

Summer20

vol19no3

# Washington State

M A G A Z I N E

OUR NEW  
BACKYARD

**22**

A crisis  
in housing

**28**

A natural  
understanding

**30**

When the  
sky fell



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## 22

### Features

Closing the gap between dreaming of a home and finally holding a key to the front door.

Forty years ago Mount St. Helens blew. We revisit the memories. **30**

### Essay

What we don't know is immense. Natural history can be a profound catalyst for understanding. **28**

### Upfront

Bringing medical knowledge and access to all corners of the state is at the core of WSU's land-grant mission. **9**

Below purple mountain majesties, farming the fruited, flooded plains. **11**

Hearts in the darkness. If you accept their culture, they'll really take you in. **17**

**COVER:** A MORNING VIEW OF MOUNT ST. HELENS, JUNE 2017 (PHOTO DENIS & KIM HANG)

**LEFT:** "LIGHTS AT THE FOOT" OF MOUNT RAINIER (PHOTO ROGER REYES)

## 12



COURTESY CARLA OLMAN PEPERZAK

### Thematics

#### **OUR STORY** 14

Celebrating 30 years of  
WSU in Spokane, Tri-Cities,  
and Vancouver

#### **DOG WORLD** 16

A nation within  
our (human) nation

### Departments

#### **5** Resilience in a changing world **FIRST WORDS**

#### **18** New coach, new era **SIDELINES**

#### **20** Peppers **IN SEASON**

#### **39** Consider the butterfly **40** Stepping up her game **41** From covering the beat to on the beat **42** A new terroir **ALUMNI PROFILES**

#### **43** *Labyrinth of Ice, Salmon Eaters to Sage Brushers, Back on Track* **NEW MEDIA**

#### **45** **HONORARY DEGREES**

#### **46** CLASS NOTES **46** Congressional Gold Medal—Steve Gleason '00

#### **50** IN MEMORIAM

#### **52** "Living with the Volcano" **LAST WORDS**

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# Meet Kristian

The planet's getting warmer—and chemical engineering student **Kristian Gubsch** researches ways to capture carbon emissions and convert them to liquid fuel.

- ▶ **Marshall Scholar**
- ▶ **Ernest F. Hollings Undergraduate Scholarship**
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**In our new backyard.** The eruption of Mount St. Helens in 1980 battered the landscape and sent several hundred million tons of ash to the east. Trees for miles around the mountain were flattened like “one-hundred-foot matchsticks,” says WSU Vancouver biology professor John Bishop.

But Bishop and his colleagues have found the devastation around St. Helens to be a tremendous laboratory to study the resurgence of flora and fauna after a disaster. Led by a familiar purple flower, the lupine, and an array of other plants and animals, the formerly sterile land now houses significant biological diversity. It’s a portrait of resilience.

Now we face a new and compelling need for adaptability and perseverance: the COVID-19 pandemic. We’re all adjusting to the challenge of things we probably had never heard of, such as social distancing and flattening the curve. Of course, we know Cougs are generous and resourceful, and we are already hearing stories of that spirit in action.

Even before the pandemic and economic downturn, many people across Washington state, from Seattle to Pullman, faced a different crisis as they became overburdened by the high cost of owning or renting a home. The problem has a number of causes, including a lack of housing supply. Fortunately, we have WSU faculty, students, and Extension leaders coming up with possible solutions to ease the strain for people seeking a home.

Life changes for all of us, sometimes quickly and sometimes over longer periods of time. Krist Novoselić (’16 Soc. Sci.) was bass guitarist of the iconic Northwest band Nirvana, but then moved to remote and rural Southeast Washington, got involved with the Grange, received his WSU degree, and grew to love conservation and the natural world. He connected with nearby author Robert Michael Pyle, one of America’s leading nature writers, and the two of them recently released a spoken-word album with poetry by Pyle and acoustic music by Novoselić.

The album celebrates the joy of the natural world and its direct experience, as does the essay by WSU environmental sciences professor Stephanie E. Hampton. Natural history, though, can do more than build appreciation; it can give us practical ways to adapt. As Hampton writes, “A resilient future requires us to be able to make informed predictions about how and why things change.”

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## A woman's place

When I started my career at WSU in the fall of 1969, I knew I wanted to be a biologist. My all-girl high school had an excellent science program. I spent the summer of '69 working at the WSU Extension Center in Puyallup raising house flies and counting bark beetles in entomology.

