Features
No longer the stodgy shushing environment, libraries have become a place in society to fill many of the needs other social organizations cannot.

How can such an isolated place seem so connected to everything? A recent visit points out why.

Upfront
At Pachyderm Plaza, elephants delight children and families. They also have been an inspiration to our Smithsonian researchers.

Her time studying history has allowed her to tackle some of the state’s biggest IT projects.

Since technology has the ability to be used for good and for not good, these tech leaders think about it very carefully.

Cover: Kayaking Henderson Inlet (Photo Zachary Hawn) Left: Going up the iconic Yellow Escalator in the Seattle Central Library (Photo Wim Wiskerke/Alamy)
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Finding home. There’s a particular feeling of comfort when we return to a place we call “home,” but I think home is most noticeable in its absence. We orient ourselves to that place even when we’re not there. “Home is a place so profoundly familiar you don’t even have to notice it. It’s everywhere else that takes noticing,” Verlyn Klinkenborg wrote in a *Smithsonian Magazine* essay.

Although Klinkenborg’s writing typically meditates on rural life, his thoughts on home and “not-home” resonate for experiences of homelessness in both city and country. Homelessness is a defining challenge of our society, with millions of women, children, and men living in temporary shelters or no shelter at all. The causes are myriad and long-term solutions are elusive, but along with the physical hazards, people dealing with homelessness often need comfort and support to help them get back on their feet.

A group of heroes are stepping up to this crisis: librarians. In cities and rural communities, libraries have become an oasis for people who need a hand, a computer, or a seat to rest in. Washington State University alumni librarians like Linda Johns at the Seattle Public Library, Tara Murphy in Philadelphia, and Sarah English in Colville lead the way in finding innovative support.

People who are homeless also find comfort, as many of us do, in their pets. The costs of keeping dogs and cats healthy can be prohibitive, so WSU veterinary students provide free clinics in Spokane and Seattle. In a unique partnership with veterinary medicine, nursing students—WSU students in Spokane, and University of Washington students in Seattle—also give checkups for the people when they bring in their pets.

Many of us also think of the Northwest as a familiar home. Yet we can gain a lot of knowledge from sustained and intense observation of the Puget Sound and other well-known places. The WSU environmental field station at Meyer’s Point near Olympia offers researchers a place to deeply explore the urban-rural interface, history, and changing ecological spaces.

Our idea of home has shifted internally, as well. When people use computers in libraries or residences, they find digital homes. Does that replace community? Technology industry leaders, including WSU alumni Steve Wymer and Rajat Taneja, tackle these and other questions about the role of social media and technology.

Speaking of social media, we recently welcomed a new associate editor to the magazine team: Adriana Janovich, an experienced journalist who brings fresh ideas and energy as she leads our social media efforts and alumni section.

**EDITOR:** Larry Clark ’94

**ASSOCIATE EDITOR:** Adriana Janovich  
**ART DIRECTOR:** John Paxson  
**STAFF WRITERS:** Rebecca E. Phillips ’76, ’81 DVM, Brian Charles Clark

**CONTRIBUTING WRITERS:** Tina Hilding, Tom Kertscher, Dallen Rose ’04, Rachel Webber ’11

**PHOTOGRAPHERS:** Eric Benedetti, Rajah Bose ’02, Harley Cowan, Terence L. Day, Anita Erdmann, Gemina Garland-Lewis, Matt Hagen, Zachary Hawn, Robert Hubner, Cory Kaufman, Zach Mazur ’06, Brian Murphy, Pavan Trikutam, Wim Wiskerke

**WSU PRESIDENT:** Kirk H. Schulz

**VICE PRESIDENT, UNIVERSITY MARKETING AND COMMUNICATIONS:** Phil Weiler

**ADVERTISING:** Contact Lowell Ganin, 206-717-5808 or lowell@everedify.com  
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The long game

I was a Sigma Phi Epsilon member during my time at WSU. As president of the Sig Eps during the 1981–1982 academic year, I worked hard to mentor younger members in how to behave well and present a presence wherein no one embarrassed others, and everyone made grades. But, I didn’t have my own mentor and thusly was guessing that my mentoring of the younger members was well founded. An alumnus came for dinner one night, and after dinner I talked with him for some hours. Near the end of our conversation, he suggested that Coach Chaplin, as a Sig Ep member, might be amenable to a similar visit.

I contacted the coaching office and, with a palpable innocence and huge lack of confidence, I made an invitation. The following Monday, Chapter Dinner day, Coach Chaplin showed up and had dinner with us. He stood up after dinner and gave a short speech. What he said has stuck with me all these years. He briefly stated his experience with athletes was that the best ones honored their commitment, and regardless of their athletic prowess, excelled in life provided they were entirely committed to doing their best. Coach Chaplin stated he remembered and held in high esteem each of his athletes that honored their commitment and did their best. He further stated that each of us, whether or not an athlete performing for WSU, had the opportunity to do their best, and now was the time to commit to that, 100 percent.

I followed his counsel, and I have, ever since hearing his speech, sought to do my best. His willingness to take the time to meet with a bunch of fraternity undergraduates and tell us how to succeed has served me very well and is at least as important as all of the other valuable learning I enjoyed during, and after, my WSU experience.

BILL CHRISTMAN ’83 CIV. ENG.
Wenatchee

Knowing the score

Your article entitled “Fight, fight, fight...’ still flying high” was a timely read for me. I recently sought a copy of the sheet music for the “New Washington State Fight Song” and in the process found out how hard it is to obtain.

I’m nearing retirement, and, fearing I may tire of my existing hobbies, decided to realize a life-long goal of learning to play a stringed instrument. After about four months of mandolin lessons, I was ready to learn how to play full length songs. At the same time I returned to the Pullman campus to attend a football game with my grandson. I became inspired to play the fight song.

I visited the bookstore in the CUB, sure that sheet music would be available for the fight song for many instruments. None were to be found. A friendly sales clerk checked the “back store room”, and confirmed they did not carry sheet music for the fight song. After an exhaustive search online, I finally found a copy of the original sheet music in the Holland Library Archives. I now can play the fight song on an instrument perhaps never intended to play a march tune, but gratifying none the less. If copyright laws and royalty requirements allow, I suggest you publish the sheet music for the “New Washington State Fight Song” so old Cougs like me who wish to do so can learn to play it.

KEITH PFEIFER ’79 BUSI.
Yakima

Editor’s note: I checked with Troy Bennefield, director of WSU Athletic Bands, about the Fight Song sheet music. He and the band provided a new online, printable version of the Fight Song music, which you can reach through magazine.wsu.edu/extra/Fight-Song-music. Please consider giving to the marching band while you’re there, so they can keep playing “Fight, fight, fight...”

Do you have any thoughts on magazine articles? Reunions, weddings, births, retirements, anniversaries, or other announcements you want to share? Let us know at magazine.wsu.edu/contact or email wsm@wsu.edu.
“Because of private support, I can confidently go into the world and achieve my goals.”

As a child, Kim Santos set her sights on leaving Guam for a career in New York City. This spring, she will graduate from WSU Pullman with a degree in Digital Technology and Culture, and Fine Arts. A privately funded internship enabled Kim to gain hands-on experience as the marketing and social media assistant for the Jordan Schnitzer Museum of Art WSU, preparing her to fulfill her dreams.
For billions of years, Earthly life has flourished in a reassuring 24-hour cycle of light and darkness. Over the past century, however, urban skies have grown increasingly clouded with light pollution. The excess light disrupts circadian rhythms, poses safety and health risks, wastes energy, and exacts a sad aesthetic toll as well.

For humans, the stars have long provided a primal connection to the cosmos, inspiring the imagination of artists, philosophers, and scientists throughout history. Today, residents of the Pacific Northwest remain among the few who can still marvel at the brilliance of the Milky Way on a clear moonless night.

The creeping effects of light pollution are well documented in the 2016 "World Atlas of Artificial Night Sky Brightness." The satellite images show that 80 percent of the world’s population now lives under sky glow, with 99 percent of Europeans and Americans unable to experience a natural night.

In 2017, scientists at the GFZ German Research Centre for Geosciences found a 2.2 percent increase in Earth’s artificial outdoor lighting each year between 2012 and 2016. They say the use of cost-saving LED lights has actually led to increased installations and light pollution.

Michael Allen, senior instructor in the Department of Physics and Astronomy at Washington State University is a dark sky advocate who not only enjoys observing the heavens with large telescopes but also voices concerns about the effects of light pollution on the environment.

“It can impact wildlife and the food chain in unpredictable ways,” he says. Allen points to scientific evidence suggesting that artificial light confuses sea turtle hatchlings, leaving millions stranded on the sand. It also disturbs avian migration patterns, and disrupts the feeding and mating cycles of insects, bats, fish, salamanders, and more.

Nighttime exposure to LED and other blue-spectrum lighting—under study at WSU Spokane Sleep and Performance Center—also suppresses the hormone melatonin and may increase human risks for obesity, depression, and other health issues.
sleep disorders, diabetes, breast cancer, and other conditions.

The American Medical Association recommends shielding all outdoor light fixtures and only using lights with a warm color temperature of 3,000K or lower.

“Even if we do use shielded lighting with all new construction, we’ll still see increases in night sky brightness from all the new apartments and houses,” says Allen. “It’s not an easy problem to solve. To get zero growth in light pollution is not going to happen, even with intelligent lighting.”

All the same, a number of states are making an effort by enacting light pollution control legislation. Arizona leads the way and the International Dark-Sky Association chose Tucson for its headquarters.

“There’s about a million people in downtown Tucson and when I was there 15 years ago, I could see more stars than I could in downtown Pullman,” Allen says. “I could see every star in the outline of the constellation Scorpius—you can’t even see those at the WSU Jewett Observatory. As far as I’m concerned, that’s proof positive of the benefit of good lighting legislation.”

As a member of the Palouse Astronomical Society, Allen has made it a personal quest to map light pollution in the Palouse area. Using a sky quality meter, he measures overhead light which is converted to a brightness level in the Bortle scale. Scale 1, for example, is the darkest possible sky on Earth, while scale 9 is brightly-lit inner-city.

So far, he has recorded Bortle scale 6 on the north side of Pullman, and scale 4 two hours west at Palouse Falls.

Encouraging others to fall in love with the night sky, Allen says some of the state’s best places to star gaze are in the Okanogan Valley or anywhere in central Washington. Last winter, he visited the Central Idaho Dark Sky Reserve in Stanley, the first international dark sky preserve in the United States, which opened in 2018.

“So far, I’ve not seen zodiacal light—a hazy pyramid that is slightly angled to the horizon and appears just after dark. It’s sunlight scattered by interplanetary dust left over from the creation of the solar system. It was absolutely unmistakable.”

The Bortle scale is a **nine-level numeric scale** that rates the night sky brightness of a particular location. Depicted (opposite and below) are celestial objects and groups that can be spotted with the unaided eye at the various levels of light pollution.
BY RACHEL WEBBER

Walk through the main gates of the Smithsonian’s National Zoological Park, follow the path past the cheetahs, the American bison, the pandas, and you’ll find the Asian elephants.

At Pachyderm Plaza, elephants delight children and families who stop to wonder at some of the world’s largest land mammals. But for Janine Brown (’80 MS, ’84 PhD Ani. Sci.), these elephants have been the inspiration and driving force behind her work the past three decades.

Brown heads up the Endocrinology Laboratory at the Smithsonian Conservation Biology Institute in Front Royal, Virginia, the world’s largest reproductive endocrinology lab. When visiting the zoo in Washington, D.C., she enjoys meeting with colleagues and old friends.

Among them are Ambika and Shanthi, the Asian elephants she met when she first started working with the endangered species in 1987.

“They are the two most studied elephants on the planet,” Brown says. “Hands down.”

Brown investigates the intricate patterns, the peaks and plunges, of hormones that can shape an animal’s reproductive health and well-being. While she started out at the zoo working with felids like cheetahs and clouded leopards, she remembers when the elephant manager called her in 1987 with a question that would shape the rest of her career.


To find out if Shanthi was ready to breed, Brown began monitoring the elephant’s reproductive hormone cycle, or estrous cycle. At the time, there was no consensus on the length of elephant estrous.

Brown designed a scientific study to pinpoint the cycle, which turned out to be about four months long, and identified the short time frame, about two days, in which the elephant could get pregnant. She also identified the hormone pattern that can be used to time ovulation.

These discoveries led to some of the first techniques for artificial insemination in elephants—no easy task, especially considering the length of a cow’s reproductive tract is about three meters long. And while the study was supposed to stop after the successful insemination, Brown and her team decided to monitor Shanthi’s pregnancy and conditions once the baby was born.

“We didn’t know very much about elephant biology,” Brown says, reflecting on early days at the zoo. “Every year we were discovering something new.”

Brown’s team measured levels of prolactin which led to developing a pregnancy test for elephants. She also found innovative, non-invasive ways to analyze different hormones using urine, feces, and saliva.

Today, the Smithsonian Conservation Biology Institute lab has data on more than 150 species and helps analyze hormone samples, assess reproductive health, and provide artificial insemination services and support to dozens of zoos around the country.

“As soon as we develop something, I want to take it out into the world,” Brown says.

Before Brown found elephants, she studied animal reproduction and collected sperm from dairy bulls for her master’s at Washington State University, then explored endocrinology and fertility in dairy cows in her doctoral research. Along the way, Brown became fascinated with the differences and similarities across animal species, particularly their reproductive systems.
She credits her mentors, including master’s advisor Phil Senger and doctoral advisor Jerry Reeves, for setting her up for success. That mentorship is something Brown takes to heart and wants to carry forward. She’s mentored dozens of graduate students and Smithsonian interns.

