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vol19no4

Washington State MAGAZINE



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Cougs Persevere

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FIRSTWORDS

{ Together } This year is unlike any we've experienced, with the novel coronavirus, economic devastation, and struggles for justice. So many people have suffered or died from COVID-19; I know of a friend's sister who got very ill, and a fellow Cougar grandfather who succumbed to this pandemic. Like many of you, I read the charts and numbers about the hundreds of thousands of people felled by COVID-19. But I need to recognize every number as a person, to feel empathy even if it seems overwhelming.

That empathy must extend to the families hurt by the disease and the economic fallout, to the health care and essential workers, to the students displaced from their college home.

Empathy's not enough, though. We need action. It's the spirit of empathy and action that we've heard about from alumni, faculty, students, staff, and friends who step up to help. There are so many stories, and this issue of the magazine can only share a few, like Erich Broksas ('93, '94 MA Intl. Rel.), who's working to get millions of meals to health care workers and families in need as chief strategy officer for Chef José Andrés's World Central Kitchen. Students, volunteers, and staff across WSU statewide, from the Bread Lab to the Master Gardeners, are also alleviating food insecurity. Retired Vice Admiral Raquel Bono ('15 MBA) heads up the complicated logistics of health equipment management across Washington state, while numerous Cougs make sanitizer, masks, and other protective gear.

Our WSU researchers, too, have redoubled their efforts to leverage scientific and thoughtful insight on modeling the spread of COVID-19, understanding the moral quandaries of nurses and doctors facing a public health emergency, preventing the spread of misinformation, and quickly analyzing coronaviruses in hopes of preventing the next pandemic.

I believe that we can extend our empathy even further, into the natural world. As Tim Steury writes in this issue, insects around the world are declining, which can have serious consequences for our food supply and ecological balance. WSU scientists, farms, and wineries have some smart solutions, with plenty of room for citizens to assist in boosting insect habitat.

Empathy, generosity, intelligence, and a can-do spirit: these should be hallmarks of Cougars everywhere. In this time of crises, division, and hardship, we can help, whether that means wearing a mask to block the disease, seeking equity for all, or giving a helping hand to a neighbor. I know this is true, for nurses, chefs, CEOs, scientists, students, and all of us in the Cougar family.

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TALKback

A superhero

I was thrilled to see that Ralph Yount was awarded an honorary doctorate. Ralph is one of my academic heroes. He taught me a great deal of biochemistry and provided wise counsel. I owe him a lot, starting from even before my VW bus and I pitched up in Pullman in the summer of 1977... After I was offered a place in the chemistry PhD program at Wazzu, Ralph made a recruiting call to the phone number on my application. He got my mother and talked with her for an hour! Ralph made an ally, and here I am.

GARY J. PIELAK ('83 PHD BIOCHEM.)

Kenan Distinguished Professor of Chemistry, Biochemistry and Biophysics, University of North Carolina

A very scary time

I enjoyed reading the article in your last magazine about Mount St. Helens. I was in graduate school at the time in the communications disorders department when the volcano erupted. I remember driving around downtown Pullman that morning and the announcer on the radio said, "It got so dark in Yakima that the streetlights came on." And just then—around noon—the streetlights in downtown Pullman started to come on. I rushed over to Daggy Hall to be with my fellow graduate students up in our offices. It was a very scary time.

I recently came across a few photos of myself dealing with the ash. I thought I would share them with you.



DANIELLE DORRIAN (NEE MCGLONE)
('81 MA SPEECH & HEARING SCI.)

Note: You can read other WSU alumni and faculty memories of Mount St. Helens at magazine.wsu.edu/extra/where-were-you.

FROM THE president



ILLUSTRATION: DEREK MUELLER

Coming together in an extraordinary time. I can't think of a better way to sum up my thoughts about the Cougar family during the current pandemic, which has turned so many lives worldwide upside down.

I reflect back to March, when all of us in the United States began to understand the gravity of COVID-19 and the need to drastically alter our daily work and personal routines. From a University standpoint, it meant moving our entire statewide enterprise from an in-person to an online operation—a monumental task that our faculty and staff rallied to achieve in barely two weeks' time.

Being involved in that process was truly humbling. Faculty, staff, and students from across the WSU system came together to identify creative and effective ways to allow the University to maintain its teaching, research, and service activities in an online environment. The spirit of cooperation and can-do attitude I witnessed inspired me and the entire University community.

Our faculty, staff, and alumni are involved in similarly inspiring efforts to address the coronavirus and its myriad impacts. Scientists in the College of Veterinary Medicine are working to identify ways to prevent the severe, deadly pneumonia seen with COVID-19. WSU epidemiologists are tracking the determinants that allow the virus to

spread with the goal of informing science-based policies to reduce transmission in health care systems, the community, schools, and workplaces. Other researchers are focusing on other aspects of the virus, including the fallout of mass social and physical distancing efforts: economic impacts, food security, voting issues, and the boredom caused by isolation.

Alumni such as retired U.S. Navy Vice Admiral Raquel Bono and Glen Tran, whom you will read about in this issue, are among the Cougar alumni who are on the front lines of addressing the new realities the pandemic has brought to our lives. Admiral Bono is serving as director of Washington's COVID-19 health care response, while Glen is running one of two new units at Honeywell manufacturing N95 masks.

The impacts of COVID-19 are likely to be with us for a long time. The virus, along with other recent events, have reminded us that there is much happening in the world that needs fixing. Disease, extreme poverty, religious strife, sexual discrimination, unimaginable violence. The list is long.

But I remain hopeful about the future, largely because the WSU community is a tremendous font of hope. In times like these when we are faced with adversity, the Cougar family rallies again and again with remarkable resolve to address challenges large and small. Working together—with open hearts and minds—we will overcome this unprecedented period of our lives.

KIRK SCHULZ

President, Washington State University

SPECIALsubject

Distress call

BY REBECCA PHILLIPS

Health care workers scrambled for information and resources as the coronavirus crisis exploded last spring. Yet, facing uncertainty and surging infections, they willingly stepped up to battle the world's largest pandemic in a century.

Despite that sense of duty, however, many were unprepared for the onslaught of critically ill patients in COVID-19 hotspots like New York and New Jersey. Few anticipated the extreme shortage of protective equipment and health care supplies, nor the confusing and inconsistent response from federal and state agencies.



CARL HEINE (COURTESY ELSON S. FLOYD COLLEGE OF MEDICINE)

By late April, it was obvious that health care workers were in trouble as cases of provider depression, anxiety, insomnia, and even suicide mounted. The situation was further aggravated by citizen rallies protesting social distancing and the wearing of masks. Protester signs claiming "COVID-19 is a hoax" added weight to an increasingly discouraged health care workforce.

"This moral injury for frontline providers is a very big deal," says Carl Heine, clinical education director for emergency medicine in the Elson S. Floyd College of Medicine at Washington State University Health Sciences Spokane.

"There will be a lot of PTSD and grief issues coming out of the pandemic, especially for caregivers who have to make decisions about allocating resources or whether to let patients die alone," he says. "There's going to be a lot of guilt and trauma associated with how they are being forced to respond."

According to the U.S. Department of Veterans Affairs, moral injury is the distressing psychological aftermath of experiencing or witnessing events that contradict deeply held moral beliefs and expectations.

During a public health emergency, health care workers can suffer this intense conflict as a result of a sudden switch in the code of medical ethics.

In ordinary times, health care workers follow the clinical medical ethic—or individual patient care ethic, says William Kabasenche, philosophy professor and ethics education director at the Elson S. Floyd College of Medicine.

"Informed consent and respect for the autonomy of the patient are at the heart of the day-to-day ethics of most health care providers," he says. "Ideally, we want our interventions to be consistent with the patient's goals. Some people want full treatment with the highest odds of success while others may decline further treatment for what may ultimately be a terminal illness."

But during a pandemic when resources like ventilators and N95 masks are limited, Kabasenche says society instead turns to a public health ethic that prioritizes the collective good of the whole community.

"We're thinking in terms of shared goods and coordinated action that promotes the well-being of as many in society as possible," he says. "We try to limit the number of deaths that will occur due to scarce resources, but in order to achieve that we may have to set aside individual rights like patient autonomy."

Kabasenche says health care providers experience moral distress when their normal decisions and work routines are suddenly prohibited—when nurses, for example, can no longer allow patients to have visitors or any kind of direct human touch.

"In ethics, we make a distinction between remorse and regret," he says. "If I do something that harms you, I should feel remorse and offer an apology. But I still might regret something even if I think I didn't do anything wrong."

"A health care provider who did her best with the available resources to limit the number of lives lost may feel that she did the right thing. But she may still regret the fact that another person died, or other people were

deprived of the chance to be with a loved one who was in the midst of dying."

Heine, who is also a part-time emergency room physician at Deaconess Medical Center in Spokane, says he is comfortable with bad outcomes if he has stayed true to the individual patient care ethic and done the best he could on every level.

"When we switch to a public health ethic, I can theorize that I am doing the right thing but that does not compensate for my concerns about the very real person in my care that might not get the same individual treatment as in normal times," he says.

Heine says distress can also arise from society's expectation that physicians will stay and care for patients during a pandemic despite the danger.

"How lethal does the pandemic need to be before the risk-reward social contract becomes noble versus foolhardy?" he asks. "With PPE shortages and confusing recommendations about what's appropriate treatment for COVID-19, it's really tough to know how safe the scene is."

"Firefighters will run into a burning building when the reward is worth the risk—if they have turnouts and the right equipment," Heine says. "But in some fires, it's too dangerous to go in, so they decide to fight with external resources only."

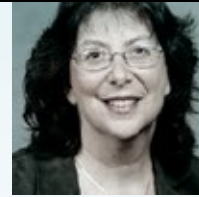
Kabasenche says it's reasonable for society to expect health care providers to fulfill their end of the contract.



"But it's also up to the rest of us to try to limit situations that would cause moral distress or injury such as refusing to wear masks or social distance," he says. "I'd say this is an opportunity for us as a society to recognize how interdependent our well-being and interests are. We need to think as a society and not just individuals." *

WILLIAM KABASENCHÉ (PHOTO: GEOF. GRIMMINS/MOSCOW-PULLMAN DAILY NEWS)

FROM LEFT: ERICA WEINTRAUB AUSTIN, MIKE CAULFIELD, AND PORISMITA BORAH (COURTESY WSU NEWS)



FROM LEFT: OFER AMRAM, STERLING MCPHERSON, AND PABLO MONSIVAIS (COURTESY WSU NEWS)

An epidemic of misinformation

BY ALYSEN BOSTON

In the flood of information, it feels nearly impossible to analyze every message in everything from political advertisements and talk shows, to social media and children's movies.

COVID-19 is not immune to the effects of fast-traveling media. World leaders are calling the rampant spread of misinformation around the virus an infodemic. Researchers at Cornell University found that between 14 and 19 percent of survey respondents both recalled seeing fake news about COVID-19 and believing it.

Erica Weintraub Austin, director of the Murrow Center for Media and Health Promotion Research at Washington State University, says COVID-19 is particularly susceptible to misinformation, the spreading of inaccurate information by mistake, because of the virus's uniqueness.

"The actual good information is changing every day, and there are a lot of unknowns," Austin says. "It's ripe for people to have natural mistrust of what they might be seeing, but also for people to take advantage of that uncertainty."

Other people engage in disinformation, purposely spreading inaccurate information to manipulate or deceive others.

"Their motives vary," Austin says. "Some of them may have motives that are based on trying to keep our entire political system unstable, or they're trying to sell a product."

Mike Caulfield, the director of Blended and Networked Learning at WSU Vancouver, has a simple guide on his website, [infodemic.blog](#), to analyze messages. It's called SIFT: Stop; Investigate the source; Find trusted coverage; and Trace claims, quotations, and media to their original context.

"You don't have to spend 20 minutes trying to figure out if each thing is true or false," Caulfield says. "With the right

skills, it can take as little as 30 seconds to determine what things deserve your attention."

Porismita Borah, associate professor in the Murrow College, is leading a study on reducing misperceptions about the HPV vaccination and autism, something she started before the COVID-19 outbreak.

"People who reflect or think about the information they see are less likely to be susceptible to misinformation," Borah says. "They are also more likely to seek additional information and become more educated about the topic."

When we encounter misinformation, Borah says, whether in person or online, speaking up helps other people realize what they are sharing may not be accurate.

"It takes courage to say, 'That's not true,' but it is really helpful for us to take that step and stop the spread," Borah says. "We don't need to look down on someone who is spreading misinformation without realizing it, just give them a gentle reminder that everything they see might not be true."

Austin says media literacy is critical for navigating misinformation, not only during a pandemic but throughout our lives.

"There's so much information out there from so many different sources, and we have to figure out shortcuts to sift through it," Austin says. "A lot of these messages are trying to manipulate your emotions. If it's making you feel a certain way, then you should stop and think about it."

WSU is collaborating with the University of Washington's Center for an Informed Public to tackle misinformation. Both Caulfield and Borah spoke at the center's virtual event, *Surviving the Coronavirus Infodemic*, in April.

Caulfield says that even with the best governance and most ethical business practices, individuals still need to do their part—both in preventing the spread of the virus and misinformation.

"Working with UW is valuing the fact that, while a lot of these problems are global, a lot of the solutions are going to have local elements," Caulfield says. "Everyone has to work together." *



STOP



INVESTIGATE THE SOURCE



FIND BETTER COVERAGE



TRACE CLAIMS, QUOTES, AND MEDIA TO ORIGINAL CONTEXT

It can take as little as 30 seconds to determine what things deserve your attention using Mike Caulfield's SIFT method.

Planning for the storm

BY REBECCA PHILLIPS

Spokane hospital executives grew increasingly anxious as they scoured the ominous headlines late last winter. COVID-19 cases were multiplying rapidly in the Seattle area, and eastern Washington agencies felt ill-equipped to handle a similar surge.

In an effort to prepare, the CEO from the Inland Northwest Region of the MultiCare Health System, which runs Deaconess Hospital and Valley Hospital, reached out to John Tomkowiak, the founding dean of the Elson S. Floyd College of Medicine at Washington State University Health Sciences Spokane.

professor and assistant dean for research in the college of medicine.

"Sterling and I started developing the hospital capacity tool around mid-March when west side cases were ramping up on a daily basis and it was starting to get bad in New York," Amram says. "At that point, there were a lot of predictions saying there would be over 50,000 deaths. It seemed like a big storm was coming and MultiCare wanted to plan for the worst."

"For two or three weeks, we worked with MultiCare on a daily basis as it was a period of great urgency and uncertainty about what was going to happen," he says. "We were studying the doubling rate of COVID cases in the community, and then, based on the projection of incoming patients, trying to determine what that meant in terms of equipment and personnel."

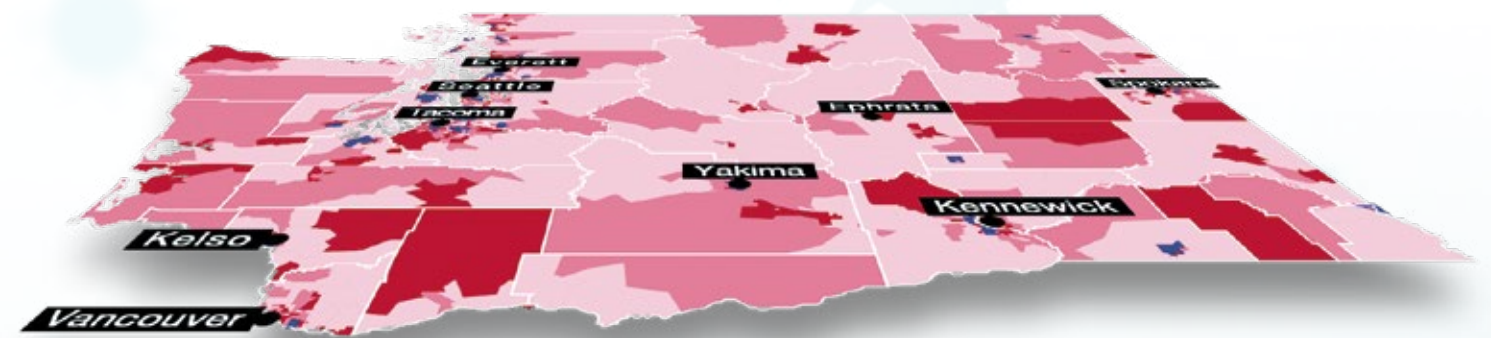
"It was really intense. We were asked to create reports every day for MultiCare, the Spokane Regional Health District, hard-hit

"The nice thing about this model is that it's a simple and flexible tool—you don't have to wait for someone else to run it for you," Amram says. "And, it's not COVID specific—it can be used for modeling any other disease and it's still here in case a second wave of COVID occurs in the fall or winter."

Washington hospitals and public health officials can also gain valuable information from a vulnerability index tool developed by fellow CHaSE Lab epidemiologist Pablo Monsivais, an associate professor in the Department of Nutrition and Exercise Physiology.

Monsivais says last March, he and Amram began analyzing community characteristics that could make people more vulnerable to the coronavirus.

The result was an interactive map of Washington neighborhoods color-coded to show where COVID-19 infections could lead to more severe outcomes and death. Monsivais says risk factors include high population density, an older demographic, and a greater



EXAMPLE VULNERABILITY INDEX FOR COVID-19 MAP (COURTESY CHASE LAB)

Their request was for a web-based modeling tool that could help predict hospital needs such as gowns, gloves, N95 masks, and ventilator beds. MultiCare envisioned such a tool would be simple to operate and accessible anywhere in the world.

The idea landed on the desk of Ofer Amram, assistant professor in the Elson S. Floyd College of Medicine and director of the Community Health and Spatial Epidemiology (CHaSE) Lab. Amram and his colleagues use statistical modeling to study the relationship between space, place, and public health outcomes.

Amram shared the proposal with Sterling McPherson ('08 MS, '10 PhD Psych.), associate

Yakima hospitals, and other areas. For the first few days, it looked really bad for our region, but the model helped us get a grip on managing supplies."

At the time, Amram says Spokane city leaders were preparing community centers to hold overflow COVID patients if necessary, but fortunately, the surge did not reach that level. "It's clear that social distancing had a big impact on decreasing the doubling rate of reported cases," he says.

The hospital capacity tool was simultaneously released on the internet and accessed by hospitals for early planning needs throughout Washington as well as by researchers in Brazil and South Africa.

prevalence of chronic conditions like heart disease, diabetes, pulmonary disease, or obesity.

Using census tract data, death records, and detailed geographic information, he calculated the disease burden for each community with hot spots in the Puget Sound area, for example, likely tied to high population density, while those in eastern Washington link to older populations with chronic diseases.

"This is really an infectious epidemic colliding with a chronic disease epidemic," says Monsivais. "The biggest health problem in our society is not infectious disease but chronic disease—and those with pre-existing heart disease are among the most likely to suffer adverse consequences of COVID-19." *

SUPERheroes

Cougs step up. Last spring, as COVID-19 spread over the world, social distancing and stay-at-home orders rapidly changed society in an attempt to contain the disease. In the face of tough circumstances, Washington State University alumni, students, faculty, and staff found many ways to not merely endure, but to adapt and engage.

Numerous courageous people on the front line—nurses, doctors, first responders, and essential workers—sacrificed and helped us all. Others sought ways to support them, and to reach out to those in need. The following stories are just a sample of the Cougar spirit of generosity, creativity, and compassion during the pandemic.

Read extended versions of stories at magazine.wsu.edu.

Flour power

BY ADRIANA JANOVICH

WSU Extension offices closed to the public March 16. But that hasn't stopped the King Arthur Flour Baking School at the **WSU BREAD LAB** in Burlington from baking loaves.

Employee-owned King Arthur Flour, a WSU partner that subleases space in the Bread Lab, has been paying its baking instructors to bake for good. Six weeks into the lockdown, they reached their 2,000th loaf. By May 15, they had baked more than 3,000.

Their bread is donated to local school systems, including the Burlington-Edison School District, which continues to provide meals for students, as well as food banks and pantries. "And they will continue to do so as long as they can. There is no end point at this time," says Janine Johnson, publications coordinator for the Bread Lab.

The King Arthur bakers mostly bake the Approachable Loaf, a whole-grain, tin-baked, sliced loaf. King Arthur Flour is a member of the Bread Lab Collective, a group of bakers, millers, and more who have come together to create an affordable and accessible whole-wheat sandwich loaf. The collective's flagship loaf contains no more than seven ingredients, is made up of at least 60 percent whole wheat, and sells for under \$6. Ten cents of every loaf sold goes to the Bread Lab to support further research of other whole-grain products. Donated loaves do not return ten cents to the lab.