My assigned advisor was in the zoology department. Apparently, he was pretty famous. His first question to me was, "Are you going into this professionally, or do you plan to get married?" Although I was a pretty timid 18-year-old, I stared at him and found the presence of mind to say, "I didn't think they were mutually exclusive."

He did steer me into good classes on what I look back now as an insanely difficult schedule. Midway through the semester, I found a new advisor, Dr. Elizabeth Hall. She was one of the few female professors in the sciences and, for some reason, microbiology was the only science where almost 50 percent of the students were women. I graduated in 1973 in microbiology, went on to work for Weyerhaeuser in R&D, was recruited to Nalco Chemical R&D (12 patents), and then started my consulting company controlling complex industrial microbial issues in paper mills all over the globe.

Yes, I did get married and have two daughters, two grandsons, and I continue to slay slime (biofilms).

Thank you, Dr. Hall.

**LINDA (BLAU) ROBERTSON, '69  
BACTERIO. AND PUBLIC HEALTH**

## More Neill Hall memories

Reading Cathy Higgins' letter in the Spring 2020 Talkback brought back a flood of memories from my time living in Neill Hall. Mine was a much earlier period than hers; in fact, we opened up a brand new Neill in February 1957. When I arrived at WSC(!) in the fall of 1955, I was placed in Esquire Hall, one of the "cardboard castles" (actually plywood) built to accommodate the surge of returning WWII vets. These old dorms had a high turnover rate; half the freshmen had flunked out by the end of my first semester. Many of the survivors had our own room, which we could connect with others by knocking out the closet panels. Esquire even had its own radio station (KRAP, the little brown spot on your dial) using the fire warning wiring as an antenna. Things were pretty loose in Esquire. At the start of the second semester in '57, Esquire (North) Hall moved into Neill, while

Pioneer (West) Hall moved into Kruegel and McAllister.

One of my first memories from Neill happened just after we moved in. One night, there was a brilliant display of aurora, reds and greens covering the entire sky. Somehow we got a hold of a key to the roof trapdoor (forbidden!), and many of us watched it from up there. We had to trudge up to Stadium Commons (southeast corner of Stadium Way and Wilson Road) for meals, but Ferdinand's then was conveniently close in the bottom of Troy Hall.

Neill Hallers had a strong sense of pride in their dorm, and there was even considerable competition between the respective floors. I remember Neill's choir coming in second campus-wide, as did one of our homecoming floats. Although we were (GD) Independents, for the more active members, it was kind of like being in a fraternity. The only difference was that you didn't have to participate, and we also had our share of less active types.

**BILL BUCHAN, '60 CHEM. ENG.**

You can read Bill's full letter at [magazine.wsu.edu/extra/May-2020-talkback](https://magazine.wsu.edu/extra/May-2020-talkback)

## COVID-19—WSU's actions

The rapid spread of the novel coronavirus and COVID-19 disrupted the lives of students, faculty, and staff at Washington State University, just as it did for people all over the world. Classes moved online for the last part of the spring 2020 semester, University operations adapted, and many measures were taken to protect the health of WSU communities.

For more information about WSU's response and proactive efforts to prevent COVID-19, visit [wsu.edu/covid-19](https://wsu.edu/covid-19)

## COVID-19 information

WSU encourages all of the Cougar nation to stay safe and help contain the spread of COVID-19.

The websites below can keep you informed about the pandemic and preventing infection.

- Washington state's coronavirus response: [coronavirus.wa.gov](https://coronavirus.wa.gov)
- Centers for Disease Control and Prevention: [cdc.gov/coronavirus](https://cdc.gov/coronavirus)
- World Health Organization: [who.int/emergencies/diseases/novel-coronavirus-2019](https://who.int/emergencies/diseases/novel-coronavirus-2019)



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UPfront

## The State of healing

BY KATE LEBO

In years past when District Nurse Becky Droter ('94 Nursing) needed to research complex medical issues that affected her Colville School District students, she'd call the Spokane Educational School District to talk with nurses there. They were helpful but finding resources that fit the particular needs of her rural community remained difficult.

Droter's students face different challenges than students in urban and suburban places. To start, distance poses a formidable barrier to health care access. If a Colville student needs to see a specialist, they must drive ninety minutes ("on dry roads," Droter notes) to Spokane or six hours to Seattle. Then there's the shortage of doctors and nurses that's endemic to rural Eastern Washington.

