife Judy, festivities mixed nostalgia with the activist energy that helped define the era.

The Conference on Madison in the '60s, a centerpiece of the weekend, explored how a small university town became the Midwest's epicenter of 1960s counterculture, with a significant impact on the anti-war movement and American society. On the roster: nearly 100 alumni with high-profile media careers, such as Walt Bogdanich and Peter Greenberg, as well as L&S faculty such as Kathy Cramer, Richard Davidson and Susan Zaeske.

Highlight events included We Gotta Get Out of This Place, a panel on how music kept soldiers alive in Vietnam, and The Day of Dow, a look back at the Dow Protest of 1967. See **madisonreunion.com** for more.

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"It seems to me to be the finest arrangement possible for learning real French outside of France."

JULIE TRUMBELL,
a resident of the French House during its first term in the summer of 1918.

For the past 100 years, the French House has been a hub for French language and culture. Each year, roughly 30 residents immerse themselves in French — speaking the language, eating the food and gathering with faculty and students from the French department as well as Madison Francophiles who come to 633 N. Frances St. for dinners, talks and other special events. A Centennial Gala takes place during Homecoming weekend in October. For details, visit **uwfrenchhouse.org/centennial**.

3

Election Analysis

After the November 6 general election, the Elections Research Center's Election Symposium 2018 will tap experts from UW–Madison and beyond to share insights into what happened in Wisconsin and nationwide.

"It is a terrific way to discover unappreciated trends in the American electorate and understand where it is headed for the 2020 presidential election," says Barry Burden, founding director of the ERC, the Lyons Family Chair in Electoral Politics and a professor of political science. "Speakers will help illuminate why this election cycle is seeing a spike in the number of candidates running for office and what effect all of those candidacies had in the end. The 2018 election also looks to be another 'year of the woman' that has the potential to change the face of Congress and other offices. The symposium is also likely to focus on the influence of social media, concerns about election security and the potential for Russian influence in U.S. elections."

The symposium takes place December 7; find the full lineup and details at **elections.wisc.edu**. And public affairs cable network Wisconsin Eye will archive a video of the events at **wiseye.org**.

PHOTO: MICHAEL R. ANDERSON

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Musical Milestones

Construction on the Hamel Music Center is humming along, with each passing week bringing exciting progress.

Located at the corner of Lake Street and University Avenue, the new building is named in honor of Pamela and George Hamel (Communication Arts, '80), who contributed $15 million to the project. It will be home to the Mead Witter School of Music and a main concert hall named the Mead Witter Concert Hall, in recognition of the Mead Witter Foundation's $25 million gift toward the project. In addition, UW alumnus Paul Collins made a gift of $5 million for the recital hall, which will be named the Collins Recital Hall. Additional newly-named spaces in the Hamel Music Center will soon be announced.

Construction began in February 2017 and is scheduled for completion in April 2019, with a gala year of celebrations and experiences to take place in the 2019–20 academic year. But School of Music director Susan Cook is eagerly awaiting fall 2018.

"There will be real roofs on the spaces then, which will allow us to carry out the first of our Hard Hat Concerts, where we will serenade the workers and others over lunch," she says. "Ben Sonnentag, the site engineer for JP Cullen, graduated from UW–Madison and performed with the jazz bands on trumpet, so we're hoping he'll show off his remarkable range of expertise by sitting in with one of the student groups."

Follow the construction progress at **music.wisc.edu/construction-hamel-music-center/**

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The number of school-children and other visitors who tinkered, cranked, yanked and spun the 70-plus faculty- and staff-designed exhibits last year at the Leonard R. Ingersoll Physics Museum, which is celebrating its 100th anniversary.

14,000

Why do loons get so territorial?

BY KATIE VAUGHN

The haunting cry of a loon pierces the silence on a glassy northern Wisconsin lake. Of the four distinct calls the bird is known for, the wail — a long, one-to-three-note call — is the most iconic, used to beckon other birds. But there is another, wilder call, the "yodel," that sends a very different message: This is my territory.

Each year, more than 4,000 loons return to the forested areas of Wisconsin after the ice melts in late April. Breeding pairs establish a nest — typically only one per small lake — in May and hatch one or two eggs a month later. Throughout this period, loon couples often face off against "floater" loons that try to take over their nests, especially those where breeding has been successful in recent years.

Integrative biology PhD candidate Jeremy Spool spent a recent spring in Oneida County working with Walter Piper, the director of the Loon Project, who has been studying the territoriality of the common loon for more than two decades.

"I wanted to know whether loons that successfully raised chicks on a lake would value their lake territory more than loons that failed to breed, and therefore fight harder to defend their territories," Spool says.

Using a loon decoy and playbacks of aggressive male yodels to test his theory, Spool made a surprising discovery: "Loons that had recent breeding success displayed less territorial behavior toward our decoy. Loons that had recently failed to breed displayed more territorial behavior."

While the Loon Project team is still investigating exactly why — with a working theory that perhaps loons with recent breeding success adopt a different strategy for dealing with the higher rate of intruders — they already know the research is valuable.

"Our results provide the first strong evidence of a link between breeding history and differences in territorial defense," Spool says. "Building knowledge about how breeding success impacts animal behavior is a useful piece of the puzzle for understanding why some animal populations decline while others succeed and grow."

Spool also believes the work, which was supported by the John and Virginia Emlen Fund and the Lowell E. and Ruth Chase Noland Memorial Fund, pays tribute to the significance the loon holds as a symbol of Wisconsin wilderness.

"There is something about the loons that resonates with people of all ages and backgrounds," he says, "and every insight we gain about the birds makes the connection stronger." ■

PHOTO: JIM CUMMING / GETTY

FACULTY

After the Violence

A journalist in war-torn Africa becomes a scholar to shed light on why genocide happens, and how to prevent it.

BY KATIE VAUGHN

While on assignment as a freelance journalist in Somalia in 1996, Scott Straus got a call from his editor at the *Houston Chronicle*, who instructed him to head to Zaire. The country was sheltering more than a million Rwandans who had fled civil war and genocide two years earlier. Now a civil war was brewing there.

Shortly after crossing into Zaire (today known as the Democratic Republic of the Congo), the border closed and Straus was one of a handful of international journalists left in the east of the country. He soon gained access to a refugee camp and discovered a recent mass grave filled with women and children.

"I can picture it right now," he says, closing his eyes in his quiet North Hall office. "It was just shocking. Horrifying."

Straus continued to cover the aftermath of the Rwandan genocide, filing stories for the *Houston Chronicle*, where his reporting earned a Pulitzer Prize nomination, as well as for the *Toronto Globe and Mail*, *San Francisco Chronicle* and *Baltimore Sun* during his three years in Africa.

But the experience created a desire to explore what he'd seen with more depth and nuance.

He turned to academia, earning a PhD in political science at the University of California, Berkeley. "I went from interviewing presidents to waiting for professors' office hours," he says.

Straus joined the UW–Madison faculty in 2004. As a Vilas Distinguished Achievement Professor of Political Science and International Studies, he studies political violence, human rights and African politics.

Much of his scholarship focuses on genocide, such as his 2015 book, *Making and Unmaking Nations: War, Leadership, and Genocide in Modern Africa*, which earned the prestigious 2018 Grawemeyer Award for Ideas Improving World Order.

In the book, Straus explains how ideas and political messages can become tipping points for genocide. While patterns can be deduced, he says circumstances also exist in which genocide seems almost inevitable and yet never occurs.

"You rarely see genocide outside of wartime, but not all wars lead to genocide," he says.

By focusing on post-Cold War Africa — comparing Rwanda and Sudan, where the Darfur genocide began in 2003, with Côte d'Ivoire, Mali and Senegal, three places where unrest has been bubbling since the 1990s and yet genocide has not taken place — he discovered that national founding

A man sits as the sun fades over Kigali, Rwanda. The capital city is home to the Kigali Genocide Memorial, which documents the mass killings of 1994.

Scott Straus worked on *Making and Unmaking Nations* for nearly a decade. "Why does genocide happen?" he asks. "This is my best answer."

PHOTOS: SARAH MORTON (LEFT), CHIP SOMODEVILLA / GETTY (RIGHT)

narratives, or "the stories leaders tell about what their community is and who should be a full member," can be harbingers of violence.

Straus, who has received fellowships from the Andrew W. Mellon Foundation, the Harry Frank Guggenheim Foundation, the National Science Foundation, the Social Science Research Council and the United States Institute of Peace, has served as a fellow at the United States Holocaust Memorial Museum and consulted for the United Nations Office of the Special Advisor on Genocide Prevention. And in 2016, then-President Barack Obama appointed him to the United States Holocaust Memorial Council.

Since he began teaching at UW, Straus has developed and offered courses on genocide and human rights.

"I see my academic work as a long-term way of working through what I witnessed and saw," he says. "To me, understanding and preventing genocide remains a global priority." ■

TEACHING

Return on Investment

David Johnson knows that most of the students who take his Principles of Microeconomics course won't go on to become economics majors. That's fine, says the popular instructor. One semester's all he needs to change the way they look at the world.

BY KATIE VAUGHN

In every lecture I give — it doesn't matter if I'm teaching sports economics, if I'm teaching intermediate micro — the first 10 minutes are current events. There isn't anything that you could discuss or read in the newspaper that doesn't have a serious economics underpinning or explanation behind it.

We have this concept in economics called comparative advantage. My comparative advantage is teaching, not research. It's not that I cannot do the research. It's that I'm better at doing the teaching and therefore that's what I should be doing.

I use the chalkboard and chalk because sometimes reading textbooks in economics is very bizarre. How do you read a graph? It's kind of like reading a Picasso painting. We start with two axes and we build up models from scratch on the chalkboard.