Five baking instructors—plus a dishwasher—are working one at a time three days a week to bake bread during the pandemic. In addition to the Approachable Loaf, they also routinely deliver free bagels, croissants, baguettes, and ciabatta to schools and community organizations. *



COURTESY WSU NEWS

On a mission

BY LARRY CLARK

When **DAYTON DEKAM** heard about the mission last spring, he jumped at the chance to get food to people in need.

"Many of the food banks were overwhelmed or even shut down entirely, meaning that countless families were unemployed with no access to school lunches or household food," says Dekam, a full-time Washington State University computer science student and member of the Air National Guard who's spent long days distributing food to families throughout the region.

The need is great because of the pandemic. The United Nations projected that because of COVID-19, the number of people facing severe food insecurity worldwide could double to 265 million.

At the food banks where Dekam assists, 80 percent of those being served have never needed help before. And, because they are elderly or at risk, many of the usual volunteers have not been able to help.

WSU groups statewide have launched other efforts to increase food security. ASWSU, WSU Alumni Association chapters, and campus groups held successful food drives. WSU Master Gardeners produced more than 65,000 pounds of fresh food for food banks, thanks to the work of nearly 5,000 volunteers.

At all campuses, food pantries continue to serve students in need. And, to help the economy and get food to people, Executive Chef **JAMIE CALLISON** and others at WSU Pullman developed "Pullman Serves It Forward," through which people can donate gift cards for local restaurants. *

WSU Extension's Food Systems Program created the **COVID-19 HUB**, online resources to better assist farms, food businesses, and consumers affected by COVID-19: foodsystems.wsu.edu/wsufscovid19hub

Tireless food fighter

BY DANIEL P. SMITH

On the first of May, **ERICH BROKSAS** ('93, '94 MA Intl. Rel.) sits in his northern Virginia home—in an office space he apologetically usurped from his wife—and recounts the whirlwind of recent weeks. The unprecedented age of COVID-19 challenged Broksas's enterprising spirit and demanded long, grinding hours for World Central Kitchen (WCK).

Since WCK began feeding quarantined passengers aboard the *Diamond Princess* cruise ship in Yokohama, Japan, in early February, Broksas, the chief strategy officer of the humanitarian-focused nonprofit founded by renowned Chef José Andrés in 2010, hasn't had a day off—his mind unrelentingly focused on the present and the future.

"Once we started feeding people in Yokohama, our thoughts went to how we might prepare for and react to a large-scale pandemic," says Broksas, whose primary charge at Washington, D.C.-based WCK is to build robust partnerships that enable the organization to serve those in need better, faster, and more efficiently.

As the novel coronavirus washed over the U.S. landscape in March, severing the normal cadence of daily life and pushing millions into unemployment, WCK leapt into action.

Through previous calamities, WCK had established a steady formula: a disaster strikes and WCK rushes into the area, instantly meshing with local community groups and leaders. WCK establishes a central kitchen, crafts meals, and then distributes food to shelters and first responders. COVID-19, however, had made landfall across the United States. No ground zero. No reasonable timeline for recovery.

"There were no guardrails here," Broksas says.

To scale its traditional response, WCK and Broksas concocted a novel strategy

dubbed Chefs for America. WCK partnered with small, independent restaurants to produce and distribute hundreds of meals each day, while Broksas negotiated the involvement of third-party agents such as Uber Eats and Postmates to deliver meals to those who could not easily or safely venture outside. By early May, WCK's efforts had put more than 6 million meals into the hands of vulnerable families, seniors, and health care workers across 218 cities—some 230,000 meals daily.

"It's been hardcore seven days a week since mid-March," Broksas says. "But people need fuel, as much to nourish the stomach as the soul and the mind."

Broksas's current work at WCK is the result of an accelerating 25-year love affair with entrepreneurship and social impact. As an undergraduate, he contemplated international diplomacy or politics, "before I interned on Capitol Hill," he quips. Broksas spent much

of his post-WSU life globetrotting to promote clean water solutions, global mobile connectivity, and off-grid power. Over a nine-year run with The Case Foundation, meanwhile, he investigated ways innovative technology and business models could drive social change.

"I wanted to make a difference, to apply business principles to large philanthropic opportunities at scale," he says.

That passionate mindset made Broksas a perfect fit at WCK, which fashions itself much more like a Silicon Valley startup than a traditional nonprofit. When he joined WCK in July 2018, the organization's fourth employee (it has since surpassed 40), Broksas brought his business acumen and enterprising spirit to an ambitious NGO with a noble mission to address hunger. He crafted partnerships with the likes of Google and Ford. He intensified WCK's technology plan.

"I wanted to be a part of thinking strategically about reimagining the contemporary nonprofit," he says. "That's what we needed to be a sustainable, robust organization."

After feeding people affected by hurricanes and wildfires, volcanoes and earthquakes over the last two years, WCK confronted its most significant challenge ever with COVID-19. Broksas helped WCK triage against present circumstances with its Chefs for America program while preparing for and anticipating additional needs amid an unparalleled public health crisis.

"Once we start taking care of people, we don't want to stop until the local ecosystem is ready to kick back in," he says. "That means we have to keep grinding, iterating, and adapting."

Though a high-intensity effort, Broksas nevertheless calls it "immensely gratifying" to be an immediate lifeline for people in need.

"We have a unique model to address things quickly," he says. "I'm massively proud to be a part of an organization that can deliver like this." *

ERICH BROKSAS (COURTESY WORLD CENTRAL KITCHEN)





Rolovich pays it forward

BY ADRIANA JANOVICH

It started at the end of March with code words and reminders to practice social distancing and leave tips for hospitality workers.

Twenty pies from Pizza Perfection. Twenty taco plates from Nuevo Vallarta. Take-out from Tan's Chinese Restaurant.

WSU head football coach **NICK ROLOVICH** has been treating essential workers and the people of Pullman to free meals. Meals for members of the public are first come, first served, and announced via Rolovich's Twitter account, which has some 35,000 followers.

"I'm big on that idea of pay it forward. I think it does affect people's lives," Rolovich says. "I like being part of that. I think it falls within the scope of whatever those pillars are of Cougar spirit. And I like being spontaneous."

Rolovich has also shared tacos from Taqueria Las Torres and barbecue from Zoe Coffee & Kitchen. He plans to keep offering meals throughout the pandemic—maybe longer—publicizing info about once a week on how to participate.

"I don't necessarily have a plan," Rolovich says. "I'd probably do this even when we're not in the pandemic. Then it's more of a fun deal. This is hopefully helping people and families who could use a meal." *

Call to duty II

BY MIA GLEASON

At her home in Alexandria, Virginia, in February, Vice Admiral (ret.) **RAQUEL BONO** ('15 MBA) likely thought the chances of going back to work just six months into retirement were slim.

As she considered the increasing strain put on health care facilities during the COVID-19 pandemic, she knew something needed to be done when she received a phone call from Washington Governor Jay Inslee.

When Inslee asked if she would serve as Washington state's COVID-19 hospital "czar" and manage the hospital surge capacity, Bono packed a bag, booked her flight, and started work three days later.

Bono immediately began working with care facilities and the federal government. She assessed the needs of different facilities, ensuring medical staffing needs were met, and worked to develop standard protocols. Her initial job of coordinating hospital beds

and staffing expanded to increasing virus testing and managing protective equipment and ventilator distribution.

She advises the governor, his staff, and state agencies on actions needed to address the capacity and strain across the health care system. She also coordinates with the emergency operations center to initiate statewide efforts.

In a recent Oregon Public Broadcasting article, Bono spoke about how her military experience helped her dive into this new role. Her 36-year tenure in the Navy taught her to be agile and find orderly ways to approach problems and create solutions, she said, skills that were also emphasized in her WSU Executive MBA online program.

"Professional development education is a part of every officer's career," Bono says. "My Executive MBA education was transformative in terms of giving me the business knowledge and additional leadership skills necessary to transcend the geographic and cultural boundaries I encountered every day in my career."

Bono, the first woman surgeon in the military to hold the rank of vice admiral, served in fleet hospitals in Saudi Arabia during Operations Desert Shield and Desert Storm. Most recently, she was director of the Department of Defense's Defense Health Agency. *

GLEN TRAN ('20 EMBA) runs one of two new N95 mask manufacturing plants for Honeywell.

DACK BUSCH ('91 Elec. Eng.) heads up Qumulo, a company providing free cloud software to COVID-19 researchers.



COURTESY MILITARY HEALTH SYSTEM/USDOC

Hands-on help

BY ALYSEN BOSTON



PHOTO ERIC DEGERMAN/GREAT NORTHWEST WINE

Westport Winery and Ocean's Daughter Distillery, owned and operated by **KIM ROBERTS** ('82 Arch.) and her family, donated more than 300 wine bottles filled with hand sanitizer to police departments in the Aberdeen area.

Using \$20,000 in grapes grown at regional vineyards, the Roberts family added hydrogen peroxide and glycol based on World Health

Organization guidelines before bottling the sanitizer. The grapes were slated to become brandy before the COVID-19 pandemic, and now more than 3,000 gallons of wine have been distilled for sanitizer.

The winery's first batch benefitted the Westport, McCleary, Montesano, Grays Harbor, Squaxin Island, Ocean Shores, Aberdeen, and Cosmopolis police departments, as well as Washington State Patrol, Department of Fish and Wildlife, and the Hoquiam and Ocean Shores fire departments. Dubbed "8 Hands Sanitizer," it is now available for commercial sale.

"As liquor manufacturers we normally work under strict restrictions regarding giving away any products," the Roberts family wrote in an email. However, the federal and state government approved the donation and allowed the winery to produce sanitizer for public sale, a trend many distilleries in the United States have followed since the outbreak.

"We have close family members and dear friends on the front lines fighting this virus," the family wrote. "We are grateful to have the opportunity to assist."

Since 2008, the winery has donated more than \$500,000 to local charities. The winery makes 40 award-winning wines and has been awarded more than 500 medals from international competitions. *

WSU is brewing its own FDA-approved hand sanitizer, "Cougar Clean," for employees at the Pullman campus.

More than 35 distilleries and a number of wineries in Washington state are also making hand sanitizer.

WSU-THEMED MASKS (@WSUPULLMAN/FACEBOOK)



Facing the challenge

BY ALYSEN BOSTON

DEBBIE MCNEIL ('77, '82 MEd Elem. Ed.), former owner of Quilted Heart fabric store in Pullman, is using her sewing skills to help Pullman Regional Hospital cope with a shortage of face masks during the COVID-19 pandemic.

"I saw other people making masks on Facebook and I thought, 'Okay, that's something I can do to help locally,'" McNeil says. "Thank goodness for high school home economics."

She then contacted the hospital, which released their preferred mask design and a video tutorial.

"There are 5 zillion ways to make these masks," McNeil says. "I waited to make them until the hospital said what they wanted."

The hospital provides surgical sterile wrap for lining the back of the masks. Each bag contains enough material for 28 masks.

As states reopen their economies in phases, masks are either encouraged or required for both employees and customers at most businesses. Though masks come in a variety of forms, at minimum they must fully cover the wearer's nose, mouth, and chin to be effective.

"Masks aren't going to be the end all, but I'll keep making them as long as they need

SUPERheroes

them,” McNeil says. “I have more fabric than I have money, so this is what I’m doing to help. ✱

SAM GILBERT (x’89) who works in construction in Spokane, sewed and donated hundreds of masks for health care workers using WSU-themed fabric. Other Cougs donated fabric and funds to help Gilbert get a new sewing machine for his efforts.

Use masks in addition to other preventive measures, put on and remove them with clean hands, and wash them after use.

Drive-by Wi-Fi

BY BRIAN CHARLES CLARK

In Washington, nearly one in 10 rural residents lack access to high-speed broadband. Nationally, about 15 percent of rural Americans are offline. Students on the wrong side of this digital divide face limited or nonexistent access to academic advisors and resources.

To help bridge the divide, **WASHINGTON STATE UNIVERSITY EXTENSION** in late April began opening drive-in Wi-Fi hotspots to help students access online resources during statewide social distancing efforts. With offices serving every one of Washington’s 39 counties as well as the Confederated Tribes of the Colville Reservation, the Drive-In Wi-Fi Hotspots Project provides access not only to students trying to cope with online learning, but entire communities, as access points are

⊕ Washington State Department of Commerce statewide drive-in hotspots: magazine.wsu.edu/extra/wifi-hotspots



rolled out at schools, libraries, and community centers across the state.

“With Extension’s statewide reach, we saw a powerful opportunity to strengthen the digital connection, especially for people and places with limited access,” says André-Denis Wright, dean of the College of Agricultural, Human, and Natural Resource Sciences.

The Hotspots Project shines a light on an ongoing challenge: bringing digital access to low-density communities that can’t be profitably served by commercial internet providers. Even after the current pandemic subsidies, parking lot Wi-Fi could become a permanent feature across Washington. ✱

Stories on the fly

BY ALYSEN BOSTON

Not many instructors can say they had to navigate a pandemic during their first year of teaching.

MATT LOVELESS (’07 Comm.), a former broadcast journalist, transitioned to teaching newscasting courses at the Edward R. Murrow College of Communication in August 2019. His students are part of a team that produces Murrow News 8, a daily live newscast.

“I’ve been a teacher for nine months,” Loveless says. “To have to learn a new profession and then six months later completely relearn how to do that profession is daunting, but we had such a good team.”



To produce the newscast, students typically spend 22 hours a week in the classroom, with lights, sets, and cameras to synchronize. When the class had to go online, students could no longer access those resources—but they could take pointers from other newscasters and videographers.

“Newscasters on TV were filming from their dens and offices,” Loveless says. “We looked into the technology that gamers or YouTubers use for their shows.”

Students combined live Zoom calls, pre-recorded segments, infographics, and other elements using Open Broadcaster Software to produce their daily newscasts for the last

COURTESY EDWARD R. MURROW COLLEGE OF COMMUNICATION

six weeks of the course. Despite initial hiccups and issues with internet connectivity, Loveless says they never missed a show.

“My students were in seven different area codes and three different states, but the distance itself was never the issue, it was what the technology allowed,” Loveless says. “It was tough, but they never let it seem that way. It was so valuable to learn that we can keep telling stories on the fly and we absolutely will be building that into our curriculum going forward.” ✱

Fine Arts instructor **DAVID JANSSEN JR.** teaches core principles of art and design with guest lectures on Zoom and projects using students’ own materials.

CHRIS COONEY in the Carson College of Business uses dad jokes to lighten up classes on Zoom, while his wife **REBECCA COONEY** in the Murrow College created assignments for COVID-19 conscious messaging in students’ marketing campaigns.

Virtual vacations

BY ADRIANA JANOVICH

Liven up your next Zoom call with a llama.

Call A Llama, a Bolivia-based ecotourism network with ties to WSU, lets remote workers break the monotony of a video call with a virtual travel experience and online interactions with a real, live llama.

Its clever tagline: “Llama me!”—a play on “Llámame,” or “Call me” in Spanish.

COURTESY DERREN PATTERSON

The new venture—founded at callallama.com—began offering videoconference cameos in early May. The armchair travel experience promotes Bolivia and its beloved llama as well as provides a little levity to workers stuck at home because of the COVID-19 crisis. It also strives to help a tourism industry hard hit by the pandemic.

“Even though you can’t travel, we can still share this amazing place with you,” says La Paz-based **DERREN PATTERSON** (’07 History), who runs the business. “I think of Bolivia as one of the world’s last great adventures. It’s a really fascinating place to visit, even if it’s virtually.”

Virtual destinations include the world’s largest salt flats and birthplace of the Incan Empire on Lake Titicaca’s Isla del Sol. Bookings take place during daylight hours Bolivian time so clients can see the sweeping views—and, of course, the llamas.

“They’re really cute, and they’re super funny, and they are very important to the way of life here,” Patterson says. “Without them, there would not have been advanced civilization in South America.”

Customers call in from around the world. Experiences last approximately 15 to 20 minutes and are led by English-speaking guides, including Patterson. He grew up in Pullman but has lived in Bolivia for about 12 years and operates several eco- and adventure-based tourism enterprises.

“We’ll get back to real travel at some point, and hopefully when we do, you’ll come to Bolivia and see the llama that you met virtually with us.” ✱



Cries to eat more fries

BY BRIAN CHARLES CLARK

According to Washington State University professor of horticulture **MARK PAVEK**, “About 87 percent of Washington potatoes are for processing, mostly as french fries and largely for the quick-service industry. A lot of those fries go to Asia. When the industry has to shut



down, there’s a global chain reaction. When people stop ordering fries and the flow stops, you’ve got french fries backed up in a freezer somewhere. As well, you’ve got potatoes in storage.”

CHRIS VOIGT, executive director of the Washington State Potato Commission, says that “there were about 3 billion pounds of potatoes in storage” in April, “which is typical for most years. Generally, all 3 billion pounds are used up by the middle of July. It’s estimated that we’ll still have about 1 billion pounds left over by the middle of July due to restaurant closures.”

Getting those spuds out of storage is a priority. Growers have already planted a crop that’ll be harvested in late summer, and they’ll need the storage space. Besides, storage sheds are essentially giant refrigerators. With no cash flowing in, processors would like to clear those sheds out and shut them down.

If there’s a silver lining here it might be that satisfying a craving for french fries right now might very well be considered a civic service. So please pass the ketchup. ✱

Viral haystack

The human world is in the throes of a deadly coronavirus outbreak, yet it's just one among tens of thousands of coronaviruses in the animal kingdom.

Very few of them cross over to humans. So how do we dig through the mountain of coronaviruses and find which ones could potentially spill over? Where could the next pandemic come from?

It's a puzzle that Michael Letko, virologist and assistant professor at Washington State University, has pondered for years. Now, he and his colleagues have found a way to identify coronaviruses likely to affect people.

A focus on coronaviruses makes sense. At least four separate and severe outbreaks that affected humans and livestock emerged from coronavirus spillover events: SARS-CoV in 2003, MERS-CoV in 2012, SADS-CoV in 2018 (a devastating porcine virus), and now SARS-CoV-2 (the cause of COVID-19).

The prevalence of coronaviruses also makes it a promising candidate for zoonotic outbreaks because they thrive throughout animal species, especially in bats.

"While many coronaviruses have been discovered in bats, coronavirus sequences have now been reported in hedgehogs, whales, chickens, pigs, and seals; pick an animal and it probably has a coronavirus," Letko wrote for *Nature's* microbiology blog.

Bats, though, have been identified as hosts for several emerging diseases danger-



COURTESY NATURE RESEARCH MICROBIOLOGY COMMUNITY

ous to humans. They're the second most diverse mammalian order, found on every continent except Antarctica, and have a high viral diversity relative to other mammals.

While there is a lot we don't know about bat ecology and their ability to resist viruses, we do know that several bat viruses have a high similarity to SARS-CoV-2.

At the molecular level, says Letko, lineage B betacoronaviruses, such as SARS, have receptor areas on spike proteins that interact with people's cells. These areas are nearly identical between various bat species, intermediate species, and humans.

Armed with that information, Letko began to narrow down the search for potentially dangerous coronaviruses.

The advent of advanced genetic sequencing in the early 2000s led to a boom in identifying the genomes of coronaviruses. There are over 40,000 results for the search term "coronavirus" on the public Genbank database.

The problem, says Letko, is not enough downstream analysis of that information. "We actually have not studied 99.9% of these viruses in the laboratory," he wrote.

"Therefore, we do not know if these viruses that we are constantly discovering can cross the species barrier to humans, if they can transmit to our livestock, or if they can cause disease."

Using well-known techniques of synthesizing and analyzing DNA, Letko and his team concentrated on just a small portion of the coronavirus: the receptor binding domain.

"It's focusing on the smallest and most important things we can," says Letko.

Since they only test a small region of the virus, it's faster and costs much less than examining the entire virus, which means they can scale up and test large numbers of viruses.

Before coming to WSU, Letko worked at the National Institutes of Health laboratory in Hamilton, Montana, where Letko and his team at the NIH put their system to the test in early 2020. When reports came from China about a new coronavirus around Wuhan, the researchers were able to quickly demonstrate the host receptor of SARS-CoV-2 within just 12 days.

Letko's new lab at WSU's Paul G. Allen School for Global Animal Health aims to be part of a global network of labs, EcoHealth, focused on functional viromics.

"The ultimate goal of this work is to move away from the rush to learn basic virus biology after virus spillover and emergence..." wrote Letko.

