TEN WAYS L&S HAS RE-SHAPED LEARNING
page 16
A graduate student and new technology are preserving the legacy of early TV star Faye Emerson. See story on page 22.
FIGs Bear Fruit

The tantalizing titles of First-Year Interest Groups are enough to make anyone want to go back to college. But it’s the relationships forged in the “cohort” that really set freshmen up for success.

By Mary Ellen Gabriel

Visit figs.wisc.edu/catalog for a full listing of the current year’s FIGs offerings (you’ll want to be a freshman again!).
Letters from Readers

I want to thank you for such a fascinating publication. I’m engrossed in reading each article.

JOAN BOUGHTON

It’s big. It’s graphically appealing and readable (serif type — yay)! It’s interesting. And, best of all, it’s on PAPER — hefty, textured, non-pixeled PAPER. I read it all. You have fascinating material to work with, but it takes skilled communicators to transmit complex information, accurately and with verve, to lay readers. So, I congratulate and thank you — on PAPER!

CARLA BUTENHOFF, BS ’66

It gave me a great deal of pleasure to read about the SALT telescope and how it has progressed, and the contributions it has been making over the years. I created and directed the Wisconsin Teacher Enhancement Program [mentioned in last issue’s “The Fabric of Our Origins”]. The involvement with the South African teachers was among the most rewarding experiences I had in more than 40 years on campus. My only wish is that more [people] on campus would take the time to learn about all of the past and current extraordinary inter-departmental collaborations going on.

DR. RAYMOND KESSEL
Professor Emeritus, Department of Medical Genetics and School of Continuing Education

I found [the new magazine] inviting, stimulating and a thoroughly enjoyable read. Transferring into the College of Letters & Science was a life-altering experience, one that determined my future in ways I never dreamed possible!

Professors Karl Kroeber, William Rosen and Carl Woodring gave me an appreciation of English literature and its relationship to modern civilization. I also took courses in geology and went to Antarctica. When I returned, I received my PhD in geophysics, went on to serve two years in the U.S. Army and then embarked on a 45-year career in defense, homeland security and anti-terrorism. During my last six years as a consultant to a Fortune 300 firm, I managed or contributed to more than $40 billion in winning proposals. And I owe it all to having switched from engineering to the College of Letters & Science in the late ’50s.

DR. THEODORE JEROME COHEN, BS ’60, MS ’61, PHD ’66

Great to see the relationship between UW-Madison and South Africa, and the projects they are working on. My wife is from South Africa. The picture on the inside front cover shows a road sign of an antelope crossing. It is a kudu, not a springbok. As a wildlife enthusiast, my wife wouldn’t let me let this go uncorrected.

TONY RUEFF, BA ’72

The Fall 2018 issue of Letters & Science introduced a fresh new look, and readers weighed in with feedback.

Follow us on Facebook, Twitter and Instagram @UWMadisonLS
Great teachers are unforgettable. To this day, you may remember a professor who led a field camp, ran a lab, sparked deep discussion in a philosophy course, fired you up about history or politics or economics, or unlocked some once-in-a-lifetime opportunity that changed the course of your trajectory. This quote from a 2018 winter graduate encapsulates, for me, what so many feel about their Letters & Science experience: “My professors challenged me to question my beliefs and biases, encouraged me to take what I learn beyond the classroom, and continually worked to integrate their subjects and knowledge into current events.”

Transformative teaching is integral to what we do. I often brag that Letters & Science faculty are internationally renowned for knowledge creation and are busy solving some of the world’s biggest problems. How, then, can they also be good teachers? Aren’t these two pursuits—one dependent on long hours of research, the other requiring classroom skills and office hours—in opposition to one another? Emphatically, no. It is a myth that great research comes at the expense of great experiences in the classroom. Many of our internationally known scholars can be found working with undergraduates in labs and in archives, organizing First-Year Interest Groups and developing innovative methods for transmitting knowledge. We call these “high-impact practices,” and they happen across the college, in large lecture classes and small seminars alike.

In this issue, we celebrate great teaching with stories and interviews that delve deep into what that looks like. From 10 of our top teaching innovations (over the past couple of decades), to the magic of a First-Year Interest Group (FIG), to a thoughtful essay by one of our finest philosophers, you will find plenty to inspire and—perhaps—surprise you. Though I doubt that you will be surprised to learn that connection remains at the heart of the learning enterprise in L&S.

There’s just one more myth about teaching that I want to address, and that is the notion that large lectures are essentially boring, necessary evils that first-year students must endure. We aspire for every course to be high-impact—large or small. We have many sensational large-enrollment courses across the college, taught by professors who are endlessly creative in getting students to engage and thrive. Indeed, many of our professors are at their best in a large lecture hall. A video of Professor William Cronon’s famous American Environmental History lecture, which has moved students to tears, easily proves my point. https://bit.ly/2ttr1YU

Our faculty bring talent, passion, imagination, humor and empathy into their classrooms every day. Not only do they create knowledge, but they also change students’ lives. I couldn’t be more proud of what they do.

On, Wisconsin!

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

P.S. Do you have an L&S professor who changed your life? Write to us about him/her. We may select your tribute for our Letters from Readers section in the fall.
Rocking for Careers

**SuccessWorks Rocks!** brought Bruce Hornsby & The Noisemakerst to the stage of the Wisconsin Union Theater over Homecoming weekend in October for a concert that raised $1.3 million for SuccessWorks, the cutting-edge L&S career exploration center that opened in February 2018. Eau Claire musician Phil Cook opened for Hornsby, and delivered some rousing words for the value of a liberal arts degree.

Pamela and George Hamel, Jr. and Phill and Liz Gross hosted both the concert and a VIP experience featuring California wines from alumni vintners and a gourmet dinner with celebrity chefs.

**Building Scientists**

**By the time they graduate,** more than half of the students at UW-Madison will have taken a chemistry course.

Now, with the start of construction on a $133 million tower and other renovations, those students — as well as faculty and other researchers — will have updated teaching and laboratory spaces to accommodate state-of-the-art chemical education and research.

Chancellor Rebecca Blank and Dean Karl Scholz celebrated the formal beginning of construction at a groundbreaking on September 14. “Today is not only a celebration of a new facility, but a celebration of a new future,” Blank said.

The project is funded with $91 million from the state, with additional funding from the Wisconsin Alumni Research Foundation, the Vilas Trust, the 3M Corporation, university funds and individual donors. The four-year project will be completed in two phases, with renovations slated to finish by early 2022.

The original chemistry buildings were constructed in 1962 and 1965, and most of the teaching laboratories and lecture halls have not been updated in the half-century since. Shain Tower opened in 2000 with 20 research modules.

General Chemistry has been the university’s highest-enrolled class since 2006, with more than 2,200 students last semester. Due to space constraints, undergraduate labs run from 7:45 a.m. to 9:45 p.m. New space will allow for both timely graduation and increased enrollment.

“With this new facility, we enlarge opportunity for all of our students,” Scholz said.
PHOTO: BUILDING RENDERING?

A group of political science students wanted to do something practically unheard of in today’s divided political landscape: listen to each other. Last year, nearly 80 students formed the Political Science Student Association to foster discussions and provide professional development opportunities — all with a nonpartisan focus. The political science department used Annual Fund gifts to help launch the group, and alumni Robert Barnett (BA ’68) and Rita Braver (BA ’70) generously donated seed money for a new debate society as well.