"We don't have a pediatrician in our community," Droter says. "This creates problems for our kids getting access to care and helping our families understand the importance of seeing a specialist for special needs. And by special needs, I mean something as common as asthma."

Technology like telemedicine would help ease some cases, but it hasn't yet been widely implemented.

Fortunately, when it comes to research, Droter's needs are covered by HEALWA, Washington's digital library for health care practitioners. Through HEALWA.org, Droter can find authoritative clinical research on the conditions and issues that impact her students. She uses that evidence-based information to improve how the district safeguards student health.

For example, thanks to Droter's efforts, the Colville School District was one of the first districts in the state to make Narcan available at schools. Like many communities nationwide, Colville is no stranger to the opioid crisis. Droter set out to research how other school districts create policies around having this life-saving medicine on hand in case of emergency. Through HEALWA she discovered there wasn't an example in Washington for her to follow; further searching in HEALWA's online library yielded resources that helped her make the case to her school board to write a new policy.

The legislature created HEALWA in 2007 to support evidence-based practice in health care. Access to the library of online resources is tied to professional licensure—all nurses, doctors, and 25 other professions licensed in Washington can use HEALWA's library to find full text articles, point of care references, and patient resources in multiple languages.

"Just last week I spent a bunch of time on HEALWA looking up articles on 'Do Not

Resuscitate' orders because I have a student I have that order for," Droter says. "In a small school we're all completely invested in the 360-degree well-being of our kids. The idea that a student might not go home at the end of the day doesn't sit well. I really needed HEALWA for looking at best practices and how things are handled from an ethical and cultural perspective elsewhere."

The small size of her community requires Droter to educate everyone from volunteer emergency responders to the school board. But Colville's small size also makes that possible: as a rural nurse, Droter can nurture close relationships with all stakeholders. Grounding her efforts in authoritative evidence she found through HEALWA's website—no more need to call Spokane—helps her educate everyone she works with. In Washington state, equity of access to care may still be a challenge, but thanks to HEALWA, equity of access to evidence-based medical information is already here. ✱

*Kate Lebo is the HEALWA outreach coordinator for Eastern Washington, based out of WSU Health Sciences Spokane.*

## Going to BAT in rural Washington

BY BRIAN CHARLES CLARK

When the Carpenter Road fire burned 64,000 acres in rural northeast Washington, the crew fighting the fire was without internet. In order to understand how the fire was moving and how to best position their firefighting resources, they had to drive GIS maps on removable media an hour from the county office out to the fire camp.

"When the fire ended, we said, 'We've got to fix this,'" says Debra Hansen, director of Washington State University Extension in



PHOTO RUSLAN DASHINSKY

CARPENTER ROAD FIRE (COURTESY WASHINGTON STATE PATROL)



Stevens County. “So we created the Broadband Action Team, the BAT concept, and have been going gangbusters ever since. We need broadband for health care, education, businesses, jobs—we’re way beyond cat videos.”

Development of broadband infrastructure has been slow. As Hansen says, “Big internet providers don’t care about us. There’s no business case to bring broadband to 16 people per square mile.”

“It took 50 years to electrify the nation,” Microsoft president Brad Smith wrote in a 2018 blog post. “The millions of Americans waiting for broadband don’t have the luxury of time.”

It’s not just a matter of bringing infrastructure to rural America, Hansen says. Many people also need training in using email, smart devices, and the internet. “Our library district and economic development council are very involved in our BAT. They offer classes in technology use and solve tech problems at the library.”

Hansen describes a scene at the library in Colville where residents had a brief window of opportunity to sign up for heating bill assistance. “There were 100 people at the library,” she estimates, “trying to set up email accounts and log in to the assistance site on a first-come, first-served basis—and then the system crashed. It was heartbreaking.”

Monica Babine, a senior associate with WSU’s Program for Digital Initiatives, says that “what we’re doing is looking at ways WSU’s resources can be an anchor for communities.” Fiber into Extension offices, libraries, and health care centers with capacity beyond

what that building needs can be tapped to “open the doors for others to come in.”

The power of the BAT is that it brings together constituents with local knowledge. “Local is important,” Babine says, “because, one, it helps identify gaps in infrastructure; two, it helps ensure we don’t overbuild; and three, when you look at the folks involved in Debra’s team, it’s health care, schools, libraries, economic development council members, and emergency responders. So having those people at the table ensures that we build the infrastructure where it’s going to be used. And, four, those folks at the table are the ones who are helping provide the digital skills training.”