As Letko and others build on the knowledge of viruses, the world could move from reaction to prediction of those pathogens with the greatest threat. ✨

more WSU research in response to COVID-19: magazine.wsu.edu/extra/covid-19-research

UPfront

Tracking down an equine mystery

It truly takes a global disaster to throw the Kentucky Derby off its game. For only the second time in its 146-year history, the prestigious horse race has been postponed. The jewel of the Triple Crown was previously delayed for several months during World War II, but today, the culprit is the novel coronavirus pandemic.

Indeed, at tracks all across the nation, the horse-racing industry has taken the unprecedented and economically risky step to cancel races during a time when the sport is facing increased public scrutiny and opposition.

It's a point that led to intense media attention in the spring of 2019 when a rash of thoroughbreds mysteriously lost their lives competing on California's Santa Anita Park racetrack—where the famed Seabiscuit once galloped. Over a period of several months, 28 horses suffered serious injuries on the track that required euthanasia, most due to catastrophic leg fractures.

With no obvious explanation and tensions mounting, a team of researchers was called to investigate. Among them was Equine Research Hall of Fame inductee Susan Stover ('74, '76 DVM), who is internationally known for her expertise in equine bone development, repetitive stress, and catastrophic injuries.

In 2008, Stover testified before the House Subcommittee on Commerce, Trade, and Consumer Protection in response to

the tragic breakdowns of Kentucky Derby winner Barbaro, who shattered his leg in the Preakness, and Eight Belles whose valiant Derby run ended with two broken ankles.

"The Santa Anita situation was bad—we didn't like it," says Stover, distinguished professor and director of the J.D. Wheat Veterinary Orthopedic Research Laboratory at University of California, Davis. "Anytime we lose a single horse, it's one too many."

"The racing industry is getting a wake-up call, which is an opportunity for change," she says. "My goal is to enhance the safety of the horse and all those who work with the horse. If the welfare of the horse is our focus, the welfare of the industry will follow."

Contrary to newspaper headlines, Stover says racehorse deaths have actually been declining for the last few years—up to thirty percent prior to the Santa Anita cluster.

"That's a huge reduction," she says. "We're making headway but there's room for improvement. The California racing industry has taken a lot of small steps that add up to a significant reduction in fatalities such as limiting the amount of painkillers horses are allowed, banning high toe grabs—or cleats—on horseshoes, and for a time, switching from dirt to synthetic track surfaces."

Similar clusters of deaths have happened at other racetracks and Stover says they usually involve multiple factors.

"These injuries aren't just a sudden step in a hole. It's the result of what the horse has been doing for the previous two months," she says.

At her laboratory, Stover collaborates with orthopedic surgeons and biomedical engineers to meticulously unravel the chain of events that can trigger these catastrophic injuries. Her team is also developing methods for early detection and prevention.

"We've found these injuries develop as mild injuries, most often as a stress fracture or remodeling in joints that temporarily weakens the bone and predisposes it to fracture," she says.

"The tricky part, however, is determining which other risk factors are involved, things like hoof conformation and shoeing, drug use, how hard the racetrack surface is, and how intensely the horse is training. Sometimes risk factors come together all at once and you have a cluster of injuries, and that's what happened at Santa Anita."

For one, Stover says they had a spate of heavy rains which called for sealing the track.

"This makes the surface a little harder, so that every stride the horse takes causes a heavier impact on the bones," she says.

"Also, the horses came from a different racetrack where they'd been training intensely. These fractures occur when there's a lot of bone damage over a short period of time. The horse's body is continually repairing this damage but when it exceeds the rate the body can heal, that's when they get in trouble."

Stover says the discovery that catastrophic injuries are the result of a chronic process opened the door for intervention.

"The most common cause for death is unrecoverable fetlock (ankle) injury and we've now pinpointed the pre-existing weak spot that allows these bones to fracture under otherwise normal circumstances," she says.

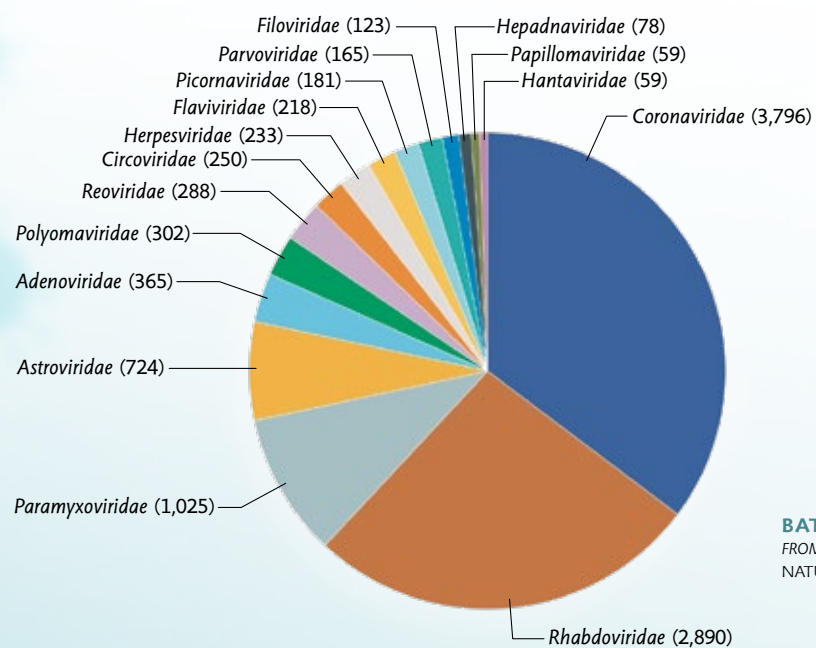
Her team is using computer simulations to determine training and racing schedules that could help prevent such injuries.

"Essentially, we can model if a horse gallops this far today and that far tomorrow, how much bone damage will it cause?" Stover says. "And, is it something the body can heal, or does it get worse?"

"Ideally, we want to prevent even mild injury. We want to increase racehorse longevity, and at the end of their career, have them be healthy enough to do something else." ✨

Stover received the Lifetime Excellence in Research Award from the American Veterinary Medical Association in 2016.

PHOTO: MASCOT/ALAMY



Virus families with fewer than 50 different sequences

- Caliciviridae (43)
- Peribunyviridae (31)
- Nairoviridae (22)
- Unclassified viruses (22)
- Retroviridae (18)
- Hepeviridae (14)
- Orthomyxoviridae (8)
- Phenuiviridae (8)
- Poxviridae (6)
- Picobirnaviridae (4)
- Togaviridae (3)
- Genomoviridae (2)
- Bornaviridae (2)
- Anelloviridae (1)
- Unclassified ssDNA viruses (1)
- Unclassified Bunyvirales (1)

BAT VIRUS DIVERSITY (AS CURRENTLY DESCRIBED)
FROM "BAT-BORNE VIRUS DIVERSITY, SPILLOVER AND EMERGENCE,"
NATURE REVIEWS MICROBIOLOGY, JUNE 11, 2020

The building of social empowerment

BY ADRIANA JANOVICH

Tobias Jimenez spent his childhood in the type of settlement that he and his colleague Sean Anderson are now striving to improve.



TOBIAS JIMENEZ (COURTESY [INFORMAL])

The structures “have no electricity,” Jimenez says. “None have potable water. They’re not connected to the sewer. It’s not sanitary.”

Jimenez (’17 Arch., ’19 M.Arch.) was born in Pasco but moved to Colima, Mexico, with his parents as an infant. They raised him in an informal settlement—“like a favela,” he explains—on the city’s outskirts. “You’re focusing on surviving. You’re spending most of your time and energy trying to meet your basic needs. Living there is one of the reasons I decided to come back and help people who are in this type of situation. I grew up there. My mom still lives there. I could understand the problem.”

Jimenez and Anderson aren’t aiming to simply make shelters but, through architecture, to “inspire and empower the people living in these settlements to live a life with dignity,” says Anderson (’17 Arch., ’19 M.Arch.). “We are trying to make residents feel proud about who they are and where they live and, as a result, be moti-

vated to maintain long-term improvements and play an active role in their communities and society, rather than remain silent and forgotten by the rest of the world.”

About one in eight people worldwide live in informal settlements, and numbers are even higher in metropolitan areas like Colima. About a quarter of the global urban population live in slums, according to the

United Nations. UN figures show the total number of informal settlement dwellers now tops 1 billion people and, by 2050, the number is expected to grow to more than 3 billion, or 30 percent of the projected 9.7 billion global population.

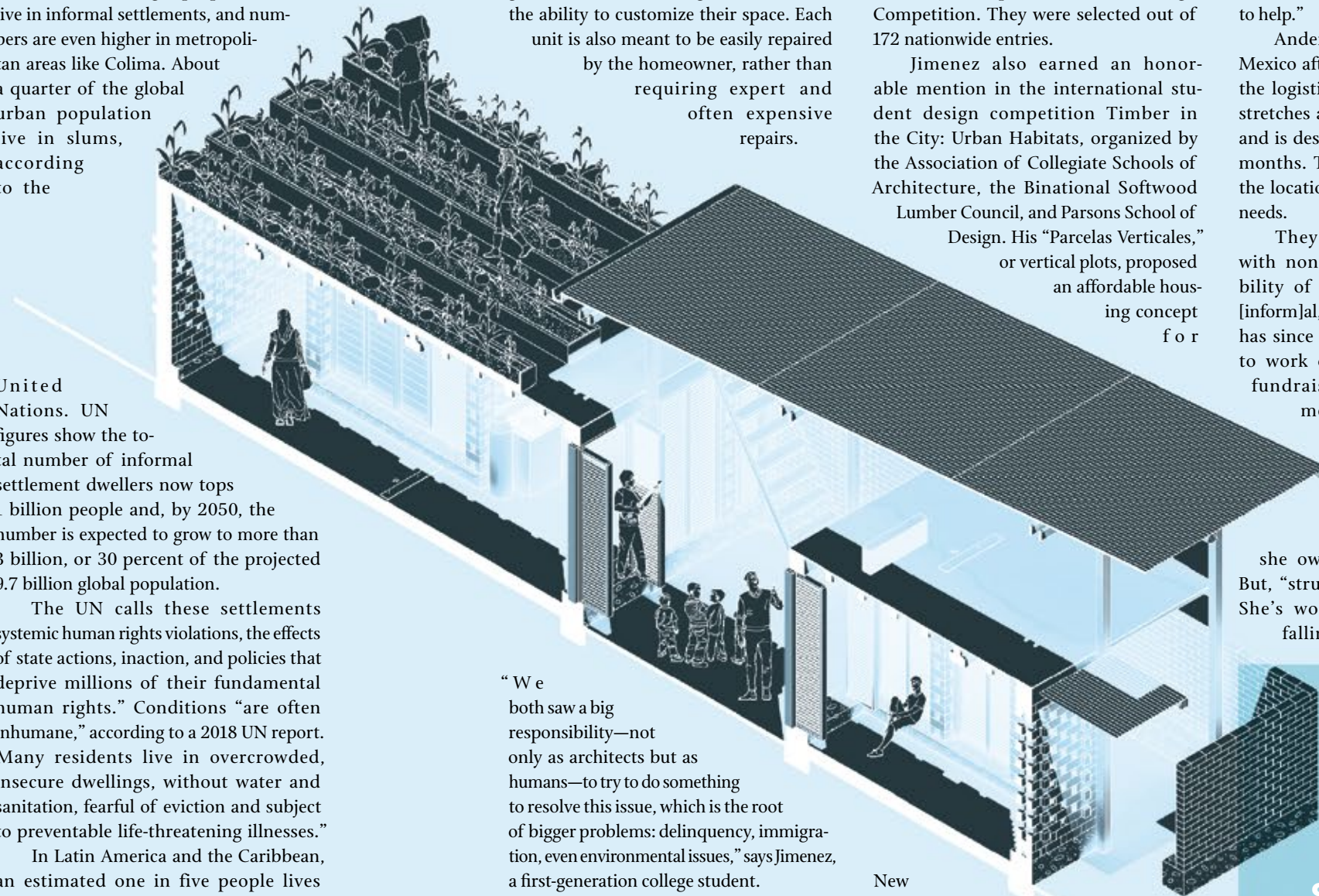
The UN calls these settlements “systemic human rights violations, the effects of state actions, inaction, and policies that deprive millions of their fundamental human rights.” Conditions “are often inhumane,” according to a 2018 UN report. “Many residents live in overcrowded, insecure dwellings, without water and sanitation, fearful of eviction and subject to preventable life-threatening illnesses.”

In Latin America and the Caribbean, an estimated one in five people lives this way.

“There is a huge need for this type of architecture,” Anderson says. “The world is facing a global housing crisis.”

The summer after he and Jimenez finished graduate school, they went to work on their passion project: designing affordable, safe, easy and quick to build, multi-functional homes to help empower people who live in informal settlements. The homes can be built in stages, as people are able to afford them. They use local building

materials and design elements meant to inspire self-confidence and self-reliance—features such as solar panels, rainwater catchment systems, and rooftop vegetable gardens. Movable walls give homeowners the ability to customize their space. Each unit is also meant to be easily repaired by the homeowner, rather than requiring expert and often expensive repairs.



“We both saw a big responsibility—not only as architects but as humans—to try to do something to resolve this issue, which is the root of bigger problems: delinquency, immigration, even environmental issues,” says Jimenez, a first-generation college student.

He was 12 when he returned to Pasco to live with an aunt and pursue his education. Summers, he worked in the fields. Sometimes, he worked two jobs: picking or pruning cherries, pears, grapes, or apples as well as stocking shelves at Fiesta Foods, a Hispanic grocery store. “I was trying to support my family while I was in school,” he says.

In 2019, Jimenez and Anderson, along with fellow graduate student Haley Ladenburg (’17 Arch., ’19 M.Arch.) created a concept to integrate a waste-to-energy

plant into a mixed-use building in a Seattle neighborhood. Their project was among the winners of the 2019 American Institute of Architects Committee on the Environment Top Ten for Students Design Competition. They were selected out of 172 nationwide entries.

Jimenez also earned an honorable mention in the international student design competition Timber in the City: Urban Habitats, organized by the Association of Collegiate Schools of Architecture, the Binational Softwood Lumber Council, and Parsons School of Design. His “Parcelas Verticales,” or vertical plots, proposed an affordable housing concept for

Al-Hassawi says. “It’s not easy to get out of school and go a different way while their colleagues are joining design firms and the corporate world. But they have a plan. And whoever hears their story has been willing to help.”

Anderson and Jimenez traveled to Mexico after graduate school to work on the logistics for their prototype, which stretches about twenty-two by sixty feet and is designed to be built in about two months. The design can be adapted to the location as well as the homeowner’s needs.

They’re exploring partnerships with nonprofits as well as the possibility of incorporating their project, [inform]al, as its own nonprofit. Anderson has since returned to the United States to work on crowdfunding and other fundraising for their first home, meant for Jimenez’s mom, a widow who’s lived in the same unpermitted structure for more than 20 years.

“We’re lucky because she owns the land,” Jimenez says. But, “structural elements are decaying. She’s worried about the settlement falling apart.” *

[inform]al is a design team of recent WSU graduates who aim “to empower humanity” through architecture.

New York City.

Omar Al-Hassawi, assistant professor in the School of Design and Construction, was the faculty sponsor for both competitions and serves as a mentor to Jimenez and Anderson on their project, which they hope to eventually expand throughout Mexico, Latin America, and around the world.

“I have seen how they have grown and how their designs have matured,”

Gardens of refuge

BY REBECCA PHILLIPS

As the novel coronavirus ravaged the nation last March, panicked citizens emptied store shelves of toilet paper, macaroni, and even baking yeast. More surprising to long-time gardeners was the unhappy discovery that their favorite seed catalogs were also cleaned out.

In many regions, not a seed packet could be found as “doomsday” gardens took root in backyards and patios across the country. Now, as harvest season approaches, it’s clear these vegetable patches have provided more than just fresh produce—they also offer refuge from stress while helping promote mental and physical well-being.

Gardening has been recognized as a form of therapy since the time of ancient Egypt when anxious royalty were prescribed comforting strolls among the palace greenery. Over the centuries, that people-plant-nature connection has been integrated into many clinical mental health treatments and settings.

For Master Gardeners Lindy Sheehan and Michelle Murphy at Washington State University Yakima County Extension, therapeutic gardening is part of a life-long passion for horticulture.

“There isn’t a bad day in the garden,” says Murphy. “No matter what shape the garden’s in, it helps with the troubles of the day. When you leave, you’re a little calmer, a little more connected, and can let go of some of the things on your mind.”

According to the American Horticultural Therapy Association, therapeutic gardens are designed to facilitate interaction with the healing element of nature. These gardens range from senior community and enabled gardens to sensory and meditation gardens. Each is designed to help people increase physical fitness and mobility as well as reduce anxiety, stress, and pain.

But it’s not just the inherent restful effects of a green space. Studies show that a harmless soil bacterium, *Mycobacterium vaccae*, can lift depression by activating the same serotonin-releasing neurons in the brain that are targeted by Prozac. Simply inhaling the microbes while digging in soil can help improve mood. A 2019 paper in the journal *Psychopharmacology* reports these mycobacteria may owe their soothing properties to a special type of fat that has anti-inflammatory effects on the brain.

Sheehan, who managed the Ballard P-Patch community garden in Seattle for 12 years, says that many people consider the garden to be their “happy place.” But

for those with limited mobility and physical or mental challenges, gardening can be tough.

To that end, Sheehan has devoted much of her career to the promotion of enabled gardening including developing Extension programs on the subject. She first introduced the concept of enabled gardening at P-Patch, where they added permeable hardscape paths to aid the navigation of wheelchairs, walkers, and strollers. She also installed stock tanks and benches with raised beds so gardeners could sit while tending their plants.

“Enabled can mean many things,” says Sheehan. “Most think it means elderly people who can’t bend or move very well, but it also includes children who need garden beds that are close to the ground. And for those in wheelchairs, table gardens reduce fatigue from reaching and can be simple and inexpensive to make.”

Enabled gardening also includes the use of ergonomic hand tools and easy-grip water faucets. Sheehan says keeping things organized and accessible is key—such as storing tools in a brightly-painted mailbox.



PHOTOS COURTESY WSU EXTENSION

⊕ online gardening resources: magazine.wsu.edu/extra/garden-guide

“There are so many benefits from gardening and, especially for those who live alone, it’s a social outlet,” she says. “You can grow your own cherry tomatoes or roses in a small space like a deck and share them as gifts.”

Those rewards are especially important for aging adults according to Seattle’s Eldergrow program, which was founded in 2015 to help connect elders with the healing properties of nature.

Now offered in 21 states, Eldergrow provides a mobile sensory garden and therapeutic horticulture classes for seniors living in residential and nursing care facilities. Murphy is an Eldergrow educator at two such facilities in the Yakima area, where she held classes until the statewide lockdown prohibited visitors.

“For each class, we would typically bring in a plant and talk about it,” says Murphy. “We provide activities that focus on sensory and cognitive stimulation as well as motor and social skills. The residents get to touch and smell things like mint, basil, or a polka-dot plant and then a couple people assist with planting it in the garden.”

“After planting, they often sit by the garden which stimulates reminiscing,” she says. “When we cut the herbs and pass them around, some don’t like the smell of rosemary or thyme, but others say it smells like pizza and it brings back wonderful memories of family.”

Although their Master Gardener office was physically closed last spring, both Murphy and Sheehan reported a spike in phone calls and email requests.

“Gardening is all new to many people, so I always encourage them to start with small containers and grow what makes them happy,” says Sheehan. “They’ll feel better, they won’t be as frustrated, and it really will be therapeutic.”

“It’s so important that we focus on things that soothe us right now, nature being way up on the list,” adds Murphy. “If any good can come out of this, people have gotten off their phones a bit and are doing more outside with their families. COVID-19 is a huge black cloud but if there is a silver lining, I’d say that’s it.” ✨

Exchanging solutions

FEARS OF DEPORTATION, DREAMS OF EARNING A COLLEGE DEGREE TO SECURE A BETTER LIFE, AND WAYS STUDENTS MIGHT HELP FIND SOLUTIONS WERE AMONG THE TOPICS OF CONVERSATION WHEN TWO POLITICIANS FROM ACROSS THE POLITICAL SPECTRUM CONVERGED AT WASHINGTON STATE UNIVERSITY TRI-CITIES TO DISCUSS CHALLENGES FACED BY UNDOCUMENTED STUDENTS.

The effort was part of the American Congressional Exchange program organized by the Bipartisan Policy Center as a means to foster better relationships between members of Congress away from Washington, D.C.