“Our students’ passion for politics isn’t simply partisan.”

JOHN ZUMBRUNNEN, chair of the Department of Political Science

A Language Leader

The National Security Education Program has chosen UW–Madison as home to the nation’s second Korean Language Flagship Program. The Department of Asian Languages and Cultures and the Language Institute will create the flagship, designed to prepare undergraduate students of any major for professional competency in Korean by graduation.

Part of the U.S. Department of Defense, the National Security Education Program’s Language Flagship Program provides funding to universities to produce language-proficient professionals with linguistic and cultural expertise needed for U.S. national and economic security. Arabic, Chinese, Persian, Portuguese, Russian and Turkish are currently funded, in addition to Korean.

The new Korean Flagship at Wisconsin will build upon the strengths of the current undergraduate Korean Language Program and on the university’s growing capacity in Korean cultural studies.

UW–Madison already has one Language Flagship Program, in Russian, established in 2010 and run jointly by the Department of German, Nordic and Slavic and the Language Institute. Additionally, students may study more than 40 different modern languages, as well as numerous classical and ancient languages (with more than 20 additional languages offered in the summer). And UW–Madison graduates more students with majors in languages other than English than any other American university.

“Being granted a second Flagship program is a tremendous accomplishment,” says Susan Zaeske, Associate Dean for Arts and Humanities, “and yet another sign of UW–Madison’s strengths in the teaching of languages and cultures.”

A group of political science students wanted to do something practically unheard of in today’s divided political landscape: listen to each other. Last year, nearly 80 students formed the Political Science Student Association to foster discussions and provide professional development opportunities — all with a nonpartisan focus. The political science department used Annual Fund gifts to help launch the group, and alumni Robert Barnett (BA ’68) and Rita Braver (BA ’70) generously donated seed money for a new debate society as well.
A group of researchers, including UW students Cameron Batchelor (left), Liz Ceperly (right) and director of the Geology Museum at the University of Wisconsin-Madison Richard Slaughter (center), study cave walls while doing field work at the Cave of the Mounds near Blue Mounds, Wisconsin.
For hundreds of thousands of years, glaciers hundreds of feet thick ebbed and flowed across northern and eastern Wisconsin. As they did, they carved lakes and wetlands and left their marks on the landscape. All the while, an unassuming cave sat hidden in a portion of south-central Wisconsin, just 12 miles west of the most extreme leading edge of ice. Located in a region known as the Driftless Area, it never bore the scars the glaciers left behind. But it did record their stories.

A University of Wisconsin–Madison geoscience graduate student, Cameron Batchelor, is now helping that cave — Cave of the Mounds in Blue Mounds, Wisconsin — reveal its tales. Using the pointed stalagmites and stalactites that grow up from the cave’s floor and down from its ceiling, she is helping to resolve Wisconsin’s glacial history.

“We can think of stalactites and stalagmites as data loggers, because as glaciers were flowing through the state, they were recording temperatures,” explains Richard Slaughter, director of the UW–Madison Geology Museum and one of Batchelor’s collaborators.

With the help of the cave’s managers, Ann Wescott and Joe Klimczak, Batchelor spent hours in the cave searching for just the right features to study and, using sophisticated chemical analysis, has been tracing periods in the cave’s history when stalagmites and stalactites were growing.

These features, collectively called speleothems, grow when water above a cave surface mixes with minerals in the soil and then drips into the cave. As it does, the minerals harden and grow into the pointed projections that make each cave unique. The minerals are deposited layer by layer and, like rings on a tree, can be used to tell when the speleothems were growing.

Growth would have ceased when a glacier was nearby and the ground above was frozen into permafrost.

“Assuming her cave is telling the permafrost story, this tells us when the ice was here,” says Dave Mickelson, an emeritus professor of geology and geophysics at UW–Madison who helped pioneer the study of permafrost in Wisconsin.

However, stalagmites and stalactites may also have stopped growing when climate conditions were too dry and no water was dripping, or at any times when the ground above the cave lacked mineral-rich soil. Batchelor is working on a variety of methods to validate her findings and also studying other caves in the Midwest that may have been exposed to similar climate conditions.

“I think people look at stalagmites and stalactites and think they’re beautiful formations, but they don’t know the wealth of knowledge they hold,” she says.
Mob Mentality

Bacteria send signals before massing for an attack. Helen Blackwell has discovered how to listen in, and block deadly cells’ ability to swarm.

BY LOUISA KAMPS

When Helen Blackwell describes how disease-causing bacteria become virulent, it’s hard not to imagine the little buggers whistling to each other in a dark alley, like bad guys getting ready to rumble.

Blackwell, a professor of chemistry, studies the role chemical signals play in helping bacteria communicate and act as a group. Through a process known as quorum sensing, bacteria are able to detect and count others of their kind nearby. And when dangerous bacteria decide there are enough of them present in a particular environment to mount an assault, they band together and attack their host. “It’s like a mob mentality,” Blackwell says. “Bacteria wait until there are a lot of them, and then they say, ‘OK, I’m going to invade.’”

Learning about deadly bacterial cells’ ability to suddenly swarm or form slimy protective coatings, known as biofilms, around themselves “blew my mind,” Blackwell recalls. But then she began to wonder if she could change how bacteria behave.

As an organic chemist who earned her doctorate at the California Institute of Technology, she already knew how to make synthetic molecules. So she decided to start experimenting with the structure of molecules to see if her own compounds, added to bacterial cells, could change how the bacteria are able to count each other. Working closely with a team of dedicated graduate students in her lab, she has developed a range of new compounds that interrupt quorum sensing communication—effectively blocking deadly bacterial cells’ ability to swarm and form biofilms.

Known as quorum sensing inhibitors, or QSIs, Blackwell’s compounds show tremendous potential for both treating and preventing the spread of serious bacterial diseases, including staph infections and pneumonia. Unlike traditional antimicrobial drugs, which simply kill bacteria (even the good ones that live in our gut) and fuel antibiotic resistance, the chemical agents Blackwell has developed target only the most deleterious behaviors of dangerous bacteria. This keeps them from infecting their host, yet allows them to live and thus reduce the resistance threat.

Scientists still have plenty to learn about bacteria and quorum sensing before chemicals like hers are ready for the market, Blackwell notes. But there is solid and growing evidence suggesting that QSIs could be useful in a range of clinical and industrial settings. For example, QSIs could be incorporated into polymer coatings designed to inhibit bacterial growth on medical equipment, including replacement joints, or wound dressings.

Another exciting possibility is that QSIs could be used to “rescue” (as drug researchers phrase it) certain antibiotics that are rarely used because they’re so highly toxic. By giving patients with dangerous infections QSI-based medications that would block bacterial communication, it might be possible to reduce bacterial levels so that now a lower,
non-toxic dosage of the antibiotic could clear the infection. Blackwell also hypothesizes that QSI-based drugs could lower bacterial loads to an extent that the patient’s immune system may be able to clear the bug on its own, avoiding the need for antibiotics altogether. Research to test these hypotheses, she notes, is ongoing.

A fellow of the American Association for the Advancement of Science, Blackwell has received numerous prestigious awards for both research and teaching, including the American Chemical Society Arthur C. Cope Scholar Award and an Alfred P. Sloan Research Fellowship, as well as the UW-Madison Chancellor’s Distinguished Teaching Award.