Camille Ogdon (’17 Ani. Sci.) had the chance to intern at the zoo a few summers ago before beginning her veterinary program at St. George’s University in Grenada. She researched automatic feeding systems for elephants, which would allow them to better mimic feeding habits in the wild. It was the same summer a bull named Spike was brought to the zoo in hopes he might breed with an elephant named Maharani.

“I am keeping my fingers crossed that in a couple years I will be heading back to the Smithsonian to meet Spike and Maharani’s baby,” Ogdon says.

Brown enjoys working with interns and notes that, in a way, they never really leave. While retirement might be on the horizon for Brown, there’s not exactly an end in sight for her research.

“I can’t imagine anything but elephants,” she says. “It’s like it’s in my DNA or something.”

Most recently, she’s been looking at their hormones to understand more about elephant nutrition, obesity, and geriatric questions about stress and arthritis. She’s also preparing for a trip to Chiang Mai, Thailand, this summer where she established an endocrine laboratory more than a decade ago and mentors Thai graduate students who study elephants.

The day we met at the zoo, she was picking up a thermal imaging camera from the office. She’ll take it into the field this summer as she looks at stress hormones and body conditions of elephants in tourism. The findings will join Brown’s ever-growing volume of science-based recommendations to help inform conservation strategies and improve elephant well-being around the world. ✫

WSU has a long legacy in elephant research. Read about Doc Maberry ’47 DVM and Packy at the Oregon Zoo:

magazine.wsu.edu/doc-and-packy

“It’s the taxpayers’ money,” she says. “Technology has to meet a need. What you invest in tech can save time that you can invest elsewhere, but it is also taking resources so, coming from human services, tech is about a child that gets fed, a foster kid finding a home, a vulnerable adult receiving care.”

After years in the health and human services sector, mostly in Virginia and North Carolina, Langen is back home in Washington, bringing her analytical and critical thinking skills to bear on some of the state’s biggest IT projects—including her alma mater’s IT modernization initiative.

Langen and her team have oversight for all major IT projects in the state. What defines “major” is a complex calculus involving factors such as cost, timeline, the experience of project managers, and what might be called the change quotient: “How much change is your project asking staff or consumers to absorb?”

Langen says that studying history in “the Athens of the Palouse,” as one of her favorite professors, Raymond Muse, called Pullman, was a dream from the time she “was in fourth grade. I fell in love with history and I fixed in my brain that WSU had the best history department in the state.”

Her education taught her to see how projects—like civilizations—evolve over time. “I have the global view of an analyst,” she says, and uses her position to make sure people benefit from lessons learned in previous projects.

She says that her 40 years as a public servant are born of a “deep dedication to giving back.” She pauses for a moment and then adds, “State government takes an amazing amount of work!”

Langen muses on the importance of an efficacious state government. From roads and parks to health insurance, “all areas of the state and the people who live here are touched by technology.”

Langen also has a historian’s love of people and the world and she hasn’t held back in exploring that love. She’s visited all seven continents at least once. She checked a couple bucket-list items off earlier in life: a trip to Athens to see the wonders of Ancient Greece, including Mount Olympos, and the pyramids of Egypt. Later came penguins in Antarctica and elephants in Tanzania. ✫
Behind Twitter’s historic Art Deco headquarters on San Francisco’s Market Street, in a narrow plaza, a round firepit encourages tech workers to mingle. It feels like a gathering place that would have fit in villages hundreds of years ago, with a little less polished stone. Sure, those tech workers might be checking their smartphones, but they’re also talking to each other and, maybe, building a community beyond the digital.

The building on the other side of the plaza houses Nextdoor.com, a different social media company that connects users based on their physical neighborhoods. It’s the former workplace of Steve Wymer (’01 Comm.), who until recently headed up communications and policy for the company. Neighborhoods and building real community, particularly in our era of ubiquitous technology, is something that’s often on his mind.

In the past, says Wymer, people in communities joined service clubs and met each other in person. “People didn’t have things delivered to their house; they went to the store where they saw each other. They went to the post office where they saw each other. Now those things have shifted in a way that disconnects people. But the size of the shift is not as obvious, because we feel so connected to others through social networks.”

As social media companies come under increasing scrutiny for their role in our lives, Wymer and other tech executives like Visa’s chief technology officer Rajat Taneja (’92 MBA) are facing fundamental questions: Can technology build community? What role should it play?
stop world of politics, he decided to get into the private sector. After an introduction to the CEO of TiVo, he was hired following a 90-minute interview.

The family moved to San Jose, California, and that gave Wymer a chance to dive back into community. He enthusiastically joined nonprofits and organizations in the Bay Area, and eventually that passion became professional when he took on the Nextdoor.com position.

Wymer speaks exuberantly about the importance of community-building. Riffing on the 2000 book *Bowling Alone* by sociologist Robert Putnam, he notes that local anonymity can be a real danger.

“We feel connected to our brother who lives in Germany, because we can stay in touch with him and we see real images. It makes us feel like community hasn’t disappeared but, in fact, real community isn’t as strong as it used to be,” says Wymer. “And we see that rear its head in the face of catastrophe. You get a hurricane or a flood, neighbors don’t know each other, and a community is in a really bad spot.”

Instead Wymer wants to find ways to connect physical interaction with technology, something Nextdoor also wants by building local-only social networks. Although Wymer left the company to join eBay in January as senior vice president and chief communications officer, he still holds true to his desire to bring people together and get them to care about what’s happening around them.

It could possibly stave off some of the bitter partisanship in the country, says Wymer. “People have all these opinions that other people or politicians are either angels or devils, but they don’t know the person who actually impacts their kiddo’s bus stop. They don’t know the school board members.

“This is a different kind of political process. It’s called community.”

RAJAT TANEJA ALWAYS LOVED TECHNOLOGY AND ITS ABILITY TO MAKE AN IMPACT. HE GREW UP IN INDIA, WHERE HE GOT AN ELECTRICAL ENGINEERING DEGREE FROM JADAVPUR UNIVERSITY IN KOLKATA BEFORE HE TRAVELED AROUND THE WORLD TO GET AN MBA IN PULLMAN. OVER THE COURSE OF HIS CAREER, TANEJA HAS SEEN TECHNOLOGY’S IMPORTANCE GROW IN EVERY ASPECT OF LIFE.

“Technology’s not a tool anymore; it is a part of the environment,” he says. “It’s like oxygen; it’s like water. Whether you’re pursuing a passion in art, in commerce, or in science, I think there has to be an understanding of technology.”

Looking through silver-rimmed glasses past his office window in Foster City, south of San Francisco, Taneja reflects not only on tech, but on how he grew to love the community at WSU.

“I have a very soft spot in my heart for the school,” he says. “Everybody I met at the University welcomed me. It’s a community; it’s like an extended family.”

Alumni mentors from WSU and his interest in tech brought him to Digital Equipment Corporation, Microsoft, and then video game giant Electronic Arts. In 2013, Taneja became executive vice president of technology at global payments technology company Visa, Inc.

He’s aware that the role of technology at Visa comes with heavy responsibilities, such as protecting data, ensuring secure transactions, and possibly implementing new technologies. There’s a level of power in technology that must be weighed carefully, says Taneja.

“Any technology has the ability to be used for good and for not so good, so we have to think about it very carefully. Not just technologists but ethicists and others need to work through the implication of this power,” he says.

Still, both Taneja and Wymer are hopeful their role in the industry can make some difference in the world and their communities. As Taneja says, “I want to be part of doing work in technology that can have a big impact. I’ve always tried to use a litmus test of where I can find the most meaningful impact in the industry and hopefully in society.”

*
Irrigation in south-central Washington started with a flood of activity. The Yakima Reclamation Project started flowing in 1910. A few years later the Washington Irrigation Institute formed up, including among its members photographer Asahel Curtis. The group quickly lobbied the newly elected state representative from Yakima, Ina P. Williams, to push a bill creating an irrigation experiment station.

Williams’s bill proposing a research station was signed into law in 1917, and implementation fell to Washington State College. President Ernest Holland’s site selection committee picked 200 acres in Prosser that was appropriate for irrigation research.

In 1919, animal scientist Roy Bean became the station’s first director. Bean made friends fast and soon had over 100 volunteers onsite for two days “grubbing” the sagebrush (and, no doubt, shooting dinner as rabbits made a break for it), clearing the land for planting and building. Buildings went up: sheds, an office. Crops went in: potatoes, corn, millet; in the fall, alfalfa, winter wheat, rye, sweet clover. The harvests were used in part for livestock feeding research.

While the new station was being built out, Bean and his tiny staff shared space downtown with the Prosser Community Club, a jumping

1935 | Walter Clore is hired. He works summers as a horticultural assistant, and spends the academic year in Pullman, earning a graduate degree. Clore (’47 PhD Hort.) will have an illustrious career, conducting research on a wide variety of crops. Thanks to his work proving that the chilly eastern desert could produce excellent wine grapes, he’ll go down in history as Johnny Grapevine, the father of the Washington wine industry.

1937 | One of the earliest crops researched at Prosser was corn. Detasseling of corn was done by girls riding horses down the rows.

1937–1945 | Prisoners from the state penitentiary in Walla Walla were given jobs pulling weeds from vegetable crops at Prosser. Clore was their supervisor. He got one of the prisoners to take field notes and, Singleton writes, “He wrote the most beautiful field notes we have ever seen.” It must have been good practice, because after the prisoner’s release he was back in prison, this time San Quentin, for writing hot checks.

1937 | The station buys an International Farmall 12 tractor, the first change from horses and mules to power. (Years before, Bean had obtained a Fordson tractor but, Singleton reports without elaboration, it was deemed too hazardous to use. With their spiked metal wheels, Fordsons looked like battle vehicles from a Mad Max scenario.)
scene with frequent luncheons and meetings. To get some work done, the irrigation crew moved to a quieter office, inadvertently taking a couple of the club’s “easy chairs” with them. “Soon,” writes Harry Singleton (’19, ’25 MS Ag.), then a research assistant but who would someday become station director, “the Secretary of the Club appeared with the Sheriff, who was a good friend of ours, to repossess them and a good laugh was had by all.”

The early days of what is now the Irrigated Agriculture Research and Extension Center were bare bones. Until 1930, the station owned only a Model T runabout and a Model TT one-ton truck. Electricity didn’t get to the station until 1926.

Singleton’s short history of the early days of Prosser records Bean’s sudden, tragic death in 1929. Bean was wrangling a bull when the animal slipped the staff. The animal tossed Bean against the side of the barn: “He died within an hour.”

Bean gave his all to build robust research programs at Prosser. Since then, farmers have taken advantage of the results of the work of Bean and many others. The once arid south-central part of the state is now one of the most fertile and productive regions in the world. *
Managing diabetes can be a real pain. From constant finger pricks to insulin pumps and injections, living with the disease can sometimes seem daunting. At Washington State University, researchers are working to take the sting out of daily management with sophisticated new technologies and personalized medicine.

With at least 30 million Americans currently diagnosed with diabetes and an estimated 84 million more at risk of developing the disease, Joshua Neumiller, Allen I. White Distinguished Associate Professor of Pharmacotherapy, says the need for simpler treatments is urgent.

“One of the difficulties of diabetes is that it can feel overwhelming to have to take pills, check blood sugar, and poke your finger several times a day. I think some of the exciting advances in glucose monitoring and time-release medication can make it less burdensome on a day-to-day basis.”

Neumiller (’03 Phys. Sci., ’05 DPH Pharm.) was recently selected as chair of the Professional Practice Committee for the American Diabetes Association, which incorporates clinical research findings into the Standards of Medical Care in Diabetes.

“In the 2019 version of the guidelines, for the first time, we added a chapter devoted to technology,” he says.

The chapter also covers insulin pumps. “In some systems, the pump talks to these continuous glucose sensors and automatically adjusts insulin delivery based on what the blood sugar’s doing,” says Neumiller. “So, it’s getting us closer to automating insulin delivery similar to what a normal healthy pancreas would do.”

Improved drug formulations are another hot topic. Extended time-release prescriptions, for example, can reduce dosing frequency to just once weekly. And, medications that were available only as injectables may soon be offered as tablets or capsules.

“I think it’s a really exciting area right now,” Neumiller says. “There are many new medication-delivery technologies that simplify the ability of people to use them and be adherent to treatment.”

And, thanks to a group of visionary scientists in the WSU Voiland College of Engineering and Architecture, more user-friendly products are in the pipeline.

Yuehe Lin, professor, and Arda Gozen, George and Joan Berry Assistant Professor in the School of Mechanical and Materials Engineering, are among those working to create the next generation of wearable, flexible electronics for monitoring health conditions like diabetes.

They are collaborating with Subhanshu Gupta, assistant professor in the School of Electrical Engineering and Computer Science, who has developed a tiny biofuel cell that uses the body’s own glucose to power sensors. The device will eventually be able to measure changes in things like EKG, EEG, cancer cells, and glucose levels.

Gozen and Lin are developing physiological sensors that can be coupled with the biofuel cell. Lin, who specializes in nanobio-electronic devices, designs the sensors and Gozen manufactures them in a unique 3-D printing process.

“Our 3-D printed glucose sensor will be used as a wearable sensor for replacing painful finger pricking,” says Lin. “Since this is a noninvasive, needleless technique, it will be easier for children’s glucose monitoring.”

Gozen says their 3-D printed sensor, which is about the size of a paper punch dot, is more stable and sensitive than those made with conventional methods, and is also nontoxic.