“We want to improve and increase the amount of civility and respect at the legislative level, as well as change the tone of debates and discussions in Washington, D.C., so we can be more productive in finding solutions to many of the problems we all share,” says U.S. Representative Dan Newhouse (’77 Ag. Econ.).

Newhouse (R-WA) welcomed U.S. Representative Pete Aguilar (D-CA) to the mid-Columbia region last winter. At dinner at WSU Tri-Cities, the congressmen met with students from WSU Tri-Cities, Heritage University, and Columbia Basin College to discuss opportunities for civil discourse, and how they could work together to come up with solutions for the federal Deferred Action for Childhood Arrivals (DACA) program.

DACA was established by President Barack Obama in 2012 to grant temporary protection from deportation, known as “deferred action,” to undocumented immigrants who came to the United States before the age of 16, resided in the United States since June 2007, and met other requirements.

In 2017, the Trump administration announced an end to the DACA program. Several states, including Washington, filed a challenge to that decision. The program continues to operate, while discussions on its future have been tied up while Congress debates immigration policies.

Throughout the dinner, students shared personal experiences as DACA participants. Others shared their perspectives as individuals with close ties to people in the program.

One Cougar’s journey to citizenship was joining the military. “There were no clear pathways,” says Emmanuel “Manny” Bonilla (’19 Comp. Sci.). “I wanted to serve my country, but there wasn’t a clear way for me to do that. I obtained citizenship, but it wasn’t an easy process. I now wear the flag on my back. I’m proud to have served. There has to be something more we can do to create opportunities for those who were brought here as young kids and want a legal pathway to citizenship.”

Both representatives say hearing students’ personal experiences and challenges is incredibly vital. “Even though we sit on different sides and may vote differently, we must have respectful conversations and discuss important issues that can lead to productive solutions,” Aguilar says.

“We need you to keep sharing your stories,” Newhouse encourages DACA students. “It’s the way that we can all come together and identify the best ways to move forward.”

Finding a solution for DACA students, both congressmen say, is one example for why politicians need to set aside some of their differences and truly work with one another to find pathways forward for a variety of complex topics.

“We can find ways that we can come together and find common ground that leads us to working more closely,” Newhouse says. ✨

A taste of the wild side

The development of a new apple variety, such as Cosmic Crisp, is often the work of an entire career. Retired Washington State University breeder Bruce Barritt spent many years looking for just the right apple—and Cosmic Crisp still took another handful of years before his successor, Kate Evans, released the apple to growers.

Tymon James ('18 Integrated Plant Sci.) thinks he might be able to take a few steps that will speed that process up. But he'll have to take a walk on the wild side to do so.

As an undergraduate intern mentored by horticultural scientist Cameron Peace, James started working with domesticated apples' wild relatives in the student-run Palouse Wild Cider apple breeding program.

Students noticed that the 20 or so species of wild apples being grown in Pullman as part of the program had many desirable attributes sought by domesticated apple breeders, including a very short juvenility phase.

In an apple tree, juvenility ends when the tree reaches reproductive age and first begins to flower. That's when crossbreeding work can begin. Anything that might reduce the typically five to twelve years it takes for a domesticated apple to reach maturity would be welcomed by apple breeders everywhere.

Now a doctoral student in Peace's lab, James investigates short juvenility in wild apples. Several crab apple species have already shown promising results, including zumi,

a species that had previously been noted by WSU researchers to have short juvenility. "We saw flowers for the first time at the end of last summer when small potted trees grown from seed came out of their second cold cycle," he says.

Apples and pears need a prolonged period of cold, called vernalization, to induce flowering. In the wild, winter chilling does the trick, but trees grown from seeds in pots can be moved into a cold room for a couple months to vernalize. To simulate spring and summer, the trees are then moved to a warm greenhouse for a growing period of about five months.

James is analyzing the tree's genetics to see if he can nail down sources of short juvenility. "Once you know the chromosomal location, and the gene variants, called alleles, you can create a DNA test" that detects genetic factors indicative of short juvenility. From there, it may be possible to crossbreed a trait into domesticated apples.

But, James cautions, it's also possible that the alleles that produce short juvenility may be "tightly linked to alleles associated with undesirable phenotypes such as small fruit size or flesh astringency."

Identifying desirable attributes in wild relatives of domesticated apples is likely to turn up other gems in addition to short juvenility.

Wild apples, as Peace says, are rich with "jewels in the genome." As James and his colleagues write in a recent paper, "Apple's wild relatives also harbor many other alleles for valuable attributes such as disease resistance, abiotic stress tolerance, and desirable productivity and fruit quality."

Just understanding the genetics of such traits would be rewarding, but they may also provide insight on ways that wild apples adapt to changing environments. ✨

BY BRIAN CHARLES CLARK

Renaissance of an ancient grain

Spelt, along with other so-called ancient grains, is experiencing a renaissance. Kevin Murphy, a Washington State University plant breeder who has worked with spelt for nearly 20 years, says chefs are looking for new flavors. And that search is driving a small but growing market for spelt.

When Murphy and his team developed a variety of spelt that ticked lots of boxes for farmers and chefs, they released it via the Open Source Seed Initiative (OSSI). The OSSI is "dedicated to maintaining fair and open access to plant genetic resources worldwide in order to ensure the availability of germplasm to farmers, gardeners, breeders, and communities of this and future generations," according to its website.

Murphy released Elwha River spelt in 2017, the name commemorating the removal of two nonessential dams on the Olympic Peninsula river to encourage habitat and salmon restoration. Interest in trying the grain came fast, from the Culinary Breeding Network, as well as star chef Dan Barber, the founder of Row 7 ("a seed company dedicated to deliciousness").

"It's early days," Murphy says, "but we connect farmers who grow these grains with restaurants that want to try them."

At a dinner for 300 in New York, produced by the James Beard award-winning Barber, Elwha River spelt was used to prepare "a dessert made of spelt: the ice cream cone was made of spelt, the ice cream had spelt in it, and the crumbles on the ice cream were also spelt." Martha Stewart, among other celebrities of the culinary world, was in attendance.

The great thing about working with chefs, Murphy says, is that "they take breeding lines and explain why they like them, which really helps us know what is working" in the kitchen.



BY BRIAN CHARLES CLARK

By releasing Elwha River spelt through the OSSI, Murphy cast his bread upon the waters—and it's paying off.

James Henderson, a longtime collaborator of Murphy's, says the company he works for, Hummingbird Wholesale in Eugene, Oregon, is growing 130 acres of Elwha River spelt this season.

"There's nothing bad to say about this spelt!" Henderson says. Unlike most spelts, Elwha is hullless, making it cheaper to produce than conventional varieties. In a good year, most spelts yield about 1,500 pounds per acre, but Elwha is putting out over 5,000. And because it outcompetes weeds, it is easy to grow organically. Elwha River spelt can also be malted for beer; a test fermentation produced a beautiful red brew.

Couple all that with excellent baking quality, Henderson says, "and you've got a home run."

The nutritious grain, cultivated for over 8,000 years, never lost popularity in Europe, where it is used in baking, brewing, and distilling. With the Pacific Northwest's fascination with artisanal cuisine, this grower- and baker-friendly spelt is sure to be a hit. ✨

INSET: WSU PLANT BREEDER KEVIN MURPHY
BACKGROUND: FIELD OF ELWHA RIVER WINTER SPELT
(PHOTOS SHAWN LINEHAN)

INseason

⊕ mushroom risotto and other recipes for chanterelles: magazine.wsu.edu/extra/chanterelles

PACIFIC GOLDEN Chanterelles

BY ADRIANA JANOVICH

First, you have to find them

INSET: GROWN CHANTERELLES AT PIKE PLACE MARKET, PHOTO SHANNON GUSTAFSON. BACKGROUND: WILD GOLDEN PACIFIC CHANTERELLES IN MASON COUNTY, COURTESY MUSHROOM OBSERVER/WIKIMEDIA COMMONS

Grocery stores and farmers markets charge a pretty penny for these yolk-yellow beauties. And that's why many mushroom lovers take matters into their own hands, heading into the autumn forest in search of culinary gold. The hunt—even though it often involves back-breaking bending over and trekking up inclines off beaten paths—is the fun part, second only to eating the mild, earthy mushrooms.

Pacific golden chanterelles (*Cantharellus formosus*)—flavorful, sought-after, a hallmark of fall—are indeed a woodland treasure. Foragers compare finding the delicacy in the duff of the forest floor to the thrill of Easter egg-hunting as children. One of the things that makes them so special is the fact they can't be commercially grown. Another thing is their predictability.

"Something that's amazing about chanterelles is they grow in the exact spot every year," says Michael Neff, director of Washington State University's molecular plant sciences graduate program, assistant chair of the Department of Crop and Soil Sciences, and longtime mushroom hunter. "They really are predictable to the point of, say, within two feet of a particular stump."

Because of this, seasoned mushroom hunters can be extremely secretive about their chanterelle spots.

"I don't even know where my favorite spot is," Neff jokes. "I blindfold myself, and then my car just drives me there." To throw other chanterelle-seekers off his trail, he says, "I always park a little bit away from where I'm actually doing my hunting."

Chanterelles—Pacific golden as well as related species that also grow in the Pacific Northwest such as the white chanterelle (*Cantharellus subalbidus*), yellowfeet or winter chanterelle (*Cantharellus tubaeformis*), and black chanterelle (*Craterellus cornucopioides*)—hold a particular allure for Lori Carris, a recently retired professor in WSU's Department of Plant Pathology. "You have to put a lot of time into finding them," she says. "When you do, it's just thrilling."

Common throughout Europe and North America as well as parts of Australia, Africa, and Asia, chanterelles like shady, conifer-covered places. They're mycorrhizal, meaning their underground networks of mycelia enjoy a symbiotic relationship with host-specific tree roots, particularly those of Douglas fir, spruce, and hemlock. "Even though we have the ability to grow mycelia in culture," Carris says, "we haven't been able to get them to fruit without a tree. You can only find chanterelles in the wild."

While brightly colored, chanterelles can be difficult to spot under a canopy of mixed conifer trees and a blanket of fir and pine needles. They're easily mistaken for autumn-hued leaves. Identify them by their playful shape, often compared to a funnel or trumpet, as well as their false gills and the forked ridges running down their thick stems. Their caps are wavy and irregular, with ruffled edges like fluted pastry crusts.

Popularized in France in the 1700s, chanterelles—low in calories and a good source of vitamin D as well as minerals such as copper, iron, potassium, and manganese—were served in *haute cuisine* to nobility. They remain a favorite in many European nations such as Poland, Lithuania, Ukraine, and Czech Republic, where mushroom-picking is a long-standing cultural tradition.

"Their flavor always makes me think of being in the woods," says Carris, a past executive vice president of the Mycological Society of America who appeared in the 2019 documentary film *Fantastic Fungi*, directed by Louie Schwartzberg and narrated by Brie Larson. "When they cook, their scent is more fruity—one species smells like apricots—but the taste, to me, is just reminiscent of the forest."

Chefs use chanterelles in creamy, seasonal dishes, such as risotto, pasta, and pilaf. They pair particularly well with thyme, shallots, and saffron. And they're easy to prepare. Roast or sauté them with butter, olive oil, and a splash of wine, then enjoy. Or, save them for later.

"The nice thing about chanterelles is you can freeze them," Carris says. "You can enjoy them all year long."

Neff uses his first picks of the season atop steak. Leftovers go into a goat-cheese omelet the next morning. The secret ingredient in his sauté: a little vermouth or freshly squeezed lemon juice—or both. "It's just great to eat with a loaf of bread," says Neff, who also puts chanterelles on homemade pizza and into spaghetti sauce. "I just love eating them."

He loves them so much that, in his contract negotiations, "I actually stipulated that the search committee chair would show me his secret fishing hole and his secret mushroom spot," Neff says. "He took me some places, but not his secret chanterelle spot." Neff eventually stumbled upon it himself. Of course, he won't say where it is.

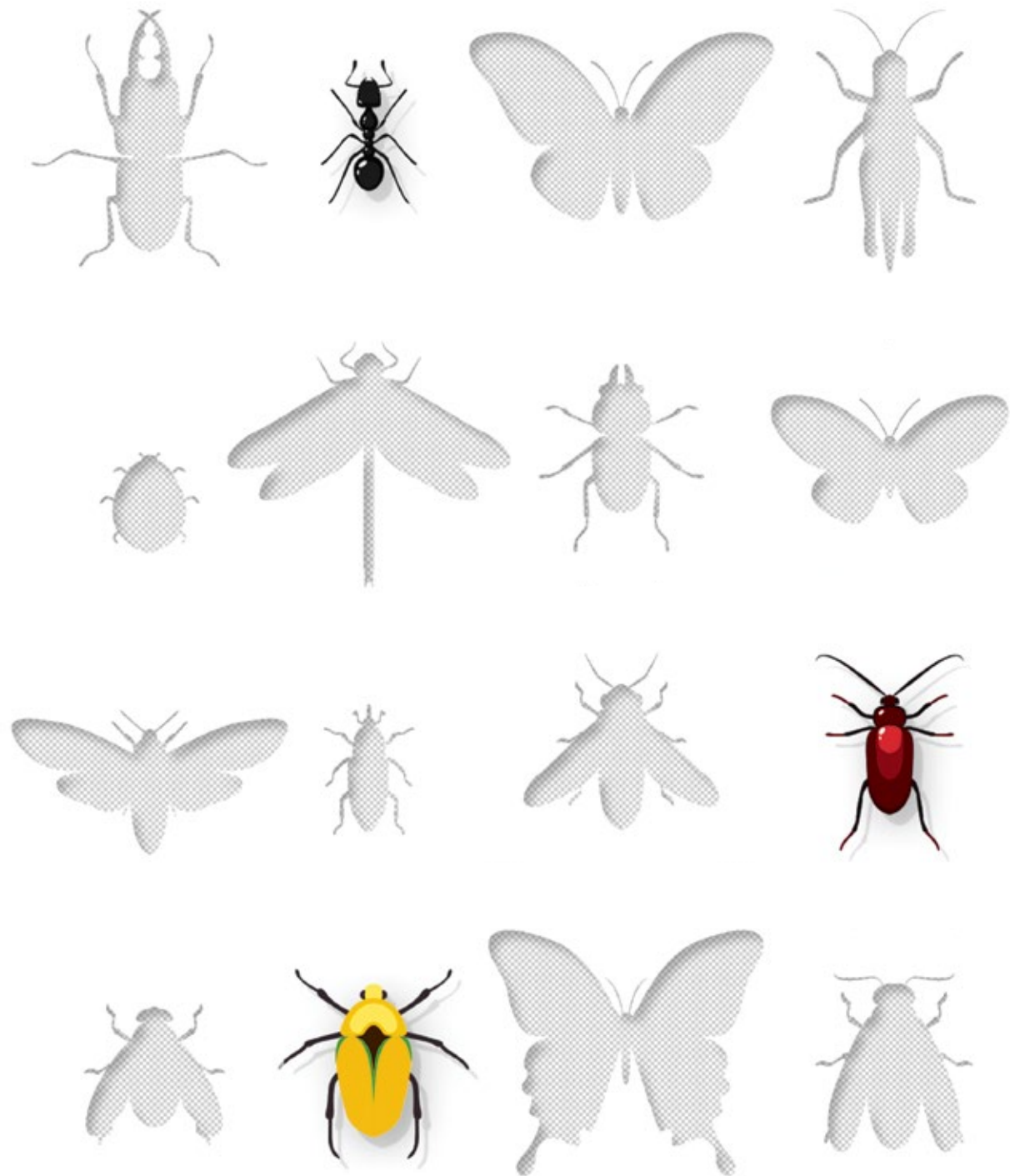
Jim Freed recommends looking for the edible gold "in younger, healthier forests, typically second-growth, with trees 10 to 12 feet in diameter." The retired special forest products specialist for WSU Extension taught classes for mycological societies on the west side for decades. He encourages foragers to tread carefully and harvest gently, cutting mushrooms at their base, rather than yanking them out of the ground, "so as not to disturb the mycelia."

He also recommends keeping an eye on the weather. "In drier conditions, they don't come up as much," says Freed, who's seen chanterelles selling anywhere from \$10 to \$17, even \$28, per pound. "It's really crucial what happens in late July to middle of August. If temperatures stay nice and warm, above freezing at night, and there's good soil moisture of maybe 2 inches of rainfall over the month, you'll see lots of chanterelles. Their prime is middle of September to Halloween unless you get a frost. We've had three good years in a row now."

He's hoping for another one.

"Once you find a spot," Freed says, "you're going to go back year after year after year." ❄️





STAFF ILLUSTRATION FROM ARTWORK BY MACROVECTOR

COMPARED WITH THE CURRENT TRAUMA OF CORONAVIRUS, THE IMMINENT LOSS OF AN INSECT SPECIES, OR EVEN OF MANY, MAY SEEM LESS THAN DREADFUL. SADLY, IT IS NOT.

Over the past couple of decades an increasing number of reports have warned of dramatic declines in insect populations worldwide. The most definitive review so far, a meta-analysis published this spring in *Science*, pulls back a bit from the doourest prognoses, but is itself hardly cheerful. Authors compiled data from 166 long-term surveys of 1,676 sites spread across 41 countries and found an average decline in terrestrial insect abundance of approximately 9 percent per decade. Curiously, they also found an increase of freshwater insect abundance of approximately 11 percent per decade.

Those numbers for freshwater insects offer at least a drop of cheer, as they probably reflect improved water quality. However, fresh water accounts for only 2.4 percent of the earth's surface.

A world without insects?

BY TIM STEURY

In spite of what can appear a bleak scenario, one nevertheless can find here and there a glimmer of optimism. Faced with data sufficient to cause grave concern, at least a couple of Washington State University scientists embrace a mixture of trust in insect resilience and a determination that despair is not an option.

Referring to her efforts to restore pollinator habitat and rebuild threatened butterfly populations, WSU Vancouver conservation biologist Cheryl Schultz says, "I wouldn't be doing this if I didn't think there was hope."

FOR HIS PART, David James is even more upbeat, at least in a relative sort of way. Why? Look at the past as comparison, says James, an entomologist with WSU's Irrigated Agriculture Research and Extension Center (IAREC) in Prosser.

"We've improved incredibly from what it was 30, 40 years ago. And the insects are still with us."

Indeed, the steady replacement of organophosphates and other pesticides with "softer," narrower-spectrum pesticides is decidedly encouraging. (Organophosphates are generally toxic to anything with a nervous system.)

This is not, however, to say that everything is rosy in insect land.

“There are lots of twists and turns in the road,” says James, who recently published results of a small study adding to evidence that neonicotinoids, which seem to be less toxic to mammals than organophosphates, turn out to have unanticipated effects on non-target insects.

James found that monarch butterflies in the laboratory exposed to neonicotinoids at a rate commonly found in nectar dramatically reduces their longevity. By day 22, he writes, “only 3/14 individuals in the treated group were still alive compared to 8/10 in the untreated group ...”

“This brief and simple laboratory study while limited in scope and replication, indicated that the neonicotinoid ... has a profound impact on the survival of adult monarch butterflies within a short period of time. ... Prior to death, treated monarchs displayed characteristic uncontrolled vibrating, trembling, and flapping of wings, similar to neonicotinoid poisoning in honeybees.”

The most unsettling thing about neonicotinoids, James says, is “we don’t know how ubiquitous they are in the environment.” Their persistence and versatility are both strength and detriment.

Also, rates of neonicotinoids used in urban areas are greater than in agriculture. Farmers generally pay closer attention to warning labels than do suburban homeowners. “The nectar in backyard butterfly gardens might be more contaminated than in agricultural fields.”

MOST WORRISOME about the reported declines is that the loss of even a small fraction of insects might be disproportionately consequential.

It is difficult to overstate the value of insects, writes Merrill Peterson in his recent field guide, *Pacific Northwest Insects*. Peterson is professor and chair of entomology at Western Washington University and adjunct professor of entomology at WSU.

Thirty-five percent of the foods we eat require insect pollination. Pollination further results in increased production



▲ MERRILL PETERSON (COURTESY RESEARCHGATE)

▼ CHIRONOMIDS SWARMING ALONG ROYAL LAKE IN OLYMPIC NATIONAL PARK (PHOTO LEE RENTZ)



of 85 percent of food crops. In the Pacific Northwest, apples, cherries, apricots, plums, blueberries, and strawberries are just a few of our economically vital foods that depend on insect pollination.

Insects are at the bottom of the food chain. They are food to many. Apart from seabirds, 96 percent of North American bird species feed insects to their young. Birds alone eat 400 to 500 million metric tons of insects per year.

Insects recycle waste, from cattle dung to corpses.