I'm not going to say that I'm blatantly anti-technology, but teaching is a deeply, deeply personally interactive exercise. And the computer will never do that for you. If you use PowerPoint, you probably post the slides on the course website. I teach 101 at 8:25 in the morning on Mondays and Wednesdays. If students have a choice between looking at the slides on a website and getting up at 7:45 on a Monday, which do you think they'll choose?

At some of the places that I've been, some of the faculty would say, "I don't want to teach Econ 101. The students don't know anything. They're totally raw." And that's true. It's 101. I actually relish the opportunity. I want to see them react to my telling them that I'm against the minimum wage. Because it blows them away. And then I say, it's because I would replace it with an expansion of the earned income tax credit and other wage subsidy programs that bring both the employer and the employee into the discussion. The first thing out of my mouth in 101, after I give my name, is that if you let it, this course will change your life.

I tell students, by the time this course is over you will know more about economics than 98 percent of the U.S. population. But with that knowledge comes a responsibility. Ignorance is no longer an excuse. You've got to have an opinion on things because you know the economic forces behind them. ■

PHOTO: MARTIN WOLF, ICECUBE/NSF

UW–Madison physicists are part of an international group of scientists working at the IceCube Neutrino Observatory at the South Pole in Antarctica.

RESEARCH

Break Through

The IceCube Neutrino Detector points to the first known source of high-energy neutrinos and cosmic rays.

BY TERRY DEVITT

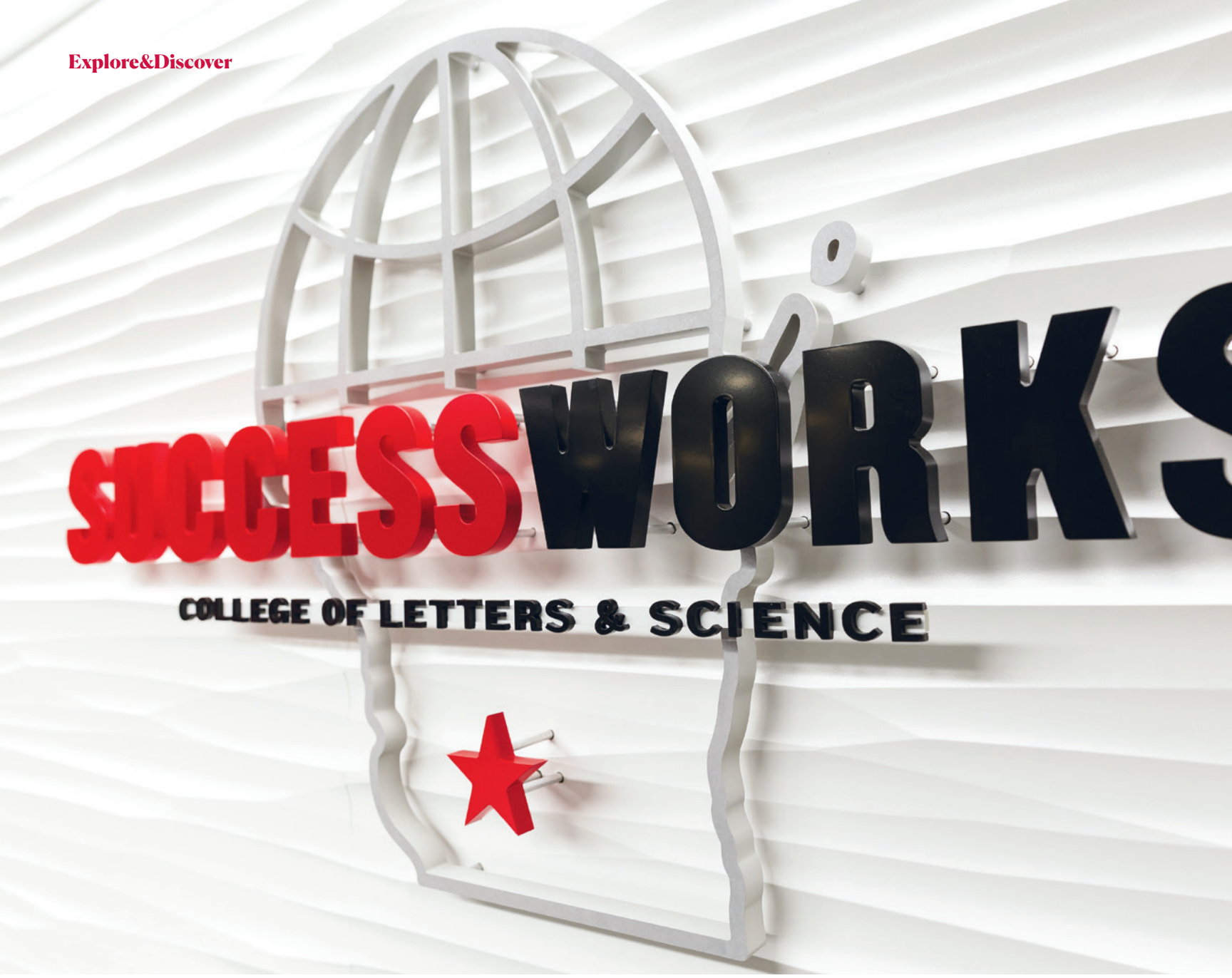
For more than a century, scientists have puzzled over what creates cosmic rays, the charged particles that permeate space and constantly rain down on our planet.

In a July press event in Washington, D.C., and in two papers published that month in the journal *Science*, scientists from the IceCube Collaboration, headquartered at UW–Madison and led by physics professor Francis Halzen, identified the first known source of high-energy neutrinos and cosmic rays: a giant elliptical galaxy powered by a massive, rapidly spinning black hole known as a blazar.

The path to the blazar, some 4 billion light years from Earth, began on September 22, 2017, when a high-energy neutrino crashed into the IceCube detector, composed of a cubic kilometer of instrumented ice beneath the South Pole. In less than a minute, the observatory alerted telescopes worldwide to look in the direction the neutrino came from. Other telescopes, notably the Fermi Gamma-ray Space Telescope and the Major Atmospheric Gamma-ray Imaging Cherenkov Telescope in the Canary Islands, quickly reported enhanced gamma ray activity coming from a blazar known as TXS 0506+056, evidence along with the neutrino that the galaxy is acting like a massive particle accelerator, blasting energetic particles like neutrinos and cosmic rays into space from jets emanating from the poles of the galaxy's black hole.

Since, evidence from other telescopes around the world and even archival data from IceCube, have bolstered the idea that the blazar is a long-sought source of cosmic neutrinos and cosmic rays. There are likely many more sources of cosmic rays and high-energy neutrinos, explains Halzen, but the multi-messenger observations from National Science Foundation-supported IceCube and other telescopes have helped resolve the quest to identify the first source of the enigmatic cosmic rays, a search that began in 1912, when Austrian physicist Victor Hess, carrying devices known as electrometers, ascended high into the atmosphere in a hydrogen balloon to prove that cosmic rays came from space. ■

PHOTO: PAULIUS MUSTEIKIS



PHOTOS: SARAH MORTON

CAREER PREP

The Secret to SuccessWorks

A shared vision for launching students higher, sooner led to a shining new career center, corporate partnerships and a fired-up network of alumni and friends.

BY MARY ELLEN GABRIEL

It was common knowledge among L&S students: Career fairs were intimidating.

"Everybody felt that the business students had been really well-prepared," recalls McKenzie Halling, now a senior majoring in journalism. "There was this sense that we weren't showing up that well in comparison."

The perception that L&S students were "unprepared" to talk about their strengths, skills and interests with potential employers is exactly what Dean Karl Scholz set out to change when he launched the L&S Career Initiative soon after becoming dean of Letters & Science in 2013.

Scholz knew his L&S students were hard-working, critical thinkers who could leverage their degrees in limitless ways. But he also knew they needed help learning to articulate their unique strengths.

The media was full of reports of students fleeing the liberal arts to pursue more vocational degrees like engineering, nursing or business. Scholz saw an urgent need to combat that narrative.

"We needed a new, coordinated approach to prepare students across our departments and programs for careers," he says. "We aimed to accomplish several key things: fire up students' imaginations about career possibilities, connect them with alumni through strong networks, coach them to talk about the lessons and skills they were gaining at UW–Madison and cultivate employer partners who recognize L&S students are the perfect solution to their talent pipeline challenges. We knew if we could do that, the sky's the limit."

Five years later, the vision has become a reality. SuccessWorks is the brand-new, state-of-the-art career center for L&S students, with its own sleekly modern space on the third floor of the University Book Store. Students from any of the college's 62 undergraduate majors — and at any point in their university experience — can stop by to meet with an advisor, get help polishing their resumes, attend a mock interview, pop into a photo booth for a headshot, pick up a professional interview outfit, network with L&S alumni and interview for internships and jobs, either in person or remotely via videoconferencing.

For Associate Dean and SuccessWorks Executive Director Rebekah Pryor Paré, this exciting work adds up to an ambitious goal that powers her vision for SuccessWorks: "We're striving to make L&S the number-one, go-to source for employer talent acquisition in the Midwest and nationwide."

"We're striving to make L&S the number-one, go-to source for employer talent acquisition in the Midwest and nationwide."

REBEKAH PRYOR PARÉ,
Associate Dean and
SuccessWorks Executive Director

Representatives from other Big 10 universities (Michigan, Illinois, Minnesota, Ohio State, Rutgers) as well as universities of New Hampshire, Florida, Iceland and Jordan and Texas Christian University have reached out for insights on SuccessWorks' process. There's a waiting list for the employer interview rooms. And the Career Closet, which supplies free professional clothing (donated by alumni and staff) to those in need, has outfitted 240 students since January.