“And having all those folks at the table,” adds Hansen, “allows them to share resources, so discussions that start with broadband infrastructure branch out to economic development and much more.”

Including, perhaps, a robust telemedicine infrastructure that would, in times of health care crises such as COVID-19, enable doctors and patients to work together without risk of cross-contamination. \*

## At home on the range

BY LARRY CLARK

Washington State University Elson S. Floyd College of Medicine and partners are launching Range Health, a nonprofit academic health network designed to bring health care to Washington’s rural and underserved areas.

Last October, they also unveiled the William A. Crosetto Mobile Health Care Unit, the network’s first traveling health clinic. Intended as a training ground for future doctors and health care providers while delivering needed care around the state, Range Health will focus on communities where health care is limited. The mobile unit—named for Othello cattle rancher and philanthropist Bill Crosetto—will travel to those communities to provide comprehensive primary care, urgent care procedures, and preventive screening for conditions such as diabetes, cholesterol, pregnancy, STDs, asthma, and more. \*



COURTESY WSU NEWS



# Great floods from simple sources

BY BRIAN CHARLES CLARK

ABOVE: A FLOODED FARM (COURTESY WASHINGTON STORMWATER CENTER/WSU EXTENSION). BELOW: JORDAN JOBE VISITS A FARM (COURTESY JORDAN JOBE)

**FROM THE TIGRIS AND EUPHRATES, TO THE MISSISSIPPI AND THE YANGTZE, FLOODPLAINS ARE GREAT PLACES TO FARM.** The soil is generally fertile due to silt deposition by rivers, and the land is flat. Floodplains support rich biodiversity, too, and the ones in the Pacific Northwest have long been the hunting and fishing grounds of Native Americans. But as development spreads, floodplains are often paved over and land-based productivity is lost.

For Jordan Jobe, that's all part of the challenge of advocating for agriculture in the Puyallup watershed. Based at Washington State University's Puyallup Research and Extension Center, she works with a wide range of local partners to maximize multiple benefits from the rich promise of the Puyallup River and other local floodplains.

Jobe is the manager of Farming in the Floodplain Project that seeks to mitigate flood risk, restore habitat, increase the number of fish returning to streams, and, she says, "to keep agriculture viable, because we value local food and we value that use of the land."

One of the biggest challenges for Jobe and her partners is drainage and getting water off the land in time to plant crops.

Part of the problem in the Puyallup watershed is reed canary grass, "a fast growing, difficult to eradicate invasive species," Jobe says. "You can plant riparian buffers that shade out reed canary grass, or you can spray it with limited success, but if it's growing in a ditch

and gets mowed without being removed, it creates a big pile of muck that traps water."

Maintaining a balance between development and agricultural and habitat needs is challenging, too. But there are some good reasons to think that viable farms should be part of the picture for the future. Well-managed farms can improve water quality. As Jobe says, farms can be part of fish habitat restoration. "When you compare farms with runoff from impervious surfaces like roads and parking lots, fish do better next to a farm."

Farms also sequester carbon and provide other ecosystem services such as healthy soils.

Jobe's efforts at building community-based consensus around local land use also inspire her to look for ways to bring about

a much larger, region-wide collaboration.

"I think people in the Puget Sound region who are involved in the areas of agriculture, conservation, habitat restoration, and more need to have better information regarding what to expect from climate change. Precipitation changes, sea level rise, saltwater intrusion, groundwater level rising—there are so many potential impacts from climate change and we need to know a lot more to support agricultural resilience regionally.

"We all value agriculture," she adds, "so we need to support resilience now, because in 50 years it's going to look very different. We need to be prepared to continue producing food for a region that is developing and going to be experiencing stress from climate change." ✨





ABOVE: CARLA OLMAN PEPERZAK WORKS AS A MEDICAL OFFICER A FEW MONTHS AFTER THE WAR. (COURTESY CARLA PEPERZAK) OPPOSITE: PEPERZAK, RAYMOND SUN (COURTESY CARLA PEPERZAK AND WSU DEPARTMENT OF HISTORY, RESPECTIVELY)

## Keys of my life

BY ADRIANA JANOVICH

**For more than 50 years, she wouldn't talk about what happened during the war.**

As a teenage operative in the Dutch Resistance, Carla Oلمان Peperzak helped hide approximately 40 Jews.