Assessing the status of insect populations is tricky. There is no worldwide baseline for the world’s million or so named insect species. (Scientists believe millions have yet to be discovered.)

Regarding their decline, “most of what we have been able to do so far has been anecdotal or has been limited to a small number of species,” writes Peterson in an email.

“But I think that there are plenty of signs that we should be concerned. For one, there are certainly some species that used to be quite abundant that are now exceptionally rare. The Western bumblebee is a case in point.”

Peterson cites the rate of collection of *Bombus occidentalis* by students in his department’s entomology course at WWU. Abundant in the 1970s and ’80s, since about 1995 specimens collected by students have dwindled to virtually none.

“Anecdotally,” he continues, “there’s the oft-cited windshield phenomenon, whereby one seldom has to clean insect splatters off of our windshields now, unlike decades ago.”

SCHULTZ RECENTLY JOINED 57 other scientists worldwide in urging the adoption of a “roadmap for insect conservation and recovery” in *Nature Ecology and Evolution*. “There is now a strong scientific consensus that the decline of insects, other arthropods and biodiversity as a whole, is a very real and serious threat that society must urgently address,” they write. They cite as the causes of this decline: habitat loss and fragmentation, pollution, invasive species, climate change, and overharvesting—and propose remedies that reflect the urgency of the problem.

Among them: reverse recent trends in agricultural intensification, aggressively reduce greenhouse emissions, increase landscape heterogeneity, and encourage insect-friendly farming. The list of urgent measures goes on, with restoration of habitat among the most crucial.

A recent United Nations report notes that “three-quarters of the land-based environment and about 66 percent of the marine environment have been significantly altered by human actions.” In addition, urban areas have more than doubled since 1992.

Regional loss of habitat mirrors this picture. Although a drive across central Washington might convince one that sagebrush is forever, the sagebrush ecosystem is considered one of most imperiled in the United States

According to James, diminishing shrub-steppe habitat of southeastern Washington has resulted in loss of habitat for approximately 50 species of butterflies.



▲ CHERYL SCHULTZ (COURTESY WSU NEWS)

“Before agricultural development, the sagebrush steppe covered an estimated 38.6 million square kilometers, but today it occupies about half (56 percent) of its historic range,” he writes.

Here on the far east side, historically, the estimate of “... grassland loss on the Palouse ranges from 94 percent to 99.9 percent,” writes Tim Hatten (’02 MS Entom.) in a study of bumblebee populations in isolated patches of remnant prairie.

No one is suggesting the return of this phenomenally productive wheat land to insect habitat. However, programs to restore refugia in the form of hedgerows and conservation set-asides could be immensely beneficial.

ONE ROADBLOCK to insect conservation is that insects have yet to gain the attention that larger, more charismatic fauna enjoy. An exception is the monarch butterfly.

Schultz coauthored an article in *Frontiers in Ecology and Evolution* last July that raises an alarm over the Western monarch. The butterfly suffered a decline of 97 percent between the 1980s and the mid-2010s. It suffered an additional plummet in the winter of 2018–19, to fewer than 30,000 individuals. The overall drop in the Western monarch population since the 1980s is thus approximately 99 percent, bringing it to what biologists consider a “quasi-extinction threshold.”

Schultz brings to the monarch conservation effort long experience. Over the last couple of decades, she led the effort to head off the extinction of the lovely Fender’s blue butterfly in the Willamette Valley (*WSM* Summer 2011).

As a result of efforts by Schultz and colleagues—doing the science, coordinating public-private partnerships, and investing massive amounts of time—the Fender’s blue is a rare success.

“It’s one of very few insects that are recovering,” says Schultz. The U.S. Fish and Wildlife Service is actually considering changing the butterfly’s status from “endangered” to the less severe “threatened.”

We know the remedies to decline, says Schultz. “We know how to plant hedgerows, we know how to plant breeding areas, we know how to stop development.

“Not to say climate change isn’t important. It is. But when people say it’s all about climate, then there’s nothing you can do about it.



tainability by promoting key ecosystem service providers without boosting pest (herbivore) densities.”

AS THE ESTEEMED entomologist E. O. Wilson famously observed, “The truth is that we need invertebrates but they don’t need us. If human beings were to disappear tomorrow, the world would go on with little change.... But if invertebrates were to disappear, I doubt that the human species could last more than a few months.”



PACIFIC NORTHWEST INSECTS

by Merrill Peterson
Seattle Audubon: 2018

A beautiful and useful field guide, with color photos of more than 1,225 species of insects, spiders, harvestmen, scorpions, and more.

You may want to buy two copies, one for your backpack and another for your coffee table.

Peterson is professor and chair of biology and insect collection curator at Western Washington University and adjunct professor of entomology at WSU.

DAVID JAMES WITH HIS BOOK LIFE HISTORIES OF CASCADIA BUTTERFLIES (PHOTO NELLA LETIZIA)

“Climate clearly influences year to year variation. But in our signals the long-term decline” is caused by habitat loss and fragmentation.

There are “a lot of very tangible things we can be doing.”

One of those tangible things is James’s work on reintegrating agricultural land with pollinator-friendly habitat, focusing primarily on wine grape vineyards. Wine grape production in Washington has exploded from a few hundred hectares in the mid-1970s to 24,000 hectares in 2019. The nice thing about growing wine grapes in south central Washington is they don’t require a lot of pesticides, making them amenable to restoring native plants within them, restoring habitat for butterflies and other beneficial insects.

James found that habitat-enhanced vineyards contained double the number of butterfly species compared to conventional sites.

NOT EVERY FORM of agriculture is as amenable to native habitat as are vineyards. However, according to Teah Smith (’12 MS Entom.), entomologist and agricultural consultant for Zirkle Fruit Company, Zirkle has planted close to 150 acres of pollinator and beneficial insect habitat in and around its orchards. “We have seen an increase in pollinator diversity and beneficial insect populations in the habitats,” she writes in an email, and so they continue to plant.

Brad Bailie (’95 Crop Sci.), one of a growing number of farmers who include beneficial insects and predators as well as insect pests in their strategy, grows organic onions near Connell, a difficult task made somewhat easier by insectaries that harbor beneficials.

More broadly, WSU entomologists David Crowder, Vincent Jones, and William Snyder were coauthors with 61 other scientists of a 2016 global analysis of the effect of organic farming methods on arthropod abundance and richness: “The positive effects of both organic farming and in-field plant diversification were greatest for two groups of beneficial arthropods: pollinators and predators. Thus, both schemes may increase agroecosystem sus-



ABOVE: CHIRONOMIDS SWARM LONG EXPOSURE (PHOTO LEE RENTZ)

It is unlikely that all insects will disappear anytime soon. After all, they’ve been here a lot longer than we have and likely will outlast us by far. (And even in decline, they outweigh us by a factor of 17.)

Meanwhile, we’re still here, and as James observes, so are they. But out of the million or so insect species that we’ve identified, what if the Western monarch does disappear? What have we lost?

“A lot of things,” says Schultz. “This is part of our persona, this is part of our landscape. This is part of who we are.” *

Tim Steury is the former editor of WSU’s Washington State Magazine and Universe magazine. He is now an orchardist in retirement cultivating heirloom cider apples and pears.

Yes, there is something you can do about insect decline...

As scientists examine the extent and causes of insect population decline, one of their largest tasks is data collection. Understanding trends in insect abundance or diversity requires lots of data, which requires an enormous amount

of time. “Citizen scientists” can help immensely. Here are a few possibilities:

David James recruits people annually to help tag and monitor monarchs. Check it out at magazine.wsu.edu/extra/monarchs.

Readers in the Yakima area can join the Cowiche Canyon Conservancy for butterfly citizen science opportunities.

Other citizen scientist butterfly opportunities exist for members of the Washington Butterfly Association, which helps monitor and survey threatened species in collaboration with the Washington Department of Fish and Wildlife and the Bureau of Land Management.

The Xerces Society coordinates a number of opportunities, including the “Pacific Northwest Bumblebee Atlas.”





In a crunch for lunch?

BY ADRIANA JANOVICH

ATTENDANCE WAS A REQUIREMENT.

Eating insects was optional. “But, by the end of it, I’d say the majority—90-plus percent—had tried something. And, for the most part, the reaction was the same: ‘Oh, well, that wasn’t so bad,’” says Richard Zack (’82 PhD Entom.), who organized a Bug Buffet as part of his Entomology 101 course.

He taught *Insects and People* for about 20 years, growing the famed bug-eating awareness lunch from a small class-time affair to a public event drawing hundreds of people. “I wanted them to realize there are places in the world where eating insects isn’t a novelty,” says Zack, now associate dean for academic programs at WSU’s College of Agricultural, Human, and Natural Resource Sciences. “It isn’t just chocolate-covered ants or something that’s done on a dare. It’s truly a type of food, a big part of people’s protein.”

Bugs aren’t part of Zack’s day-to-day diet. But, when he’s traveling to Asia, Africa, or Central and South America where people have eaten insects for millennia, he makes a point to try traditional dishes: water bugs in Thailand, termite tacos in Mexico, caterpillars in Congo, and flying ants and beetle larvae in Guatemala. “Kids will dig through rotting logs and eat what we call grubs. They’ll pinch the head off and eat the larva.”

Not only are insects packed with protein, vitamins, minerals, omega-3 fatty acids, and flavor, they offer a sustainable way to eat. Bugs are easy to farm. They require less care and feeding than cattle, pork, poultry, and other farm-raised meats. They also produce smaller quantities of greenhouse gases, particularly methane.

With the world population expected to reach 9 billion by 2050, the United Nations Food and Agriculture Organization (FAO) estimates that, to feed everyone, sustainable food production will have to increase by 70 percent. Insects, according to the FAO’s 2013 report *Edible Insects: Future Prospects for Food and Feed Security*, “are not merely ‘famine foods’ eaten in times of food scarcity or when purchasing and harvesting ‘conventional foods’ becomes difficult; many people around the world eat insects out of choice, largely because of the palatability of the insects and their established place in local food cultures.”

There are nearly 2,000 edible insect species, many of which are staples, even delicacies, in other countries. Commonly consumed insects include beetles, caterpillars, bees, ants, grasshoppers, locusts, crickets, cicadas, and termites.

“Eating a Dungeness crab is not that different from eating a bug when you think about it,” says David George Gordon, aka “the Bug Chef.” His recipe for the childhood snack “ants on a log,” typically made with peanut butter-filled celery stalks dotted with raisins, features actual ants.

His *Eat-A-Bug Cookbook*, first published in 1998, was revised and re-released the same year as the publication of the FAO report. Since then, the Seattle-based science writer says he’s seen attitudes toward insect-eating slowly start to change. He credits today’s growing “foodie culture” with inspiring more adventurous eaters along with the FAO analysis and television shows such as *Fear Factor* and *Bizarre Foods* with Andrew Zimmern.

Twenty years ago, Gordon would turn to pet supply stores for edible insects. Now,

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he goes online or to local Asian markets, where many “frozen food sections have fried grasshoppers next to the shrimp.” He also sees more products—protein bars, chips, cookies—made from insects. The trend is expected to grow, with the global edible insect market projected to reach nearly \$8 billion by 2030.

This shift is encouraging, Gordon says, especially when you consider a steak. “It takes almost 2,000 pounds of water and about 16 pounds of grain to make 1 pound of steak. It takes about a pound and a half of food to get about a pound of grasshoppers or crickets. That’s a much better deal.

“It really comes down to our role as a species,” he says. “We’re supposed to be stewards of the environment. Intellectually, people understand the benefits of eating bugs. But, emotionally, (Westerners) aren’t ready for it. We basically eat what our parents and grandparents ate. If you didn’t grow up with it, you think it’s weird—take pickled pig’s feet—but in other parts of the world, eating insects is commonplace. Eighty percent of the world’s cultures eat insects.”

The first one you eat is the most difficult. Because of their exoskeletons, they’re often crunchy and intimidating. Powdered forms, such as cricket flour, provide an easier entry into entomophagy.

Gordon recommends cooking them. “You wouldn’t eat raw chicken or pork,” he says. “Don’t eat raw insects. There are some parasites that use insects as intermediators.” Similarly, don’t eat insects you find under the sink or on the sidewalk, which might’ve been exposed to pesticides. And, avoid eating brightly colored bugs. “In insect language, that means, ‘Hey, don’t eat me. I don’t taste good,’” Gordon says.

His bucket-list bugs are palm weevil grubs. “I would love to try them. But they’re agricultural pests so you can’t import them. They’re about the size of little pork sausages and gnarly-looking by our standards. But in Central Africa and throughout Southeast Asia, they’re considered a special food.”

Whether or not you opt to eat them, Gordon notes that insects “play a very important role in keeping our planet going. If they were to disappear, our planet would come to a grinding halt. It really is the little stuff that makes the world go around.” *

SIDELINES

listen to the Voice of the Cougs: magazine.wsu.edu/extra/glenn-johnson

“The Voice”

BY ADRIANA JANOVICH

YOU KNOW IT WHEN YOU HEAR IT.

From the classroom to council chambers and, of course, the basketball court and football field, Glenn Johnson has arguably the most recognizable voice in Pullman.

After four decades, the longtime mayor of Pullman and retired Washington State University broadcast professor continues to serve as the public address announcer for Cougar football and men’s basketball. He wrapped up 40 years as “The Voice of the Cougs” at the end of the 2020 basketball season. Fall marks the start of his forty-first year announcing WSU football.

“The game has changed significantly,” he says. “When I first started, I had maybe a few announcements, but nothing like today where it is a highly produced event that goes for four hours. It’s intense. You are basically busy the entire time. It can be stressful. I definitely prepare for the game. I definitely do my homework.”

Before the season starts, Johnson meets with WSU’s sports information officials to go over all of the Cougar players’ names. Then, as each game approaches, he preps by learning all of the opposing team’s players’ names.

“Some you practice and practice,” he says, particularly the ones that are unusual, long, or difficult to pronounce. Armed with a background in broadcast television and radio, he’s a master of projection. His voice is unmistakable, clear, booming, and full of personality.

Johnson started announcing games for WSU at the beginning of the 1980 football season. He’d only been in Pullman a year by then, moving to the Palouse from Sacramento where he had managed two radio stations. Two or three years after that he started what became one of his signature calls: “And that’s another Cougar first down!”

His timing is everything. The long pause comes after “And that’s another,” with smaller pauses after “Cougar” and “first.” The call has become so iconic that the crowd now loudly completes the phrase.

But that first one wasn’t planned. “It was just by accident,” Johnson says. For about



PHOTO DEAN HARE

six years, however, he wasn’t allowed to do it. Former athletic director Rick Dickson put a stop to the trademark phrase, which Johnson brought back as soon as Dickson left in 2000.

Another iconic call during his legendary tenure: “No gain,” going deep and low and slow, when defense blocks opponents from moving the football.

And there are some names he’s enjoyed announcing most, names that lend themselves to particular, drawn-out enunciations—such as Cougar basketball guard Bennie Seltzer, Cougar football running back Frank Madu, Cougar basketball guard/forward Craig Ehlo, and Cougar football defensive tackle Donnie Sasa—with the crowd often yelling back the second syllables. “I love audience participation,” Johnson says. “I think people not only want to watch the game, but be entertained.”

Johnson’s been “The Voice” longer than he taught at WSU. He taught courses in TV and radio news and communication management for 35 years—from 1979 to 2014. Part of that time, he did double duty as the public information officer for the Pullman fire and police departments, often incorporating real-life events into

teachable moments for class. He still volunteers as PIO for Pullman fire and serves as an emcee at local fundraisers and other events. “One of the things I’ve done since day one is made myself available for community events,” he says. “I think that’s part of the responsibility of being ‘The Voice of the Cougs.’”

Johnson has also made history as mayor of Pullman. His re-election to a third term in 2011 was a first for the city since Pullman was founded in 1888. He’s now serving his fifth—and he says his final—term. He also chairs the Pullman-Moscow Regional Airport Board of Directors, is a member of both the local Rotary and Kiwanis clubs, serves as secretary-treasurer of the Washington State Association of Broadcasters, and sits on the board of trustees of the Community Colleges of Spokane.

In 2013, the WSU Foundation presented him with its Outstanding Service Award. And, in 2016, he received the Honorary Alumnus Award during halftime at the WSU vs. University of Washington basketball game. It’s the highest honor the WSU Alumni Association gives to nonalumni friends who have given special service to the University.

Says Johnson, “It’s just been a ball.” *

SIDELINES

They share a special kind of kinship, not only because of their common bond but because so few have enjoyed the privilege. Of donning the suit, sporting the tail, learning to walk the walk—that swagger is a trademark move—and becoming the legendary fierce but friendly character.

Butch T. Cougar is a WSU celebrity, in the spotlight at games, rallies, parades, and other events both on campus and off, including appearances at elementary schools and the wedding receptions of die-hard alumni. But the students who play the role remain largely anonymous, at least until their big reveal at the end of basketball season. Maintaining the secret is part of the mystique.

And it's a big reason why it took Michael "Max" Baer ('15 Econ.) some four and a half years to track down alumni who played the part. While he was Butch from 2012 to 2015, the Facebook group for former Butches "was pretty small. We were missing two-thirds of the Butches or more," he says. "It was a good resource, but it wasn't what it could be. It's a lot more active now."

Baer started tracking down former Butches "hoping it would lead to a stronger alumni group. However," he says, "as I dug deeper into WSU's mascot history,

I found stories and experiences which shed light on the beginnings of many WSU traditions. Butch has been directly involved in so many historic events and funny interactions, and still stands as a tangible part of WSU life after 40-plus years."

Baer worked nights



and weekends, mainly via social media, to find fellow Butch alumni. "It was pretty slow-going in the beginning," he says. "I posted in alumni groups. I reached out to friends from the years that I needed, asking, 'Did you know who Butch was? Did you know anyone in band or on the Rally Squad or cheer team?' It was pretty tough to track people down,

particularly the female Butch of the 1990s. I was trying to find her for like two years."

The overwhelming majority of Butches have been male. The character itself is masculine. Tami (Turek) Zapata ('93 Biol.) played Butch from 1989 to 1991. Then, she cheered for WSU for

BY ADRIANA JANOVICH

Baer tracked down the last Butch—"the missing link"—about a month before the first-ever Butch reunion, a fortieth birthday party for Butch during ESPN *College GameDay* in Pullman on October 20, 2018. During pre-game festivities, former Butches signed autographs. During the game, they were recognized on the field.

"It was the first time any of us were in the middle of the field without the Butch mask on. The crowd was cheering for Butch, but they were also cheering for us.

It was a very weird feeling, but a very good feeling. Sort of nostalgic, kind of like *déjà vu*," Baer says, noting, "The most rewarding part of this entire experience was reuniting friends who hadn't seen each other in years, even decades, and reigniting friendships."

Washington State College played its first football game as the Cougars in 1919. It wasn't until 1927, when then-state Governor Roland Hartley gave campus a live cougar cub, that Butch T. Cougar was born. The mascot was named for Herbert "Butch" Meeker, a football star of the era.

Butch VI, the last of WSU's live cougar mascots, was gifted to campus by then-state Governor Albert Rossellini in 1964. When the animal died in late summer 1978, students protested placing another live cougar in a cage and then-WSU President Glenn Terrell

decided Butch would take a different track. For the two years before Butch VI died, Peggy Robison, a member of the Crimson Rally Squad, donned a Butch suit for games, and the costumed character became the permanent tradition.

That first year, students switched off suiting up. "It was sort of up to the rally squad to decide: Who was going to be Butch for this game?" says Dean N. Grevé ('81 Comm.), Butch from 1979 to 1981. "It was Butch by committee. We were all sitting around, and it was like, 'Who wants to do this? Who wants to wear the suit?' Butch was a dif-

ferent height, a different shape, at every game"—until Grevé took over the role. "There was only one instruction when you were given the suit: You can't tell anyone you're Butch."

Today, Grevé says, "I still watch every Cougar game I can, and I loved going back to that reunion. The thrill of being out on the field with that group—it transports you. I don't run like I did when I was 20. But you feel that same energy running out there. I haven't had that feeling in decades. What I wouldn't give to put that suit on one more time." *

Have memories of Butch T. Cougar? Send them to wsm@wsu.edu.

profiles of Cougs who were Butch: magazine.wsu.edu/extra/butchin-mascots



"As soon as I put the head on, it was showtime. It wasn't me anymore. It was Butch. It was always in the back of my head that I was representing the school. I tried to be warm, inviting, and outgoing. Everyone wanted to hug and high-five Butch and get their picture taken with you. You're Butch The Cougar. Everybody was happy to see you. Their eyes just lit up. I felt like everybody's best friend."