“3-D printing can enable manufacturing of biosensors tailored specifically to individual patients, for personalized medicine,” he says.

Their plan is to create a small device that can be implanted or fastened to the skin—something that will send alerts to a smartphone or other device when blood glucose levels change.

“Our ultimate goal is to make them economically feasible and thus, available to the public where it would significantly impact societal health,” says Gozen.
It’s a cold February morning. Flat gray clouds blanket the sun and snow berms line the streets on the WSU Spokane campus. Outside the University’s Veterinary Specialty Teaching Clinic, several people stand hunched inside their coats, their breath misting in the frigid air.

The Healthy People + Healthy Pets clinic won’t open its doors for a good 20 minutes, but they’re taking no chances.

Many of the people standing in line are homeless. Some, like Lori Broomhall, who came here with two puppies on a cross-town bus, are clinging to newfound stability after a stretch of homelessness.

For all of them, this is a rare opportunity to get medical care that would normally be out of reach—for themselves and their pets.

Within minutes of opening, the clinic’s spacious waiting room is packed with people and animals.

Pets can be a vital anchor for people caught in the slow-motion disaster of homelessness. The human-animal bond provides emotional support and unconditional love in a time when such things are in short supply.

“When I was homeless, my cat was my lifeline,” says Broomhall. “We counted on each other. Taking care of her was difficult, but she took care of me, too. I couldn’t have coped without her.”

Broomhall’s cat, Babesie, died a few months ago at age 14. Her new puppies are her family now.

Yet homeless pet owners face some surprising barriers in finding healthcare.
As the veterinary exam rooms fill up inside the clinic, community nursing professor Gail Oneal tells me why many homeless people refuse to go see a doctor, even when it’s free: Medical offices don’t let pets inside.

And if a doctor visit means leaving a beloved companion alone and vulnerable on the street, they just won’t go. It makes sense. I wouldn’t leave my cat in that situation either.

Oneal (’02, ’04 MS, ’11 PhD Nursing) and College of Nursing dean Joyce Griffin-Sobel saw that dilemma firsthand at homeless outreach clinics. About two years ago, they realized that WSU had a unique opportunity to solve it. So Oneal called Bryan Slinker, dean of the College of Veterinary Medicine, and pitched their idea: human and veterinary medicine together in the same place.

As a longtime proponent of the One Health movement, Slinker (’80 DVM, ’82 PhD Vet. Sci.) immediately saw the potential.

The One Health approach recognizes that human and animal health are linked, so it focuses research in areas where the two connect most closely. For instance, WSU researchers are working in Africa to prevent livestock diseases, eradicate rabies, slow the spread of antibiotic-resistant bacteria, and control the spread of diseases like the Zika virus, which infect humans and animals alike.

But the One Health concept also matters much closer to home, and that’s what intrigued Slinker.

Traditional health-care providers aren’t set up to meet the complex needs of homeless patients. And although those who serve people who are homeless know that many have pets, nobody really knows how many. Are the pets healthy? How do homeless pet owners care for them? Is the companion animal a detriment or a benefit?

The University’s One Health clinics and the associated research are beginning to answer those questions.

“The hypothesis behind all of this,” says Slinker, “is that we will get better human healthcare when we also care for the animals people are bonded to.”

When stated so simply, it seems obvious. But it’s a surprisingly revolutionary idea. WSU is among only three U.S. universities to deliver integrated human and animal healthcare.

Eventually, Slinker says, he envisions establishing best practices and a body of knowledge that will convince lawmakers to allocate public funds to similar clinics statewide and nationwide. Nonprofit organizations would step in too, at some point—and some already have.

The February clinic in Spokane was partially funded by a grant from MultiCare Community Health Foundation, which owns Deaconess and Valley hospitals. The foundation also helped provide sterile supplies and a pet food bank.

If the idea of treating people and their pets together catches on, it could revolutionize the way society brings healthcare to those who live at the margins.

“A whole generation of health-care providers may have a different understanding of the larger field of medicine, having seen people and animals being treated together,” says Slinker.

But starting a sea change isn’t easy. The very idea of providing veterinary care to the homeless sometimes meets reflexive resistance.
Cariann Turbeville, who is one of two supervising veterinarians at today’s clinic in Spokane, says that some of her students didn’t see the point of it at first.

“They thought homeless people were being irresponsible by having pets—that these were people who just couldn’t take care of an animal. But when the first group of vet students got here and saw the pets and talked to the owners... After that day, minds changed.”

I hear a similar story from some of the nursing students who are on hand to do health checks and vaccinations for the clinic’s human patients. They weren’t sure at first that treating pets and people at the same time would be worthwhile.

As Broomhall helps her boisterous puppies pretzel themselves back into what used to be Babesie’s cat carrier, she voices what the nursing and veterinary volunteers have come to realize.

Pets who belong to homeless people are not actually homeless. Home is wherever their humans are. And their humans will go to great lengths, even going hungry themselves, to support them.

“My pets come first in everything,” Broomhall says. “I’d do anything for them. It makes me happy to make them happy.”

On an unusual snowy night in Seattle, the truth of this—the strength and necessity of the human-animal bond—becomes clearer than ever. At the One Health clinic at New Horizons Ministries, WSU veterinarians team up with community health providers from Neighborcare Health, as well as staff and students from the University of Washington.

The clinic has all the business it can handle.

Wedging my large frame into the corner of a small, crowded room in the homeless shelter, I take notes as unobtrusively as possible while WSU veterinarian Katie Kuehl helps a veterinary student examine Andie, a gorgeous tortoiseshell cat.

Kuehl is mostly hands-off. The student is in his final clinical rotation, so this is his show.

Andie the cat is constantly talking—loud meows that range from plaintive to downright unhappy. Although the veterinarian is gentle and assured, his feline patient just isn’t on board with this experience.

Nevertheless, the cat remains calm and pliant. Her owner, a shy teenager with pink and blue hair and a well-worn hoodie, replies to every meow with murmurs of understanding. Andie seems to have decided that as long as her human is okay with this, she can deal.

As Andie’s examination ends, a volunteer with a clipboard immediately engages her youthful owner in conversation, taking periodic notes. The cat, meanwhile, twines happily around her human’s ankles.

I realize that what sounds like a casual conversation about pets is actually very carefully crafted to collect data on the nature of medical care and pet ownership among the homeless. But research isn’t the only point. The cat has had her checkup, and the clinic’s staff want her human to see a health-care provider too.

However, Andie’s owner hesitates to commit to a visit. The teenager hovers on the brink, unsure.

When the nurse practitioner’s door opens, Andie the cat makes the decision by walking right in. She reaches the end of her leash and looks back at her human as if to say, “Well, what are we waiting for?”
These leafy greens were fit for a queen. An American president, too. And, of course, a beloved comic strip character who became a pop-culture spokesman for the stuff.

Popeye serenaded the vegetable in his theme song, belting out, “I’m strong to the finish ‘cause I eat spinach, I’m Popeye the Sailor Man!” His Depression Era praises led to an uptick of more than 30 percent in U.S. spinach consumption, according to the 2013 Ian Crofton book A Curious History of Food and Drink. Popeye debuted in 1929 and credited spinach with giving him bulging forearms. He gulped the greens straight from the can, sometimes even right from the garden. A July 3, 1932, comic strip pictures Popeye on his knees, eating just-picked spinach with his bare hands while announcing, “Spinach is full of vitamin A and that’s what makes hoomans strong an’ helty.”

Popeye was right: Spinach, low in calories, is rich in beta-carotene, which our bodies convert to vitamin A. One serving of raw spinach, 100 grams, provides more than half of the recommended daily allowance. vitamin A, in turn, helps support vision, the immune system, cell growth, and healthy skin and bones.

Spinach is also a super source of vitamin K as well as a good source of manganese and folate. Most of the iron in spinach, however, isn’t absorbed by the human body. Pairing spinach with foods high in vitamin C—

freshly squeezed lemon juice, strawberries, broccoli, bell peppers—helps our bodies access non-heme, or plant-based, iron. Cooking could also help. According to the U.S. Department of Agriculture, 100 grams of raw spinach contains 2.71 milligrams of iron while 100 grams of boiled spinach has 3.57 milligrams.

Spokane dietician Lisa (Baker) Grentz (’96 Food Sci., ’01 MA Nutr.) recommends using spinach within three to five days. Spinach begins to lose nutrients as soon as it’s harvested. When shopping for spinach, Grentz suggests looking for fresh, crisp, green bunches. “Spinach is a versatile vegetable that can boost the nutritional value of many meals and snacks,” she says. “These leafy greens can be added to salads, sandwiches or wraps, paired with eggs, or blended into a smoothie. Cooked spinach can be added to soups, casseroles, pasta or pizza sauces, and much more.”

Sometimes, those dishes are named for a queen. Legend has it Catherine de Medici, queen of France from 1547 to 1559, so loved spinach that she had to have it at every meal. Dishes that incorporated the vegetable were said to be served à la Florentine, recognizing her and the city from which she hailed. She was Italian, a noblewoman from a rich and powerful banking family in Florence. To this day, Florentine-style dishes—eggs Florentine and chicken Florentine are among the most common—inevitably contain spinach.

Young leaves, or baby spinach, are tender, have a hint of herbaceous sweetness and are great for salads. Older leaves offer a bit more of an earthy—even a bit bitter—flavor and are better used in cooking. But their nutritional properties, Grentz says, are best retained when eaten raw or quickly cooked, such as sautéing, stir-frying, or blanching. She particularly likes them as a “nice, neutral base” for salads. “In the summer, I like to add fresh berries and toasted almonds, and toss with a sweet vinaigrette. In the winter, I like to dice up beets and green apples, add some gorgonzola cheese, and toss with a garlic and red wine vinaigrette.”
Spinacia oleracea is a quick-growing crop that prefers cool weather and sandy soil (so be sure to rinse it thoroughly). A member of the beet family, it’s closely related to chard. There are flat leaf, savoy or curly leaf, and hybrid, semi-savoy varieties. Ancient strains were cultivated in Persia as early as 2,000 years ago. By the fourteenth century, it had appeared in France and England, where it was referred to as “spynoches” or “spinnedge.”

Spinach was first listed in American seed catalogues in the early nineteenth century. Thomas Jefferson grew some in his garden at Monticello in 1809 and 1812 for both spring and fall harvests. In 2009, when a portion of the White House garden was planted in honor of America’s third president, the patch included prickly-seeded spinach.

Today, California is America’s top spinach-producing state. It’s one of five—together with Arizona, New Jersey, Texas, and Florida—that grow nearly all of the commercial fresh-market spinach in the country. However, Washington state—specifically, Skagit, Snohomish, and Whatcom Counties—along with the Willamette Valley in Oregon grow about 90 percent of the U.S. spinach seed crop, or about 20 percent of the world’s spinach seeds, according to WSU plant pathologist Lindsey du Toit. She’s been leading WSU’s spinach seed crop pathology research for nearly 19 years. “If you want to grow spinach seed you have to make it flower,” she says. “There’s no other part of the country that has the right conditions.”

Because of their long summer days and dry, mild climate, small swaths of western Washington and Oregon are the only spots in the United States well-suited for cultivating spinach seeds. But the fungus Fusarium oxysporum thrives in the regions’ acidic soils, too. It enters spinach through its roots and grows inside the plant’s vascular system, preventing water and nutrients from reaching the leaves and causing the plant to wither and die.

“It basically clogs up the tissue that should be moving water and nutrients,” du Toit says. “Initially, it’s limited how much clogging there is. Eventually, the tissue becomes completely blocked and the plant succumbs.”

She and a postdoctoral researcher in her program, Sanjaya Gyawali, are searching for spinach varieties that naturally resist Fusarium wilt. Her greenhouse at WSU’s Mount Vernon Northwestern Washington Research and Extension Center grows more than 800 types of spinach, including ancient wild strains from Iran, where spinach is believed to have originated. They’re finding those ancient strains, along with Asian varieties, seem to be the most naturally resistant to the pathogen.

du Toit not only studies spinach but enjoys it, too. “I like the taste of spinach,” she says. “I think it’s a good vegetable. My favorite way to eat it is with cranberries, walnuts, an Italian-type dressing, and grated cheese.

I’ve seen it with tangerine pieces, too. It’s refreshing.”

Grentz—like Popeye—endorses spinach consumption for adults and children alike. “Adults are inclined to eat vegetables because of their nutritional and health benefits,” she says. But, sometimes, getting kids to consume leafy greens can be difficult. “One fun way to pique their interest is to blend fresh spinach with orange juice. This turns the juice a lime green color, and you can make up a fun name for it like ‘Slime Drink’ or ‘Ninja Turtle Juice.’ Of course, you can always blend in some yogurt and fruits to make a smoothie, if that is more appealing. It’s all about making foods fun, no matter what age you are.”

Strawberry Spinach Salad with Cougar Gold
from WSU Creamery

**For the dressing:**
- 2 tablespoons sesame seeds
- ½ cup olive oil
- ⅓ cup red wine vinegar
- ½ teaspoon sugar
- 2 teaspoons minced green onion
- ¼ teaspoon paprika
- ¼ teaspoon Worcestershire sauce

**Make the dressing:** In small skillet over medium heat, stir sesame seeds until golden brown; set aside. Whisk together all ingredients. Refrigerate until ready to use.