"I tried to forget, but I could not and should not," says Peperzak, now 96 and the 2020 Washington State Person of the Year. "These experiences showed me how fragile life is, but also the opposite—how people can live through them."

By the time she met Raymond "Ray" Sun, an associate professor of history at Washington State University in Pullman, she had already dedicated the rest of her life to telling her story. Sun first read about Peperzak's Underground work five years ago in *The Spokesman-Review* and arranged for her to speak to his World War II history class. Now he's working on weaving her wartime narrative into a manuscript that explores the history of Dutch Jews as well as gender roles—particularly women's—during World War II.

In the meantime, he has a chapter about Peperzak—tentatively titled "Hiding in Plain Sight: Gender, Faith, and the Conflicted Legacies of a Dutch Rescuer"—due this spring for a forthcoming compilation organized by the Finkler Institute of Holocaust Research at Bar Ilan University together with the B'nai B'rith World Organization.

"Her generation is disappearing very, very rapidly," Sun says. "We're really running out of these witnesses. There's some sense of urgency to capture their stories as a powerful means to teach."

Stories like Peperzak's, he says, "make it so much easier to understand the big picture."

Sun specializes in Holocaust and genocide studies and modern German and military history. He also studies how war affects societies and how societies remember war. He's particularly interested in examining resistance and resilience.

He began interviewing Peperzak, a member of the speaker's bureau for Seattle's Holocaust Center for Humanity, in 2016. He has since incorporated her experiences into his research, presented scholarly papers on her Resistance work at conferences, and appeared with her on stage for Q&A sessions.

"I've looked a lot at the perpetrators, the bad guys," he says. "Her story really got me into looking at the people who rescued or helped Jews."

Holland had one of Western Europe's highest Jewish death rates in World War II, which ended 75 years ago in the European Theater. The Allies accepted Germany's surrender May 8, 1945. Roughly a quarter, or about 35,000 Jews, survived. In all, some 6 million Jews—including about 75 percent of Peperzak's family, about 18 people in all—were exterminated.

"I never spoke about it," Peperzak says. "It was too difficult. You try to forget. You try to go on with life."

She broke her silence after her granddaughter asked her to speak at her school. Since then, she's shared her story from Seattle and Tacoma to Pullman, and points in between. She's also finished a memoir, *Keys of My Life*, available on Amazon.

Washington legislature's Resolution 8623 honors her "as a selfless and brave hero, who saved the lives of many and is now using her experiences to speak to new generations and educate us all about our history and the human capacity to care for others while facing unimaginably difficult challenges."

But, she says, "I don't consider myself a hero. I could help, so I helped. I did what I could do."

### DESIRE TO HELP

When the Nazis invaded the Netherlands, Peperzak was 16 and preparing to graduate from high school. She ice-skated on frozen canals in winter and rowed on the Amstel River in summer. Soon after the occupation started, Nazis raided her



mostly-Jewish rowing club, rounding up about a half-dozen male athletes.

Pepezak never saw them again.

As the occupation wore on, Nazis upped their restrictions, requiring Jews to register. There were 159,806 in all, including 19,561 born of mixed marriages, like Pepezak. Her father was Jewish. Her mother was a Catholic orphan raised by a Jewish family.

"You couldn't go on the bus," Pepezak says. "You couldn't go on the train. You couldn't go on the street car. You couldn't go in the park. All Jewish bank accounts were confiscated. All Jewish safety deposit boxes were confiscated."

Nazis required Jews to wear the yellow six-pointed Star of David and pitted neighbors against neighbors, encouraging the Dutch to identify Jews who were hiding or hadn't registered. "You were paid," Pepezak says, "for bringing in a Jewish person."

Her father managed to procure paperwork identifying his wife and two daughters as non-Jewish. "I know it cost him a lot of money," says Pepezak, who didn't tell her parents or sister about her Resistance work. "I got a new ID. I didn't have to wear the star, and that gave me so much more freedom. I was grateful. I wanted to help people."

Pepezak lived in south Amsterdam's Rivierenbuurt neighborhood, about a block from the Frank family apartment on Merwedeplein. The grassy square, which Anne Frank called "The Merry," is now anchored by a statue of the young diarist, her face turned toward the home she left to go into hiding. Pepezak visited "once or twice." She was in the same Hebrew class as Anne's older sister, and their families attended the same Reform temple. In 1939, Pepezak and the Frank sisters performed in the same Purim play.