— DARRELL TURNER, Butch from 1981 to 1982



"Many of my friends now, after 30 years, are just now finding out that I was involved. It's fun keeping it a secret when you're in school. I was able to go up into the stands with friends and have fun with them without them knowing it was me."

— DON ATKINS, Butch from 1985 to 1987



"I learned to walk like a guy. The character is a guy. And I said if I got the part I would play it as a guy. I would wear extra-large shoes. I wouldn't let on that I was a girl. When people would shake my hand, I'd try to make sure it was very firm. My whole time as Butch I made sure everyone thought I was a guy."

— TAMI (TUREK) ZAPATA, Butch from 1989 to 1991

COUGAR CONFIDENTIAL



"I always tried to bring athletic ability and energy. Just like a cartoon character, you're always bouncing. You're constantly moving. I tried standing back tucks, back handsprings, walking on my hands. I always wanted to take it to the next level. I thought if I could do that it would bring a lot more swagger to the character."

— DAVE STOGDILL, Butch from 1996 to 1998



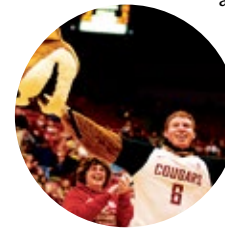
"The fur itself only got washed, I'd say, maybe four or five times in a season. It would get so gross and stinky—like a dirty gym bag with layers and layers of different fragrances, whether it's Febreze or just straight-up cologne. That was a stinky, stinky time. I don't miss the smell."

— ZACH WURTZ, Butch from 2003 to 2006



"I didn't tell my brother or my sister or my roommates until I got unveiled. That was such a cool moment, almost as cool as the first time I did 'Go Cougs.' There's so much pride in being the coolest guy in school and no one knowing. I think, for me personally, it's made my Cougar spirit and my Cougar pride that much stronger. I feel like I've got a connection to Butch the character but also this 'furtherness' that connects us and spans 40 years."

— JOSH DIAMOND, Butch from 2008 to 2011



"Every new Butch is very similar to the old one. But there is always something added that makes Butch cooler and better." — BRYAN CLARK, Butch from 2010 to 2014

PHOTOS COURTESY RESPECTIVELY



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BACKGROUND: ONE OF MANY WSU ZOOM APP BACKGROUND IMAGES COURTESY WASHINGTON STATE UNIVERSITY ATHLETICS
INSETS: COLLEGE OF EDUCATION PHD STUDENTS STAYED CONNECTED IN THEIR ZOOM MEET-UP GROUP "E-TOGETHERNESS"



COURTESY WSU COLLEGE OF EDUCATION

He got the call

Barry Warren didn't want to be a baseball player. Or a doctor. Or lawyer.

It's not the typical response from a child, but when Warren was asked what he wanted to be when he grew up, he said school principal.

Warren ('19 Principal Cert.) recently realized his dream through a program at Washington State University's College of Education that supports the recruitment of Indigenous teachers and school administrators.

Warren is an enrolled member of the Confederated Tribes of the Colville Reservation. His grandparents grew up and went to school in Inchelium, a town on the reservation's eastern border, nestled against the Columbia River. Warren grew up in Spokane, but has fond memories of time spent with grandparents during the summer.

"I always loved it there," says Warren, who attended Spokane Falls Community College, majored in elementary education at Moody Bible Institute, and earned a master's degree with an emphasis in upper elementary reading from George Fox University in Newberg, Oregon.

A summer internship brought him back to the Colville Reservation, this time to Nespelem. "There's where I got my first Native language experience," he says. "I got to take language with an elder in Nespelem. They said I was getting educated for the next generation. That kind of stuck with me."

In an effort to work more closely with Native students, he took a teaching job in Hunters, south of Inchelium and across the river from the reservation in unincorporated Stevens County. He ended up staying eleven years. "I knew I wanted to get my

ALUMNI profiles

principal certificate, but the timing just never seemed to be right," Warren says.

Then he got a call from WSU.

Warren learned of the Ti'tooqan Cuukweneewit Native Teaching and Learning Community Project, part of a four-year grant from the U.S. Department of Education's Office of Indian Education and also funded through the Washington



Barry Warren with Ti'tooqan Cuukweneewit project faculty Francene Watson (at left) and Renée Holt. Courtesy WSU College of Education

State Professional Education Standards Board. The name comes from the Nez Perce language and describes how Indigenous people view and understand teaching and learning. WSU Pullman is located on the traditional homelands of the Nez Perce Tribe. The "coheart" of students—as the program calls them—examines the intersection of Western education with Indigenous knowledge systems.

Ti'tooqan Cuukweneewit helped pay for his principal certification—and gave Warren an unshakable feeling. "I just kept having this feeling while I was doing this that I was going to end up on the Colville Reservation," he says. "I didn't know what exactly that meant or what it would look like, but I had this sense that I was working toward it. I really cherished the

idea of getting back to my family and my homelands."

After Warren finished his principal internship with the Chewelah School District, he applied for various principal positions, all of which would serve some population of Native students, but none of which were on the Colville Reservation. He kept getting rejected.

Then he learned of an opening in Inchelium. "I thought, 'Uh oh, this might be it. I don't know if I'm ready.'" As soon as he walked in for his interview, doubt faded to excitement and—even more importantly—comfort. "It was just a natural fit," he says. "I went into my interview, and there were pictures of my grandpa on the wall of the school because he was a World War II vet and they honor their veterans really well there."

That history and Warren's own perspective were as important to the school district as they were for him. He got the job. The hardest

part would come before the end of his first year: COVID-19. With the pandemic came associated tech challenges.

"Everything is online, and I Zoom more than I ever have before," he says. "The online platform is tough out here because of our limited internet access. But I'm doing everything I can to help our staff online, over the phone, every way possible."

Through it all, Warren aims to keep his sense of humor. While everyone at school misses the students, he says, there's one facet of his job that's much easier with them gone. "I haven't had to deal with too many discipline issues," he jokes.

In all seriousness, he says, "I'm excited to serve on the Colville Reservation. It's just such an honor." ✨

Up, up, and beyond

BY CARRIE SCOZZARO

Jerry Jaeger had nowhere to go but up.

As a pre-teen washing dishes in his parents' Ritzville restaurant, the Circle T Inn, he was too short to do his first job. Someone gave him a wooden Pepsi box to stand on, launching what would become a career of more than 50 years in the hospitality industry.

The box got him to the counter; the rest of Jaeger's journey was the result of family, the confidence that comes from knowing you're on the right path, and a willingness to work hard. Those three factors—along with education earned at Washington State University's School of Hospitality Business Management (SHBM)—connect Jaeger with decades of other hospitality graduates.

"I was really lucky in that I always knew what I wanted to do," says Jaeger ('70), recalling an early conversation in which he predicted he'd follow his parents into hospitality.

In 1963, his parents left Ritzville for Coeur d'Alene, Idaho, to become a part of Western Frontiers Inc. and its new North Shore Motor Hotel, the forerunner to the Coeur d'Alene Resort. Jaeger did odd jobs at the hotel. After graduating from high school, he enrolled at WSU, getting married during freshman year to his high school sweetheart, Ellen.

The nutrition and culinary classes weren't his thing, but the business classes resonated, says Jaeger, who has served on the board of Idaho Independent Bank, now First Interstate Bank, since its founding in 1993. While at WSU, Jaeger's father died in a plane crash, a painful time eased somewhat by the mentorship of then-Dean Joe Bradley, says Jaeger. He also served as president of Sigma Iota, the service club for SHBM.



COURTESY JERRY JAEGER

After graduation, Jaeger worked for Westin Hotels in Los Angeles, noting it didn't pay much but offered experience. A year later, he returned to Coeur d'Alene to manage North Shore, which would undergo a series of expansions during Jaeger's tenure, including its evolution into the Coeur d'Alene Resort in 1986.

Along with Duane Hagadone, Jaeger cofounded Hagadone Hospitality and served as co-owner and president of the company, which owns multiple hotels and restaurants. Its flagship property, the resort, was recently named the best Idaho hotel by *Condé Nast Traveler*, which named it best mainland resort in 1990. The same year, it also won the top spot in the magazine's Reader's Choice Awards.

Jaeger promoted regional tourism as the first statewide chairman of the Idaho Travel Council and received the Governor's Lifetime Achievement Award in Recreation and Tourism. He was inducted into SHBM's first Hall of Fame in 2017 and the State of Idaho Hall of Fame in 2018.

"My most important job—and if I was good at anything—it was selecting the right people," says Jaeger, who retired in 2017, yet is still involved in an advisory capacity with the company's Best Western Plus University Inn in Moscow and Kootenai River Inn Casino and Spa.

He's also a Cougar dad—to Jennifer Ann Jaeger-Drakjy ('97 PhD Counseling Psych.) and Jason Jaeger ('93 Hotel & Rest. Admin.), following in his father's footsteps as one of the presidents of Hagadone Hospitality. ✨

Read about hospitality alumni Joe Fugere '84, Michael Wang '96, and Pauline Q. Garza '16: magazine.wsu.edu/extra/hospitality-generation.

A writer in chief

BY ALYSEN BOSTON, '17

Bill Gardner grew up on Pullman's College Hill and thought for sure he was on track to be a teacher when he graduated from WSU. His father, Walter Hale Gardner, was a soil physicist at the University from 1950 to 1983. "I was 11 before I realized there were professions other than being a professor," he says. "If I stood out at the end of my driveway, every house I saw had a professor living there."

Gardner ('88, '01 MA English), chief of Washington State University Police, got into police work almost on a whim. He drove to the campus station with a friend who wanted to apply and decided to apply, too. He worked as a full-time officer for WSU police from 1990 to 1993, then took a position with the Pullman Police Department as a school resource officer.

By 2004, it was time for a change. Gardner left the force for business enterprises—most notably working with the undersecretary for Mexico's Secretariat of Agriculture and Rural Development through a friend's risk management firm. Gardner aimed to find ways to help Mexican agricultural products enter the global market, flying—often weekly—to Mexico City.

The experience helped him cultivate leadership skills. One rule-of-thumb he developed: for a partnership to be successful, both partners must need each other. "When your partner didn't need you, you were in a risky place. And when you didn't need your partner, you had a ball and chain," he explains.

His second rule is that one and one should make three. "Anybody can take one and one to make two, but you have to have the right people to make sure

the things you are putting together are multiplying. From a day-to-day perspective, my leadership is dependent on good work from my staff," says Gardner, who's served as WSU's police chief since 2008. Today, he oversees about 100 employees, plus some 50 student interns from WSU's criminal justice program.

As executive director of public safety at WSU, Gardner sits on the system-wide Incident Command System team, formed to navigate the COVID-19 outbreak. "The COVID-19 experience has definitely been a challenge and a growth experience for me," he says.

Though his teaching goals have long been put to rest, Gardner has put his English degrees to use, writing several young adult books. "My sister has four sons, and she complained to me one day that there was nothing good for her kids to read," he says. His first novel, *Race Against Time*, was published by Covenant Communications in 2001 under the pen name Willard Boyd Gardner. He wrote two more, published in 2003 and 2007, focusing on how law enforcement officers deal with grief, trauma, and relationships—with a little time travel mixed in.

Gardner attended book signings and appeared on radio shows, sometimes alongside James Dashner, author of the popular "Maze Runner" series. But Gardner says he wasn't nearly as personable as Dashner, nor did he enjoy the publicity. He eventually found something more his style: ghostwriting. "I didn't know how I'd feel about writing something and having someone else's name on it," he says, "but I loved it."

Despite a career full of twists and turns, Gardner says, "I'm not sure I have another big change in me. I love the people here, and my grandkids live in Pullman, so there's no reason for me to leave. I would love to ghostwrite another book, though." ✨



Glass action

BY WENDA REED

Here's an unorthodox business plan: Make one product. Give a portion from each sale to charity. Shun high-pressure sales tactics.

But with this business model, **glassybaby**—started in Seattle in 2001 by three-time cancer survivor Lee Rhodes—has succeeded beyond the founder's wildest dreams. The hand-blown glass candleholders or drinking vessels, in 450 luminescent colors, generated \$3.5 million a year in sales back in 2009 when **Tracy Morgan** ('91 Apparel, Merch., Des. & Tex.) joined the company.

For the past decade, Morgan has been at the heart of the company's expansion. Annual sales now reach \$20 million, and charitable giving totals \$10 million.

After graduating from WSU, Morgan worked at Nordstrom as a manager, then buyer, before taking 10 years off to raise her three sons.

"My husband said I was getting boring; didn't I want an outside life?" she remembers. "I'd been a customer of glassybaby for years and they knew me, so I asked for a job. I told them I could work 9:30 a.m. to 2:30 p.m., when I'd pick up my boys from school. They hired me to run the new Bellevue store."

Then the company kept asking for more: "Could I run the store over the holidays? Could I oversee a new venture in New York City?"

As her friendship with Rhodes grew, so did her responsibilities and commitment



PHOTOS COURTESY TRACY MORGAN

to glassybaby. She opened six new stores, bringing the total to nine, as well as handling corporate sales, events at the company's two studios, or "hot shops," and pop-up stores around the country.

Those pop-ups sometimes lead to serendipitous connections. "We were doing one by a hotel pool in California, and it wasn't going well," Morgan says. "As we were packing up, a Seattle couple came running over. It turned out the man was high in Seahawks management and wanted a "hope" glassybaby to give to quarterback Russell Wilson in recognition of his work with Children's Hospital." (All the vessels have a name, bestowed by Rhodes.)

When Morgan got back to Seattle, she delivered the "hope" votive, and the Seahawks management asked if they could do their own glassybaby. For the past seven years, the organization has designed vessels in shades of green and blue and donated a portion of sales to Seahawks charities. Designs are also available for the Mariners, Sounders, corporations, and colleges. WSU's design features translucent crimson glass stamped with the Cougar head logo.

"I have a hand in everything from production to R&D to sales," Morgan summarizes.

Actually blowing glass?

Not so much: "It's incredibly hard."

She is most gratified by the company's commitment to giving. That began when Rhodes, as a mother of young children, was going through chemotherapy for cancer. She realized that some women were skipping treatments because they could not afford childcare, transportation, or other necessities. She found the light in a glass vessel to be incredibly healing and calming, and so created glassybaby.

Ten percent of revenue was given away until July 2018, Morgan says. The current giving model is: three dollars of every glassybaby votive sold goes to the White Light Fund, the company's giving arm, to provide hope and healing.

Uncompensated care for patients with cancer and other diseases is still the biggest recipient, but money also goes to the care of animals (especially dogs) and the environment. Nonprofit charities can apply for \$3,000 "baby grants."

Morgan sees the outreach as part of the "glassybaby family," a feeling she finds akin to the connection between WSU graduates. "In the same way we say 'Go Cougs' whenever we recognize another graduate, people bond over their experiences with glassybaby." *

Heaven so fine

BY ADRIANA JANOVICH

Rob Mercer can trace his roots in the region to 1886, when his great-grandfather settled there to raise sheep ultimately becoming one of Prosser's prominent early businessmen.

Eight decades later, in 1968, the family founded Mercer Ranches, installing the area's first irrigation and adding wine grapes—also a first in the Horse Heaven Hills—in 1972. Three decades after that, in 2005, Mercer Estates Winery produced its first vintage.

Today, the family grows more than two dozen varieties across more than 3,000 acres in the Columbia Valley and Horse Heaven Hills viticultural areas for Chateau Ste. Michelle, 14 Hands, Thurston Wolfe, Columbia Crest's H3 wine series, and of course their own Mercer, Mercer Family Vineyards, Mercer Bros., Eagle & Plow, Subsoil, and ICAN labels.

"Our overriding philosophy is to represent Washington state in the best way we possibly can, making approachable wines for people to enjoy," says Rob Mercer ('91 Poli. Sci.), who serves as company president and was recently named the 2020 Honorary Grower by the Auction of Washington Wines.

Mercer runs the business with his brother, Will ('93 Busi.), whose work in national sales has earned their wines a presence in all 50 states.

"I would say the Mercer Bros. Cabernet Sauvignon"—with aromas of ripe red fruit, blackberry pie, dried cranberries, brown sugar, and warming spices—"is probably my favorite," says Mercer, noting the Mercer Cabernet Sauvignon Cavale 7 and Eagle & Plow Block 93 Cabernet Sauvignon round out his top three. The Block 93 is particularly special; it's the Mercers' charitable wine with proceeds dedicated to supporting service men and women and their families. During the pandemic, proceeds are earmarked to support COVID-19 first responders.

After college, Mercer spent five years as a captain in the U.S. Marine Corps, re-enlisting after 9/11 to serve in Iraq. He stayed in the Reserves until 2012. From 2013 to 2019, he served on the Washington State Wine Commission and still makes it his mission to advocate for Washington's wine industry "and its growing importance on the national scale. That's the story I keep trying to tell," he says.

Mercer serves on the WSU Viticulture & Enology Advisory Board and is a member of the Horse Heaven Hills Growers Association. The nonprofit Auction of Washington Wines, which recently honored him, benefits Seattle Children's Hospital and WSU's wine science research.

"I was obviously very pleased and honored and humbled to be given the award," Mercer says. "Most importantly, I feel like it was recognition from leaders in the industry that the people at Mercer Family Vineyards—the employees—are growing high-quality grapes from which we can make high-quality wine. It's really a recognition of the team rather than me personally."

The team includes winemaker Jeremy Santo ('03 Biol.), Mercer's wife Brenda ('90 Busi.), and their three children: Reagan and

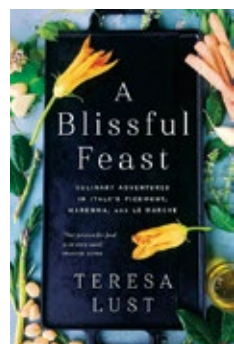
twins Rylee and Thomas. "Our kids are coming up as the next generation," Mercer says. "The only way we can be successful in this business is to be sustainable—taking care of the ground, vines, crops, and also the people that help us work those crops."

To that end, he says, "We focus a lot on our stewardship program. We have about 15 areas on the farm that total almost 2,000 acres that we set aside for wildlife habitat. We've planted thousands of trees for wind protection and replanted native grasses. And we have a very extensive monitoring program to ensure we're being as efficient as possible with our water practices."

The family business is three-pronged and employs 100 to 300 people, depending on the season. In addition to making wine and growing grapes, Mercer Ranches raise carrots, onions, corn seed, kale, broccoli, alfalfa, and timothy. In all, the family farms nearly 7,000 acres of agricultural land. And, says Mercer, "We look forward to building on all of those things and diversifying even further." *

BELOW, LEFT TO RIGHT: ROB MERCER '91, BRENDA MERCER '90, WINEMAKER JEREMY SANTO '03, AND WILL MERCER '92 (COURTESY MERCER ESTATES)





A Blissful Feast: Culinary Adventures in Italy's Piedmont, Maremma, and Le Marche

TERESA LUST '86 BIOL.
PEGASUS BOOKS: 2020

It starts with gnocchi, drenched in butter and melty fontina, and ends with roast pork shoulder, porchetta-style. In between, this celebration of the author's Italian heritage and authentic Italian fare offers a lush narrative detailing traditional dishes—and a distinctive sense of place.

In these 278 delectable pages, Teresa Lust delivers the warmth of Italy, delving into the culture, cuisine, history, and geography of her ancestral land and providing approachable recipes alongside heartwarming anecdotes about members of her extended family. Zia Giuseppina teaches her how to make cloud-like potato dumplings using wrinkled, old, thick-skinned russets—and without measuring a thing. Cousin Cattarina oversees her first pot of zuppa dei morti—soup of the dead—with savory cabbage, Italian sausage, day-old bread, and a rich, homemade chicken broth. In Italy, readers learn, there's an old saying: *Gallina vecchia fa buon brodo*. An old hen makes good broth.

Lust grew up in an Italian-American family in Yakima, regularly eating risotto, polenta, hand-shaped ravioli, homemade tomato sauce, and beef-tongue sandwiches. Her mother's and grandmother's handwritten recipes helped spark her love for cooking and the Old Country. (Her first kitchen job out of college was at the fabled Ark restaurant on Washington's Long Beach Peninsula under the direction of the late legendary Pacific Northwest chef Jimella Lucas.)

Feast opens with a mother-daughter trip to meet family members in Rocca Canavese near Turin. Lust is one of four daughters of Darlene (Picatti) Lust ('57 Lib. Arts) and the late C. James "Jim" Lust ('58 Poli. Sci.), a former Yakima County Superior Court judge. Her sister, Yakima teacher Nancy Lust, was part of that first trip, too.