Lately, Blackwell says, her mind has been blown again as researchers have learned much more about how different bacteria work together, for better and worse, in different communities, including the human microbiome. But unlike researchers who are just focused on one bug, she’s already deep into exploring how chemistry can be used to start and reroute a wide range of bacterial conversations between the many different bacteria that live in the environments that surround us, and within us. “Thinking about how bacteria work together collectively, as opposed to just as individuals, makes science harder to do,” Blackwell says with a smile. “But in the end, the answer will be so much more interesting.”
Jamie Dawson grew up on the songs of Lauryn Hill and Kendrick Lamar and the words of Zora Neale Hurston, Maya Angelou, Pablo Neruda and Sonia Sanchez. But it was the music of Mahalia Jackson that caught her attention at UW-Madison.

Dawson couldn’t believe she’d never known about the “Queen of Gospel” before taking an Afro-American studies course taught by professor Craig Werner. The class, Soul Music and the Civil Rights Movement, introduced Dawson to Jackson and other artists of the era, and the power of their music.

“The things I took away most from the class were the connections between a people’s fight and the connection to expression through music and sound,” she says. “There was a unity and call-and-response relationship that existed. What it taught me the most is that as much as we love to call music entertainment, it really is something that we use to express ourselves, report to our communities and to connect with others.”

The prospect of making new discoveries about music and its role and impact in culture was important to Dawson, a native of Tampa, Florida. The renowned First Wave Spoken Word and Hip Hop Arts Learning Community initially drew her to UW-Madison. And a hip-hop-focused First-Year Interest Group allowed her to explore connections in physics, English, integrated arts and Afro-American studies in a series of linked classes. She enjoyed the Afro-American studies component so much that she decided to make it her second major, in addition to psychology.

In the spring of 2017, Dawson was inducted into Phi Beta Kappa — a rare honor for a sophomore — in recognition of her work in the liberal arts and sciences. In December, she delivered the student address at the 2018 winter commencement, imploring her fellow graduates to use their individual talents to change the world. “Your uniqueness is an asset,” she said from the Kohl Center stage. “Embrace your story, your voice and your creativity.”

Now the new graduate is pursuing work at the intersection of health and the humanities, exploring hip-hop to better understand why some members of marginalized communities distrust the mainstream healthcare system.

“I believe we could use the familiarity of hip-hop culture as a way to reach and communicate with populations that could benefit from a revamped relationship with healthcare,” she says.

The work reminds Dawson of what piqued her attention in Werner’s class — artists using their talents and pushing boundaries to build up their communities.

“That is what I strive to honor with my work as well,” she says.
CULTURE
The Beautiful Game
How soccer and sports have the power to unite and divide.
BY PRESTON SCHMITT

Marcelo Pellegrini learned the universal language of soccer from the kick of an empty soda can. Growing up in Valparaíso, Chile, he and his neighborhood friends would play with makeshift goals on imaginary fields to emulate the sport that captivates an entire continent — and much of the world today.

Through his new course, Spanish 468: Soccer? ¿Fútbol? The Beautiful Game, the UW-Madison associate professor of Spanish is transferring his childhood passion to the classroom. He’s challenging students to better understand Latin American history and culture through the lens of soccer, all while sharpening their Spanish language skills.

The underlying theme of the course is identity, and how the sport can serve as an expression of personal dreams, collective belonging and national pride. Pellegrini’s challenge is to convey the deeply passionate, culturally ingrained connection between Latin American soccer and its fans — to capture the magic, he says. “So many people would die for their team and their country. I haven’t found a text yet that can reflect on that accurately or with the same emotion.” It falls to Pellegrini to show how “it’s a matter of chasing something that is unattainable — glory.”

Why do soccer fans, or any sports fans, feel so attached to their teams? Explanations range from the sociological to the psychological. For instance, observing a sport can trigger “mirror” neurons in the brain that inspire imitation.

“You feel that you’re doing what the players are doing,” Pellegrini says.

While the benefits of belonging to a community are self-evident, fervent fandom is not without its drawbacks. “You can get violent pretty easily,” he says. “You can get dogmatic.” As a reflection of larger society, the beautiful game can turn ugly as it intersects with the racial, gender and economic inequalities of the country or community it represents. Collective identity is as complex a phenomenon as it is universal.

During one lecture, Pellegrini and his students began to riff on the stylistic difference between Brazilian and Argentinian soccer. A student chimed in that he prefers American soccer, because it’s “sloppy and clumsy.”

“Is that a good thing?” asked Pellegrini, laughing. “No,” the student answered. “But it’s ours.”

ILLUSTRATION: ALEX NABAUM
When L&S students bring even an inkling of an interest to SuccessWorks, specialized advisors can connect them with focused recommendations, like-minded alumni and career-igniting opportunities.

**Sara Koth came to college** with a passion for animals and uncertainty about whether she could connect it to a major or a career. Inspiring courses with Emily Stanley, a freshwater ecologist at the Center for Limnology, and Nazan Gillie in the Department of Integrative Biology led Koth to a zoology major. But she still wasn’t sure how her interests would translate to a career after graduation.

Fortunately, Koth’s roommate gave her some helpful advice: Go to SuccessWorks. And ask for Maureen. That would be Maureen Muldoon, a career and internship specialist within the College of Letters & Science’s innovative center for personal and professional development. Muldoon focuses on healthcare and human services; the environment, natural resources and wildlife; and scientific research and development, three of the “Career Communities” helping to transform how L&S prepares its students for success after graduation.

Since L&S undergraduates can choose from 63 majors — and gain skills in communication, critical thinking and collaboration that are a boon to any job — it was always a challenge for advisors to be ready for anyone who walked in the door looking for advice on internships and career paths.

“You could see a physics major, then an English major, then an art history major,” says Andrea Lowe, director of career advising and communities. “So you ended up being a generalist, and that only gets students so far.”

SuccessWorks now takes a more intentional approach, with eight distinct career communities that cluster complementary areas of interests together. Each is led by an advisor well-versed in that sector’s unique career opportunities and what it takes to reach them.

Students intrigued by the film industry can check out the communications, arts and entertainment career community. Undergrads fascinated with the startup world might find a fit in the business and entrepreneurship community. Politically-minded students tend to flock to the government, policy, international affairs and law community.

“This approach helps us guide them better,” says Muldoon. “We start with their interests.”

Dipping a toe in a community doesn’t lock a student into a specific career path. On the contrary, SuccessWorks advisors encourage exploring. It’s okay to change your mind, and it’s good to test out ideas early — after all, isn’t it better to find out, through a summer internship, that the legal world isn’t right for you, rather than after three grueling years of law school?

And career communities can foster connections with alumni working in students’ areas of interest, which proved pivotal in Koth’s case.

When Koth followed her roommate’s advice and met with Muldoon, she brought along an internship application for the Shedd Aquarium, a place that had captivated her imagination since she was a child. She thought Muldoon could review her resume and cover letter, but the advisor had other plans in mind.

Sure, Muldoon proofed those materials. But she also asked Koth questions about what she’d learned and the

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**“This approach helps us guide them better. We start with their interests.”**

Maureen Muldoon, Career and Internship Specialist
skills she gained as an L&S student, and then showed her how to put those elements forward in her application. And she wondered whether any L&S alumni had ties to the Chicago aquarium.