Support from alumni and friends is also critical: SuccessWorks depends on private gifts. A generous lead

American Family talent acquisition specialist Mollie Rudd meets with L&S students at SuccessWorks.

EMPLOYER PARTNERS
(9 and counting...)

Altria
American Family Insurance
Cintas
Citi
Covance
Coyote Logistics
Enterprise
Epic Systems
Milwaukee Tool & Die

gift from George Hamel (Communication Arts, '80) and his wife Pamela helped launch the initiative. Key benefactors soon followed.

"When Dean Scholz first described the concept of the L&S Career Initiative, my husband Kevah and I were in awe of the many different benefits for L&S students," says Michele Konner, a member of the L&S Board of Visitors who, along with her husband Kevah, created the Konner Fund in support of the new L&S career-prep course. The Konners' twin sons graduated from UW-Madison in 2016. "The Taking Initiative course and SuccessWorks offer invaluable resources to students, enabling them to tackle the intricacies of the intern and job markets with more confidence, knowledge and professional support."

Touring SuccessWorks this spring, after the grand opening, Konner felt both proud and excited.

"L&S students are intelligent and have so much to offer the world," she says. "SuccessWorks and the Career Initiative provide lifelong skills for these students, as they immerse themselves in their undergraduate studies in pursuit of meaningful careers."

Another key to the new center's success: a professional, bold look that also feels very student-friendly. This tricky balance was executed with flair by Milwaukee's Traction Factory, an advertising and graphic design firm led by Scott Bucher. Through a pro-bono branding treatment that included graphics and way-finding, a new logo, animated messaging graphics for digital screens and a powerful brand concept ("Madison Made, World Ready") the firm captured a sense of momentum and excitement designed to speak directly to L&S students.

"We were inspired by this opportunity to help SuccessWorks develop a strong, student-friendly brand," says Bucher. "But for the vision to succeed, students and non-students alike had to buy in. Together with the SuccessWorks team, we worked to communicate this place as important, but also personable, accessible and fun. We look forward to a long and continued partnership with this dynamic group."

Donors have also stepped up to eliminate one of the greatest barriers — cost — for many students who want to pursue internships. Some of the most interesting opportunities (at non-profits or small companies) pay modestly or not at all. Even with paid positions, many students face financial challenges, especially if internships are located in an expensive city like New York. The SuccessWorks Summer Internship Scholarships support students who land great internships but still need to cover living expenses. In summer 2018, $137,000 was awarded in internship support, thanks to a growing number of generous alumni (including the Weils, the Henderson-Reznicks, the Shinners family and the Picus family). Half of all awardees fell into the neediest category of financial aid eligibility.

The SuccessWorks team knows that the most important metric is whether there is an increase in student participation in the center's wide array of offerings. Data shows this is happening: Mock interviews are up more than 250 percent; Formal interviews have increased by 300 percent; and items are flying out of the Career Closet.

"We want our L&S students to understand they have nothing to fear, and everything to gain," says Paré. ■

PHOTO: ZORANM / GETTY

Dressed to Impress

Want to help L&S students succeed? Donate new or gently used professional garb to the Career Closet. This popular SuccessWorks outlet seeks jackets, shirts, accessories and small ($25-$100) gift cards for students. Men's suits and women's blazers are in short supply. SuccessWorks has set a goal: 50 pecent increase in both inventory and student participation by 2019. Help us get there! **careers.ls.wisc.edu/career-closet**

STUDENT

Building Character

First-generation college student Alexandra Pleasant is writing her own path forward.

BY KATIE VAUGHN

For Alexandra Pleasant, people make the story. "I like disarming characters," she says. "They say something and your walls are down and you suddenly really care about them."

As a first-generation student navigating her way through the university experience, Pleasant has learned she has as much courage, grace and gumption as any literary protagonist.

Pleasant was a talented student in her northern Wisconsin hometown, where she wrote poetry, fiction and even a full-length play. "Minocqua's a really great place to grow up," she says. "But it's isolated, as small towns in the woods tend to be."

That made her first year at UW-Madison an adjustment.

"I spent a lot of freshman year going to astronomy talks, art history lectures and novelist events, just because I had never had the opportunity for things like that before."

Pleasant didn't think seriously about English as a major until she learned she could focus on composition and writing, in addition to reading and analyzing literature.

As Pleasant gravitated toward creative writing, she found a community in the English department. Fellow students welcomed her and faculty encouraged her in her studies and helped alleviate some of the pressure of being a first-in-family college student.

"So many of the opportunities I've been given stem from the support of my parents, former teachers and my community," she says. "At first, I was afraid of disappointing all these people, that all the good things they had done for me would be wasted if I didn't pick the right major or didn't do absolutely everything I could to succeed in Madison."

And things didn't always go smoothly. An error in her parents' taxes during her sophomore year made Pleasant ineligible for scholarships and financial aid, and she had to withdraw from school. While some students wouldn't have found their way back, Pleasant stayed in Madison, working three jobs, and returned to classes the following semester. The time away only reinforced how much she valued her education.

Now a senior, Pleasant is working toward degrees in English and Communication Arts and is excited to see where writing takes her.

"It's a lot of late nights and scraps of paper, but I love it wholeheartedly," she says. "Part of it is the potential writing has, that there is no right 'next word'—it could go anywhere." ■

PHOTO: SARAH MORTON

CULTURE

Pieces of History

How everyday objects can teach us about the past — and ourselves.

BY KATIE VAUGHN

> "There's something about *things* that helps bring history to life."
>
> SARAH THAL, professor of history

The Vulcan bowling pin holds histories within its curvy shell. If the object could talk, it would tell you that its maker, the Vulcan Corporation of Antigo, Wisconsin, was one of the biggest manufacturers of bowling pins during the sport's midcentury heyday.

It could explain that Vulcan also owed its success to its patented plastic coating and the abundance of sugar maple trees nearby — a handy coincidence given that the American Bowling Congress, headquartered at the time in the "Bowling Capital" of Milwaukee, required that pins be made of that wood.

It might sidetrack into stories of northern Wisconsin's lumber industry, which developed with the expansion of the railroads in the 1880s. Or it could regale you with tales about how bowling boomed in Japan in the 1960s and '70s, after a business delegate visited — you guessed it — the Vulcan Corporation.

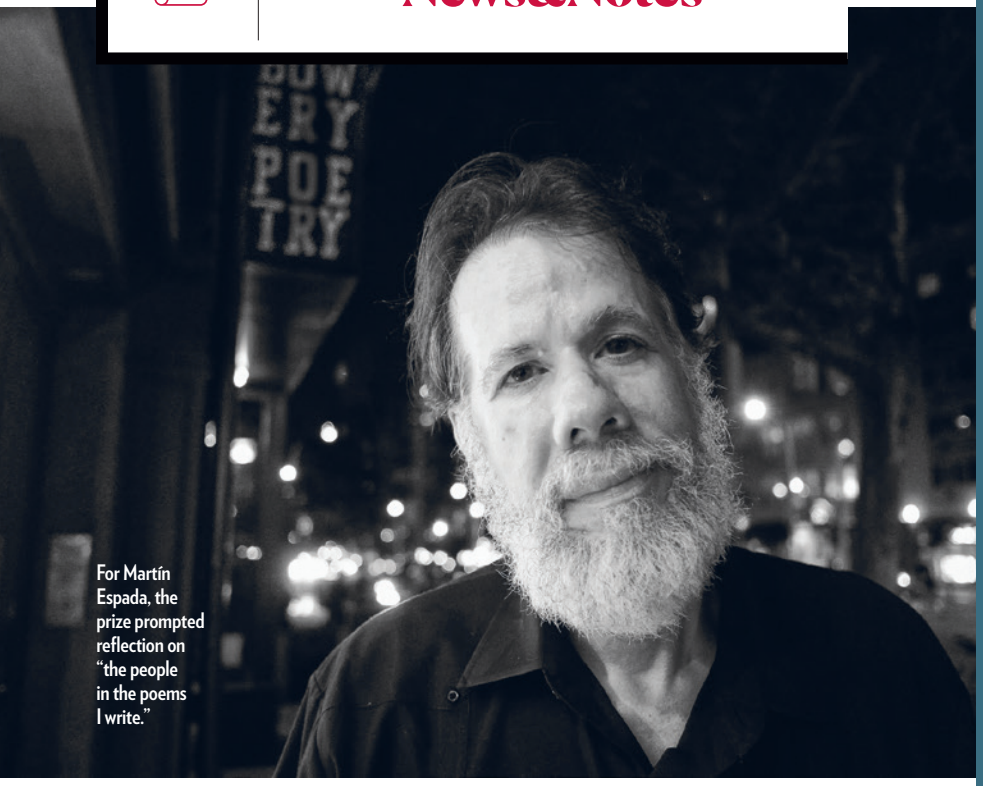
"There's something about *things* that helps bring history to life," says Sarah Thal, a professor of history. "They can offer a truly relatable window into larger issues in both the past and the present."

In 2014 Thal and Thomas Broman, an emeritus professor of history, launched *Wisconsin 101: Our History in Objects*, a multimedia project that explores the state's diverse history through its items. Undergraduate students submit many entries, but so do teachers, historians and regular folks throughout the state. Logged on the Wisconsin 101 website — **wi101.org** — and shared in segments of Wisconsin Public Radio's *Wisconsin Life* show, each object is linked to related items and histories, leading to ever-more-surprising connections between things, people, communities and time periods.