**For the salad:**
- 1 to 1½ pounds fresh spinach
- 2 cups fresh strawberries, hulled and halved
- 1 cup crumbled Cougar Gold®

**Make the salad:** Wash spinach thoroughly, dry and tear into bite-sized pieces. In a large bowl, combine spinach, strawberries, and cheese. To serve: Pour dressing over salad and toss gently. Serve immediately.
feature

SEATTLE CENTRAL PUBLIC LIBRARY INTERIOR DETAILS (PHOTOS PAVAN TRIKUTAM/UNSPLASH AND KATE B/FLICKR)

OPPOSITE, AT BOTTOM: SPL PROVIDES WI-FI TO THE TINY HOUSE HOMELESS VILLAGE IN GEORGETOWN (STAFF PHOTO)
The changing role of public libraries

How may we help you?

The train rattles along the tracks as colorful graffiti flashes by my window on the Link Light Rail heading toward downtown Seattle. We pass through a progression of neighborhoods—Rainier Beach, Columbia City, Beacon Hill—and it soon becomes clear that some districts are more prosperous than others.

Debarking at the underground University Street Station, a gritty little elevator delivers me up into city skyscrapers and rain-soaked streets. Waiting for the light, I catch a glimpse of curious silver architecture peeking from behind the rows of dark towers. There, like a candle in the window, sits the Seattle Public Library.

Unique, surprising, and stunningly beautiful, the library is one of Seattle’s top tourist destinations.
destinations. But, in a city with the nation’s third-largest homeless population, Seattle Public Library (SPL) is also known for its efforts to quietly assist thousands of citizens who find themselves struggling to fill basic needs like food, housing, or internet and phone access.

Despite Seattle’s economic boom, or perhaps because of it, rents in the metropolitan area have risen steadily over the last decade. Rapid population growth, an apartment shortage, and other factors leave at least 12,000 people seeking refuge in King County shelters, tent encampments, or tiny house villages on any given night. Along with being unhoused comes inevitable mental and physical distress. According to the Seattle Times, 2018 was the deadliest year on record for homeless people in King County with an estimated 191 deaths, up from 78 in 2012.

Finding themselves on the front line of rapid social change, SPL librarians have stepped up to fill gaps in their community that are not covered by other service organizations. Day-by-day, these dedicated public servants help thousands of people access the information, support, and tools necessary to survive and succeed in an increasingly disparate and digitized world.

In many ways, Seattle Public Library and thousands of others like it, have become what is known as a “third place” in society—not home or work, but like the old-time grange, a neutral ground where diverse community members can gather without obligation. A place where people can simply feel human and accepted.

Indeed, with their welcoming environment and free and equal access to an extensive range of knowledge, ideas, and opinions, public libraries have been called America’s last bastion of true democracy.

It’s an ideal upheld by WSU alumni librarians in Seattle, Spokane, Colville, and other cities throughout the state and nation. With their mission to educate and improve lives, they each ask the same question, “What are the needs of our community and what can the library do to help?” As it turns out, these librarians can humbly achieve almost anything they put their minds to.

Waiting at the reference desk on the third floor of Seattle Public Library, Linda Johns ’82 approaches me with a friendly smile. Dressed in a classic houndstooth sheath and low heeled boots, she deftly leads me on a tour of the facility.

Built in 2004, the expansive, geometric steel and glass building exudes an air of order and tranquility. On the third floor “Living Room,” patrons, homeless or not, are quietly seated reading or working on laptops. Rugs, individual lamps, a large planter box, and small coffee shop give the space a homey ambience.

“I love this building,” says Johns, reader services librarian and author of a dozen children’s books, including the Hannah West mysteries set in Seattle. “Instagram just named us the most Instagrammable library.”

As we turn the corner to ascend a ten-story fluorescent-yellow escalator, it’s easy to see why. Designed by Dutch architect Rem Koolhaas together with Seattle-based LMN Architects, the colors and textures resemble a set from Star Trek more than a typical book repository.

On level four, for example, stairs descend into a shadowed, curving, red hallway that holds a series of meeting and conference rooms. Stainless steel floors throughout the building are adorned with flower-like vents which increase air flow and diffuse problems with musty books, humidity, and poor hygiene.

On every floor, people are busy at computers, intently searching for jobs or housing, conducting university research, or just using email or Facebook to keep in touch with family and friends—relationships that, for the homeless, often fall by the wayside.

“We have about 4,000 visitors each day to the Central Library,” says Johns as she points out features along the way. “People are still excited about books and circulation is strong.” In addition, the library offers an astonishing assortment of nonbook options ranging from free museum passes and concerts by local musicians to tax preparation assistance for those with incomes up to sixty thousand dollars.

As the housing crisis has grown over the last five years, however, Johns says the library has shifted its attention toward equity, social justice, and removing obstacles such as lack of knowledge, ideas, and opinions.
of income or education that prevent people from succeeding in society.

“Throughout the SPL system, our librarians have a large focus on outreach—being out of the building and working in the community,” she says. “Whether that’s bringing hot spots to tent cities, signing up people for library cards, providing free meals at after-school programs, or teaching a class in a housing project, it could be anything.

“We even have two courtesy phones for public use. It seems like a basic thing, but few pay phones are available anymore and if you don’t have a cell phone, you’re stuck.”

Pausing by a dark gray wall, Johns turns a key that seems to magically open a door to the library staff offices. Down the hall, she introduces me to Hayden Bass, SPL outreach program manager, who, for the last four years, has overseen many of the library’s social initiatives.

“At their best, public libraries are engines for equity,” says Bass. “We try to eliminate barriers to library services and community resources for low-income populations as well as immigrants, communities of color, and others.

“We do this by providing access to education, job skills, Wi-Fi, and internet—things that are a daily part of life for many people but for others are a huge barrier to basic human needs like housing or applying for a job online.”

A key part of this effort involves bringing services to homeless encampments and day shelters, she says. Through city funding and private grants, they have installed Wi-Fi hotspots in tiny house villages throughout Seattle, including Georgetown with its tidy rows of brightly-painted homes.

To assist with the ever-growing number of requests, Bass says the library recently hired a full-time social worker to counsel patrons and connect them with emergency shelter, housing, food, childcare, healthcare, and other services. The social worker also helps people obtain identification cards and locate space to store their belongings.

Though their overall personal experience has been positive, Johns and Bass agree that some citizens are put off by the sight of homeless people using the library. Indeed, there are occasional conflicts with staff or other patrons and problems with drugs, alcohol, and mental health.

“But, the regulars, the unhoused patrons who come in all the time, they want to do what’s right,” says Johns. “Those who respect and value the library want to help keep it safe and welcoming.”

“When you’re homeless, it’s so stressful trying to constantly figure things out and survive day to day,” she adds. “Shelters are very loud and there is no privacy. So, just having your own chair and a little perimeter of space around you as you read is so valuable.”

Like all libraries, SPL has posted rules of conduct but they’re basic common sense—you can talk but not too loudly. If listening to music, use headphones. No eating but you can have a beverage in a covered container.

There are fifteen security officers on staff throughout the SPL system who Johns says are instructed to be gentle and not aggressive.

“They greet patrons at the doors when we open at 10 a.m. and give them as many chances as possible,” she says. “They’ll often start a conversation by asking, ‘I don’t know if you’re aware of this rule but . . . .’ They give them a chance to adhere to it—like you need to wear shoes inside the library.”

On the other side of the country, Tara Murphy ’05 faces many of the same challenges in her role as assistant director of information technology at the Free Library of Philadelphia.

Not to be confused with America’s first lending library—the Library Company of Philadelphia founded by Benjamin Franklin in 1731, which charged members a fee to check out books—the Free Library of Philadelphia was created in 1891, and for the first time, gave average citizens free access to library materials and programs.

Murphy, who supports many public outreach efforts alongside her IT responsibilities at the Free Library of Philadelphia (FLP), says their city, like Seattle, is one of diverse neighborhoods and the library has a presence in 54 of them.
The digital divide is incredibly high—50 percent of the population has no access to high-speed internet or computers in the home,” she says.

That changes our role dramatically from being a place where people check out books to one where people come to apply for jobs and kids can do their homework. We have a free drop-in after-school program where we see around 2,000 kids every day throughout our system.

“Outside the library walls, the Technobile—loaded with Wi-Fi, six laptops, and an instructor—allows us to take technology into the different neighborhoods,” she says. “We can park on the corner and have people come on board for résumé instruction, editing, printing, help designing business cards, or to just watch videos for an hour.”

Murphy says Philadelphia, named GQ 2018 City of the Year, is renowned for its culinary history, and also, unfortunately, for a recent spike in opioid addiction. “People come from all over to get cheap heroin in the Kensington neighborhood,” she says. So much so, in fact, the Philadelphia mayor’s task force calls the opioid epidemic their greatest public health crisis in a century and has mobilized every effort to fight it, including the library.

“One of our biggest outreach initiatives is using Narcan, the antidote for a narcotic overdose,” says Murphy. “We also have training on how to assist with ODs in our bathrooms and reading rooms. We have required people to leave their ID at the front desk when they use the bathroom because so many ODs happen there.”

Murphy pauses and sighs. “Sometimes an overdose happens when kids are in the library and staff have to go over and administer Narcan. So, we have a lot of challenges.”

Like Seattle, the FLP has social workers on staff to help connect patrons to appropriate services, but Murphy says they could use a few more as the number of unhoused people continues to rise.

Beyond this aspect of their service, the FLP sponsors an immense array of programs and events spanning every imaginable topic and also provides 1,000 computers for public use.

“The library is such a multifaceted information hub for the community,” Murphy says. “The library card is magical.

“In the Central Library, for example, we’ve turned a rooftop space into a culinary literacy center. The idea grew out of a survey asking teens what programs they’d like to see. Their response was a desire to learn how to cook—to learn a marketable skill to help feed and provide for their families.

“And, it’s not just for teens—we now have a program called Edible Alphabet that helps new Americans learn English and connect to our culture through recipes, cooking, and measuring.

“So, this is one way we’ve shifted as far as what people are looking for in a library—as not just a place to be shushed. We’re really a cornerstone of the community, especially in our neighborhood libraries.”

Their compassionate outreach is clear as Murphy describes a program they run in conjunction with the People’s Paper Co-op in the Village of Arts and Humanities.

“The co-op assists incarcerated women who are returning to society after 10 or 20 years of imprisonment,” she says. “First, they take the rap sheet and shred it. Then, over the next 6–8 weeks, the women take courses on how to dress, use a computer, cell phone, and apply for a job online. At the end, they make clean new paper from the old rap sheet and print out their résumé.

“It says, ‘The rap sheet is not who I am. This is who I am.’ They want to be members of society and the library is helping them.”

On a chill wintry day, I climb the steps of Downtown Spokane Public Library to meet with marketing and communications director Amanda Donovan x’99. As with other libraries I’ve visited, the mood is calm, Zen-like. Patrons, quietly seated at tables, still abide the rules they first learned in grade school.

Donovan begins our tour on the spacious third floor, where an enormous curved wall of windows delights visitors with the city’s best view of Spokane River Falls. The floor is also the setting for the library’s award-winning “late-night” talk show, Lilac City Live!

Along the way, she introduces me to a number of enthusiastic coworkers. Donovan herself is clearly excited about the new programs and changes taking place at Spokane Public Library.

A recently passed bond measure will allow them to build three new branches as well as remodel four existing branches, all with an eye toward making the library a third place and providing services in a more modern way, she says.

Throughout their six branches, the Spokane library already offers many nontraditional programs including STEAM technologies like 3-D printing and Ozobot coding that may not be available in local schools. Additionally, the Downtown Library recently established a Library of Things, managed by Cindy Wigen (“03 Hum.). She says the popular program allows patrons to check out items like snowshoes, guitars, telescopes, sewing machines, energy efficiency kits, and much more. They even provide free music and voice lessons.

But, the library’s biggest effort, says Donovan, is an ongoing partnership with Spokane Public School District 81, the second-largest school district in Washington. The collaboration has drawn national interest and stands as a role model for other communities hoping to implement similar ideas.

“All staff and students get a fine-free library card that’s good for books and all other resour-
es,” she says. “So kids have access to all digital materials, online classes, e-book downloads, homework and business databases. We have an online language program that offers instruction in 87 languages as well as ESL.

“We also help provide laptops and hotspots to students. You need a laptop to be successful in school today and a lot of our Spokane students don’t have them. So, we asked how can we partner with the Spokane Public School District to help provide that to students.

“We’re constantly looking for what the community needs and then finding ways to meet those needs.”

That creativity is cleverly on display at the Spokane Public Library Hillyard branch where a quaint old card catalog has been repurposed as a seed library for local customers. Each drawer contains assorted edible and ornamental plant seeds including heirloom varieties.

“There are several community gardens in Hillyard and we hope to see people growing vegetables with their families to help reduce food insecurity,” says librarian Cathy Bakken. “The Hillyard neighborhood is a very low-income area.”

“Fifty-six percent of Spokane Public School students live in poverty according to federal levels,” Bakken says. “In Hillyard, there are two elementary and one middle school within walking distance and 80 percent of the children live in poverty—one area is actually 88 percent.

“These families often don’t know where they’ll be sleeping. They have a suitcase maybe, or a garbage bag. They don’t have many books.”

Bakken leads a team that reaches out to schools and families with information about the library-school district partnership and available resources. She also attends neighborhood council meetings and coordinates with the community court.

“Housing and rents have gone way up, so housing is more insecure,” she says. “Students often lose books and have overdue fees, so we want to remove that barrier to get them back into the libraries with books and technology in hopes we can better their future.”

Thanks to the passing of the bond issue, Bakken says they will be building a new joint public-school library across the street at Shaw Middle School. The facility—called a community-oriented school—will be the first combination library in Spokane and will serve students, the public, and two alternative high schools.