It turns out, 2015 journalism grad Kelsey Ryan had not only interned at Shedd, but now works there as the manager of conservation communications. SuccessWorks staffers quickly arranged a phone call between the two.

“Having worked here, I was able to offer insights into what our internships are like,” Ryan says. “I knew about the cool things our different teams were doing and what might fit best with her experience.”

Koth says that “insider’s scoop” made all the difference. She landed an internship in the fishes department right after her May 2018 graduation. And she’s now filling in for an aquarist who’s on maternity leave, giving her incredible first steps into her dream career.

“It’s been a fantastic experience,” Koth says. “It’s essentially given me all the skills I need to work at an aquarium in animal care. The aquarium world is very tight-knit, and I’ve made some great connections for what comes next.”

**Find the Fit**

SuccessWorks’ eight career communities center on:

- Communications, arts and entertainment
- Environment, natural resources and wildlife
- Government, policy, international affairs and law
- Healthcare and human services
- Business and entrepreneurship
- Nonprofit management and education
- Scientific research and development
- Technology, data and analytics

**Want to Connect?** SuccessWorks offers many ways for L&S alumni to get involved. Graduates can make introductions to industry leaders, coach or consult with students or share stories of their own career success (and challenges). If you’re interested, please contact alumni relations coordinator Mike Kruse at mkruse@wisc.edu.

L&S grads Sarah Koth (left) and Kelsey Ryan are both pursuing dream careers at the Shedd Aquarium in Chicago.
The fires in Yellowstone National Park began to burn in June 1988. Park managers expected them to fizzle out by July, when rains historically drenched the forests and valleys of the world’s first national park. But the rains never came. Firefighting efforts topped $120 million that year.

Yellowstone’s flora and fauna have adapted to fire. Lodgepole pine cones actually open in extreme heat, releasing seeds to replenish a post–burned landscape. But since 1988, big fires have become more frequent.

The climate has been changing. Seedlings may no longer find the conditions they require to establish themselves and grow into forests.

Professor of Integrative Biology Monica Turner has studied the resilience of Yellowstone’s forests since the 1980s, documenting the effects of drought, frequent fire and higher temperatures on forest recovery. Already, Yellowstone averages nearly two degrees Fahrenheit warmer than it did just 60 years ago. Its forests may now be at a tipping point; they could be replaced by grassland by the middle of this century.

“It’s terrifying in some ways,” Turner says. “We are not talking many years away. It feels like the future is coming at us fast.”

To understand how well tree seedlings can establish in warmer, drier conditions, Turner’s former graduate student, Winslow Hansen (PhD ’18), set up studies in areas of the park that mimic the mid-century conditions predicted by the International Panel on Climate Change Fourth Report. He also tested these conditions back in Madison, Wisconsin, by planting seeds in soils from Yellowstone and growing them inside a facility on campus called the Biotron, which can recreate virtually any environment on the planet.

Hansen’s studies captured the entire range of growing season temperatures at which seedling establishment reliably occurs and found that projected mid-century temperatures fall well outside that range. Under these conditions, all seedlings died within three years.

“This is pretty concerning if we expect to have reliable tree regeneration in the future across much of Yellowstone,” says Hansen.

Some species in the park will adapt and others will not, says Turner. As plant communities change, so too will the animals.

Her research group continues to work toward a better understanding of the thresholds that underlie profound change.

“With a threshold, the best way to know you’re there is to cross over it,” she says.

But we may not like what’s on the other side, Turner warns. These changes are likely to be more significant than people realize, and we must get better at predicting them.
If you study things like the notebooks of Beethoven, you see how many versions he had of the Fifth Symphony or the Ninth Symphony that never came to light. And I’ve been listening to some Elvis radio, for the outtakes, the things he didn’t use and how many he would do until he got that feeling that was right. I think with any artist you’d find those trials and errors. One of the things that I talk about constantly with students is that your worst enemy is complacency. I get my own motivation partly from trying to motivate students. When I see that they will respond to the demands that are made on them, that more or less increases what I want to demand from them. So it becomes a circle. I talk a lot about the moments that you pull upon when other moments don’t go well. I like to call them moments of happiness. To be successful, you can’t dwell on the non-successes, on the frustrations and the bad things that are inevitably going to happen. I think if you can learn to set aside the bad and dwell on the good things, you’re going to succeed. That may sound a little Pollyanna-ish, but I firmly believe it and that’s basically the way I approach everything. It’s hard for me to process what’s next because I’ve been so active my entire life. I don’t want to sit and just meditate. I’m not planning an around-the-world trip. I’m not planning to go to Florida and play golf. But I like all kinds of music and I do miss the opportunity to just listen. I will probably do a lot more of that when I have the time.
If you graduated before 2000, chances are good that the internet didn’t figure large in your learning. Now the world is linked by technology, and professors and students are leveraging online resources and hyper-connectivity in highly effective ways. But “innovation” doesn’t always mean “high-tech.” When we polled our associate deans on the top 10 teaching innovations over the last 20 years, some answers had nothing to do with technology, and everything to do with more meaningful interpersonal interactions. If you haven’t sat in a classroom for a few years (or decades), you’ll likely be heartened that connection remains at the heart of what we do. And we are getting better at it all the time.

Illustrations by Adam McCauley
Flipped Classroom

NO, THE DESKS AREN’T GLUED TO THE CEILING. But a “flipped classroom” does reverse the traditional method of delivering lectures from the front of the room, while students try to absorb everything in 50- or 75-minute lectures. Instead, instructors send students course material in video format ahead of time, and class time is used for questions, discussion and group problem-solving.

“Before, we would get a lot of blank stares,” says Soledad Benguria, a faculty associate in the math department who teaches an introductory calculus course. “But if you have completed your pre-lecture modules on Sunday, then it’s easier to follow what is going on all week.”

In class, Benguria uses a Think/Pair/Share strategy, asking students to work for a few minutes on their own, then share their work with a neighbor. Did they reach the same result? They hold up yellow cards. If they each got different answers, they hold up orange cards. “I get an immediate sense of how well, generally, the material is being understood,” she says.

Exam letter grade averages have shot up since Benguria flipped her classroom in 2015, and course evaluations reveal that students appreciate the approach.

—Mary Ellen Gabriel

High Impact Practices

HIGH IMPACT PRACTICES are educational experiences intended to help students become more engaged, reflective and empathetic thinkers. L&S faculty are engaged in high impact practices across the college, in courses large and small, encouraging students to connect, explore and realize their full potential.

The Undergraduate Research Scholars (URS) program is one example. Whether working alongside faculty in the lab, traveling to field sites or poring over primary sources, URS students enjoy one of the great benefits of attending a top research university: the chance to work with outstanding faculty on an exciting, rigorous project. The L&S Honors program is another example, offering challenging coursework as well as opportunities to broaden life and leadership experiences. High impact practices are not purely academic. UW-Madison has made it a priority to create a welcoming and inclusive campus community, and the L&S Summer Collegiate Experience invites accepted students from underrepresented groups to campus before school starts to offer a chance to acclimate to an environment that may be overwhelming for those who may be the first in their families to go to college.

The 2017 National Survey of Student Engagement (NSSE), surveyed freshmen and seniors from universities across the country, and found that UW-Madison students are more likely than students at peer institutions to participate in high impact practices, contributing to UW’s high overall score for student engagement.