Currently, about 30 objects — an 1890s bicycle, a Civil War draft wheel and a Babcock butterfat tester among them — are featured, with more to come. And the program is building up its outreach efforts and materials for educators, all with the goal of inspiring more Wisconsinites to understand their shared past and that history is all around them. ■

ILLUSTRATION: ANDREW COLIN BECK

News&Notes



For Martín Espada, the prize prompted reflection on "the people in the poems I write."

PHOTO: DAVID GONZÁLEZ

A Lifetime of Words

History alumnus Martín Espada has earned one of poetry's most prestigious honors: the Ruth Lilly Poetry Prize. The Poetry Foundation has presented the $100,000 prize annually to a living U.S. poet for outstanding lifetime achievement since 1986, and Espada is the first Latino poet to win the award.

Community Investment

The Institute for Research on Poverty has embarked on an ambitious goal to raise 10,000 Dane County families' net incomes by 10 percent by 2020. Schmidt Futures awarded UW–Madison $1.5 million to produce innovative ideas for helping distressed communities as part of its Alliance for the American Dream initiative, with IRP identified as an ideal partner.

A Big (Data) Deal

American Family Insurance, a major multi-line insurer with 4,800 employees in Wisconsin, has entered a formal research collaborative with UW–Madison to apply big data analytics to the company's datastream. The collaboration draws on graduate students and professors from across campus, including the Department of Computer Science.

Tuned In

A communication arts project exploring the golden age of podcasting received a $74,972 Digital Humanities Advancement Grant from the National Endowment for the Humanities. The PodcastRE Analytics project will make digital audio more usable and available for scholars and the public to explore.

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

HONOR ROLL

Jordan Madden, a 2018 political science and sociology graduate, received the Truman Scholarship, given by the Harry S. Truman Scholarship Foundation to select and support the next generation of public service leaders.

Philosophy professor **Paula Gottlieb** received a National Endowment for the Humanities fellowship for a new book on Aristotle's position that thought and feeling, in the good person, should be "integrated and interdependent."

Ronald Radano, a professor of African cultural studies and music, won a Berlin Prize Fellowhip, which he will use to analyze colonial-era African recordings in Berlin's Ethnographic Museum.

Faithful Reporting

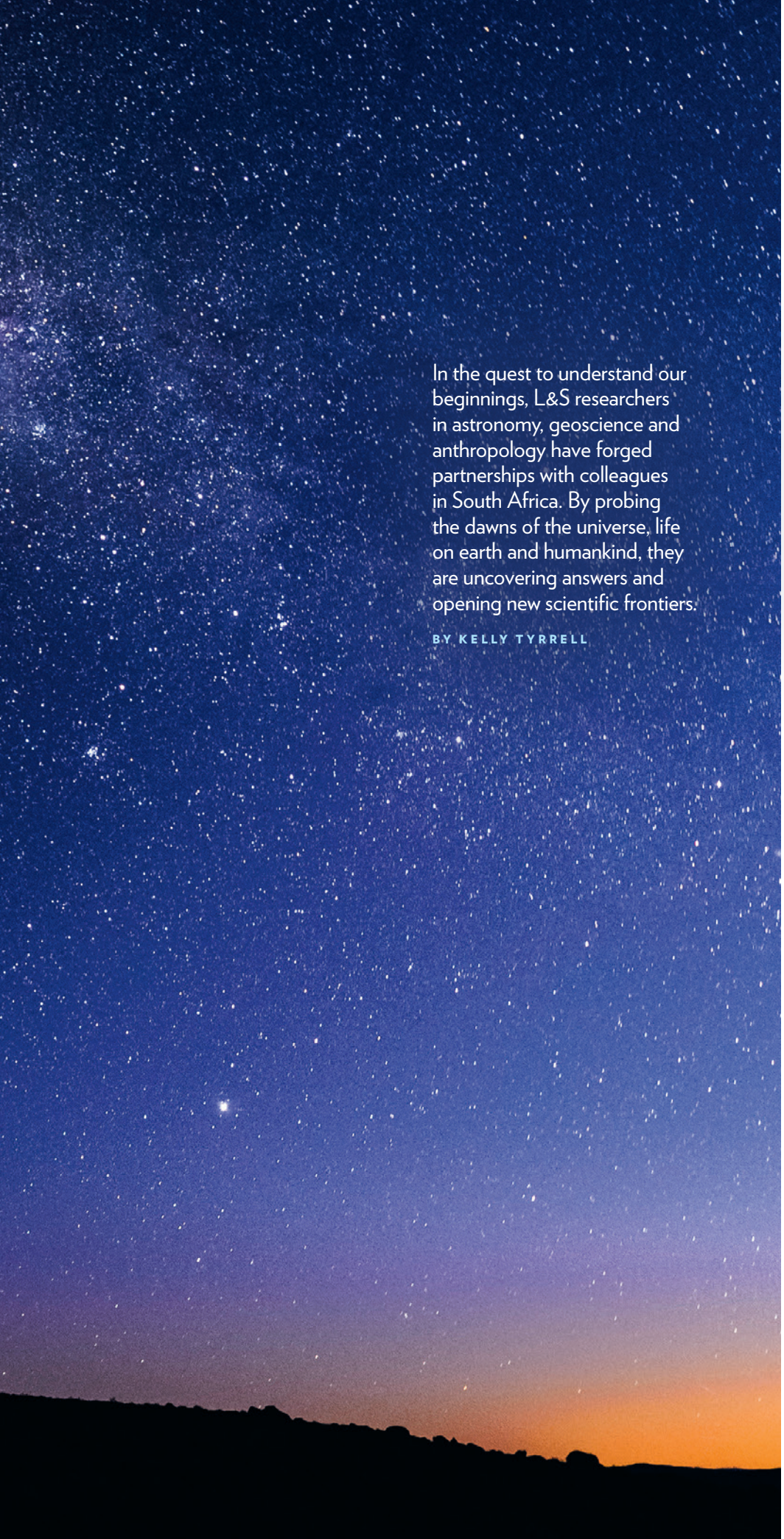
A collaboration between the Religious Studies Program and the School of Journalism and Mass Communication is striving to create more nuanced news coverage of religious topics. A two-year grant from the Luce/ACLS Program in Religion, Journalism and International Affairs has led to a workshop series ranging in topics from "Building Relationships with Journalists" to "Religion's Role in Fake News" to "The Cult Narrative and the Branch Davidians."

Agenda Setting

This summer, the Public Leadership Board for the Tommy G. Thompson Center on Public Leadership identified two major themes on which it will focus in the academic year. The first is prison-to-work policies in Wisconsin, and the second is the state's transportation future. The Center will call for UW System faculty grant proposals as well as hold conferences on these and related topics.

PHOTO: BANKS PHOTOS / GETTY


ORIGINS
OF OUR
FABRIC
THE



In the quest to understand our beginnings, L&S researchers in astronomy, geoscience and anthropology have forged partnerships with colleagues in South Africa. By probing the dawns of the universe, life on earth and humankind, they are uncovering answers and opening new scientific frontiers.

BY KELLY TYRRELL

CHAPTER 1

THE UNIVERSE

In the rocky, dry hills of the remote Karoo of South Africa, the Khoisan people native to the region tell an origin story of the Milky Way. A small girl, dancing around a fire, throws embers into the deep black sky. There they remain, a blaze of light stretching horizon to horizon. A perpetual fire burning in the sky.

The Southern African Large Telescope, or SALT, was built to gaze into these skies, from atop a plateau nearly 6,000 feet above sea level, in the small village of Sutherland, South Africa.

"The darkest skies I have ever seen are in Sutherland," says Eric Wilcots, professor of astronomy. "You can trace the Milky Way all the way to the horizon."

This is what first brought him and others from UW–Madison to SALT—the largest optical telescope in the Southern Hemisphere. Dark, clear skies are essential for a telescope designed to peer into some of the deepest reaches of our universe, and in so doing, to look back in time.

"As we look at more and more distant objects, we see those objects as they were when that light was [first] emitted," Wilcots explains. "We are listening to whispers millions of light years away."

By collecting light from objects distant and near, scientists can record the history of our own celestial origins. The more light they collect, the farther back in time they can see.

Understanding the lives of galaxies

SALT was optimized to study the Milky Way's nearest neighbors, two galaxies called the Large and Small Magellanic Clouds visible only in the Southern Hemisphere. Astronomers can use these galaxies, Wilcots says, to "get a sense of both the forest and the trees" because they are "close enough we can resolve individual stars, but far enough away that we can see how the whole ecosystem of the galaxy works."

He and other scientists, like his graduate student Julie Davis, also use SALT to study the gases that swirl in and among these and other

PHOTOS: JEFF MILLER

PHOTOS: JEFF MILLER

▲ UW-Madison astronomy professor Eric Wilcots and graduate student Julie Davis take in the immensity of the Southern African Large Telescope during Davis' first visit to the astronomical facility.

galaxies. As hot gases cool and condense, they form stars. Dying stars return gas back to galaxies and seed the environment with the materials necessary to form planets. Understanding how materials enter into and escape a galaxy is crucial to understanding a galaxy's metabolism, and ultimately, the evolution of galaxies like our own Milky Way.

Astronomy is a path forward

Large telescopes like SALT are essentially "light buckets," Wilcots says. "The bigger the telescope, the more light you can collect."

SALT's 11-by-10-meter array of hexagonal mirrors, 91 in all, allows astronomers to see far back into time and space by gathering large amounts of starlight and transforming it into data.

The light collected by the telescope's mirrors passes through an instrument on the telescope known as a spectrograph, which "is to an astronomer as a scalpel is to a surgeon," says South African Astronomical Observatory astronomer Lisa Crause. SAAO administers SALT.