“We’re working to improve reading levels with the ultimate goal of increasing graduation rates and improving the students’ chances of having a good future,” she says.
Seventy miles north, in the small timber town of Colville, I’m greeted by Sarah English (’94, ’95, ’96), manager of the stately Colville Public Library. The ultimate Coug, English sports a red dress, WSU bracelet and watch, and crimson-rimmed eyeglasses.

Her cheerful soft-spoken demeanor is a bright spot in a county that has long been economically depressed. Access to computers, internet, and television are further limited by Colville’s mountainous terrain but English says the library helps level the playing field both in terms of technology and community spirit.

Such was the case with the 2015 Light Up the Park event held in nearby Chewelah when English was manager of Chewelah Public Library.

A newspaper survey had just designated Chewelah as the poorest city in Washington state, she says. Though the townspeople knew they were materially poor, they always believed there was wealth in their hearts. And, so, after discussion, they decided to take on the Guinness Book of World Records.

The project started that spring when English handed out free pumpkin seeds at the library and enlisted Master Gardener Mary Sety to hold a planting class. Participants tracked their vines’ growth and compared notes. The mayor gave presentations.

Eventually, just before Halloween, Chewelah’s 3,000 citizens had grown and carved 1,951 pumpkins—each complete with eyes, eyebrows, a nose, and mouth—and toted them to the park.

“There was a real sense of pitching in together to make a beautiful event,” English recalls. “People may think our city looks shabby, but, by gosh, we looked like a Hallmark movie that day. Hundreds of carved pumpkins glowing in a light evening mist.

“We lined them all up in a serpentine formation and ended up with the world’s longest continuous line of carved and lit jack-o-lanterns for one week. That’s a pretty heady thing when you supposedly live in the poorest town. I like to think the library had a big role in that.”

English says small towns typically have few places for community members to gather, and the library offers a chance for people to network, learn about the world, and feel a part of humanity.

“It’s a real cultural exchange,” she says, “We’ve even had a woman selling eggs and turkeys here.” At Colville’s library, public computers are loaded with Word, Excel, and databases like Learning Express that offer practice tests for jobs such as postal inspector and nursing, as well as for GRE, SAT, and citizenship tests. Printing and scanning services are provided and English even proctors tests for students in distance education courses, enabling them to get online degrees.

They also extend their wireless network into the library parking lot, giving citizens 24-hour internet access from their cars. The password is posted on the library door.

“No matter your monetary or housing status, there’s a place for you here—like all these books, you belong and contribute to the richness of the library,” she says. “I think our staff helps foster that idea by greeting people by name and being welcoming.”
A POINT OF REFERENCE

BY BRIAN CHARLES CLARK

PHOTOS ZACH MAZUR
Above: Henderson Inlet from Meyer’s Point looking north toward the Salish Sea. Below: Ed Bassett ’89 and Olympia High School student volunteers spend a Saturday morning working on the Meyer’s Point forest restoration project.
“There are oysters out there,” says Ed Bassett, “and they are good.”

Out there are the mudflats of Henderson Inlet where a thriving community shellfish garden supplies delicacies for neighborhood parties and celebrations. Bassett (’89 Ed.) is standing in the eelgrass on the shoreline of Washington State University’s Meyer’s Point Environmental Field Station established in 2003.

He’s a science teacher at nearby Olympia High School (OHS), and he, his students in the OHS Earth Corps, and Meyer’s Point facilities manager Chuck Cody (’84 MS Hort.) have been planting native trees here since then.

WSU environmental scientist Steve Bollens is the director of the station. He calls Meyer’s Point a hidden gem and a too-well-kept secret. Bollens and his colleagues are determined to use the site to explore the urban-rural interface, that delicate balance between the resource-intensive and environmentally taxing human infrastructure of the built environment, and our growing awareness that things just aren’t right without a healthy environment in which to play, meditate, and raise kids.

The 95-acre site has nearly half a mile of shoreline, acres of marshy wetland, and an expanding forest that climbs a steep slope. At the top of the property is a 12-acre hay field. For WSU researchers, the mix of agricultural land with forest and shoreline tantalizes mathematicians modeling forests, biogeochemists seeking to understand how fungi partner with plant communities, and archeologists who inform the present with lessons from ancient Native residents.

“There’s something for everybody,” says Bollens.

Bassett meanders through the restored forest; he offers a warning about the mud in his soft Georgia drawl: “You could find yourself in a seated position real fast.”

Bassett has been best friends with Cody since the 1980s. “We hit it off the day I was unloading my U-Haul,” says Bassett, “and Chuck stopped to help.” Cody was a graduate student in Pullman, while Bassett had come to take a job with James Cook, a wheat root disease researcher. As soon as Bassett graduated with his teaching credential, he landed the job at OHS and has been there ever since. Sometime in 2003, he got a call from Cody.

“He said, ‘I’m going to be in your neck of the woods. We have this property, and it needs a bit of work.’”

That, it turns out, was an understatement. What is now a 16-acre forest was then an abandoned dairy cow pasture that had been overrun by a vast tangle of blackberry vines. Where there weren’t blackberries, there were red alders. Cody wanted to accelerate the process of succession, with the goal of restoring a mixed-species native climax forest. Successive waves of Bassett’s Earth Corps students gave the old pasture many Saturdays over many years, tearing out berry brambles and replacing the alders with Douglas firs, grand firs, western red cedars, big leaf maple, Oregon ash, and, later, hemlocks that thrive in the protection of an established conifer forest.

The first planting, Cody says, was on Valentine’s Day, 2004. Those saplings are now 30-foot-tall trees and one of Bassett’s former students has her own virology lab at Brandeis University.

That’s not the only success along Henderson Inlet. When Cody and Bassett first started coming to Meyer’s Point, there was no shellfish garden; the water quality was too poor. But a concerted—and expensive—collaboration between local residents and various state and local government agencies and nonprofits led to an upgraded infrastructure, including better septic and stormwater runoff management systems. By 2017, and “after more than 20 years of work,” according to a Washington Department of Ecology
assessment, “the results of the Henderson Inlet watershed partnership are among the most positive results in any Washington watersheds.”

That dramatic improvement in water quality has meant that shellfish gardening could move to the southern end of the inlet, including at Meyer’s Point. There, OHS students volunteer to help plant oysters in the local community garden. The Nisqually Tribe, too, garden and harvest the delicacies, which they sell to area restaurants.

Music of the mists

Meyer’s Point was a gift from Dr. Edward Meyer (’38 Pharm.). After medical school in Louisville, Kentucky, and service in the Second World War, Meyer returned to the area where he was raised to practice medicine. Doc Meyer’s shingle still hangs from one of the buildings at the station. Meyer bequeathed the property to WSU before he died in 1993, asking that it be used for environmental and arts research and education.

He also left the University an endowment that established professorships in the arts and sciences. Composer and saxophonist Greg Yasinitsky is a former Meyer Distinguished Professor, and he was also one of the first faculty members to visit the field station.

Yasinitsky visited Meyer’s Point in the summer of 1995. He tromped around the property for a couple of days, shooting video and making audio recordings of wind, birds calling, shoes in mud, and the lapping of water. When he got back to Pullman that fall, he composed “Meyer’s Point” for flute and piano. The one-movement piece is a challenging showcase for Ann Marie Yasinitsky, a virtuoso flutist, and perfectly evokes the ethereal mists that hover over the salt marshes and the tumbling sky that deepens the perspective up the long northward reach of the inlet.

Years later, the music still reflects the ecology of the site. As Bassett leads an expedition up into the woods, the soaring flute cadenzas seem to echo the sky-reaching trees, and the dramatic piano intervals capture the contrast of forest and marsh, of field and the murmur of streams running down slope.

On another day, Bassett might hear another sort of music: the whine of Nick Strigul’s drone as it curls above the forest snapping high-resolution photographs.

A silicon forest

Strigul is a mathematician based at WSU Vancouver, 90 minutes south of the Meyer’s Point station. “A big part of my work,” he says, “is forest modeling, the self-organization of forest ecosystems.” That’s why his drone is circling the forest at Meyer’s Point, collecting data that both informs and confirms his modeling efforts.

The trick, he explains, is to gather together all the individual studies of ecosystem components into “a single, highly complex model.” A forest is not just trees: it is microbes in roots and branches, insects, birds, animals, forest-floor flora, all of which “operate on different time and space scales and yet interact in profound and important ways. The importance of bringing mathematics to bear is that it provides a path toward understanding the interactions and differing scales.”

Getting all that data onto the same virtual page is just the first challenge. Any model, whether of climate or forest or shoreline, must be validated against reality.

“But to compare to reality, you need a data-intensive baseline to test against,” Strigul says. “It’s hard to find a particular place where you have sufficient data, where everything is measured. Where each individual tree, and all the fluxes of carbon, nitrogen, and trace gases, the soil nitrogen and carbon, where all that is known and measured.”

Creating such a baseline is expensive and long term, he says. Harvard University has an experimental forest that has been monitored for decades. But there’s not really anything like that in the Pacific Northwest. Perhaps, he muses, Meyer’s Point could become a baseline for regional forest modeling.

Since the 1960s, he explains, researchers have been using computers to model forests. Foresters want to understand how to get maximum yields and wood quality, while ecologists wanted to grasp the entire system. Foresters aren’t interested in tree mortality, because they’ll harvest before a tree reaches the end of its natural life. And the same with pests: foresters try to wipe out the pest. But ecologists want the big picture. For decades, ecologists got the short end of the
Opposite, from left: Chuck Cody. Doc Meyer’s old clinic, with Olympia High School Earth Corps volunteers sharing pizza after a morning working on forest restoration. Stephen Bollens, professor of aquatic ecology at WSU Vancouver, is the director of Meyer’s Point Environmental Field Station (Courtesy Stephen Bollens). Above: Forest restoration began in 2004, replacing the old dairy pasture. Below: With the tide flowing out, mud flats reveal their sticky glory.

see more photos of Meyer’s Point: magazine.wsu.edu/extra/meyers-pt
computing stick simply because processors simply couldn’t handle the massive data required to model a real-world ecosystem.

Ecologists, Strigul says, “had to be very picky about what they put in their models. But now, computers are so powerful you can put all of it in there.”

The value of a high-resolution model would be extraordinary. All manner of experiments could be run in silico, yielding quality results at the speed of microprocessors instead of consuming decades of real life. The effects of a warming climate, drought, fire, and much more could be modeled, informing decision makers and resource managers about particular courses of action.

Strigul says his goal is to “drive out the uncertainty” that exists in “models that do not completely reflect reality.”

As below, so above
Harvesting and then harnessing data is the way to drive out uncertainty. Two WSU Tri-Cities scientists also see the Meyer’s Point station as a prime candidate for collecting a wealth of information about the interactions of soils, microbes, plants, and their effects on ecosystem health.

Biologist Tanya Cheeke and her colleague, environmental scientist Sarah Roley, along with some of their students, have teamed up to collect and analyze soil samples from the up-slope hay field at Meyer’s Point. The goal is to identify the particular mycorrhizal fungi that associate with plant roots and “create an intimate two-way exchange of nutrients,” as undergraduate Ella Krinitsyn wrote in a recent presentation.

Understanding the symbiotic relationship between plant species and their fungal partners is critical to restoring native plant habitats. Those associations develop over time, but when soil is disturbed, as for a building project, that relationship can become threatened, to the detriment of native plants. That’s one of the reasons weeds encroach on highway margins and building sites.

In the past, Thurston County managers have put major emphasis on maintaining and, where possible, improving environmental quality in the south Puget Sound region. Statements from the County Planning Commission indicate that sustaining a healthy economy and environment will be maintained in the future, aided in no small part by efforts to model forests and understand the role of fungi in soil and plant health.

Walking along the hay field and along the dense forest at the top of Meyer’s Point, station director Bollens says that having an environmental field station “sited at the rural-urban interface is uncommon. There are a few truly urban field stations, but they’re rare. There are many more that are as far away from humans as possible in order to maintain pristine habitats.”

The north Sound is already densely populated and developed. “The south Sound is going that way, but is figuring it out. How do you provide opportunity for economic growth while maintaining ecosystems in a sustainable way?” That’s a twenty-first-century challenge, he says, one WSU is perfectly situated to address.

A backwards glance into the future
WSU archeologist Colin Grier thinks a lot about twenty-first-century challenges and argues that what we face now and in the near future is nothing entirely new. Walking along the shoreline, he points out an archeological site that is at least 500 years old. It’s a band of shells embedded in silt just a few meters above the high-tide line.

“That shell midden is a record of dinner by dinner decisions over 500 years. It’s a fine-grained view of adaptation strategies.” What native peoples selected to harvest and what to leave for growth might be guides for shellfish gardeners today.

The Coast Salish peoples, Grier says, “had a system of proprietary, rather than ownership, so it was a system of responsibility rather than exploitation. You own it in some sense, but you have a responsibility to manage it for the greater good.”

There’s an ancient campsite just up shore from the shell midden. A bowl-shaped hearth of fire-altered silt and rock has a bone sticking out of it. People have been camping along these inlets for thousands of years, Grier says, as they moved up and down the coasts between major settlements.

“It’s no coincidence that a lot of modern settlement is right on top of indigenous settlement. The places that are amenable to the way we live our lives, 15,000 years ago as well as today, involve a lot of the same decisions. People want access to transportation, to food and resources, to neighbors.”

“So this is sort of a microcosm of all the sustainability issues on Puget Sound,” Grier continues. “Looking back to see what the baselines are, looking forward to what they should be, and trying to preserve the record that has all that information: that’s why I think shorelines are so interesting. They’re the nexus of all these dynamic issues and processes, past and present, coming together.”