Pepezak's father owned a clothing and fur factory one canal from Prinsengracht, where Otto Frank had the warehouse with the Secret Annex. Of the eight who hid there for more than two years, he was the only one to survive. Pepezak didn't learn of their fate until after the war.

### ADVANTAGE IN YOUTH

She enrolled in a private medical technology college and started her practicum in a local hospital, where she stole a German medical identity card and bought a German nurse's uniform from a colleague. Both—along with her bicycle—became important to her Resistance work. Often posing as a German nurse and pedaling as far as The Hague—about 40 miles away—she helped hide Jews in attics, basements, and barns in rural Holland.

She also checked on her charges—many of whom were friends or extended family members—bringing food, medical supplies, stolen ration cards, and identity cards that she forged. "I made about 100 false ID cards," she says. "I was pretty good at it."

She was also good at hiding in plain sight. She was young, attractive, and fluent in German, which she had learned in school as well as from her Austrian nanny. When she was stopped by German soldiers,

she says, "I flirted with them. I'm not a flirt normally, but I flirted with them. I was the right age. And it got me out of some sticky situations."

Pepezak's uncle had already been captured when she learned her aunt and five of her cousins would be passing through Amsterdam's Centraal Station on their way to Westerbork. Fewer than 5 percent of the people who were held at the Nazi detention center—about 5,200 of some 107,000 detainees, the majority of whom were Dutch Jews—survived. Most were gassed upon arrival at concentration camps throughout Europe.

Pepezak found their train car and asked her aunt if she could take the youngest. She carried him off the train and was holding him when German soldiers stopped her. She was wearing her German nurse's uniform and carrying her stolen medical identity card. In German, she explained the child was ill and needed to get to the hospital.

They let her leave. But she never saw her aunt, uncle, and other four cousins again.

"She's 18 to 21 years old when she's doing this," Sun says. "She's this young woman, taking her life into her hands and making decisions that I've never had to make—that most of us have never had to make in our entire lives. She's doing this out in the open. These were gendered experiences. What she could do as a woman—because she was a woman—was very different from a man."

### "A LOT OF HOPE"

Pepezak helped publish an Underground newsletter on Allied Forces' activities. She listened to BBC News on a banned radio, duplicated her notes on a banned mimeograph machine, then distributed copies. "That was probably the most dangerous thing I did," she says. "If you passed them to the wrong person that would be the end."

She usually didn't know the names of the people she was meeting. Pepezak explains: "I had a piece of paper that was cut a certain way, and the other person had a paper that was cut a certain way, and they would fit, and that is how you would know."

She kept the thumbprint-making machine she used for falsifying documents in a small attaché case. It was sitting in plain view when two Nazis came to her home to interrogate her. "I passed the test," she says.

But, as they were leaving, one offered to carry the case. Pepezak, who was also heading out—to do Resistance work, no less—couldn't say no. That would've been suspicious. "If it had fallen open," she says, "I would not be sitting here."

Every time she was stopped, she "was absolutely scared to death. There was this pressure always on you. I was always scared. For five years, I was scared. But I was young enough I also had hope. I had a lot of hope."

When liberation came, "it was a tremendous relief. That's what I remember—the relief. Not being afraid anymore. Being able to do things."

She married a Dutch Catholic, moved to America, became a U.S. citizen, and lived around the world—from Liberia and Thailand to Hawaii, Washington, D.C., and now Spokane. But she hasn't been able to forget or forgive. "How can you forgive somebody who killed a family member?" she says. "To me, it's impossible."

Instead, she speaks of the importance of respect along with her own personal revenge: her four children, 11 grandchildren and 18 great-grandchildren—with one more on the way, due in May. ✱



COURTESY WSU TRI-CITIES

BY REBECCA PHILLIPS

**TRI-CITIES**

For 27 years, Allan Felsot has intrigued Washington State University Tri-Cities audiences with tales of pesticide toxicity. Today, however, he is preparing to give a guest lecture not on killing pests but on eating them.

“Amazon is supposed to be delivering some whole dried insects today,” says the entomology professor and WSU Extension specialist. “I haven’t eaten live insects myself, but I’ve had cricket flour in chips. I think the chefs making them need to learn something from Doritos, however, as they don’t taste very good.”