Spectrographs are like sophisticated prisms that split white light into its component wavelengths, from red to green to indigo and beyond. Astronomers use this information to gain valuable insights into an object being observed — like a galaxy — from its composition to its age, distance, and even how its individual parts might be moving.

The spectrograph on SALT was built in UW-Madison's Space Astronomy Laboratory and scientists there are working on the telescope's next-generation instrument.

A long history of expertise

UW-Madison was invited to be involved with SALT because of its long history of expertise designing and crafting astronomical instruments.

"We were the first place known for doing photoelectric photometry, a technique for measuring the amount of light

THE SOUTHERN AFRICAN LARGE TELESCOPE (SALT)

Located in Sutherland, South Africa. Operational since 2005.

Administered by South African Astronomical Observatory, located in Cape Town, on behalf of the SALT Foundation.

Funded by the South African government and a consortium of institutions worldwide, including UW-Madison.

UW contributes 16 percent of the telescope's budget annually.

> **I have seen so many pictures of SALT and thought a lot about this telescope. Being here is a whole different experience.**
>
> JULIE DAVIS,
> astronomy graduate student

in the galaxy and quantifying starlight," says Wilcots.

UW–Madison astronomy professor Joel Stebbins pioneered this technique in the 1920s and '30s, utilizing the photoelectric effect, the concept for which Einstein won his Nobel Prize.

Stebbins helped recruit the faculty who would become leaders in developing and advancing astronomical instrumentation. Among them was Kenneth Nordsieck, emeritus professor of the astronomy department and the original designer of the Robert Stobie Spectrograph, named for SAAO's former director.

The telescope saw its "first light" in 2005, capturing images that included a galaxy 30 million light years from the Milky Way. By then, UW–Madison had already begun to play a role helping train the next generation of South African scientists.

Science that can change the world

Since the fall of apartheid more than two decades ago, South Africa has embraced astronomy as one of its scientific pillars.

After SALT was commissioned, UW–Madison created the Wisconsin Teacher Enhancement Program to help train South African teachers in the years after apartheid and help contribute to the nation's transformation. It brought South African teachers to Madison for several weeks in the summer to take science and health courses.

UW–Madison also helped train one of South Africa's first black astrophysicists, Ramatholo Sefako, who studied under Wilcots in the early 2000s.

Now, local scientists like Lisa Crause (who is working on another future spectograph for SALT), are leading the charge to re-shape the future of South Africa through science. The telescope has even supported a tourism industry in Sutherland and boosted its economy.

For graduate student Julie Davis, pursuing astronomy has meant being able to follow her dreams and collaborate with people across the world.

"There is so much human effort that goes into this," she says. "Hundreds of people came together to build this telescope. We are driven by curiosity. Regardless of the tongue we speak, we have a common language."

▲ A boy pauses on his bicycle in Sutherland, South Africa, a small town with a population of under 3,000.

▼ An 11-by-10-meter array of 91 hexagonal mirrors is pictured within the Southern African Large Telescope.

CHAPTER 2

LIFE ON EARTH

BARBERTON GREENSTONE BELT

The Makhonjwa Mountains, on the eastern edge of South Africa, are not particularly majestic. The highest peaks are just 6,000 feet above sea level. But these mountains, also known as the Barberton Greenstone Belt, happen to be among the oldest in the world. They were born on a cool and strange early Earth nearly 3.6 billion years ago. And they are one of the few places on the planet where evidence of ancient life can be found.

This is what brought UW–Madison professor of geoscience Clark Johnson to South Africa. Johnson and his collaborators around the world study Earth's geologic past in order to better grasp when and how life on the planet began. They also hope to better understand where we are headed.

Rocks uncovered in these mountains have helped to tell part of that story, in part because they unravel some of Earth's history with oxygen, a critical element in the tale. Oxygen transformed the planet from a mostly inhospitable, barren chunk of rock to a wildly diverse domicile for everything from bizarre single-celled organisms to complex animals like apes and people.

In 2013, Nicolas "Nic" Beukes, a South African geologist at the University of Johannesburg who has been a longtime collaborator of Johnson's, was studying Barberton's rocks when he and his team found something unusual. As Johnson recalls it, Beukes got in touch with him and said, "You have to come down and see this!"

▼ Geologist Hervé Wabo holds a rock core sample while working in the Paleomagnetic Lab at the University of Johannesburg. Wabo is one of several international scientists collaborating on astrobiology research with UW-Madison geoscience professor Clark Johnson.

PHOTOS: JEFF MILLER

This is what a rock can tell you

Much like astronomers, who can look back in time by capturing data from many light years away, geologists can peer back into Earth's history by studying rock records that extend miles beneath the planet's surface.

The key is to find rocks that have not had their records altered over time by high temperatures, pressures and mechanical forces, known collectively as metamorphism. Rocks like this can be found in South Africa, and Beukes has access to rare and deep (old) deposits to study.

◀ These rock core samples collected from the Barberton Greenstone Belt are estimated to be more than 3 billion years old. The yellow labels mark the depth in meters at which they were found underground.

▼ Clark Johnson, a Vilas Distinguished Professor in the Department of Geoscience, talks about early signs of oxygen found in ancient rock core samples.

That was how he came to possess the 3.2-billion-year-old richly colored, layered rock that Johnson traveled to South Africa to examine in 2013.

"Some layers have darker color, some pinkish, some lighter gray, made up of little granules of iron washed in from somewhere in the shallow part of the ocean," Beukes explains. "Clark and his students discovered that these lighter [pink] layers have a different composition from ones that formed in deep water."

Using methods to look at the complex geochemistry of these layers, they showed that the lighter layers once existed in a shallow sea shelf above a deeper ocean and contained evidence of oxygen. This oxygen could only have been produced by living organisms — in this case, microbes known as photosynthetic cyanobacteria.

"We didn't know it was this exciting until Clark did his sophisticated analysis and we said, 'See, this is what a rock can tell you,'" Beukes says.

Paving the way for complex life

Around 600 million years ago, just a blink of an eye by geologic time, oxygen became one of the predominant gases in Earth's atmosphere. This coincided with an explosion of complex lifeforms in the sea, like soft-bodied jellyfish and bug-like trilobites. Later, primitive plants began to flourish on land and animals ultimately evolved on dry ground.

But oxygen — and life — were present much earlier. Johnson and Beukes focus on the rock record because "we would actually be missing the whole story if we only focused on Earth's atmosphere," says Johnson. "It was the last to be oxygenated."

Once oxygen-based organisms appeared, "it was the most important biological innovation on the planet," he says. It set in motion an evolutionary chain of events that ultimately led to the origins of modern humans, roughly 200,000 years ago.

"It's important to understand the history of oxygen on Earth," says Beukes. "It's where we come from."

▲ UW-Madison anthropologist Travis Pickering climbs down into Swartkrans, a fossil-bearing cave that is part of the Cradle of Humankind World Heritage Site near Johannesburg, South Africa. A number of important discoveries of fossil remains of early hominids and their stone-tool artifacts have been made at the location.

▼ UW-Madison paleoanthropologist John Hawks, left, talks with writer Kelly Tyrrell and videographer Justin Bomberg near an entrance to the Rising Star Cave system, part of the Cradle of Humankind World Heritage Site.

CHAPTER 3

HUMANKIND

Winter in the South African Highveld paints with a palette of golds and reds, dusty browns and shades of pale pink. An arid grassland at once reminiscent of the American Midwest and Southwest, the landscape is dotted with striking clusters of green — trees growing along the slopes of the region's undulating hills.

Often, these trees betray a secret. Attracted by moisture, they grow atop a meshwork of underground caves that, millions of years ago, provided water, cover and shade to early peoples in a part of the world now called the Cradle of Humankind.

It was in one of these caves, in 2013, where a team led by Anthropology professor John Hawks, and his South African collaborator, Lee Berger, made a remarkable discovery: a brand new human ancestor they named *Homo naledi*. The Cradle of Humankind, located 30 miles northwest of Johannesburg, is rich in fossil-bearing caves, including Swartkrans, Sterkfontein and Rising Star, where *Homo naledi* was excavated by an international team of six women, including one from UW–Madison, PhD student Alia Gurtov.

It is one of the most important places in the world for the study of human origins.

"The origins of humankind, of humanity, is an African story," says Travis Pickering, who is also a professor of Anthropology at UW–Madison and has spent most of his career studying fossils in South Africa. He is part of a team that recently put on display one of the most complete skeletons of a human ancestor ever found, a human cousin named Little Foot. Pickering leads an undergraduate field school at Swartkrans each summer.

"Every one of these big discoveries is coming out of this tiny area," says Hawks. But, he notes, "This kind of cave exploration is a difficult beast."

All in the family

In 1947, a paleontologist named Robert Broom and his apprentice, a young scientist named John Robinson, discovered a skull at

THE CRADLE OF HUMANKIND

Located about 30 miles northwest of Johannesburg, the Cradle of Humankind stretches across 180 square miles.

The area is rich in fossil-bearing caves, including Swartkrans, Sterkfontein and Rising Star.

The Sterkfontein Caves are known for their vast holdings of early hominid fossils, some dating back 2.3 million years.

Homo naledi was discovered in the Rising Star Cave, and in 2013, an international team of six women — including one from UW–Madison — worked to excavate the fossils.

Sterkfontein cave that would help establish Africa as a critical place for the study of human origins. They named their find Mrs. Ples, representative of another human cousin called *Australopithecus africanus*, which lived millions of years ago.

The two scientists and Mrs. Ples became part of the fabric of the human evolution story in South Africa. Robinson would ultimately become a professor at UW–Madison and his legacy would live on as other scientists continued to make finds in the Cradle of Humankind, building upon his discoveries.