As he picks his way across the mud and dices around pools of salt water, Grier’s boots squish and squeak. It’s the music of Meyer’s Point, a metronome that sometimes skips beats but that always comes back around, a rhythmic cycle of interconnection that Grier sees in both the contemporary philosopher of science, Bruno Latour, and “the indigenous view of the world, that everything is connected and that there are all these complex relationships that are beyond human control.”

As he looks north, up Henderson Inlet towards Dionisio Point on Georgia Strait, where he’s been excavating and collaborating with indigenous Salish Sea tribes for 20 years, Grier says, “One thing I ask my students to think about is this: what do the ancient Greeks, the Romans, the Mesopotamians, the Maya, the Inca, what do all these cultures have in common? They are gone! What they left behind is as close to a laboratory as archeologists are going to get, and it’s a window on the interaction of ecology, politics, economics, technology.” Those interactions are precisely those we, too, must contend with in the present.

Shoring up
Puget Sound is the third largest estuary system in the United States, after the bays of Chesapeake and San Francisco. It’s a young environment, with gravelly soils ground up and laid down by glaciers. Fifteen thousand years ago, the Vashon Glacier buried this region...
under thousands of feet of ice. The massive glacier shoved south of Olympia at its greatest extent. As the planet entered the warming Holocene, the glacier retreated, melting, filling the finger-like fjords of the Sound with water. Plants and animals rushed back in to the newly hospitable environment; biology abhors a vacuum.

Now, as the climate is changing again, Bollens and others consider how this jewel-like spot of earth might help us meet our future with grace. One of the values of Meyer’s Point is that it inspires awe and a love of nature. And that inspiration is a timely remedy to the angst and fear that permeates discussions about climate change. And while that fear is in some sense justifiable—if we’re not to burden today’s children with a grim, superstorm-ridden future, time is indeed short to make meaningful change—fear also paralyzes while love of nature energizes and motivates constructive action.

Someday, Bollens speculates, a trail system might connect the field station to other ecological reserves on Henderson Inlet. But, he cautions, public access has to be balanced with maintaining the integrity of ecological and archeological research sites. Bringing together the missions of research and public education in a place this fragile, Bollens says, “is a balancing act.”

“Virtually every field station has this tension between maintaining resources for researchers and wanting to open things up for the public,” he explains. “Some are so remote it’s a moot point.” Not Meyer’s Point, here in the midst of millions of people.

Is that balancing act daunting? Standing next to his car at the entrance gate, Bollens looks back down the slope to the shoreline and says, “It’s daunting in that it takes millions of dollars to build facilities and infrastructure. But this is a fabulous site and is already drawing support.”

Bassett is leaving, too. All the volunteer hours students have given this place, he says, have also taught them the principles of ecological succession, how species change over time. That time frame might be millennia, as after a glacial recession, or it might happen in the decades after a volcano or fire has devastated a landscape.

But most of all, he says, is they just wanted to clean the place up and have it full of native plants and wildlife. Overhead, birds on the Pacific flyway call and then, as the sound of departing cars fades away, everything is quiet except for the music of the wind in the trees. ✨
WSU STUDENTS COME FROM OVER 90 COUNTRIES WITH MANY ATTENDING SUMMER SESSION AND SUMMER ADVANTAGE (EARLY START) COURSES. SUMMER SESSION CLASSES CAN BE TAKEN ONLINE AND FACE-TO-FACE AT MOST CAMPUSES AND AT IN-STATE TUITION RATES.

ABOVE: THE BRELSFORD VISITOR CENTER ON THE PULLMAN CAMPUS. (PHOTO ROBERT HUBNER)
The Indian name of Annita Lucchesi (’16 MA Amer. Studies), who is a Southern Cheyenne descendant, is Hetoevêhotohke’e—which translates to the peaceful sounding Evening Star Woman.

But Lucchesi calls herself mé’êsko’áe—a hellraiser girl, one who is always stirring things up.

In November 2018, Lucchesi produced a groundbreaking report that was published by the Urban Indian Health Institute, a division of the Seattle Indian Health Board. U.S. Senators Maria Cantwell and Patty Murray and Representative Derek Kilmer, from Washington state, attended a news conference unveiling the report.

It revealed that there were 506 cases, dating back to 1943, of American Indian and Alaska Native women and girls across the United States who had been murdered or are missing. Most of the cases had occurred between 2010 and 2018.

Based on that report, which was limited to certain American cities, Lucchesi estimates there are at least 25,000 such cases dating back to 1900 in the United States and Canada. “We, as a community, already knew that this violence was occurring. But because there is such a lack of communication between law enforcement and the community on this issue, we knew it was bad, but we didn’t know how bad,” Lucchesi says. “And so, now that we have some concrete numbers, even though they’re an undercount, I think it’s really horrified and disturbed a lot of people and I’m really excited to see what happens moving forward.”

The main reason that so little attention is paid to missing and murdered Native females, according to Lucchesi, is racism in some law enforcement agencies. “And that trickles down into the protocols and practices, that trickles down into negligence,” she says. “There’s all sorts of ways that that influences the way that police departments do—or don’t do—their job.”

Lucchesi is now a doctoral student in the Cultural, Social, and Political Thought program at the University of Lethbridge in Alberta, Canada. She says her independent research on missing and murdered Native females grew out of the master’s thesis she did at Washington State, which maps intergenerational experiences of genocide in Native communities.

“My experience is that families do report missing persons cases and they’re often turned away by law enforcement,” Lucchesi says. She says the families “are told, ‘Well, she’s probably just off partying—come back in a couple weeks.’”

“That’s illegal,” Lucchesi says. “They’re not supposed to do that; they’re supposed to take a missing persons report right then and there, but they’re not doing that.”

And when police agencies don’t take missing persons reports, that means there typically is no public announcement of the case and no news coverage of it, she says.
Lucchesi points to the case of Ashley Loring Heavyrunner, who went missing from Montana Blackfeet Reservation in June 2017. The FBI announced in March 2018 that it was investigating the case. But according to Lucchesi, family members had been pressing local and tribal police agencies for months before that, with no results. “I know that they felt, and that the community has felt, that there wasn’t enough follow-up—too little too late.”

The cases in Lucchesi’s report were identified from data from information requests made to law enforcement agencies, state and national missing persons databases, searches of local and regional news media online archives, public social media posts, and direct contact with family and community members who volunteered information on missing or murdered loved ones.

It cites problems with law enforcement jurisdiction disputes and lack of record keeping, as well as lack of media attention to such cases.

“Law enforcement needs to be held accountable for existing failures and also we need to have strengthened policies and protocols, standardized policies and protocols, for handling these cases,” Lucchesi says. One step, which is included in federal legislation known as Savanna’s Act, would require police agencies that receive missing persons reports to notify tribes, so that they might help locate the missing person. “That’s free and easy to do and yet is not being done anywhere,” Lucchesi says.

It’s worth noting that a couple of months before the report was released, the Associated Press produced a lengthy article examining why Native American women go missing. The article said the issue is gaining traction among federal lawmakers.

Savanna’s Act is named for a young Native woman, Savanna LaFountaine-Greywind, who was murdered in 2017 in North Dakota when she was eight months pregnant. The bill failed to pass in 2018, but was reintroduced in January. It aims to clarify the responsibilities of federal, state, tribal, and local governments; to improve coordination and communication among them; and to increase the collection of data on missing and murdered Native females.

Harley Cowan (’96 Arch.), on a tour at Hanford’s B Reactor a number of years ago, first heard about the old wooden swivel chair set in front of archaic electronic panels from an original occupant. The tour docent, McCullough’s story ran through his mind, so he asked to see the original chair and then captured it on film. Cowan had returned to Hanford as part of a research fellowship in 2017 to photograph historic sites within the new Manhattan Project National Historical Park. The original chair was one of many images that gave Cowan a feel for Hanford’s historic places.

“There were so many ‘wow’ moments,” says Cowan. “I was able to access areas I had never seen before.” At the Hanford Site, Cowan took photographs with a large format film camera, following the Secretary of the Interior’s 1933 guidelines for historic documentation, which continue to require black and white sheet film, hand processed, for the Library of Congress archives.

Cowan, a professional architect and photographer, had long been fascinated by Hanford. He grew up in Richland and worked in the nuclear industry during high school and while attending WSU.
It was a dream project to photograph B Reactor, including some areas off limits to tourists—and requiring protective gear—as well as around the rest of the Hanford site.

The first showing of the photographs was at Hanford itself in the spring. They even had a notable guest: former Secretary of Defense James Mattis, who was born in Pullman and grew up in Richland, and whose father worked at Hanford.

In addition to a display at Hanford Site, Cowan worked with WSU architecture professor Phil Gruen to contribute photography to the Washington State Archipedia website, a wiki for historic sites throughout the United States. Gruen and Robert Franklin, historian at WSU Tri-Cities and assistant director of its Hanford History Project, provided written content.

Franklin and Jillian Gardner-Andrews, coordinator of Hanford History Project, are also assisting Cowan with identifying new subjects to photograph to tell a broader story about domestic life around the Manhattan Project.

Cowan will provide ten to twelve prints for display at the Manhattan Project National Historical Park visitor center in Richland from April to October 2019, as part of the Manhattan Project’s seventy-fifth anniversary.

He will also have a solo exhibition for the Manhattan Project photography at Camerawork Gallery, the nation’s oldest, continuously running fine art photography gallery, in Portland, Oregon, from August 3 to 30, 2019.
Robert Slack ’71 DVM thoroughly enjoyed his early days as a veterinarian. An adventurous man, he chose to begin his career in Australia and, later, traveled back to the United States on a camping trip through Iran, Turkey, India, and Pakistan. He even stopped off to run with the bulls in Pamplona.

Once settled into practice stateside, however, Slack was caught off-guard when he found himself struggling to help clients with euthanasia and end-of-life issues. Though veterinary colleges today teach courses on grief and grief counseling, in 1971 neither they nor medical schools addressed the topic in much depth.

“At that time, it was all about what you were going to do for other people,” says Slack. “When I graduated, I was totally channeled toward helping others and their pets. I think that’s one of the reasons we have so much trouble with substance abuse in our profession,” he says. “We’re good caretakers but we’re not good self-care.”

Veterinarians enter their careers with a strong desire to help animals and advance medicine, never imagining the intense challenges of day-to-day practice could leave them feeling trapped and suicidal. Reported suicide rates for veterinarians are 3.5 times the national average, a dismal distinction the Centers for Disease Control and Prevention attributes to occupational stress, depression, burn out, and substance abuse.

Slack says he never thought about his own grief in the beginning. During euthanasia, veterinarians are focused on taking care of the client’s grief but they, too, often grieve the loss of an animal they’ve treated for many years.

“If you don’t deal with your own grief, it comes back in difficult ways like depression and substance abuse,” he says.

Recognizing his need to address these issues, Slack took a break from veterinary practice for a few years to pursue a degree in counseling.

“Actually, I was the one who needed counseling, but being a perfectionist, I went in the back door and got a better understanding of the problems I was having,” he says. “In my case, I had become an alcoholic, but during my training, I confronted it and have been sober for 30 years now.

“Later, when I returned to vet practice in Spokane, I was better prepared to deal with grief in a way that I had self-care—and did not become enmeshed in the client’s issues. So, I was a better vet and better able to help with their loss.”

Slack was also soon hired to facilitate small groups for the Washington Physicians Health Program (WPHP), an independent, nonprofit organization which assists doctors, veterinarians, dentists, and physicians assistants who struggle with substance use disorders, mental health problems, or both.

It’s no secret that medical professions, with their rigorous academic requirements, tend to select for perfectionism—a trait that is often associated with conditions such as depression and anxiety. Slack says the very characteristics that make good health professionals also put them at risk.

“I think these things are underdiagnosed in veterinarians, unfortunately, as they can isolate so easily and many suffer in silence. They’re trained to be the caretaker—I can’t be in need. I solve other people’s needs. I can’t reach out for help.’ But once they do, it’s like, ‘Oh! I’m not the only one?’”

Now retired after 25 years of successful veterinary practice in eastern Washington, Slack remains active in the local community where he continues to hold WPHP groups one night a week. In 2017, he published a book, Tails, which celebrates the human-animal bond as seen through the eyes of his clients. He shares those insights—along with tales of his own dogs, Shilo and Bailee—in public presentations at humane societies, dog clubs, pet groups, and churches.

“The importance of pets for people comes in many different colors and one is for those in early recovery,” he says. “Pets, especially for recovering people, give the gift of unconditional acceptance. We don’t get that in the human world—maybe unconditional love but unconditional acceptance is a difficult thing for people.”

Through the human-animal bond, Slack says our pets also teach us how to live in the moment, and since their biological clock runs five or six times faster than our own, help us learn about endings—“this thing called death, suffering, and dying.

“Scientifically, we can talk about neurotransmitters, the brain, and hormones but I think the human-animal bond is truly a great mystery. As a doctor, we’re always trying to figure things out, but this reciprocity, this shared relationship with a pet—it’s something you just have to experience.”