Bringing bugs to an anthropology class is typical of Felsot’s insatiable curiosity and drive to share information with the wider world. Whether student or community member, if you have a question, he’ll do his best to find an answer.

It’s a mindset that characterizes the entire Tri-Cities campus. “The faculty are very accommodating to students,” Felsot says. “It’s a friendly campus with teachers who are super committed with serving the needs of their students. It’s their priority.”

Felsot came to WSU in 1993 to study agrichemical residues in the environment, and during his tenure, has watched the campus evolve from a small upper-division-only school to a full four-year college that is now experiencing rapid growth as a research institution.

His first assignment at the newly created Food and Environmental Quality Lab involved investigating a local case of herbicide contamination.

“The lab was started as a reaction to the Alar scare with apples in the 1980s,” Felsot says. “Producers were using the growth regulator on red delicious apples

to help even their ripening. Then, concerns were raised that residues from Alar could be carcinogenic.”

The scare grew into what is generally considered an overblown nightmare that eventually put many Washington apple growers out of business. As a result, the legislature mandated the creation of the lab.

In a move meant to temper public fears, part of Felsot’s new job entailed the translation and communication of scientific research for his Extension programs. In clear and understandable terms, he explains the toxic risks associated with pesticide use.

Though he no longer works in the laboratory, Felsot continues to carry a heavy teaching load on both the Pullman and Tri-Cities campuses. He also covers the Extension pesticide safety program, where one of his most popular talks concerns lawsuits surrounding use of the herbicide Roundup.

Last November, Felsot’s exuberant teaching style culminated in the Distinguished Achievement Award in Teaching from the Entomological Society of America.

“That was a real honor for me because I’m one of the few tenured professors who, at this point in my career, has mostly a teaching appointment,” he says. “I love teaching—I like investigating the raw data and pulling it into a story for people.” ✨

**VANCOUVER**

For sound to get from the air around us to our brains, it passes through a kind of Rube Goldberg device, funneling through a canal, stopping to play a drum solo, then moving through the cochlea where the vibrations tickle tiny cilia sticking out of sensory cells. Once stimulated, the hairy bits pass ions down canals that, finally, bind to auditory

nerves, generating electrical signals that our brains parse as sound.

Allison Coffin, a neuroscientist at Washington State University Vancouver, is especially interested in those sensory “hair” cells because if they become damaged, hearing loss is the consequence. Her lab focuses on hearing, hear-

music studio in their home, carries earplugs with her at all times. Aging, too, often comes with reduced acuity due to cell damage.

Certain types of drugs—such as aminoglycoside antibiotics and platinum-based chemotherapy drugs—can damage sensory cells.

**We celebrate  
30 years  
of WSU in  
Spokane, Tri-  
Cities, and  
Vancouver  
with stories  
from each  
campus**

loss prevention, and even on sensory cell regeneration—something no mammal is known to be able to do, unlike many birds and fish.

Sensory cells can be damaged in a variety of ways. Continued exposure to loud noise, certainly. That’s why Coffin, who is married to a drummer with a

“This side effect was only discovered when patients reported not hearing as well,” Coffin says. “Hearing loss is never tested during the drug development process. There are over 100 drugs suspected of causing hearing loss. And there’s new drugs in development all the time.”

BY BRIAN CHARLES CLARK



PHOTO LAURA DUTELLE/WSU VANCOUVER



COURTESY WSU HEALTH SCIENCES SPOKANE

Coffin and her colleagues recently won a commercialization grant that funds their efforts to design a system that should be able to detect whether a drug in development may potentially cause hearing loss.

Coffin explains that drug development often starts with

and ones that we know don't cause loss, to classify developmental chemical structures one way or another."

Coffin's team is also collaborating with Athira Pharma, a WSU spinoff led by Leen Kawas ('11 PhD Pharm.). "Athira has an Alzheimer's drug in clinical trials that we want to test for hearing loss prevention.

of cells, counting and sorting them as it goes. Building on that platform, Coffin's goal is to develop a fast, automated technology that will help tune the drug development process and make it safer for ears. And to that, hear, hear! ✨

### SPOKANE

Taylor Collins spends two hours on Wednesdays at a Spokane nursing home, visiting a resident who doesn't have much contact with family. "It's been really wonderful to be somebody she can talk to and share her life story with," says Collins, who's studying to become a speech therapist. "We're taught the importance of listening and proper ways to facilitate communication, and I get to apply a lot of what I'm learning when I see her. I'm also able to get first-hand experience of what it could look like to work with the elderly population."