Since then, the discovery of many more human ancestors has made clear that our concept of evolution as a linear pathway where one species evolves into another simply isn't true, says Hawks.

He envisions humanity's origins more like a river delta, with waterways weaving in and out of a channel that radiates outward. Multiple species lived and adapted and died on the landscape simultaneously.

"The exciting thing is, we're charting this course through unknown territory and we have the privilege of knowing there is more to discover," Hawks says.

Sharing knowledge, making connections

Hawks is dedicated to sharing this knowledge in new ways. He and Berger, professor of anthropology at the University of the Witwatersrand, involved more than 100 early- and mid-career scientists in recovering, analyzing, cataloging and making *Homo naledi*'s data accessible to other scientists.

They keep fieldwork brief and efficient. Scans of the bones are made public so others can study them virtually or 3D print them. Hawks routinely shares findings from the field on social media and teaches undergraduate courses to UW–Madison students virtually, giving lectures from cave entrances and other unique anthropological sites.

Today, *Homo naledi* is on display at Maropeng, a museum in the Cradle of Humankind dedicated to human origins. Designed like a cave, the exhibit takes visitors through "chambers" where they learn how *Homo naledi* was discovered, the teamwork involved in its study and the fossil's place in the evolutionary story.

In July of 2017, Hawks was visiting the exhibit before the museum opened for the day. He was still in the final chamber where *Homo naledi* rests when the first tour group came through with questions about these ancient humans: How old are they? What other animals were around when they lived? Did *Homo naledi* get cavities?

A search for truth

There is something indescribable about standing in these caves where people who came before us went about their lives. Here, scientists are tracing the history of our species, condensing millions of years of physical, social and intellectual developments that have led us to the now — a moment when scientists have the power to unravel the mysteries of the universe we inhabit and the planet beneath our feet.

"We are all connected by our curiosity about our origins," says Pickering. "There is a fellowship in that that I find heartening." ■

▸ **origins.wisc.edu**

PHOTOS: JEFF MILLER

▸ UW-Madison student Talia Sankari uses a sifting screen to sort for potential artifacts during a UW-Madison archeology field school at Swartkrans, a fossil-bearing cave that is part of the Cradle of Humankind World Heritage Site.

Artificial Intelligence. Real Stereotypes.

English and Asian American studies professor Leslie Bow examines the implications of high-tech robots embodying female Asian features.

BY LOUISA KAMPS

Jiajia, China's first "ultra-realistic" robot, can speak, move and display micro-expressions. It took scientists three years to research and develop this new-generation interactive robot.

Leslie Bow clicks through movie and television clips on her computer: scenes from recent sci-fi thrillers, including *Cloud Atlas*, *Ex Machina*, *Battlestar Galactica* and the hit British miniseries *Humans*. Each features a synthetic human — benevolent or sinister, depending on the plotline — designed to look like a young, attractive Asian woman. Then Bow, a professor of English and Asian American studies, opens a video.

Filmed at a Toronto tech expo, it shows a sweet-faced robot with distinctly Asian features named Aiko. As a group of rapt pre-teen boys circles the eerily lifelike female replica, they can't resist pinching and poking her arms and face. Each jab prompts a plaintive reply from Aiko, triggered by the cutting-edge artificial-intelligence technology beneath her silicone skin: "Stop it." "Ouch." "It hurts."

Welcome to the "uncanny valley." That's what tech theorists call the point at which we human beings — normally charmed by creatures who look a bit like us (think of all those adorable anthropomorphized animals we love to watch conversing in cartoons) — begin to experience mixed, uneasy or antagonistic feelings toward robots and other human knockoffs that have gotten too realistic for our comfort.

This ambiguous terrain fascinates Bow, who explores how attitudes toward Asians are expressed in popular culture and how we humans relate, for better or worse, to nonhuman beings. Literature and semiotics scholars have long tracked how people from Japan, China and other Asian nations (typically ones at the forefront of technological innovation) are depicted in literature, film and other media. "Techno-orientalism" is their term for the tendency to use stereotyped Asian characters to reflect fears and fantasies about a future ruled by enhanced beings and fiendishly smart machines — Dr. Fu Manchu, the evil mastermind scientist featured in 20th-century movies and TV shows, is a vintage example of techno-orientalist caricature. However, surveying the current media landscape, and noticing "the sheer ubiquity" of artificial intelligence technology being "embodied by young, nubile Asian female facsimiles," convinced Bow that this particular techno-orientalist trend deserves special scrutiny.

For centuries, Asian women have been associated with service and what Bow calls "affective labor": caring for other peoples' emotion-based needs. According to Bow, Asian-featured fembots are just the newest twist in the longstanding cultural "fetishization and overt sexualization of Asian women."

Imagine a society in which infinitely replicable robots roll off assembly lines in actual brick-and-mortar factories, created to assist us. If those robots are designed to look identical to (or almost like, in that disturbing, uncanny way) real-world Asian women, Bow says it's reasonable to expect that ready-to-serve-you stereotype, well past due for retirement, will only amplify. Research shows views of others' skills and capacities are shaped by the roles we see them (literally) playing in the world. "We determine relations of power and define what frame we're going to put around people according to how we see them operating and being treated by others," Bow explains, and the stories we tell to describe what we've observed.

Bow says that often artificial Asian women are presented in popular media — with little or no nuance — as "both a toy and a servant," a thing to be commanded and played with, like a doll. In the movie *Ex Machina*, for example, an Asian fembot named Kyoko has been programmed to serve dinner and dance seductively, but is pointedly denied the power of speech. The problem with such flat, simplistic depictions is that they gradually shrink our frames of reference about real people with thoughts and feelings who behave in multi-dimensional ways.

As we stand on the brink of having AI robots much more present in our lives, Bow thinks it's helpful to think about possible ramifications of cranking out machine assistants resembling any specific type of living, breathing human being — Asian, black, white; tall, short; male or female — and how we might relate to these new, super-smart machines. What would happen if, say, black male-replica androids were purpose-built and assigned to perform only rugged outdoor labor — an unsettling scenario similar to one the show *Humans* provocatively proposed? Could greater exposure to such historically painful, racially charged imagery increase discrimination against black men? And given that "disembodied" AI tech is already on the market — Apple's iPhone, Amazon's Alexa — "Why do we have to imagine AI as embodied at all?" Bow wonders.

These are the kinds of complex questions Bow hopes her students — whether they're aiming to work as tech engineers, Hollywood screenwriters or advertising execs charged with casting commercials — will ask themselves. Lately, when Bow has shown the video of Aiko being prodded by the boys at the tech expo, students in some lectures have cried out, while others have sat in stunned silence. But pondering disquieting power dynamics at play in the uncanny valley can also make it easier to see how the same dynamics unfold between real people.

"It is actually a great time to engage in thinking about xenophobia, racialized violence, the public and private abuse of women," Bow says. "If students don't want to talk directly about violation, then fiction and fantasy offer a platform for raising those issues at a step removed." ■

Leslie Bow, professor of English and Asian American studies

PHOTOS: VCG / STRINGER (LEFT), BRYCE RICHTER (RIGHT)