If you or someone you love is a health professional suffering with mental health or substance use issues, WPHP can help: 800-552-7236 or wphp.org.
Hardship to Homeland: Pacific Northwest Volga Germans

RICHARD D. SCHEUERMAN ’72
HISTORY AND CLIFFORD E. TRAFZER
WSU PRESS: 2018

When the Prussian Princess Sophie of Anhalt-Zerbst deposed (and possibly murdered) her husband, the Russian Emperor Peter III, she became Empress Catherine the Great. Catherine ruled from 1762 to 1796. She ushered in a golden age for the empire. She had herself inoculated against smallpox and her advocacy and example saved millions of lives. She expanded the Russian empire into Poland in the west, and into Alaska in the east. And to shore up her western border, she invited German peasants to settle along the Volga River. By paying their way and allowing the settlers to retain their languages and cultures, she enabled 27,000 migrants to settle. For 100 years, the Volga Germans prospered and made good use of die Kaisarina Katarina’s gift of land. Dick Scheuerman grew up in eastern Washington listening to his elder tell the tales of the “historic trek” from Germany to Russia—and the great betrayal that forced the descendants of those settlers to embark on another great trek.

By 1871, the Russian Senate had reneged on the deal that brought the settlers to the banks of the Volga. Faced with poverty, and on the deal that brought the settlers to the banks of the Volga, some 100,000 Volga Germans immigrated to North America.

As Scheuerman notes, place names throughout the Pacific Northwest reveal their Russian origins. Moscow, Idaho, and Odessa, Washington, “and smaller rural hamlets like Tillas and Batum” are part of the story of a great Russian-German immigration to the United States in the late nineteenth century.

In 1881, the first wave of Volga Germans traveled from Kansas to San Francisco by rail, and then on to Portland by steamship. The following year, some families crossed the Cascades “by wagon ... to establish homes in eastern Washington Territory’s fertile Palouse Country.”

Some immigrants came to Ritzville, an area around the Big Bend of the Columbia River. The land there had been thought to be uncultivable, but Phillip Ritz, a few others, and the new wheat varieties proved that wrong. “The loam was dark and rich in the area, but without lumber they had to live in sod houses or dugouts and use sagebrush and cow dung for fuel. Through efficient methods of tillage and fallowing, the industrious farmers achieved remarkable success.” Soon, the new farmers were “a distinctive island in the semiarid pioneer landscapes of Adams County.”

The immigrants brought seed with them, and that the Scheuermans preserve here, tell of ties to the great czarina, a gift of the Volga River home, who relocate to the American West. Respectful of the Native American families living nearby, they made a new home in the hills of the Palouse.

The stories the kolonisty brought with them, and that the Scheuermans preserve here, tell of ties to the great czarina, a gift of a blue teapot that saved lives, and a moving story about a family, pushed by discrimination out of their Volga River home, who relocate to the American West. Respectful of the Native American families living nearby, they made a new home in the hills of the Palouse.

Hardship to Homeland is a fascinating read. First published in 1980, and revised and expanded for this new 2018 edition, the book is not only a detailed history of one of the largest ethnic migrations in the history of the United States, it is also a valuable resource for folklorists, as the authors painstakingly collected numerous stories handed down within Volga German families. It is also a testament to the value immigrants bring in terms of new political, religious, and social ideas, as well as economically important innovations now ingrained in Pacific Northwest farming and forestry methods.

—Brian Charles Clark

Baseball in a Grain of Sand: Seeing the Game through a Small Town Season

BILL GRUBER ’79 PHD ENGLISH
MCFARLAND & COMPANY: 2018

Baseball, writes Bill Gruber, evokes a literary state of mind. The English professor explains that the suspense, narrative, soaring victories, and crushing tragedies of stories also appear in baseball, perhaps more than any other sport.

In Baseball in a Grain of Sand, Gruber explores baseball history and drama through one summer season of an American Legion team in Moscow, Idaho, the Blue Devils. Along the way, he meets and introduces fascinating people, many of whom share Gruber’s unabashed sentimentality for the sport.

The American Legion team exemplifies in numerous ways how baseball connects to Gruber and other fans. By taking a deep look this way, he writes, the game’s complexity “...comes into much sharper focus in the gritty, unglamorous, underfunded, and quickly forgotten games of an American Legion baseball season.”

Gruber moved from Atlanta, where he taught at Emory University, to Moscow in 2012. Teaching a class on baseball and American culture did not satisfy his itch for all things baseball, so he undertook his mission to follow the Blue Devils through the summer of 2014.

The stories of each game, the people Gruber met, and the insights into baseball as an integral part of American culture and history come alive in this book, not only for baseball fans but for anyone who enjoys fine storytelling from someone who truly loves the subject.

—Larry Clark
BRIEFLY NOTED

Millionaire Millennials: A Handbook to Crypto Investing
ZACHARY HOFFMEISTER ’07 BUSI., TIMOTHY SUGGS, AND JOHN GRANOFSKY
2018
The authors, who successfully invested in cryptocurrencies, offer a better understanding of what crypto is, how to invest, and most importantly, how to find undervalued investments and get in early.

A State of Grace
RITA CATCHING ’03 MN NURSING
2016
Retired nurse Catching’s debut novel follows the adventures of Eastern Oregon nurse Libby Clendenon, who runs up against a U.S. Senator and two murders as she tries to fulfill the wishes of a dying patient. The book was selected as a finalist for a prize from the Crime Writers’ Association in 2016.

Outdoors Stupid from Around the World
F. ROBERT BELL ’66 CIV. ENG.
BBB PUBLICATIONS: 2018
Bell tells humorous tales of close calls in the outdoors around the world, relayed to him from guides, hunters, and outfitters who he met on his travels from Africa to Argentina.

Insects Did It First
GREGORY S. PAULSON ’90 PHD ENTOM.
AND ERIC R. EATON 2018
The book highlights physical and behavioral capabilities that insects evolved before other animals; highways, domestic animals, flight, and even glue are among the more than 80 “firsts” from insects. It’s the second edition of a book by two WSU entomologists published in 1992, E. Paul Catts and Roger Akre. A portion of the sales will be donated to the E. Paul Catts Memorial Lectureship fund and the Roger D. Akre & Carl A. Johansen Scholarship fund through the WSU Foundation.

Billy the Balloon
DANIEL MOORE ’84 AG. ECON.
ELM HILL: 2018
This illustrated children’s book tells how a farmer, his special needs grandson, and a young city girl are wondrously brought together for a benefit party by a balloon named Billy. Balloons caught in fences and laying in his fields caused Moore, a fourth-generation wheat farmer, to ponder wonderful questions he turned into stories for his young daughters. His special needs grandson inspired him 25 years later to turn those musings into a book.

Amazing Legacies

Leading the Crimson and Gray
The Presidents of Washington State University
In Leading the Crimson and Gray, twelve writers brilliantly chronicle the lives and amazing legacies of those who served in one of WSU’s most visible roles—president. Despite significant challenges, their accomplishments were substantial. From launching the college to winning state legislative backing for a new medical school and numerous contributions in between, they left legacies that make the Cougar Nation proud.

Limited to 125 numbered copies, each collectible hardbound is signed by current WSU President Kirk H. Schulz and WSU Regent Scott E. Carson.

WSU Press books are available at bookstores, wsupress.wsu.edu, or by phone at 800-354-7360.
2019 Regents’ award

By Tina Hilding

With his background in atmospheric chemistry, Graedel became part of the environmental team studying the company’s atmospheric emissions. The group realized that in an industry that used a lot of energy and materials, they could find effective ways to increase manufacturing efficiency and minimize impacts, and do so in a more sustainable manner.

Graedel and a few colleagues, both at Bell Laboratories and in other industrial laboratories, began developing the field of industrial ecology, in which one aims to design processes and manufacture products in such a way as to minimize materials use, energy consumption, and environmental impacts. Interest in their work grew. In 1995, he and a colleague, Brad Allenby, published a textbook on their work, Industrial Ecology. He published another textbook, *Industrial Ecology and Sustainable Engineering*, in 2010.

In their text, the researchers discuss how materials and energy are used, what gets reused, and what gets lost. Then they explain industrial product and process design to minimize impacts and promote recycling and reuse. Graedel developed a simple matrix that improved the existing methods of life-cycle analysis. Their work has become standard practice in industry.

“I think a background in engineering, in general, and chemical engineering, in particular, provides a combination of knowledge and scholarship, but at the same time, the application of that knowledge and scholarship to real world problems,” he says. “I think it’s been a good foundation for reaching out in directions that seem to be interesting and useful.”

For his contributions to environmental sciences and “the new discipline of industrial ecology,” he was elected a Fellow of the American Association for the Advancement of Science in 1998. For his pioneering research and outstanding contributions to the engineering theory and practice of industrial ecology, he was named a member of the prestigious National Academy of Engineering in 2002.

His research career has been widely varied, including conducting research in solar physics, chemical kinetic modeling of gases and droplets in Earth’s atmosphere, corrosion of materials by atmospheric species, atmospheric change, and industrial ecology and sustainability science. He is an author or coauthor of 18 books and nearly 400 technical papers. His work has been cited more than 25,000 times.

Graedel also did pioneering work in atmospheric chemistry. He and colleagues at Bell Labs were the first to warn of urban methane and carbon monoxide increases in the late 1970s. Both gases are now understood to be significant contributors to global warming. Along with Nobel Laureate atmospheric chemist Paul Crutzen, Graedel wrote *Atmosphere, Climate, and Change*, published in 1994. The authors received the American Meteorological Society’s Louis J. Ballant Author’s Award in 1995 for their work.

He later joined Yale University in 1997 as a professor of industrial ecology.

For his contributions to the understanding of atmospheric chemistry and his work to develop the field of industrial ecology, Graedel, now professor emeritus and a senior research scientist at Yale, received the 2019 Regents’ Distinguished Alumnus Award, the University’s highest alumni honor.

“Dr. Graedel is a trailblazer in his field,” says WSU President Kirk Schulz. “His research not only has significantly improved industry efficiencies throughout the world, it has initiated an entire field of study in industrial ecology. His work promises to have a significant impact on saving energy and resources for future generations.”

As a professor emeritus, Graedel continues solving problems, conducting research into the long-term sustainability of rare metals. Modern technology depends on having a diverse supply of metals, and many everyday products require alloys that are made of scarce elements, such as tungsten, gadolinium, or vanadium.

“Every time we think about resource sustainability in detail, we trip over the fact that we don’t know enough about uses and losses across the full periodic table,” says Graedel. “It’s an issue that hasn’t been appreciated.”

When Thomas Graedel studied at Washington State University in the late 1950s, a faculty member told him that chemical engineering graduates could do anything. Graedel took those words to heart and long before sustainability was part of business and the American consciousness, he was conducting pioneering research in these fields.

“My training in chemical engineering made me more inclined to follow whatever interesting problems I found rather than stick to a specific definition of a career, says Graedel (‘60 Chem. Eng.), the latest recipient of WSU’s highest alumni award. “In fact, I would say my career has been completely unpredictable.”

Graedel grew up in The Dalles, Oregon, and then Spokane, where he credits a teacher at North Central High School with getting him interested in chemistry. After WSU, he received a master’s degree in physics from Kent State University. Caught up in the excitement of the Gemini astronauts and prospects of a moon landing in the 1960s, he earned a doctorate in astronomy from the University of Michigan in 1969, then went to work for AT&T Bell Laboratories in New Jersey.

During his time at Bell Laboratories, he first became interested in industrial ecology. Several researchers were trying to ensure that the Bell system was meeting the new environmental regulations of the 1971 Clean Air Act.
Alumni Association News

Making history

Last fall, the WSU Alumni Association launched a new membership drive with the goal of reaching 40,000 members by 2020. The membership drive, known as “40by20,” is more than a little ambitious. However, its success is confidently based on the fact that Cougs join the Alumni Association because they love WSU.

Why 40,000 members? More members mean more support for WSU. For the University, Alumni Association members make the world go around. According to university research, members are more involved with WSU and provide more generous support to WSU.

Being a WSUAA member is much more than a small rectangle of plastic in your wallet (although who doesn’t love seeing that Cougar logo every time you reach for that card?). Membership, at its core, is a reflection of the deep commitment members have to our great University. Membership makes it possible for the WSUAA to host 700+ alumni events each year across the country, manage the Cougar license-plate program that generates over $650,000 in student scholarships annually, engage alumni in direct support of the University, and so much more. And, Cougs get a lot of perks with their membership, but that’s not why most of them join.

Tangible rewards are certainly a benefit of membership, but the early success of the “40by20” campaign shows that Cougs are joining the WSUAA for much more than that. Simply put, they join because of the heartfelt connection they have with WSU. The WSUAA launched the drive by including an online mosaic tool where Cougs can search or upload their favorite WSU photos and memories—and members can share their cherished WSU connections to inspire other Cougs to join. These alumni and friends have expressed their affection and appreciation for WSU and the WSUAA for so many happy life moments. If you haven’t already shared your own WSU photos and memories, we encourage you to do so at wsuaa40by20.com.

Since the launch of the drive, membership has jumped by nearly 8 percent—a huge step toward 40,000. To all the Cougs who have already joined the WSUAA, you are helping the Association edge closer to the 40,000-member goal. To those who haven’t yet joined, see what all the excitement is about at alumni.wsu.edu/40by20, and help WSU and the WSU Alumni Association make history.

THE WSU ALUMNI ASSOCIATION’S 40by20 MEMBERSHIP DRIVE

Jack Dewitt (’60 MS Agro.), a farmer for over 50 years, recently published World Food Unlimited, a book that discusses the ways in which farmers have changed their practices over the past 70 years in order to combat soil erosion and grow food more sustainably using fewer resources. George Murdock (’64 Ag.) received the 2018 Pendleton Man of the Year award for his contributions to the community. He has been a cattle rancher, publisher for the East Oregonian, superintendent of the Intermountain Education Service District, and involved in a number of organizations. Murdock is also in his second term on the Umatilla County Board of Commissioners.