Lust's culinary career led her to further explore the connections of her mother's cooking and trace the origins of her grandmother's dishes. She learned Italian, taking classes during the off-season and, of course, traveling throughout Italy. Now living in New Hampshire, Lust teaches Italian at Dartmouth College—she's an alum there, too—as well as leads cooking classes. Her first book, 1998's *Pass the Polenta: And Other Writings from the Kitchen*, like this one, is part memoir, part cookbook.

Feast is divided into three parts—one for each of the regions of Italy that Lust explores. In Piedmont, enjoy bagna cauda, pizzelle, and hand-stretched breadsticks. In Maremma, find chestnut tortelli, homemade ricotta, and bruschetta with figs and Gorgonzola. And in Le Marche, look for spaghetti with shrimp and cherry tomatoes, fresh egg tagliatelle, and tagliatelle with summer squash, basil, and squash blossoms.

Lust's mouth-watering journeys transport armchair travelers and inspire home cooks. Her voice feels familiar and welcoming, folksy and friendly. And that's the overall tone of any good feast: charming, gracious, good-natured, and inviting.

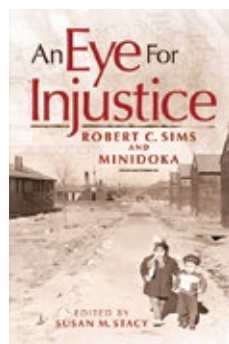
—Adriana Janovich

An Eye for Injustice: Robert C. Sims and Minidoka

EDITED BY SUSAN M. STACY
WSU PRESS: 2020

She's sitting on the edge of a suitcase, holding a pint-sized purse and partially eaten apple. Bundles of belongings surround the bewildered child, staring off-camera.

Yuki Llewellyn was nearly three years old when she was sent along with her young, single mother to the Manzanar War Relocation Center. They had been evacuated from their



home in LA's Little Tokyo to the Lone Pine, California, camp.

Her iconic image caught the eye of Robert C. Sims. A framed copy of the now-famous photo, a symbol of Japanese-American internment during World War II, sat on the historian's desk from the early 1970s until his death in 2015.

Sims learned of America's confinement of Japanese Americans as a doctoral student in the late '60s. He was angered by the injustice of their imprisonment as well as the "sad commentary on the education system of America that would permit an event like that to go unnoticed in the education career of someone who is presumably going to go out and teach American history."

The U.S. government forcibly relocated nearly 120,000 people of Japanese ancestry on the West Coast, most of whom were American citizens. This included entire families, orphans, and adopted children. The Minidoka War Relocation Center, like Manzanar, opened in 1942.

Sims made it his life's work to research, write, and teach about the incarceration. Shortly after arriving at Boise State University in 1970, he discovered several boxes of Minidoka-related materials at the Idaho State Historical Society. Those boxes led to one of his first research projects at Boise State—and fueled a lifelong passion. For more than forty years, he traveled throughout the Northwest, talking to former internees about their experiences.

Sims dreamed of writing a book, and this well-curated compilation honors that wish and offers a compelling legacy. It's a fitting testament to his commitment not only to preserving the past but to promoting social justice. The paperback volume—with an introduction by his wife, Betty—features

a selection of scholarly writings and speeches from 1978 to 2011 as well as photos from his personal collection.

Sims taught at Boise State until 1999, serving for a time as dean of the College of Social Sciences and Public Affairs. He also served on the Boise City Planning and Zoning Commission and Idaho Humanities Council.

The girl in the picture was released with her mother in 1945 with \$25 and a pair of government-issued bus tickets. She went on to work for 37 years at the University of Illinois, Champaign-Urbana, where she helped start the Asian Studies program and retired in 2002 as assistant dean of students and director of registered organizations.

—Adriana Janovich



Tahoma and its People: A Natural History of Mount Rainier National Park

JEFF ANTONELIS-LAPP
WSU PRESS: 2020

When people say, on a sunny and clear Seattle day, "The mountain is out," there's no question what mountain they're talking about. The mountain is Rainier. At 14,410 feet above sea level, it looms large, not only on the horizon but in Washingtonians' collective sense of place and importance.

Washington's tallest mountain—majestic, snow-capped, commanding—is a dramatic and proud symbol of the state. An active volcano, it's also the most glaciated peak in the contiguous United States that attracts climbers, campers, day-hikers, skiers, snowshoers, scientists, and tourists to its slopes, meadows, lookouts, and trails.

Jeff Antonelis-Lapp, now retired, taught environmental education and natural history at The Evergreen State College from 1998 to

2015, and that's where this book was born. While planning a course on Mount Rainier, he couldn't find the text he wanted to read with his students: an up-to-date natural history. The first-time author worked on this volume for ten years.

In the opening vignette, he lays out both the beauty and danger of the place. While hiking solo on a sunny summer day, he spots helicopters, a reminder that rangers were working to remove a body after a climbing accident, as he's admiring the wildflowers.

Seasonal work in the late '70s led Antonelis-Lapp to fall in love with Rainier, established in 1899 and one of the nation's oldest national parks. He's hiked all of the mapped trails of its 236,381-acres and completed the famed Wonderland Trail six times. The book concludes with an anecdote from a solo hike of the 93-mile loop and a look toward future conservation efforts.

In between, Antonelis-Lapp introduces the lay of the land, working clockwise around the mountain from the Nisqually River to Longmire, followed by the Puyallup and Carbon Rivers, and—finally—the Sunrise area. Two more chapters offer primers on the Native peoples who hunted and gathered here as well as the mountain's geologic history.

Antonelis-Lapp takes a hands-on approach, peppering his explanatory text with personal anecdotes and direct observations of archaeology, resource management, alpine ecology, flora, fauna, and more. Cover to cover, his love of the place permeates the pages. Part field guide, part memoir, part textbook, *Tahoma* serves as a solid introduction to the nature and history of Mount Rainier National Park.

—Adriana Janovich

Sarah Bernhardt: The Divine and Dazzling Life of the World's First Superstar

CATHERINE REEF '83 ENGLISH
CLARION BOOKS: 2020

This fast-paced biography of "The Divine Sarah" Bernhardt, written for young readers, opens in 1866 Paris with the young actress looking for work at the famed Odéon. The



prologue places her on the brink of international stardom, charming the theater manager and landing a job.

Bernhardt becomes the greatest tragedienne of her time, known the world over for her exploits both on stage and off. Catherine Reef, who specializes in condensed biographies for middle- and high-schoolers, moves quickly through the extraordinary life of arguably the first modern global celebrity with short, approachable chapters.

Bernhardt—in addition to being unconventional, glamorous, and provocative—was a fabulous fabulist, famous for embellishing or altogether altering her stories. Reef takes care to objectively sort myth and misinformation from the diva's narrative, deftly showing how Bernhardt grew from a strong-willed, quick-tempered child with a distinctive voice, petite frame, and frizzy hair to a living legend who flaunted her independence and larger-than-life personality.

—Adriana Janovich

BRIEFLY NOTED
Horseracing in America: A Novel

SID GUSTAFSON '76, '79 DVM
SLEIPNIR PUBLISHING: 2020

Bozeman novelist and equine veterinarian Sid Gustafson writes what he knows: horses, Montana, and ethical issues in American horseracing. His fourth novel follows a female veterinarian from the Blackfeet Indian Reservation to Upstate New York for a temporary job at a racetrack. Her journey—both philosophical and personal—delves into animal welfare concerns and uncovers family secrets. Gustafson draws from his own experiences to craft his characters, inform his storylines, and shape his settings. While the genre is quite specific, his prose is approachable and often poetic.

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40,000 WSU Alumni Association members by 2020. Going from 13,000 to 40,000 members is an impressive accomplishment. No matter how daunting the challenge, Cougs find a way to prevail. If you are one of our proud 40,000 members, thank you. If you are not yet a member, please join us and further cement the WSUAA's rightful place among the top alumni associations in the world.



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CLASSnotes

70 The Ephrata High School Athletic Hall of Fame welcomed **JIM FORREST** ('73 Gen. Studies) as a 2020 inductee. Forrest played football and basketball at WSU before a career with the Canadian Football League. ✨ Veteran TV journalist **ENRIQUE CERNA** ('75 Comm.) has joined WSU's Board of Regents. Before retiring from Cascade Public Media's KCTS 9 in 2018, he spent 23 years producing and hosting current affairs programs and documentaries. He also reported and produced numerous news segments for national PBS programs, provided election analysis for *PBS NewsHour*, and moderated senatorial, congressional, gubernatorial, and mayoral debates. He serves on the Washington State Historical Society Board of Trustees, Yakima Valley Museum Board of Directors, and King County Television's Citizens Advisory Committee. ✨ **SANDRA STAUFFER** ('77 Comm.) has retired after 29 years in law enforcement, most recently as a code enforcement officer in Lakewood. ✨ **DAN LARSON** ('78 Elem. Ed.) retired from the Arlington School District after 42 years. He was a third-grade teacher at Kent Prairie Elementary School, and taught and coached at middle and elementary schools. ✨ **MARSHA FLETCHER MORRIS** ('78 Microbiol.), who played with the Badminton Club at WSU, won a gold medal in mixed doubles badminton at the 2019 National Senior Games in Albuquerque, New Mexico. She also won a bronze in women's doubles and finished fifth in singles. ✨ **TERRY PETERSON** ('79 Ag. Econ.) is the CEO of the West Linn, Oregon-based Pacific West Bank.

80 **CARRIE BYLES** ('86 Arch.), a San Francisco-based partner of the international architectural firm Skidmore, Owings & Merrill, has served on the company's executive committee since 2016. During the current COVID-19

crisis, she helped get the entire company working remotely. ✨ **FRANK DOOLEY** ('86 PhD Ag. Econ.) is the new global chancellor at Purdue University, where he had served as senior vice provost for teaching and learning. He's responsible for overseeing academics for more than 31,000 Purdue students earning online degrees. ✨ The Society for Range Management recognized **MAURA LAVERTY** ('87 Range Mgmt.) with a 2020 Outstanding Achievement Award for Land Stewardship. Laverty, range program manager for the Umatilla and Wallowa-Whitman National Forest, is a career U.S. Forest Service professional who has worked in Washington, Colorado, Idaho, and Oregon. ✨ **KATHLEEN MCCHESENEY** ('87 Lib. Arts), a leading expert in addressing the Catholic Church's sexual abuse crisis, received the 2020 Laetare Medal, the oldest and most prestigious honor given to American Catholics. McChesney was recruited by the United States Conference of Catholic Bishops in 2002 to establish and lead its Office of Child Protection. She joined the FBI in 1978 as a special agent, eventually reaching the bureau's third-highest position as executive assistant director. ✨ **BRAD RAWLINS** ('87 Comm., Spanish) has been named director of the School of Media and Journalism at Arkansas State University. Rawlins will lead the academic programs in multimedia journalism, creative media production, KASU radio, printing services, and student media, including *The Herald*, ASU-TV, Red Wolf Radio, and the Delta Digital News service. ✨ The Indianapolis-based architecture firm CSO has named **LAURA SCHELLINGER** ('87 Int. Des.) a partner. She has worked in marketing at the company for more than 15 years. ✨ **DEBORAH GRACIO** ('88, '95 MA Elec. Eng.) has been named

associate laboratory director for the National Security Directorate at the U.S. Department of Energy's Pacific Northwest National Laboratory. The directorate includes a \$500 million research portfolio and 1,300 staff members. A recipient of the DOE's Outstanding Woman in Engineering award, she serves on the executive advisory board for WSU's Voiland College of Engineering and Architecture as well as WSU's School of Electrical Engineering and Computer Science. ✨ **DUANE FOTHERINGHAM** ('89 Elec. Eng.) is president of Huntington Ingalls Industries Technical Solutions Unmanned Systems business unit, following the company's acquisition of Hydroid, Inc. Fotheringham had previously served as Hydroid's president and chairman of the board. ✨ **MARK J. REID** ('89 Agro.) is the University of Nebraska at Kearney's new dean of the College of Education. He comes to the position from Texas A&M University-Commerce, where he was associate dean of the College of Education and Human Services, and associate professor of secondary education, department of curriculum and instruction. ✨ **MARK WRIGHT** ('89 Comm.) is a recipient of a 2020 Hall of Achievement Award from WSU's Edward R. Murrow College of Communication. He's a news anchor for KING 5 in Seattle.

90 **SHAUNA CORRY** ('90 MA Int. Des., '02 PhD), a professor of interior design, is the new dean of the College of Art and Architecture at the University of Idaho. In 2007, Corry was the first to receive UI's Hoffman Award in Teaching Excellence. In 2015, she won UI's Outreach and Engagement Award of Excellence. ✨ **AARON SELE** (x'91) has been named to the State of Washington Sports Hall of Fame's class of 2020. Sele led North Kitsap High School's baseball team to a state title in 1988 before pitching at

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WSU, where he helped the Cougars win three conference championships. Drafted by Boston Red Sox in 1991, Sele played for several teams—including the Seattle Mariners, Los Angeles Dodgers, and New York Mets—before becoming a special assignment scout for the Chicago Cubs. ✨ **ARCHITECT JERRY ISAKSEN** ('92 Arch.) has joined MBI Companies Inc. in Chattanooga, Tennessee. ✨ **RANTZ HOSELEY** ('94) is the senior editor at Z2 Comics. Hoseley previously worked as managing editor at *Heavy Metal Magazine*. He won Eisner and Harvey awards in 2009 for *Comic Book Tattoo*, his anthology graphic novel based on 51 songs by Tori Amos. In 2018, he adapted Nikki Sixx's memoir *The Heroin Diaries* into a graphic novel. Hoseley started his career as a storyboard artist, working on rock videos for bands such as Aerosmith. He also served as lead artist for Philips Media's Realtime 3D initiative, art director on *Aladdin: The Fate of Agrabah* for Disney Interactive, and creative director of *Star Trek: Tactical Assault* and *Master of Orion III* for Quicksilver Software. At WSU, he served as graphics manager of *The Daily Evergreen*. ✨ **ERIC LINDSAY** ('95 History) is vice president and legislative director for the Paralyzed Veterans of America Texas Chapter and member of the Governor's Committee on People with Disabilities. Lindsay retired as a lieutenant colonel after serving in the U.S. Army for 21 years. ✨ **ERIC JOHNSTON** ('98 Civ. Eng.) is the new public works director in Bellingham. He had served as interim public works director since August 2019. Before that, he was an assistant director of public works, in charge of the operations division, and—from 2001 to 2012—he served as city engineer in Oak Harbor. ✨ Convergence Architecture has promoted **ALLEN KABANUK** ('98 Arch.) to associate principal. He has 21 years of professional design experience in all phases of commercial,

Since the start of the COVID-19 pandemic, Pullman's Palouse Brand has seen a sharp uptick in online sales of its agricultural products, necessitating dozens of new hires. Employees have been working around the clock to fill and ship orders across the United States.

"Some of our products experienced 4,000-percent growth in a week. We had to pivot very quickly," says **SARA MADER** ('00 Busi.), co-owner of the family business. She's the wife of fourth-generation Mader family farmer, **KEVIN MADER** ('00 Ag. Tech. & Mgmt.), and manager of consumer product sales as well as the company's Palouse facility. Of their approximately 80 employees, about half have been hired in the wake of the novel coronavirus and its impact on their brand.

"Our largest month of sales ever—we were doing that in a day," says Mader, who makes a point to hire WSU alumni and students as well as single mothers and women in the community who need financial stability, such as those who recently lost jobs due to the lockdown.

For Palouse Brand, the spike in online sales during the pandemic has meant increased brand awareness, thousands



COURTESY PALOUSE BRAND

of new customers—and packaging problems.

"We didn't have enough bags," Mader says. "For a while, we couldn't supply Amazon warehouses. We would send (what was normally) six weeks' worth of inventory, and it would last four hours. For us, this is a total change in how we operate."

Palouse Brand has grown field-traced, non-GMO garbanzo beans, split peas, lentils, and wheat berries with direct-seeding and no-till since 1982. Since the start of the pandemic, they started shipping directly to customers and added in-person pick-up in Pullman for local customers. "We had to put our export side off completely for months. We were that back-logged," says Mader, noting their children—ages 5, 9, and 10—helped out in the pinch. "The 5-year-old was putting shipping labels on people's packages. The 9-year-old was labeling the back of bags. The 10-year-old was filling orders."

They sound like future Cougs. "Oh, for sure," Mader says.

BY ADRIANA JANOVICH

industrial, and public projects. ✨ **JANIE MCCAULEY** ('98 Comm.) is a recipient of a 2020 Hall of Achievement Award from WSU's Edward R. Murrow College of Communication. As a sportswriter for the Associated Press in San Francisco, she's covered three Summer Olympic Games, two Winter Olympic Games, the World Cup in Brazil, a Super Bowl, and four World Series. Her beat includes the San Francisco 49ers, San Francisco Giants, and Golden State Warriors. In 2006, she was named AP's Sportswriter of the Year. ✨ **KENNETH R. COLMAN** ('99 Soc. Sci.) has stepped down from his position as commanding officer of Helicopter Maritime Strike Squadron Seven Zero. He earned a commission through Officer Candidate School in 2000 and was designated a naval aviator in 2001. Colman deployed in support of Humanitarian Assistance Disaster

Relief Operations in Sumatra, Indonesia, following the tsunami in 2004, as well as in support of Operation Enduring Freedom. In 2013, he was the HSM-75 Officer of the Year. His decorations include the Defense Meritorious Service Medal, three Navy Commendation Medals, three Navy Achievement Medals, and numerous unit and campaign awards.

00 **PAUL MATTFELD** ('00 Psych.) is the new administrator of Hale Makua Wailuku, a skilled and intermediate nursing and rehabilitation center and adult residential care home on Maui. He was recognized as the 2015 Washington State Administrator of the Year by the Washington Health Care Association, and has been working on quality initiatives on a national level as a member of the American Health Care Association's Quality Committee

since 2016. ✨ Woodland Public Schools has appointed **TOM GUTHRIE** ('01 Gen. St., Soc. Sci.) as an interim board director. ✨ **JESSIE KANE** ('02 Comm.) is the new executive news director of Spokane's KREM-TV. Kane began her career as an intern at the station and was a producer there from 2002 to 2005. She's also worked in TV news in Seattle, Sacramento, and Charlotte, North Carolina. ✨ **DWAYNE MACK** ('02 PhD History), the Carter G. Woodson chair in African American history at Kentucky's Berea College, was appointed vice president for diversity, equity, and inclusion at the school, where he's taught history since 2003. ✨ **ROBIN K. PAYNE** ('02, '04 MA Hist.) has been named associate director of the Honors Program at West Virginia's Fairmont State University. ✨ **MARCUS YZAGUIRRE** ('03 Comm.) is the new football coach at

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Federal Way High School. ✨ **STEPHANIE BENNETT** ('04 Crim. Jus.) is a Basic Law Enforcement Academy trainer advisor counselor officer at the Washington State Criminal Justice Training Academy. ✨ Lewis-Clark State College history professor **AMY CANFIELD** ('04 MA, '08 PhD History) has been appointed as state coordinator for the National Votes for Women Trail. In 2019, she was honored with the Idaho Brightest Stars Award. She also was a 2019 recipient of the LC State Women's Leadership Award. On campus, Canfield advises the Women In Lasting Leadership Club and organizes Women's History Month activities. She also serves on the Idaho Historic Sites Review Board and boards of the Lewiston Civic Theater and Idaho Humanities Council. ✨ **DALE GREEN** ('04 Lib. Arts) has been promoted to commander of the Aberdeen Police Department. ✨ **JOHN LAMANNA** ('04 Kinesio.) has been hired as head coach for men's basketball at Whitman College. ✨ **URSULA PERKINS** ('04 Busi.), a certified public accountant, joined Opsahl Dawson in 2010. She manages the individual tax group in the firm's Vancouver office and specializes in individual, trust, and estate tax returns. ✨ **JIM LAWLESS** ('07 Soc. Sci.) is the new police chief in Edmonds. He had served as assistant chief since 2008. In 2013, he was the department's officer of the year. ✨ **EMILY WICKS** ('08 Comm. and Poli. Sci.) has been appointed to the Washington state House of Representatives for the thirty-eighth legislative district. She's also president of the Washington chapter of the National Women's Political Caucus and has been involved with the Marysville YMCA, Marysville School District Foundation, and Leadership Snohomish County.