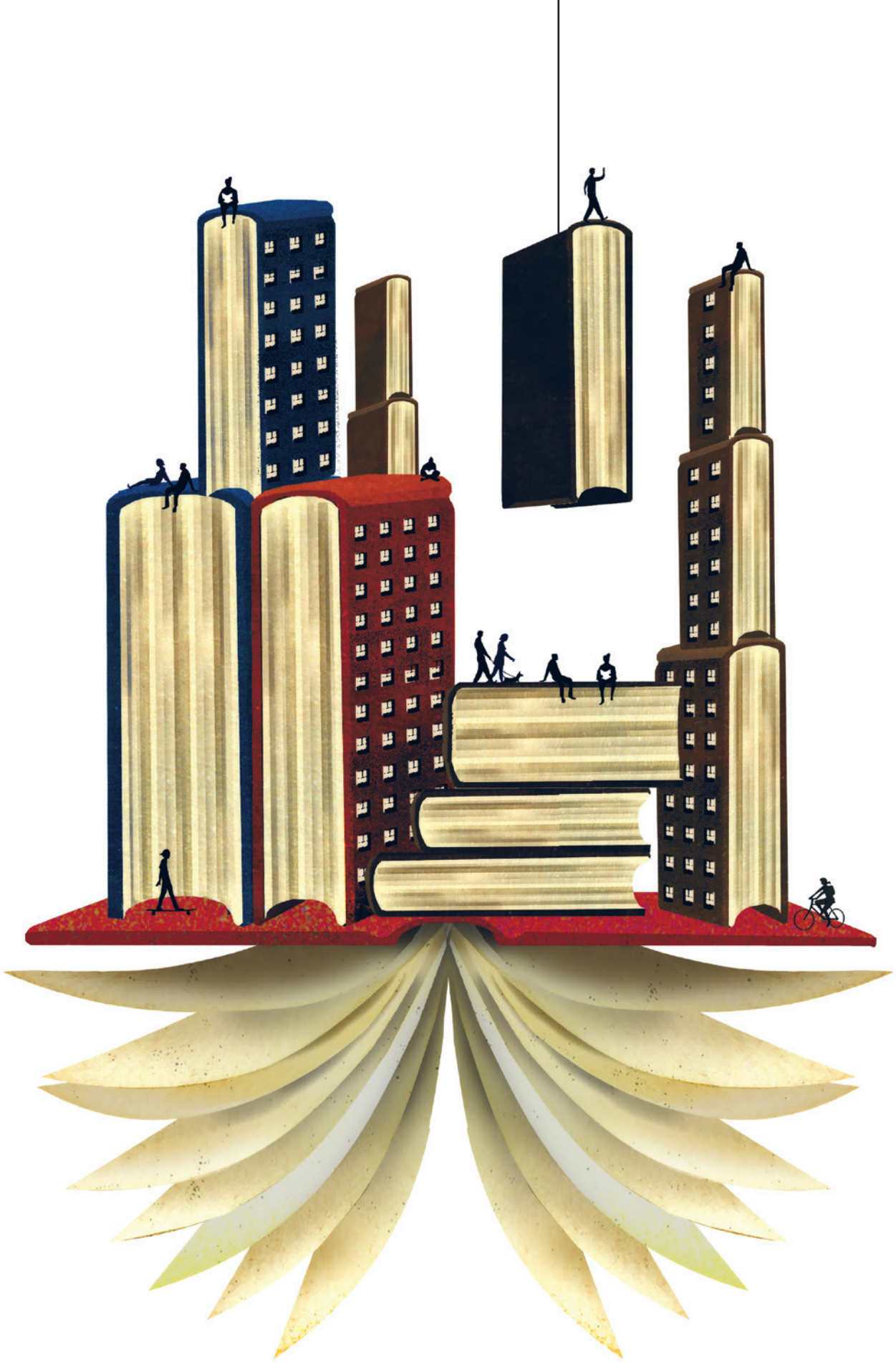


ILLUSTRATION: BRIAN STAUFFER

WHERE DO THE HUMANITIES LIVE?

Inviting the public to engage with hard questions is at the heart of the humanities at UW-Madison.

BY MARY ELLEN GABRIEL

FIFTY YEARS AFTER Wisconsin banned the use of the pesticide DDT in 1968, more than 1,500 students from 25 high schools across the state read biologist Rachel Carson's *Silent Spring*, a 1962 classic of popular science literature that exposed the harms of DDT and other chemical insecticides and launched the modern environmental movement.

"It made us absolutely care about the issue," said Jasmine Love, a sophomore at Golda Meir School in Milwaukee. "From the first few pages, when Carson was using the metaphor of the 'silent spring,' it was really sad and even gory. But this is what DDT was doing to the environment. This was the reality."

The book was the 2017–18 selection for the Great World Texts program, an outreach initiative of the UW–Madison Center for the Humanities. Now in its 15th year, Great World Texts is the Center's longest-running public program, connecting rural, urban and suburban students through a shared experience of close reading. Previous works have spanned the ages, from Sophocles' *Antigone* to Chinua Achebe's *Things Fall Apart* to Nobel laureate Orhan Pamuk's *Snow*.

After spending a year with the text in connection with UW humanities scholars, who develop supporting materials and offer teaching workshops, the high school students and their teachers travel to campus for a conference. This year's keynote speaker was activist and biologist-writer Sandra Steingraber, the latest in a line-up of keynotes that has included Margaret Atwood, Arundhati Roy and David Henry Hwang.

PHOTO: CAITLIN BERRY

Sara Guyer, director of the Center for the Humanities, listening along with more than 700 high school students to the Great World Texts keynote by Sandra Steingraber, in March.

> **Where do the humanities live? Not only in university libraries and classrooms, but also outside of the academy.**
>
> Sara Guyer,
> *Director of the Center for the Humanities*

"Fifteen hundred high school students read this book," marveled Steingraber, holding up the recently issued American Library Edition of Carson's 50-year-old classic, which she edited. "And they connected with it. They were energized by Rachel Carson's message about the environment."

TACKLING DIFFICULT QUESTIONS across the boundaries that might typically divide us (age, race, religion, education level, field or specialty) defines the cutting-edge approach developed at the UW-Madison Center for the Humanities under the leadership of English professor Sara Guyer. The Center has developed an international reputation for excellence in what's commonly known as the "public humanities," thanks to her unwavering insistence that people outside the university care deeply about the questions that humanities scholars are asking. Complex ideas matter.

"Where do the humanities live? Not only in university libraries and classrooms, but also outside of the academy," says Guyer, who not only directs the Center (and has since 2008) but is also president of the international Consortium of Humanities Centers and Institutes. If the humanities are to survive, she says, we need to re-think traditional boundaries.

For more than a decade, the Center has brought high school teachers (and their students) into collaboration with humanities faculty, sent graduate students out into the community, welcomed the public to campus for lectures from prominent public intellectuals and greatly expanded career opportunities outside academia for humanities PhDs.

At the heart of these endeavors is an ever-increasing sense of urgency. The humanities offer ways to come together around some of the world's most pressing issues.

"Our approach begins with admitting that no single discipline can solve a difficult problem," Guyer says.

"We need to foster partnerships with colleagues across disciplines — in STEM fields, in the School of Business — and imagine new ways of working together." ■

Contributed reporting by David Tenenbaum.

By engaging the public, enlivening scholarly discourse, and bringing the world to Madison, the Center for the Humanities expands upon the great tradition of humanities scholarship at UW-Madison. Here are four more examples of the public humanities in action at CfH:

HUMANITIES NOW

What? A series of public panels offering perspectives from leading UW-Madison scholars on current events

When? In response to a regional, national or global crisis

Emergency room visits for suspected opioid overdoses increased 109 percent in Wisconsin from July 2016 to September 2017, as reported by the *Wisconsin State Journal* in March 2018. Nationwide, the rate of ER visits went up 30 percent, and in the Midwest 70 percent. The roots of the crisis are tangled. In April, a public forum—The Opioid Epidemic: A State in Crisis—drew more than 150 people. Many came because they knew someone in trouble. "The panel [of UW experts] took an empathetic approach that asked us to think about why and how this happened, not just what we can do to fix it," said Emily Clark, associate director of the Center for the Humanities.

HUMANITIES WITHOUT BOUNDARIES

What? An array of intellectual offerings on a par with the nation's finest cultural centers

Why? Brings the world to Madison

For this public lecture series, Center director Sara Guyer invites a wide spectrum of thinkers—from theorists such as Wendy Brown to public intellectuals such as Ta-Nehisi Coates and Jill Lepore—to talk about their work and its relationship to the world today. She also invites "practitioners" such as chef Alice Waters and fashion designer agnés b. "It's not just a single lecture, but a season," she says. "Taken together, the lectures represent a set of issues and flash points in the humanities. We don't just look for the best or brightest. We ask, 'Who is transforming our understanding?'"

BORGHESI-MELLON WORKSHOPS

What? Working groups centered on an interdisciplinary topic

Why? Allows faculty and students to work together outside the classroom

These workshops unite participants around questions that are probing, inclusive and courageously optimistic. The Black Arts + Data Futures workshop asked: How do African American communities build self-determination in the 21st century? Ashley Baccus, a molecular biologist and artist, created a virtual reality experience in which people could inhabit a black woman's body in a futuristic hair salon. Cutting-edge technology coupled with a vibrant cultural moment created a multidimensional experience that boosted empathy and was unflinchingly about black joy. The workshops are administered through the Borghesi-Mellon Workshop Fund, named in honor of Nancy (Economics, '69) and David Borghesi (BBA, '70), who provided the matching support for a 2:1 grant from the Andrew W. Mellon Foundation.

GRADUATE PUBLIC HUMANITIES EXCHANGE (HEX)

What? Innovative, mutually rewarding partnerships between community partners and graduate students

Why? Takes engagement beyond volunteerism

Sarah Dimick's Humanities Exchange project, Baldwin's Heirs: Police and Black Lives in American Literature, brought officers from the Madison Police Department together with high school and college students of color to read about police work and black lives in American literature. Discussing writers ranging from James Baldwin to Claudia Rankine, the group reflected on convictions about race, ideas of justice and what public safety in the 21st century ultimately requires.

INTERESTED IN LEARNING MORE? VISIT **HUMANITIES.WISC.EDU**.

Savoring Success

Alum George Hamel, Jr., settles into "retirement" as the patriarch of a family-run winery.

BY KATIE VAUGHN

PHOTO: KATE NAGLE

Pam and George Hamel are particularly fond of their Cabernets, especially the Pamelita Reserve, named after Pam's Ecuadorian grandmother's nickname for her.

On certain afternoons, before the sun begins its slow retreat behind Sonoma Mountain and casts a golden glow across the valley and its tidy rows of vines, George Hamel, Jr., brings a glass of wine to his deck and drinks in the panorama.

"I never tire of looking at that view," says Hamel, the owner, along with his wife Pam, of Hamel Family Wines.

These are rare moments of silence and stillness, and Hamel has learned to savor them. His first career in finance was fast and furious, defined by taking chances and seizing opportunities. The winery is the second chapter, as well as a reward.

The 1980 communication arts grad began as a financial consultant at Merrill Lynch, and later moved — along with Pam, daughter Casey and sons George III, John and Luke — to San Francisco in 1996.

As the wine cave shows, the Hamels' facilities are modern, but their wine-making style is traditional.

PHOTO: KATE NAGLE

He served as a partner at private equity firm BLUM Capital before co-founding the investment management firm ValueAct Capital in 2000.

But even before he retired at the end of 2014, another venture was tugging at Hamel's entrepreneurial instincts. A vacation home they purchased in Sonoma Valley in 2006 came with an acre of Cabernet Sauvignon vines. Hamel thought they'd bottle a little wine to share with friends, but the pursuit didn't stay a hobby for long.

"I'll admit, in the back of my mind, wine was appealing to me from a business perspective," Hamel says.