Greg Stewart (’71 Ag.), president and general manager of the Central Washington State Fair in Yakima, was recently awarded the Lifetime Achievement Award by the Washington State Fairs Association. He has spent 46 years in service to the organization. Edmund Schweitzer III (’77 PhD Eng.) was inducted into the National Inventor’s Hall of Fame for power grid advancements. The ceremony will take place in Washington, D.C., in May. He is being recognized for his invention of the digital protective relay, a breakthrough technology for electrical power grids.

Claire Wilson (’79 Food Sci. & Hum. Nutr.) was recently sworn into the Washington state senate and was appointed as vice chair of the Senate Early Learning & K–12 Education Committee. Wilson has specialized in early education and family involvement for 25 years. She has experience teaching pregnant and parenting teens at Mount Tahoma High School, and also serves on the Federal Way School Board, which oversees the fifth most diverse student population in the nation.

Rolfe Westly (’80, ’82 MS Ani. Sci.), a longtime U.S. Department of Agriculture employee based in Spokane, retired last December. He worked throughout his career to assist ranchers facing animal disease. Westly’s duties included emergency disease response, international movement of livestock or products, import of research products, and various disease programs. Mike Willett (’81 MS, ’95 PhD Hort.),
40,000 MEMBERS BY 2020

BOLD, YES. COUGS ACHIEVE.*

Well, Cougs overachieve, but you get what we’re saying.
manager of the Washington State Tree Fruit Research Commission was crowned the 2019 Cherry King at the Northwest Cherry Growers’ Cherry Institute in Yakima on January 18. He began his career picking peaches in Orondo in 1969. Willett returned to the state in 1983 when went to work with WSU Extension in Yakima as a service agent for tree fruit and integrated pest management. He plans to retire in June. "JOHN MARTINS III ('82 Hum.) received first place in the Family/Teen/Animation category of the eleventh annual StoryPros Awards Screenplay Competition for his script Arizona Sunrise. "KELLY FUHRMAN ('87 Nursing) opened Lakeside Medicine and Aesthetics in Sandpoint, Idaho. She aims to solve the patients’ immediate medical needs whether or not they are covered by insurance. Fuhrman, a nurse practitioner, previously worked at Holy Family Hospital in Spokane and then for a Sandpoint doctor. "SALLY BRYANT DECHENNE ('89 English) was recently promoted to president and CEO of Bryant Group, a leading executive search and talent development firm specializing in the advancement field in higher education, healthcare, and not-for-profit institutions. "BRYAN GRENON ('89 Soc. Sci.) has been promoted from captain to brigadier general in the Washington State National Guard. He is now the land component commander and will be responsible for the training of over 6,000 soldiers. "DAVID BEACH ('91 Poli. Sci.) has been named city manager of West University Place, Texas. He has worked in the community since 2005. "DAVID CHRISTENSON ('91 Soc. Sci.) was recently named golf director of Circling Raven Golf Club located in Coeur d'Alene, Idaho. He attended WSU on a golf scholarship and soon after graduation, began his career as an assistant pro at Inglewood Country Club in Seattle. "DARRON PAGE ('91 Acc.) has been named senior vice president for J.R. Simplot Company. He has been with the company for 26 years and is looking...
forward to taking on this new position. ✶ LILLIAN PEREZ POSADAS (’93 MN Nursing) has been appointed as the new administrator at Guam Memorial Hospital. She had worked as a registered nurse for United Airlines. She also served as a member of Guam Memorial Hospital Authority Board of Trustees from July 2016 to December 2018. ✶ NICOLE (SUMMERFIELD) CECIL (’96 Int. Des.) was recently elevated as a board director for CSHQA, a full-service architecture and engineering firm based in Boise, Idaho. Cecil will be serving a two-year term in this position. ✶ AARON M. SCHUTT (’96 Civ. Eng.) has been appointed to the board of directors at Northrim BanCorp—a mortgage and brokerage company based out of Alaska. He is currently president and CEO of Doyon, Limited, an Alaskan Native Regional Corporation and one of the state’s largest land owners. Schutt, a Koyukon Athabascan and an enrolled member of the Native Village of Tanana, earned a master’s degree in civil engineering and a law degree at Stanford after his undergraduate degree at WSU. ✶ JAMES M. MALCOLM JR. (’98 Crim. Jus.) was appointed to the role of director of probation services for the Skagit County District Court in Mt. Vernon. ✶ SEYI ONAGORUWA (’99, ’01 MS Mech. Eng., ’04 MS Eng. Mgmt.), a senior manager at Boeing, has recently been presented with the technology leader award. He has demonstrated outstanding performance in science, technology, engineering, and mathematics.

STEVE GLEASON (’00 Busi.), a former Cougar football player diagnosed with ALS, was awarded the Congressional Gold Medal—the highest civilian honor the legislative branch can give in the United States, due to his advocacy for people with the paralyzing neuromuscular disease. ✶ MATTHEW STAPLES (’00 Biol.) has been elected as a partner at Wilson Sonsini Goodrich & Rosati, an international law firm headquartered in Palo Alto, California. Based in Austin, Texas, he advises companies in various industries regarding privacy, data protection, cybersecurity, and other information security issues. ✶ PETER SALAMONE (’01, PhD Gen. & Cell Biol.) is the CEO of nonprofit Research Oenovation Collective (ROC), which is focused on the advancement of practical winemaking by providing a collaborative platform for applied research and innovation. ROC will deliver continuous improvement through interdisciplinary applied research linking scientific discovery to winemaking innovation. ✶ CAROLINA TORRES (’01 MS, ’05 PhD Hort.) has been named WSU’s first endowed chair in tree fruit postharvest systems. Her main responsibilities will include helping Northwest tree fruit growers and packers bring their best produce to consumers more profitably and sustainably. ✶ ADAM ORTH (’03 Comm.) was promoted to vice president of sales, sports, and automotive for iHeartMedia in the Pacific Northwest region. He will oversee advertising sales and strategic partnerships for sports radio and is responsible for leading teams in the automotive category throughout Washington, Oregon, and Alaska. ✶ Merrill Lynch announced that TROY BRAGA (’04 MBA) has been awarded the certified plan fiduciary advisor credential offered through the National Association of Plan Advisors. He is based out of Coeur d’Alene, Idaho. ✶ SEAN MCCALLISTER (’05 Health Policy & Admin.) has taken on the role of CEO at the Johnson County Healthcare Center in Buffalo, Wyoming. He has extensive experience in administration for regional critical access hospitals. ✶ MEAGAN BAKER (’06 Arch.) has been promoted to an associate position with Soderstrom Architects. She has over 12 years of design and planning experience and is currently working on the new Meadow Ridge Elementary School in Mead, Washington. ✶ BRAD LIEBRECHT (’07 History, Soc. St., ’13
MEd), journalism and history teacher at West Valley Junior High School in Yakima, has been selected to participate in the 2019 “Memorializing the Fallen” program through National History Day. Liebrecht was the only educator from Washington state to be selected and will travel with other participants to Europe to study World War I and develop lesson plans that will be available next year.

Daniel Baker ('08 Civ. Eng.) has been hired as engineering and architecture company HDR’s new North Idaho transportation lead. He will be based out of the company’s Coeur d’Alene location and will oversee the local transportation team there.

Luke Schueler ('09 Soc. Sci.) founded Flying Squirrel sports in 2015 with his brother Cody and recently opened a new facility in Spokane Valley. They have been entrepreneurs in the trampoline park industry for nearly 10 years since founding Shock Trampoline Park. They have been able to make the industry safer with their new innovations and as a result, the business is growing rapidly.

Chelsea Schull ('09 Poli. Sci.) will oversee state scheduling and operations at the state offices of freshman U.S. Representative Dusty Johnson of South Dakota. She previously worked for Representative Darrell Issa and as a field representative for the National Republican Congressional Committee. After WSU, Schull earned a master’s degree in political science from the University of Texas at Dallas. She will be based out of Sioux Falls, South Dakota.

Karina Vega-Villa ('09 PhD Pharm.) has been selected as a member of the Wenatchee School Board. A biology instructor at Wenatchee Valley College, she brings experience in education, particularly in STEM fields. Vega-Villa also serves as the community outreach liaison at Lewis and Clark Elementary School.

Mo Zhang ('09 MA Ed., '12 PhD Ed. Psych.) recently earned the National Education Award. Zhang is a research scientist for the Educational Testing Service in Princeton, New Jersey. The team she works with extensively focuses on the validity and measurement
issues related to automated scoring of open-ended questions.

BRENDEN KOCH (‘10 Hum.) has just joined the city of Walla Walla as their communications manager. He has experience with graphic design as well as editing. Koch previously worked more than seven years as an editor at the Union-Bulletin. ✪ JUSTIN OVERHOFF (‘11 Biol., Gen. & Cell Biol.), a nationally board-certified physician assistant, recently joined North Idaho Urology. Justin specializes in urologic conditions that include UTIs, kidney stones, BPH, incontinence, overactive bladder, voiding dysfunction, and erectile dysfunction. ✪ KYLIE ALLEN (‘13 PhD Biochem.) has been named assistant professor of biochemistry in the College of Agriculture and Life Sciences at Virginia Polytechnic Institute. She focuses her research on characterizing unusual enzymes and coenzymes in methanogenic archaea using enzymology and molecular genetics techniques. ✪ Viticulture and enology specialist DAVID HESS (‘13 Viti.) has been hired by Westport Winery to assist with their winemaking program. Hess previously worked in Napa, New Zealand, Walla Walla, and Australia. ✪ NICK MCMANUS (‘13 Mgmt.) has recently been promoted to assistant vice president at Baker Boyer Bank. He originally started with the company in April 2010 as a college intern in the audit department and was hired into a full-time position in 2011. Throughout his first three years, he was simultaneously working on completing his bachelor’s degree. ✪ QUINN STADSHAUG (x‘14 Hospitality Busi. Mgmt.) has accepted the position of rooms operation manager for Marriott headquarters. She will be part of an operations and support resources team. ✪ PHILLIP TRAVIS (‘14 PhD History) has been promoted to associate professor of history at State College of Florida. He has also launched a public access television program called Lectures in History and is also the author of the 2017 book, Reagan’s War on Terrorism in Nicaragua: The Outlaw State. In addition to this, he wrote several peer-reviewed articles with the Oxford Encyclopedia of Latin American History and the Journal of Terrorism Research. ✪ T.J. GRIGGS (‘16 Civ. Eng.) has recently been hired by Gibbs & Olson as a project engineer. He is currently working on road, site, sanitary sewer, and water design project elements. He is also analyzing and designing stormwater detention and treatment systems. ✪ HEATHER SWEET (‘17 Ed.) has been chosen by Ocosta School Board as the new district superintendent. She has been working within the district for 11 years. ✪ JASON TOREY (‘17 MBA), a former Navy SEAL who served 26 years in naval special warfare, is cofounder of Randori—a professional development firm that specializes in creating, evolving, and inspiring elite leaders. They have recently partnered with RStor, which is the only multicloud platform built for enterprise performance computing. ✪ SAMANTHA BALLARD (‘18 Busi.) has been welcomed by Davidson & Associates Insurance Agency of Vancouver as a life and disability account manager. ✪ EMMA EPPERLY (‘18 Comm.) is now an intern with the Columbia Basin Herald of Moses Lake and is covering this spring’s legislative session. She hopes to focus on mental health in schools, an important topic at the intersection between education and healthcare. ✪ TREVOR REDDEN (‘18 DVM) has recently begun working at Peak View Animal Hospital alongside fellow veterinarian Rick Leone in the Arkansas Valley of Colorado. The clinic offers nutritional, reproductive, and health consultation services for cattle, sheep, goats, pigs, llamas, and alpacas. ✪ JESSICA ROTH (‘18 Digi. Tech. and Culture) recently joined real estate firm Thornton Oliver Keller as an administrative assistant. She will provide customer service to the firm’s professional commercial real estate agents and managers as well as their clients.

WE ARE PLEASED TO ANNOUNCE THE 2019 R. KEITH CAMPBELL LIFETIME ACHIEVEMENT AWARD RECIPIENT

William Gaskins, class of 1969

During the Crimson Gala on October 19 in Spokane, William Gaskins will be honored for his outstanding commitment and service to the college and the pharmacy profession.

Proceeds from the event will fund a William and Felicia Gaskins Scholarship at the WSU College of Pharmacy and Pharmaceutical Sciences.

Learn more: pharmacy.wsu.edu/alumni/friends
or call 509-368-6675
IN memoriam


KAYLA NICOLE BONAR (17 Comm.), 23, December 6, 2018, Snohomish.

FACULTY AND STAFF
Born from equations on a chalkboard and mathematical exploration, the paintings of Michael Schultheis smudge layers of diagrams, transforming geometries and calculations into artistic visions, like the *Breath of Menelaus* above.

In his new exhibit, “Venn Pirouettes,” at the Jordan Schnitzer Museum of Art WSU in Pullman, Schultheis (’90 Econ., Honors) breaks the confines between mathematics and art, blending their languages, in sculptures and surrealistic paintings.

“Venn Pirouettes” is open to the public at the JSMOA until June 29, 2019. Read more about Schultheis and the exhibit at magazine.wsu.edu/extra/Schultheis.
Generation Coug

Do you want to make a tax-smart decision while supporting the next generation of Cougs?

We can help. After you turn 70½, you’re required to withdraw from your IRA annually. Transferring those funds directly to the WSU Foundation supports the areas you’re passionate about, and you avoid paying income tax. It’s a win-win.

Call the WSU Foundation Gift Planning Office at 800-448-2978 or visit foundation.wsu.edu/ira to learn more.