—Mary Ellen Gabriel
POP QUIZ: How do you engage students in a large lecture, many of whom might be hesitant to speak up in front of dozens of peers?

If you answered, “With an audience response device,” you aced this little test.

These devices, often known as “classroom clickers,” started showing up in college classes about 15 years ago. Resembling small television remote controls, they allowed students to respond in real time to questions their professor posed from the front of the room. They let both the professor and student gauge how well everyone was absorbing material.

These days, students simply download an app and use their smartphones to participate. Physics professor Duncan Carlsmith has used an audience response system called Top Hat in his large lecture courses for several years.

“Students like seeing the responses scroll in the overhead projector view, a bit like a Twitter feed,” he says. “If I simply ask for oral responses, generally just one student will raise a hand. [Now] I get close to 80 responses from 80 students rapidly.”

Throughout a lecture, Carlsmith will pause to ask a few multiple-choice, text, math or graphical-response questions. While answers display anonymously, the system tracks submissions, automatically rewarding students points for participation and correctness.

—Katie Vaughn

FROM BASIC E-TEXTBOOKS to exotic interactive maps, the range of educational resources students can access online now is breathtaking. But new e-platforms, including class diaries and blogs, that enable students to view each other’s work and learn from each other are also game-changing. Students enrolled in Internships in the Liberal Arts & Sciences, a one-credit online course for students participating in internships during the fall, spring and summer terms, use a wiki website to reflect on the class’s weekly readings on workplace issues. They also rely on the friendly, thoughtful back-and-forth that unfolds there to get help with practical matters and weigh larger concerns. Whether students experience doubt, confirmation or accidentally stumble upon a promising new occupation, having the opportunity to muse honestly with their peers goes a very long way, according to English professor Russ Castronovo, who leads the class.

—Louisa Kamps

WHILE POLICYMAKERS CONTINUE DEBATING how big data can improve education, many instructors are already using so-called “small data”—course-level data and analytics—to build better classes. To track progress in her popular journalism and strategic communications class, Mass Media Practices, professor Kathleen Bartzen Culver downloads students’ weekly grades into spreadsheets. Analyzing and comparing data both week-by-week and across sections, she can determine whether teaching assistants are grading either too stringently or too easily, or when an assignment just didn’t land well.

When students’ average scores were low on a feature writing project, for example, Culver’s analysis led her to realize that she needed to revamp the materials. Perhaps most important, Culver shares her fine-grained data with students who come in for help, so they know where to focus their efforts to improve.

—Louisa Kamps
That’s what students often say excitedly just before they head into John Hawks’ classes. The genial anthropology professor could be there in person. But there’s also a possibility he could be beaming in, via Skype or a video feed, from a remote excavation site in South Africa, or the office of a Chinese, Russian or African colleague. Lately Hawks led students through a windswept cave in Gibraltar where the last known Neanderthals in Europe scratched a distinctive — yet oddly familiar — symbol of slashed lines known as the ‘hashtag.’

“I grew up in a small town in Kansas where I didn’t know anybody who had a career in science,” says Hawks, who co-led an international team in the 2013 discovery of a previously unknown human ancestor they named Homo naledi. “I think really hard about how I can help people recognize the importance of science and how it contributes to — in our case — everybody’s understanding of themselves. It’s not isolated in a laboratory. It really is a story of international collaboration.”

—Louisa Kamps

LAPTOPS AND PHONES MAY BE UBQUITOUS, and students spend more time on them than ever, but there is more to digital literacy than posting, surfing and swiping. The Digital Studies Certificate was created six years ago to train students in some of the most basic skills of our age: producing and assessing communication in digital media. The program’s goal is to graduate students with more than just technical proficiency.

“It’s not about teaching students the newest app,” says Rob Howard, director of the Digital Studies Program. “It’s about offering them tools to think critically about digital media.”

Students probe how digital technologies affect the way we access and understand information. And they acquire the skills to create expressive and strategic communication content, utilizing software for video and audio editing, website design, database and information architecture design and more.

State-of-the-art labs — Media Studios and DesignLab — in College Library support students’ developing skills. Media Studios is ideal for students experimenting with “rich media” (video, audio or other elements). DesignLab offers free one-on-one tutoring with trained design consultants, who help students with everything from conceptualizing the first steps, to polishing a nearly finished project.

—Mary Ellen Gabriel

Connecting Students to the World

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ANTHROPOLOGY PROFESSOR JEROME CAMAL teaches two back-to-back sections of his department’s biggest lecture class, Cultural Anthropology and Human Diversity, with up to 450 students enrolled in each section. Luckily, a team of education and technology experts has his back. Consultants from REACH, a new university initiative designed to transform high-enrollment courses into more inclusive and active class environments, are helping Camal and others leverage online learning tools, follow standardized teaching objectives and employ pedagogic strategies proven to improve learning outcomes.

One simple yet effective strategy: encourage students to personalize their learning. When Camal introduces a new concept, he asks students to reformulate it in their own words. “They remember the idea better because they worked with it,” he says. He also uses online quizzes that offer a way for students to identify their own learning style and work as they prefer, boosting self-direction.

—Louisa Kamps

STUDENTS MIGHT LIVE AND BREATHE their major, but if they also eat and sleep it, they’re probably part of a residential learning community (RLC).

These programs bring together students, faculty and staff who unite around a theme — biology, the environment or identity — or a shared desire to form a tighter-knit community at a large university.

The 10 residential learning communities — half of which are sponsored by L&S — are set within residence halls across campus. Each has its own programming, including special class sections, seminars and volunteer opportunities, and works hard to build relationships around its mission, says John Zumbrunnen, professor and chair of the Department of Political Science and faculty director of Chadbourne Residential College since 2015.

“Students know that at an RLC they will find fellow residents and staff who share their interests,” he says. “Learning occurs not just in the classroom, but on the floors and in the common social areas. Students interact with one another and with faculty and staff around shared academic interests — but they do this where they live.”

—Katie Vaughn
A liberal arts education focuses on learning and discovery, rather than training for narrow career paths. Turns out this emphasis on exploration can be a recipe for career success: Students should explore their options as early in their college careers as possible. And L&S advisors understand that liberal arts students are motivated as much by their interests and their potential impact on the world, as by specific careers.

This approach helped L&S transform the way liberal arts students think about their futures. The cornerstone of the L&S Career Initiative is SuccessWorks, an innovative career exploration center for L&S students that opened in early 2018.

SuccessWorks offers the Taking Initiative course, which guides students through self-reflection work as well as practical exercises. They learn to create resumes and LinkedIn profiles, but they also craft an elevator speech that articulates their interests and skills. The goal is to help students connect who they are with what they are learning in the classroom, and how all of it might translate to a potential career.

Students in the course also hear from alumni who share their often-very-nonlinear paths, which helps communicate that they don’t need to have everything figured out now — but it’s smart to start exploring. —Katie Vaughn
When film archives were at risk of being lost forever to deterioration, a group of alumni stepped in with a high-tech save.

By Katie Vaughn
Early star of late-night television Faye Emerson.
The sky has gone dark, but the show host is lighting up television screens around the country. First, with quick-witted humor. Then with a biting critique of politics before moving on to a celebrity interview.

But this isn’t Stephen Colbert, Jimmy Kimmel, Trevor Noah or another present-day titan of late-night television. It’s Faye Emerson, the first star of the late-night talk show.