10 Marquis Who's Who has presented **RITA MARIE KEPNER** ('10 PhD Comm.) with

the Albert Nelson Marquis Lifetime Achievement Award. In nearly 30 years, Kepner, of Marrowstone Island, has served as a Federal Emergency Management Agency disaster affairs responder for more than 70 disaster relief efforts, including fires and earthquakes throughout California, Hurricanes Katrina, Sandy, and Maria, and more. ✨ Linebacker **DEONE BUCANNON** (x'13) has signed with the Atlanta Falcons. He started the 2019 season with the Tampa Bay Buccaneers and ended it with the New York Giants. Drafted as a safety out of WSU, the former first-round selection of the Arizona Cardinals tallied 406 tackles in 70 games in his five seasons with the team. ✨ **JESSICA HUNTINGTON** ('13 Civ. Eng.) is a civil engineer and lieutenant at the U.S. Navy base Camp Lemonnier in Djibouti. ✨ Hennebery Eddy Architects has promoted project accountant **STACY RUTHERFORD** ('13 Int. Busi.) to associate. ✨ Walsh Construction has promoted **ABBY ANDERSON** ('16 Civ. Eng) to assistant superintendent. ✨ **JORDAN NESBIT** ('18 DVM) has taken over Ark Animal Hospital in Heyburn, Idaho. ✨ **TOM MURGATROYD** ('19 Mech. Eng.) has joined the sales team at Colmac Industries as an applications engineer.

In memoriam

30 **HOWARD STRATING** ('38 Gen. St.), 101, September 19, 2016, Wenatchee.

40 **MARION R. CARSTENS** ('41 Ag. Eng.), 96, September 3, 2015, Gainesville, Georgia. **MERWIN H. MILLER** ('43 Civ. Eng.), 95, July 12, 2016, Upland, California. **WALTER JOSEPH KREBS** ('44 DVM), 99, February 26, 2020, Grants Pass, Oregon. **BETTY LISLE BUCKNER** ('45 Fine Arts), 96, March 8, 2020, Santa Monica, California. **FRANK K. YOSHIMURA** ('45 Pharm.), 96,

August 27, 2017, Salt Lake City, Utah. **M. ELAINE BURGESS** ('47, '49 MA Socio.), 94, February 13, 2020, Walla Walla. **VIRGINIA DANKE** ('47 MEd Ed.), 94, February 16, 2020, Spokane. **ELIZABETH "BUCKY" JOY GANS** ('47 History), 93, January 7, 2020, Goleta, California. **ROBERT FOWLER SMITH** ('47 Comm.), 95, May 5, 2019, Boise, Idaho. **JAMES STEWART MCLEOD** ('48 Elec. Eng.), 94, April 16, 2020, Bellingham. **HARRY EMORY MILLS** ('48 Arch.), 96, April 6, 2020, Bainbridge Island. **THEODORE G. PITTS** ('48, '52 MA Ed.), 94, March 20, 2019, Okanogan. **JAMES A. SCOTT** ('48 Gen. St.), 95, September 4, 2019, Pomeroy. **VIRGINIA E. BICE** ('49 English), 90, January 21, 2017, University Place. **ROBERT BERNARD HONG** ('49 Ag.), 96, January 1, 2020, Lynden. **JOHN JOSEPH KLEMP** ('49 Ag.), 98, August 3, 2019, Brainerd, Minnesota. **ROBERT JOHN LA PORTE** (x'49 History), 91, March 25, 2020, Hood River, Oregon. **RALPH HARRY STEINHART** ('49 Hotel & Rest. Admin.), 91, June 13, 2017, Fanwood, New Jersey. **JENS TEMTE** ('49 Elec. Eng.), 97, August 2, 2017, Marysville. **MILLIE F. WILLIAMS** ('49 Psych.), 92, April 18, 2019, Spokane. **MARY GAIL ZMITROVICH** ('49 Home Econ.), 90, March 2, 2015, Silver Spring, Maryland.

50 **A. REINOLD ANDERSON** ('50 Hort., Acacia), 94, April 8, 2020, Vancouver. **LORNE T. DUNNING JR.** ('50 Agro.), 94, May 5, 2020, Ellensburg. **THOMAS EVERETT EDGAR** ('50 Psych., '54 Ed.), 93, May 1, 2018, Boise, Idaho. **JANET MARIE NELSON** ('50 Soc. St.), 87, February 26, 2020, Goleta, California. **MAURI J. PELTO** ('50, '63 MS Elec. Eng.), 95, March 20, 2020, Silverdale. **JUNE ALENE ROWLAND** ('50 Comm., Speech & Hearing Sci.), 86, February 7, 2015, Packwood. **FRANCIS "FRANK" W. SCHLAEFER** ('50 Civ. Eng.), 93, April 12, 2020, Mukilteo. **MAURICE M. SMITH** ('50 Hort.), 87, December 13, 2016,

Wenatchee. **GAIL LAVERN BRABEC** ('51 Pharm.), 89, November 23, 2019, Livermore, California. **JOAN E. HERR** ('51 Home Econ.), 90, April 14, 2020, Dublin, Ohio. **JOAN E. WILLIAMSON** ('51 Ed.), 92, April 8, 2020, Del Mar, California. **JOHN P. BABICH SR.** ('52 Ag.), 96, May 4, 2020, Zillah. **LILLIAN V. CADY** ('52 Comm.), 89, March 19, 2020, West Seattle. **WILLIS ORVID NEVIN** ('52 Ag.), 93, April 18, 2019, Sammamish. **DOROTHY PONTSLEER** ('52 Busi.), 87, April 11, 2019, Brentwood, California. **THOMAS W. BARKER** ('53 Elec. Eng.), 88, February 23, 2020, Des Moines. **CLARON NGIT H. PONG** ('53 Pharm.), 89, December 10, 2018, Honolulu, Hawaii. **RICHARD DEAN REID** ('53 DVM), 91, April 7, 2020, Albany, Oregon. **JOHN DALE THIRKILL** ('53 Chem. Eng.), 88, August 31, 2017, Farmington, Utah. **RAYMOND M. TURNER** ('54 PhD Botany), 91, December 9, 2018, Tucson, Arizona. **ROBERT "BOB" L. HARRIS** ('55 Poli. Sci.), 85, March 6, 2020, Vancouver. **MARILYN EYLAR CONAWAY** ('56 Soc. St.), 85, December 31, 2019, Anchorage, Alaska. **MARGARET "MICKEY" EDITH RICE KENDALL** ('56 Gen. St., '59 MEd Ed.), 87, February 11, 2020, Spokane. **FRANK WILLIAM KLEIST** ('56 Biol.), 90, April 8, 2020, Visalia, California. **NANCY LU GALE COMPAU** ('57 Gen. St.), 84, March 15, 2020, Spokane. **ELBERT M. HUBBARD JR.** ('57 Ed.), 84, December 5, 2019, Manson. **KAREN INEZ (SANDSTROM) CLEM** ('58 Nursing), 83, March 19, 2020, Lacey. **SUE CAROL HOGUE** ('58 Bacterio.), 82, December 1, 2018, San Diego, California. **MICHAEL G. MASON** ('58 Ag., '68 DVM), 84, July 21, 2019, Auburn. **DAVID D. MOWAT** ('58 Agro.), 85, April 17, 2020, Ashland, Oregon. **D. WAYNE CAMPBELL** ('59 Poli. Sci.), 82, September 14, 2019, Richland. **DALE LAVERNE PREEDY** ('59 Ag. Mech.), 83, March 8, 2020, Spokane. **NORMAN CHARLES VEACH** ('59, '65 MS Phys. Ed.), 83, July 21, 2019, Wenatchee.

60 **VERNON DALE ATWOOD** ('60 Ag. Econ.), 83, February 5, 2017, Prineville, Oregon. **HELEN LOUISE BURGESS LINDHORST** ('60 Ed.), 82, March 15, 2020, Lake Forest Park. **FRANK S. WELDIN** ('60 Mech. Eng.), 81, February 22, 2020, Boise, Idaho. **RICHARD S. YONCK** ('60, '65 MS Phys. Ed.), 86, May 9, 2020, Bothell. **JUDY ANN ALLAN** ('61 Home Econ.), 77, August 5, 2016, St. Cloud, Minnesota. **MICHAEL R. DUNCAN** ('61 Ag. Mech.), 78, March 11, 2018, Nampa, Idaho. **BURDETTE "BECKY" MADDALENA** ('61 Elem. Ed.), 81, February 7, 2020, Santa Rosa, California. **BERNARD L. CHAPLIN** ('62 Hort.), 79, December 28, 2019, Lacey. **SANDRA LEA (BACKMAN) MAUCHLEY** ('62 Music), 80, May 17, 2020, Moscow, Idaho. **DONALD G. NORRIS** ('62 Gen. St.), 79, April 26, 2020, Audubon, Pennsylvania. **IAN KEITH EDLUND** ('64, '68 MA Music), 77, February 29, 2020, Seattle. **DENNIS**

B. JONES ('64 Busi.), 77, March 20, 2020, Sammamish. **HAROLD R. KAESER JR.** ('64 Arch.), 75, August 26, 2015, Bellevue. **MIKER. KUNZ** ('64 Mech. Eng.), 80, April 15, 2020, Pleasanton, California. **JAMES O. WALDBILLIG** ('64 PhD Chem.), 82, April 4, 2020, Wappingers Falls, New York. **GLORIA MAE ELLIOTT** ('65 Socio.), 88, October 31, 2019, Bend, Oregon. **STANLEY GORDON KING** ('65 Mech. Eng.), 77, September 3, 2019, Lewiston, Idaho. **NANETTE M. BULLOCK** ('66 Comm.), 75, January 8, 2020, Olympia. **DAN H. MCLACHLAN** ('66, '69 MA English), 77, February 26, 2020, Genesee, Idaho. **LARRY DEAN KLOSTER** ('67, '70 MS Ag. Econ.), 75, May 8, 2020, Spokane. **MARCUS COOPER BEVENS** ('68 Arch.), 74, March 16, 2020, Rockaway Beach, Oregon. **EDMOND BERNARD DENNERY** ('68 PhD Botany), 96, March 27, 2017, Milton. **KEITH D. RIECKERS** ('68 Busi.), 74, March 4, 2020, Spokane. **WALINJOM**



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IN memoriam

FOMBAD MUNA ('69 Chem.), 73, February 24, 2019, Paris, France. **EDWARD "RICH" RICHARD RANKIN** ('69 Mktg.), 72, March 24, 2020, Bothell.

70 **LYLE KEITH ATCHLEY** ('70 Hort.), 81, February 14, 2020, Bellingham. **MICHAEL JOSEPH DUGAW** ('70 Comm.), 73, December 28, 2019, Longview. **CHARLES D. HUGGINS** ('70 MA Comm.), 81, August 24, 2019, Arco, Idaho. **KAREN ANN KELLEHER** ('70 Math.), 71, March 18, 2020, West Hartford, Connecticut. **LINDA RUTH ROBINETTE** ('70 DVM), 74, April 18, 2020, Pullman. **LEROY JOHNSON** ('71 PhD Physics), 84, September 1, 2019, Moses Lake. **PAMELA JEAN DORWAY-WORLEY** ('72 Poli. Sci.), 69, April 8, 2020, Kingwood, Texas. **ALAN LEWIS HODGDON** ('72 PhD Genetics & Cell Biol.), 77, September 21, 2019, Portland, Maine. **DAVID A. DEBRUYNE** ('73 Physics), 69, February 27, 2020,

Tumwater. **WENDY J. MILLERICK** ('73 Kinesio.), 70, March 17, 2020, Snohomish. **DAVID J. MOREY** ('73 Arch.), 70, April 25, 2020, Portland, Oregon. **FLOYD ALEXIS ROGERS** ('73 Elec. Eng., '74 Comp. Sci.), 69, April 20, 2020, Bellevue. **CATHLEEN A. WINDAL** ('73 Socio.), 69, April 29, 2020, Portland, Oregon. **CLINTON C. CAMPBELL** ('74 Ed.), 68, April 19, 2020, Brownsville. **ROBERTA J. CASE** ('74 Home Econ.), 68, February 28, 2020, Rathdrum, Idaho. **DAVID LEE BREVIK** ('75 Comm.), 65, March 15, 2019, Vancouver. **SCOTT LEE SCHMIDTMAN** ('75 Econ., Alpha Kappa Lambda), 66, March 29, 2020, Spokane. **KENNETH M. AMES** ('76 PhD Anthro.), 73, April 21, 2019, Portland, Oregon. **JAMES ALLEN HAMRICK** ('77 Ag.), 80, April 6, 2020, Puyallup.

80 **STEPHEN C. SCHMELZ** ('80 Crim. Jus.), 62, April 19, 2020, Kailua Kona, Hawaii. **DAVID STEVEN SIMANTON**

('80 Acc.), 63, August 7, 2019, Bend, Oregon. **TAMMY JAYNE MEARS** ('81 Mech. Eng.), 59, March 8, 2018, San Diego, California. **MARK STEPHEN NISSEN** ('81, '85 MS Biochem.), 62, March 20, 2020, Moscow, Idaho. **SARAH E. LINGLE** ('82 PhD Agro.), 64, April 17, 2020, Salem, Oregon. **JOHN W. REEF** ('83 MS Geol.), 68, February 6, 2020, Rochester, New York. **DANIEL ALAN LUTZ** ('86 Elec. Eng.), April 26, 2020, Glendale, Arizona. **JAMES ANDREW BARTKO II** ('88 Sport Mgmt.), 54, March 16, 2020, Eugene, Oregon. **DEREK RAIDER BRANDES** ('88, '92 MA Comm., '13 EdD), 50, April 10, 2020, Walla Walla.

90 **KIRSTEN MARIT BRODERSON** ('90 Anthro.), 50, August 9, 2019, Appleton, Wisconsin. **STEPHANIE A. FOSBERG STANIEWSKI** ('91 Pharm.), 68, April 25, 2020, Sandpoint, Idaho. **ERIC SCOTT FENDELL** ('96 Ag. Econ.), 47, December 22, 2019, Zillah.

00 **RONALD JOSEPH SHURER II** ('01 Busi.), 41, May 14, 2020, Washington, D.C. **ANDREW SCOTT EMERY** ('03 Biol.), 55, January 25, 2020, Edmonds. **ELENA PATRICE BERNICK** ('07 PhD Zool.), 44, February 29, 2016, Baltimore, Maryland.

FACULTY AND STAFF

DONALD BOSSE, 82, Facility Services, 1960-2002, March 27, 2020, Moscow, Idaho. ✨ **KATHRYN COOPER**, 75, Facility Services, 1982-2004, March 27, 2020, Colfax. ✨ **RICHARD FREDERICKS**, 88, Cougar Health Services, 1974-1996, January 6, 2020, Moscow, Idaho. ✨ **RUSSELL HAMBURG**, 83, WSU Puyallup, 1991-1996, May 1, 2020, Puyallup. ✨ **MARK NISSEN**, Chemistry, 62, 1985-2019, March 20, 2020, Moscow, Idaho. ✨ **JOAN PUBOLS**, 88, Anthropology, 1977-1997, April 13, 2020, Pullman. ✨ **CAROL ROBINSON**, 68, Libraries, 1975-2015, May 1, 2020, Moscow, Idaho.

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to Linda Garrelts MacLean, class of 1978, for her outstanding leadership as interim dean.



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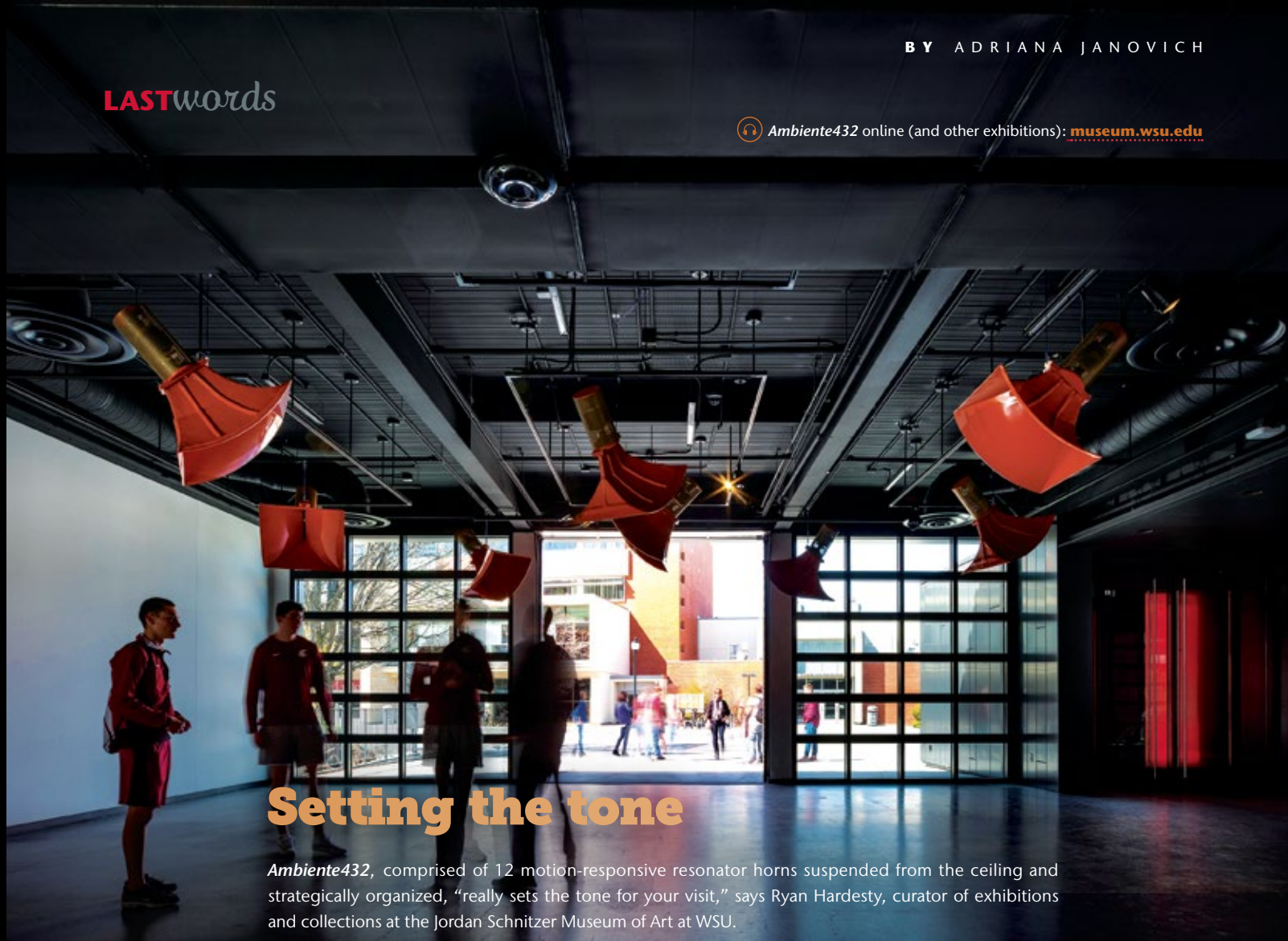
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Setting the tone

Ambiente432, comprised of 12 motion-responsive resonator horns suspended from the ceiling and strategically organized, “really sets the tone for your visit,” says Ryan Hardesty, curator of exhibitions and collections at the Jordan Schnitzer Museum of Art at WSU.

The work, commissioned by the museum for its 2018 inauguration, has been re-staged in the space for which it was originally designed. The Pavilion is generally a guest’s second experience of the Crimson Cube, the first being the exterior’s reflective and richly colored cladding.

Hardesty wanted something “surprising, unexpected, that really pushes the boundaries of what art can be” in that particular gallery—“and that’s just what Trimpin’s *Ambiente432* is to me,” he says. “It’s not a static experience. It’s an experience that I think empowers the visitor. In some ways, you’re in charge. You’re actually activating this work of art. Your presence in the space is going to affect your experience of the work.”

Ambiente432, part of the museum’s permanent collection, is “played” by visitors moving through and activating the space—and impacting their own experience with the kinetic sound sculpture. The installation is tuned to 432 Hz, the vibration frequency known as “Verdi’s A.” Composer Giuseppe Verdi favored the standard, which studies have shown helps calm anxiety, decreases heart rate and blood pressure, and generally has a soothing effect.

Trimpin, a recipient of a MacArthur “Genius Grant” Fellowship, explores sound, vision, and movement in combinations of music and mechanics. The Seattle-based artist, composer, and inventor goes by his last name.

“Significant artworks really need to be seen and experienced more than one time,” Hardesty says. “I think we build relationships with artworks over time. And it’s my hope that this work becomes a community favorite, an iconic work of our permanent collection.”

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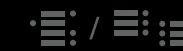
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