In 2010, the Hamels bought a 124-acre property nestled into the western side of the Mayacamas Mountains. They transformed it into a stunningly modern, environmentally friendly vineyard with a winery, cave and estate house for tours, events and unmatched views of the Sonoma Valley. Hamel Family Wines officially opened its new facility in 2014, adding 125 acres of additional vineyards along the way.

And the "family" bit isn't mere branding. Sons George III, who earned an MBA from Sonoma State University's Wine Business Institute, and John, a UW-Madison journalism grad with a winemaking certificate from the University of California, Davis, are managing directors of the business. While Hamel spent the early days of his "retirement" working fulltime at Hamel Family Wines, he's now relinquished the daily management to his sons.

"We didn't want Thanksgiving to feel like a board meeting — or for the kids not to want to come at all," he says.

The Hamels produce about 6,000 cases of wine annually, specializing in Cabernet blends that take full advantage of the Sonoma heat, as well as Zinfandel, Sauvignon Blanc and a rosé — a more limited repertoire than some wineries. "We want to have four or five varietals and do them all well," Hamel says.

They take their role as stewards of the land seriously, choosing organic and biodynamic farming practices to best care for the environment and their wines.

"Any winemaker will tell you, 95 percent of the quality of a wine happens in the vineyards, and we fully subscribe to that belief," Hamel says.

The Hamels are also dedicated supporters of UW-Madison. George serves on the Chancellor's Advisory Council and the Department of Communication Arts board — and just received a 2018 Distinguished Alumni Award — while Pam sits on the School of Music board. And the pair provided a $15 million gift for the new Hamel Music Center, along with generous support to a host of programs across the university. Hamel says these are ways to give back to a place that gave him a start.

"My time at Wisconsin was formative in a lot of ways of who I became," he says. "I learned how to navigate and advocate on my own behalf. And a diversity of knowledge made me understand there's a whole world out there." ■

Anyone who visits the Hamel winery will notice an interesting detail: badgers. Featured on wine labels, floor mats and more, the animal is a nod to the University of Wisconsin — George Hamel, Jr., his son John and his father, the senior George Hamel, are all alums — as well as the fact that badgers are native to Sonoma County.

Knowledge is Power

How does a farmer's son end up running one of the nation's top utility companies? John Rowe attributes his success to working hard, taking chances and heeding lessons from history.

BY KATIE VAUGHN

An appreciation of the past has served John Rowe well. After studying under titans of the history department in the 1960s — Mosse, Curti, Petrovich — Rowe became a lawyer focusing on the Milwaukee Railroad's bankruptcy. In his mid-30s, he pivoted to a senior vice president and general counsel role at Conrail, which led to CEO positions at the Central Maine Power Company, New England Electric System and the electric utilities powerhouse Exelon Corporation. Turning to the words and actions of historic leaders helped him navigate work at the intersection of business and politics.

PHOTO: DAVID W. JOHNSON

Now retired, Chicagoan Rowe and his wife Jeanne passionately support UW-Madison, in addition to several other institutions such as the Field Museum of Natural History, the Illinois Holocaust Museum and two Chicago charter schools. Among their many generous contributions to UW, including the Rowe Center for Research in Virology at the Morgridge Institute, are three endowed chairs in history — Byzantine, Greek and American politics, institutions and political economy — to ensure others can find inspiration from the past.

I grew up on a farm near Dodgeville and attended a one-room country school. The most important thing you get growing up on a farm, especially with two Depression-era parents, is the vast importance of work, accomplishment and focus.

Putting my farm background together with being at UW in the '60s was an amazing combination. My rural roots and university experience define who I am.

I still have a few of the books I was assigned at UW. Karl Popper's *The Open Society and Its Enemies* from my first political science class and Carl Becker's *The Heavenly City of Eighteenth-Century Philosophers* from my second George Mosse history course.

An undergrad like me didn't have a relationship with George. He was at the head of an auditorium, thundering at us. But he was inspiring as an instructor. Of course, he was not the only one. I also had Merle Curti and Michael Petrovich.

I saw being a lawyer as problem solving. I constantly made decisions that expanded my opportunities. I knew I wanted to run a company someday. When I left Conrail to go to Central Maine, it was a big gamble. And when I left for New England, it was another big gamble. But if you want to work in the big leagues, you go for it.

I've always been willing to move across the country for a better job. We used to tell people at Exelon that we believe in work-life balance, but not if you want to be the CEO. If you asked Jeanne if I lead a balanced life, she'd roll over on the floor in peals of laughter.

Studying history meant a whole lot to me. I enjoyed it, and I still read history every day. And I've found it helpful in my professional life. You realize some of the things you face aren't new and that the world changing is normal. It's wonderfully relevant to a CEO, particularly to one in a highly politicized business.

About a dozen years ago, my wife said to me, "You love universities and museums. But if we don't help people earlier, there won't be anyone to use those universities and museums." Working in Chicago schools has given us the greatest highs and the greatest lows. I approached running my utilities as a calling. Now that I've been retired for six years, I call my civic work my calling.

I've always been driven to be useful. Part of me feels like you can never do enough. It's very much who I am and how I'm built. My mother felt if you weren't working, you should be sleeping. If I'm not working, I'm reading. ■

PHOTO: JEFF MILLER

Byzantine Ties

With generous support from John and Jeanne Rowe, Leonora Neville is able to probe ancient history — and find remarkable relevance to today's world.

BY LOUISA KAMPS

The Byzantine Age was the name given to the fascinating, turbulent era from 330–1453 AD. According to Leonora Neville, a Vilas Distinguished Achievement Professor who holds the John W. and Jeanne M. Rowe Chair in Byzantine History, its politics and classical traditions of intellectual life, centered in Constantinople (now Istanbul), shed remarkably fresh light on many issues we face today. "They were dealing with ideas of authority and power, with constructions of gender, with migration and cultural assimilation, with religious clashes, and a lot of fighting between Christianity and Islam," says Neville. The Rowes' decision to endow the position in 2014 is "amazing and very rare," she says. There are only five other professorships like Neville's across the U.S. Here at UW, the scholarly path to the era was opened in the 1920s, when the university hired an eminent scholar of Byzantine culture (a Russian-born historian named Alexander Vasiliev who'd fled his home country during the Russian Revolution). Thanks to that canny decision, "we have one of the best libraries for Byzantine research in the country." Neville says that Rowe once told her that in order for UW to be a world class university, it had to "not only cover the bread-and-butter basics of history, but also pay attention to more exotic, less straightforward" ancient civilizations. And in pondering the Byzantine Age, in which philosophers and historians ardently debated "honor and proper personhood and what it meant to be a great hero in order to figure out how to behave," she adds, students in today's polarized climate "can actually step back and decide what their own system of morality is. It's a fabulous teaching tool." ■

Climate Change In Our Backyard

BY DAN VIMONT

I'd rather be fly fishing. I mean that as a general truth, not as a complaint.

There's a relationship between my love of fishing and my research as a climate scientist. As my wife put it — at the time our car was drifting into the oncoming traffic as I craned my neck to scope out a potential fishing stream — "you're really into water, aren't you?"

Yes, I am.

In my day job, I'm a climate scientist who studies how interactions between the ocean and atmosphere — such as El Niño — produce fluctuations in our climate. My students and I use math and physics as tools to analyze observations, run massive computer models and develop pure theory to understand these climate fluctuations.

Dan Vimont is Professor of Atmospheric and Oceanic Sciences, Director of the Nelson Institute Center for Climatic Research and the Co-Director of the Wisconsin Initiative on Climate Change Impacts.

Behind the fluctuations, though, we observe a disturbing trend in climate change that requires a new set of tools. Events of the past few years point to the urgency of a new understanding.

In April 2014, we passed a milestone: Carbon dioxide levels in our atmosphere climbed above 400 parts per million for the first time in our history. For the following year and a half, carbon dioxide levels fluctuated around 400 parts per million.

Then something more remarkable happened: In November 2015, carbon dioxide levels passed the 400 parts per million mark for the last time.

Ever.

No one living on the planet today will ever again experience carbon dioxide levels below 400 parts per million. There's no going back — it's a reality that we need to plan for. To do so, we need a new tool: conversation.

In the past decade, I've been a part of the Wisconsin Initiative on Climate Change Impacts. It is a collection of scientists, educators, managers and others working together to understand and help plan for expected impacts of climate change in Wisconsin.

WICCI recognizes that any one person or one area of study is insufficient for understanding climate change's potential impacts and what to do about them. As a climate scientist, I don't know how crops are planted, how forests and streams are managed or how communities plan for extreme heat. Individually, I can't ask the right questions to help Wisconsinites plan.

But through WICCI, a conversation begins with the farm community, forest and fisheries managers and city planners. Through that conversation, we work to communicate new ideas and identify research that's needed to better understand how climate affects us.

Through conversation, we ask new questions, identify research needs and develop understanding. It's the Wisconsin Idea at work.

It's a burden to constantly think about how climate change will affect us and our children. But it's critical that we advance our understanding together.

And I hope you'll forgive me for occasionally wanting to get away from it all, to enjoy a moment standing in the water, fishing.

Maybe I'll see you out on one of Wisconsin's trout streams. If so, don't be a stranger. Let's talk. ■

ILLUSTRATION: CRISTINA SPANO

LIVE AND LEARN

AND LEARN.

AND LEARN.

THERE'S ONLY ONE THING more extraordinary than our dazzlingly complex universe: our capacity to learn from and understand it.

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Last Word

Thin slices of beets on a light table show off bands of red and yellow. L&S botanists are studying how this plant family makes the amino acid tyrosine, responsible for the brilliant scarlet found only in beets. Their work can be illuminating for scientists studying how to turn tyrosine into its many useful derivatives, which include morphine and vitamin E.

PHOTO: SARAH FRIEDRICH