Never heard of her? Neither had Maureen Mauk, a former television executive who’s now a doctoral student in the Department of Communication Arts.

When Mauk took note of contemporary TV hosts using their platforms not just for jokes and celebrity chit-chat, but also to lend their voices to issues of social justice and reform, she wondered who did it first.

It turns out, Emerson did back in the 1950s as the host of her own talk shows. On air, she interviewed artists and international journalists, offered opinions on politics and war and responded to viewers’ letters, often while wearing a glamorous evening gown.

Amy Sloper and Mary Huelsbeck of the Wisconsin Center for Film and Theater Research clued Mauk in on Emerson, who boasts two stars on the Hollywood Walk of Fame — one for movies, the other for television — but is now mostly unknown.

“She was very, very, very famous,” Sloper says. “But now she’s a forgotten part of television history.”

The Center for Film and Theater Research, managed by the Department of Communication Arts, holds roughly 30,000 films and videotapes related to the entertainment industry — including nearly 150 16mm film prints of Emerson’s shows. However, many of these kinescopes have serious condition issues, which meant that Mauk and other researchers couldn’t watch them.

Thankfully, that’s all changing thanks to the vision of key Comm Arts alumni who recognized the importance of preserving film.

A RESCUE MISSION

In the mid-1990s, the Communication Arts department purchased a telecine, a machine that transfers motion-picture film to the more stable format of video. While high-tech in its day, the machine had limitations. “If a film had warped or shrunk, we couldn’t run it,” says media technician Boyd Hillestad.

As digital editing became more popular and technology improved, the telecine teetered on obsolescence. At the same time, the Center for Film and Theater Research was running out of archival space at the Wisconsin Historical Society and losing the race of transferring its films to video format before materials were too deteriorated.

“The archives were stuck on the shelf,” says faculty associate Erik Gunneson.

Both the department and center were interested in digital scanning to preserve and improve films, as well as make them more accessible to users. They relayed this to the Communication Arts Partners, the department’s advisory and support board, when it met in the fall of 2017.

Kelly Kahl, a 1989 Communication Arts graduate and president of CBS Entertainment, says he and fellow board members perked up when they heard about the pressing need for a scanner to rescue decaying films.

“Many of the films are one of only a few known copies or even perhaps the only copy — and they are degrading by the day,” he says. “There is demand to see many of these films, but they are far too fragile to loan out. With this new piece of state-of-the-art equipment, Comm Arts can make pristine digital copies that can not only preserve these amazing works, but also be shared with film enthusiasts both at UW and around the world.”

Kahl and fellow alumni Sean Hanish, president of Cannonball Productions, and Erik Hellum, chief
operating officer of local media at Townsquare Media, took the lead in raising money to purchase a scanner for the department.

“For those who work in entertainment — as many on our Comm Arts board do — it feels like it’s our duty to make sure the important movies and TV shows of the past are around for future generations to experience and enjoy,” Kahl says.

RESTORING AND PRESERVING

Given all it can do, the Lasergraphics ScanStation scanner is surprisingly small. The sleek black board with two large reels and a collection of knobs occupies its own tiny room in Vilas Hall. Once Gunneson or Hillestad loads a film — 8mm, 16mm and a wide variety of 35mm formats are all compatible — the machine starts humming and its reels begin spinning.

At a nearby computer, footage appears on two screens. With quick clicks of the keyboard, Gunneson and Hillestad can correct a reddish or greenish cast, crop a scene, even reverse lettering if words appear backwards. They can save different versions of their edits and replicate their settings quickly — just a few of the joys of working in digital.

Films needn’t be in pristine condition to be run through the scanner, and the originals won’t be damaged — a real concern when working with the telecine. And everything that comes out is saved in a high-quality, high-resolution digital format.

“Whenever something comes to us, whether it was made last week or 110 years ago, it will be viable for a long time,” Gunneson says.

The challenge now is tackling the backlog of films that would benefit from a digital transfer. Gunneson and Hillestad are starting with requests from faculty, grad students and the Center for Film and Theater Research.

“When someone requests something, we’re starting to digitize it so it’s ready for the next person,” Sloper says. “Our users want things digitally now. We’re meeting researchers where their needs are.”

That includes Mauk, who’s about a fifth of the way through Emerson’s talk show recordings. She’s already written a paper, which won first place in the Society of Cinema and Media Studies’ student writing awards earlier this year.

Mauk is working to turn her research into a documentary and scripted series. “The Hollywood in me wants to make sure her story is told across as many platforms as possible,” she says.

“She was the first lady of television, and she deserves to have her crown back.”
There is a scene in Season 3 of the AMC drama *Breaking Bad* known as the “RV scene” that generates feverish online discussion among fans. Two meth cookers, Jesse and Walt, are trapped in a dingy camper— which also serves as their home, lab and hangout— as Hank, the DEA agent, raps on the door. Out of options, Jesse hisses through the door: “I will not open up! This is my own private domicile!”

And so tightly is the audience wound into the lives of these fictional characters— their struggles, their failings, their one safe haven— that the line lands as an elemental truth. They have their rights!

The scene, says legal studies professor Ralph Grunewald, makes for a gripping discussion among students participating in his First-Year Interest Group called Imagining Crime: Criminal Justice in Fact and Fiction. What constitutes privacy? Is a search warrant always necessary? And why that creeping audience empathy for the bad guys?

“The 4th Amendment is very much a narrative construct,” says Grunewald. “We can see how our concept of privacy depends upon how we feel about a situation, or characters. The cool thing about this FIG is that the main seminar course, which deals with how questions of law, justice and due process are reflected in fiction, is connected to a more basic course on the criminal justice system in America. So I ask them: Which model is in focus here? Crime control, or due process? The idea of constitutional protection, or the goal of getting the bad guys off the streets? And they are well-prepared to have a discussion about narrative technique and storytelling that is also grounded in their knowledge of the legal system.”

For UW–Madison’s incoming freshmen, a First-Year Interest Group, or FIG, offers a highly interactive and
holistic opportunity to learn via three courses that explore a common theme. Nearly 20 percent of freshmen enroll in a FIG, and measured learning outcomes include higher GPAs at the end of their first semester, better graduation rates and higher rates of reported satisfaction with their UW experience. FIGS, launched in 2001, are one of the high impact learning practices developed and administered in the College of Letters & Science.

At the heart of each FIG is a top-notch instructor who develops and leads a main seminar capped at 20 students. Grunewald’s Imagining Crime FIG has Law & Literature at its heart, and that small course is linked to two larger survey courses: Criminal Justice in America (Legal Studies 131) and Sociology of Race & Ethnicity in the United States (Sociology 134). What students are learning in the larger courses often serves as foundational knowledge that helps them make cognitive leaps in the smaller, more specialized course.

Grunewald’s students explore how questions of law, justice or due process are reflected in works of fiction such as Bernhard Schlink’s The Reader (where they explore the concept of a natural, or higher, law), Harper Lee’s To Kill a Mockingbird (where they analyze why Atticus Finch is often cited as the “ideal lawyer”) and Shakespeare’s The Merchant of Venice (which opens up a discussion on the meaning of contracts and the role of “mercy” in law). Shows like Breaking Bad and The Good Wife, as well as documentaries, reveal how much the media influences our notions about the legal system.

Then, the class flips focus — and students look at the law as literature.

“What happens if we apply some kind of literary methodology to the law?” Grunewald says. “How do we interpret a statute? We look at semantics and the role of narrative in the courtroom.”

Grunewald’s students often report, coming into his FIG, that they chose it because they are interested in law and social work, and the larger courses fulfill general education requirements. But they leave with very different feedback for their professor.

“At the end, they say, ‘We loved the intense discussions. We loved working with professors in an intimate setting. We liked becoming a cohort,’” Grunewald says.

The chance to develop bonds based on shared intellectual interests is one of the most important benefits of any FIG, according to Nathan Phelps, assistant dean and director of the FIGs Program.

“Many students arrive at UW–Madison worried that they will feel lost on such a huge campus,” he says. “Through a FIG, they form an intellectual community that often becomes their social community as well. Many connections forged through a FIG last all four years, and beyond.”

That’s certainly true for Callie Kutasi, now a junior, who vividly remembers entering Grunewald’s FIG her freshman year.

“I came from a really small high school – there were 120 people in my graduating class,” she recalls. “On the first day, I felt super intimidated because everyone was talking about really intellectual things. But within the first week, we had all exchanged phone numbers. I started a Facebook page, a group chat. And within the first month, we were ice skating at the Shell. We had movie nights. Before tests or finals, we’d study together.”

That FIG cohort continues to be close two years later, meeting once every semester for “FIG dinners,” and sitting together in other classes. What is evident, says Grunewald, is that academic and personal growth go hand in hand.
“Here at UW, we have tutorial programs, learning centers, all sorts of tools to help students ‘get’ the material,” he says. “But what FIGs do is add the personal component. And that is when the intellectual growth happens.”

Jennifer Brown, another member of that 2016 Imagining Crime cohort, said that through the FIG, she developed academic habits that would stick with her, after experiencing the value of study groups as well as the rewards of raising her hand and speaking out — in courses large and small.

“I think it sets you up for success,” she says. “The great thing is that I can rebuild my FIG dynamic in every class. I really seek out, in all my other classes, what the FIG gave me freshman year.”

Another unique benefit was forging a strong bond with a professor early in her college career.

“Because Professor Grunewald was so open and encouraging, I started going to his office hours right away,” she says. “That’s another thing I took with me — the confidence to do that. I imagine I would have been a bit more afraid, as an 18- or 19-year-old, to seek out my professors if I had not taken the FIG.”

Kenny Allen, now a junior, says his writing skills vastly improved in Grunewald’s FIG. And that is gratifying for Grunewald, who asks Writing Fellows from the Writing Center to meet with his students and work with them on their drafts.

“It’s very labor-intensive,” says Grunewald, of the back-and-forth feedback and revision process he requires. “But I can see their improvement.”

Allen concurs — and adds one more thought.

“FIGs make you a better writer. As a result of learning to write well, you become a better thinker. Also, a FIG makes you a better arguer. And I enjoyed arguing in order to arrive at a position we could all support. I think it’s the fastest way to clear up where you stand on an issue, and why.”
Passing the Bass
Musician, humanitarian and emeritus music professor Richard Davis was celebrated through a special tribute in October at Madison’s Overture Center for the Arts. Mead Witter School of Music director Susan Cook says that Davis, an internationally known bassist who retired in 2016, “inspired generations of students who carry on his musical mission and has aptly been recognized as a jazz treasure.”

Reversing the Clock
In the span of just two centuries, humans have begun reversing a long-term cooling trend that traces back at least 50 million years. A study published in December by geography professor Jack Williams and graduate student Kevin Burke reveals that by 2030, Earth’s climate is expected to resemble that of the mid-Pliocene, going back more than 3 million years in geologic time.

Rebuilding Lives
Jeff Sledge, a research scientist in the Department of Planning and Landscape Architecture, collaborated with researchers to develop tools that assess breast cancer patients’ energy capabilities during and after treatment. Creating individualized interventions, based on patients’ energy levels, physical locations and movement patterns, can set them on a path to better health.
International Honor
Steve Carpenter, professor emeritus of the Center for Limnology and 2011 recipient of the Stockholm International Water Prize, received the Ramon Margalef Prize in Ecology, an award given annually by the Government of Catalonia (an autonomous region in Spain) in recognition of his “creative and original work, which has transformed our understanding of ecosystems.”

Carpenter is the first limnologist recipient of this award, created in honor of Margalef, a renowned ecologist.

All Ways Forward
UW alumni John and Anne Oros committed $10 million to the university’s All Ways Forward campaign in November. The primary designation of the gift includes L&S units, such as the Department of Communication Sciences and Disorders and the School of Social Work. The Oros gift demonstrates the couple’s longstanding commitment to students, faculty and the Wisconsin Experience.

— Compiled by Joelle Stewart

Games for Good
According to Tammi Kral, a graduate student in psychology who led a research project at the Center for Healthy Minds, video games can boost kids’ empathy skills, and the learning process can actually change neural connections in the brain. Why is this important? Because skills like empathy are predictors of lifelong emotional well-being and health.

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— Compiled by Joelle Stewart
On a recent morning en route to her San Francisco office, Heidi Allstop tuned out the rush-hour bustle and took note of her fellow commuters — the bus riders scrolling on their phones, the sidewalk striders passing one another and avoiding eye contact.
This morning of observation took her back to a pivotal day during her junior year at UW-Madison. Exams were approaching and anxiety was peaking on campus. Feeling overwhelmed and utterly alone, Allstop sank onto a bench outside College Library. But as she began watching other students shuffling by, heads down and faces full of worry, a realization struck her.

“I thought, ‘Wow, I wonder how many of them are struggling with the same problems I am, but we’re too afraid to talk about it,’” she says.

In that moment, Allstop, a 2010 psychology grad, thought about how students could benefit from “been there and lived through it” support from peers who have struggled with issues — academic pressure, roommate tensions, relationship problems, homesickness, fear about the future and more — so common to college life.

Her idea, BadgerSpill, came to life as a student organization in 2009. It gained traction quickly because demand was strong and the concept was simple: “Spill your guts here, confidentially, and you’ll get feedback, empathy and encouragement from fellow Badgers who can relate.”

Students submit anonymous “spills” about whatever is on their minds, and the vent sessions go to a handful of student supporters who have experienced a similar problem in the past. Those students respond within 24 hours, offering feedback and encouragement and suggesting campus resources that may also help.

Allstop eventually turned Spill into a business, and expanded it to 150 campuses. Then in 2014, Spill was acquired by a Silicon Valley-based social networking company called the Experience Project, which allowed users to connect around life experiences. Allstop joined the company as a director of product.

“I went from leading a college and high school effort to leading a social network with 12 million registered users from all walks of life,” she says. “It was a terrifying leap.”

But as anyone who’s lived the startup life – let alone in the epicenter of the tech world – knows, businesses can change course at breakneck speed. Allstop faced that challenge when the Experience Project shuttered in 2016, leaving only BadgerSpill up and running. (Fortunately, the student organization continues to thrive, with roughly 400 student supporters responding to about 150 spills a semester, according to current president Ellen Converse.)

Allstop has taken the transition in stride. She appreciates the successful run Spill had, and how it’s led her to her current role as a platform product manager at TaskRabbit, a company that connects users with people who can help with cleaning, moving, repairs and other home tasks.

“I love building tech products,” she says. “It’s really fun to be able to solve people’s problems with technology, especially when it’s a meaty real-world challenge.”

HEIDI ALLSTOP

PHOTO: ANGELA DECENZO

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HEIDI ALLSTOP

“I went from leading a college and high school effort to leading a social network with 12 million registered users from all walks of life,” she says. “It was a terrifying leap.”

But as anyone who’s lived the startup life – let alone in the epicenter of the tech world – knows, businesses can change course at breakneck speed. Allstop faced that challenge when the Experience Project shuttered in 2016, leaving only BadgerSpill up and running. (Fortunately, the student organization continues to thrive, with roughly 400 student supporters responding to about 150 spills a semester, according to current president Ellen Converse.)

Allstop has taken the transition in stride. She appreciates the successful run Spill had, and how it’s led her to her current role as a platform product manager at TaskRabbit, a company that connects users with people who can help with cleaning, moving, repairs and other home tasks.

“I love building tech products,” she says. “It’s really fun to be able to solve people’s problems with technology, especially when it’s a meaty real-world challenge.”

Before Spill, I didn’t know that I was capable of building an app or a website, nor did I have the confidence to try. Now I get to do it all day, every day! I look forward to continuing this, whether it’s for someone else’s company or any new companies I may start in the future.”

35
Rubinstein’s path to science started early, through a fascination with the natural world. Born in Plymouth, Wisconsin, in 1935, she spent most of her childhood in Madison, where her father worked for what is now the Department of Natural Resources and, later, a state fish hatchery.

“We were surrounded by a beautiful large lawn, pine trees and a two-acre pond providing cattails, many nesting black birds, great blue herons and hours of ice skating,” she recalled in her unpublished memoir, My Journey. By age 12, she was “picking out insects from mud samples at the research lab” and thinking about medical school, which she applied to early in her junior year while studying medical science at UW–Madison.

After graduating from medical school, Rubinstein served as the sole female intern at a hospital affiliated with Dartmouth College before returning to Madison for a residency in neurology. She discovered an interest in neuropathology that guided much of her career from that point onward.

In 1964, Rubinstein took a job as an assistant professor of pathology and a fellowship in a new neuropathology program at Stanford University. With Lucien Rubinstein, whom she married in 1969, she built up the program, which focused on childhood brain tumors, and was an early leader in the use of electron microscopy to study human and experimental brain tumors.

Eventually, Rubinstein joined a team at the National Institute of Mental Health that had made major advances in schizophrenia research. One of her successes
was developing a brain donation program that utilized entire brains instead of small tissue samples.

After retiring in 2013, Rubinstein returned again to Madison. She passed away four years later, but not before establishing the inaugural chair in neuro-science at the UW School of Medicine and Public Health and championing efforts to recognize talented faculty in the College of Letters & Science. A generous bequest will support up to seven endowed professorships that reflect Rubinstein’s belief in the importance of supporting innovative research, rewarding outstanding teaching and honoring scholars who maintain the highest standards of professional integrity.

L&S Dean Karl Scholz designated botany professor Anne Pringle (above) as the recipient of the first professorship in late 2018, and will name more in the coming year. Each will hold the title of Letters & Science Mary Herman Rubinstein Professor for the duration of their careers, in testament to a scientist and scholar who constantly pushed the boundaries of what’s possible and paved the way for others to do the same.

The natural world is full of mysteries, and Anne Pringle believes many answers can be found in fungi. The Vilas Distinguished Achievement Professor of Botany, and the first Letters & Science Mary Herman Rubinstein Professor, says they’re a “black box” when it comes to understanding biology.

“We think we know a lot about how organisms work, but our ideas are based on animals or, to a certain extent, plants,” she says. “But when we explore fungi, many of our principles, tenets and paradigms are challenged. Even simple ideas like, ‘that’s an organism,’ are challenged.”

Pringle is fascinated by the ways fungi seem different from plants, animals and bacteria. Her work has taken her from tracking an invasive species in California to leading mushroom hunters through southern Wisconsin, and from tracing the origins of symbiosis to exploring cooperation among individuals to finding a deeper understanding of spore dispersal.

Her lab uses fungi to test principles of ecology and evolution, and her students — whether working with a poisonous mushroom, investigating how fungi responds to pollution or researching where new genes come from — are characterized by a desire to think broadly and differently.

Pringle will serve next year as president of the Mycological Association of America, and she has received a number of teaching and mentoring awards. But to be named a Mary Herman Rubinstein Professor is a unique honor.

“It’s clear she was a woman ahead of her time,” Pringle says. “Everything about her life speaks to creativity and resilience, and being unafraid to change course and think differently. All of these are qualities I admire immensely. I will be glad to honor her legacy.”

Small Wonders

For Anne Pringle, fungi hold clues to some of the biggest questions in science — and inspire some of the most exciting research.

BY KATIE VAUGHN
I wanted to improve. The formal infrastructure supporting improving college instruction is sparse, so I read books about teaching. Colleagues and excellent high school teachers had good advice. I brought an outstanding instructor in and watched her techniques. I came to understand that focused, engaged discussion is key to learning critical thinking. It requires crafted prompts that focus students' attention, but about which disagreement is reasonable. Students must trust they can make mistakes. Everyone needs to be involved, not just the already-confident. This goes for small seminars and large lecture classes, alike.

The students loved the class by the end. But I still wasn’t satisfied. I knew what to do but not, yet, how to do it.

In 2010, I taught the class again. This time, I asked Emma, one of the 2007 students, to help me. A senior by this point, she had taken 24 classes, with 30 teachers (including TAs). She was smart, observant, thoughtful, and had seen much more recent classroom teaching than I had. We found funds to pay her. It was the best use I’ve ever made of $500.

Emma was an “instructional coach,” observing weekly, taking notes and then debriefing with me for 20-30 minutes after each class.

Some of her advice: sum up regularly so that all students were on the same page; learn all the students’ names immediately; inform students that I would cold call, but it was OK if they didn’t want to speak. A subsequent class included five Hmong students who were, initially, very quiet. Two of the readings concerned Hmong culture, and Emma convinced me the Hmong students should present those papers. Suddenly, they were the experts in the room. The other students knew even less than I did about Hmong culture and practices; the Hmong students knew a lot, and the class dynamic changed.

Emma showed me that students have a wealth of knowledge about learning; their insights are gold dust. Emma’s key lesson was: In the eternal battle between rigor and engagement, professors are disposed to prefer rigor. But without engagement, no learning happens. My job is to structure, and foster, their learning, not simply to display my own.

In fall 2017, I created a class (LS300) intended to harness the classroom insights of students with diverse backgrounds, experiences and majors. We learn about, and practice, effective techniques for improving student engagement. We will match these students to instructors whom they can support in improving their pedagogical practice.

We owe it to our students, and to the public, to invest in becoming better teachers.
Come together, Badger nation. Unite in your passion. And share in a total UW experience.

Give back. Wear red. Stay connected.

Come together, Badger nation. Unite in your passion. And share in a total UW experience.

Get involved every way you can on April 9.

dayofthebadger.org | #DayoftheBadger

THIS IS WHAT BADGERS DO.
Last Word

A family of barn swallows finds a handy perch on the limestone windowsill of a fourth floor office in South Hall. Looks like these young ones are ready to spread their wings. It’s a big world out there!

PHOTO: SARAH MORTON