Her visits are part of the service-learning component of her senior capstone project in the Department of Speech and Hearing Sciences at the Elson S. Floyd College of Medicine. Service has been part of WSU's presence in Spokane since the establishment of the nursing program 50 years ago. WSU Health Sciences Spokane—housing the College of Nursing, the medical college, and College of Pharmacy and Pharmaceutical Sciences—established a new **Office of Community Engagement & Service Learning** in 2016 to provide increased opportunities for students to get involved in the community—and benefit from hands-on experience in their prospective fields.

"Our number one service area is health outreach, whether it's educational or more clinical-based such as immunizations or access to care," says Veronica Puente,

assistant director of community engagement. "When this position was created, there was a big focus on addressing needs in the local neighborhood first, and we've developed our engagement activities based on that mission." Taking a place-based approach helps empower community partners, says Puente, who also emphasizes student-driven projects.

Her office oversees the **Community Engagement Fellowship Program**, funded by BECU and started in 2018. "Not only am I involving myself in the community but I'm learning how to be a servant leader," says Erika Bautista, a doctoral pharmacy student. She's working to develop educational opportunities on women's health, particularly within Spokane's Latinx community. She's also working with Project Beauty Share, providing personal hygiene and beauty products to nonprofits serving women. "I feel like I get out of it what I put into it," she says.

**Cougs in the Community** brings together students from across campus through activities such as Hunger and Homelessness Awareness Week. Students also participate in Spokane's MLK Day Unity Rally and March, pack food at Second Harvest, cook meals at Ronald McDonald House, and provide free immunization clinics and health screenings at schools, health fairs, and homeless shelters—among other projects. Jagandeep Sandhu, a doctoral pharmacy student, volunteers at monthly tabling events at Spokane Public Library, sharing information about side effects of over-the-counter medications. "We represent the community, and the community represents us," he says. "It's our duty to work within our community to make it better." ✨



From top: Allan Felsot, Allison Coffin. Photos courtesy WSU News. Taylor Collins: Courtesy WSU Health Sciences Spokane

a chemical structure which is tweaked until it delivers the desired result. The tweaking process might result in thousands of variations on the original structure.

"Our goal is to develop machine learning software that takes what we know about the chemical structures that do cause hearing loss,

We already know that a former version of that drug prevents hearing loss in animal models," Coffin says.

Her lab is working with Rewire Neuroscience, an artificial intelligence startup in Portland. When CEO James Harkness was a post-doc at WSUV, he developed software that can analyze images

# Sniffing out patterns

BY BRIAN CHARLES CLARK

**Dogs and humans have been inseparable for many millennia. Dogs eat, sleep, play, and work with us in relationships so intimate that we call them people, family members, and, as novelist Spencer Quinn puts it, members of “a nation within a nation.”**

Or so it would seem to your typical American dog owner.

In fact, says Washington State University anthropology graduate student Jaime Chambers, “the ways we interact with dogs are extremely varied” once you start looking at the relationship across cultures.

To look at the dog-human relationship in a global context, Chambers is delving into

the “Human Relations Area Files,” a Yale University-based ethnographic database. Searchable by keywords, Chambers is sniffing for patterns across 186 cultures.

So far, she’s uncovered “over 8,000 paragraphs of dog-related content, including myths, examples of dogs being interacted with, dogs in ceremonies.”

Chambers has been curious about the variety of human-dog relationships for years. For Americans, she says, “dogs are companions, child surrogates.” But as a Peace Corps volunteer in Malawi, she saw something different. There, dogs “are shown affection, but there’s more distance, and there’s a greater level of risk, because of rabies.”

From the Area Files, she’s discovered that “play is uncommon, maybe a couple dozen appearances.” But “is it actually uncommon or is play just rarely noted by the ethnographer?”

That’s the big caveat about studying dogs through the lens of human cultures. “Anthropology is the study of people, so in the ethnographies, when dogs are mentioned, it’s almost as an aside. If a dog serves an obvi-

ous utilitarian role, if it’s a very visible part of the people’s economy, an anthropologist is more likely to mention it, as in Siberia, for sledding, hunting, and food.”

Although her analysis is just beginning, patterns are emerging. Hunting, not surprisingly, pops up a lot in the data.

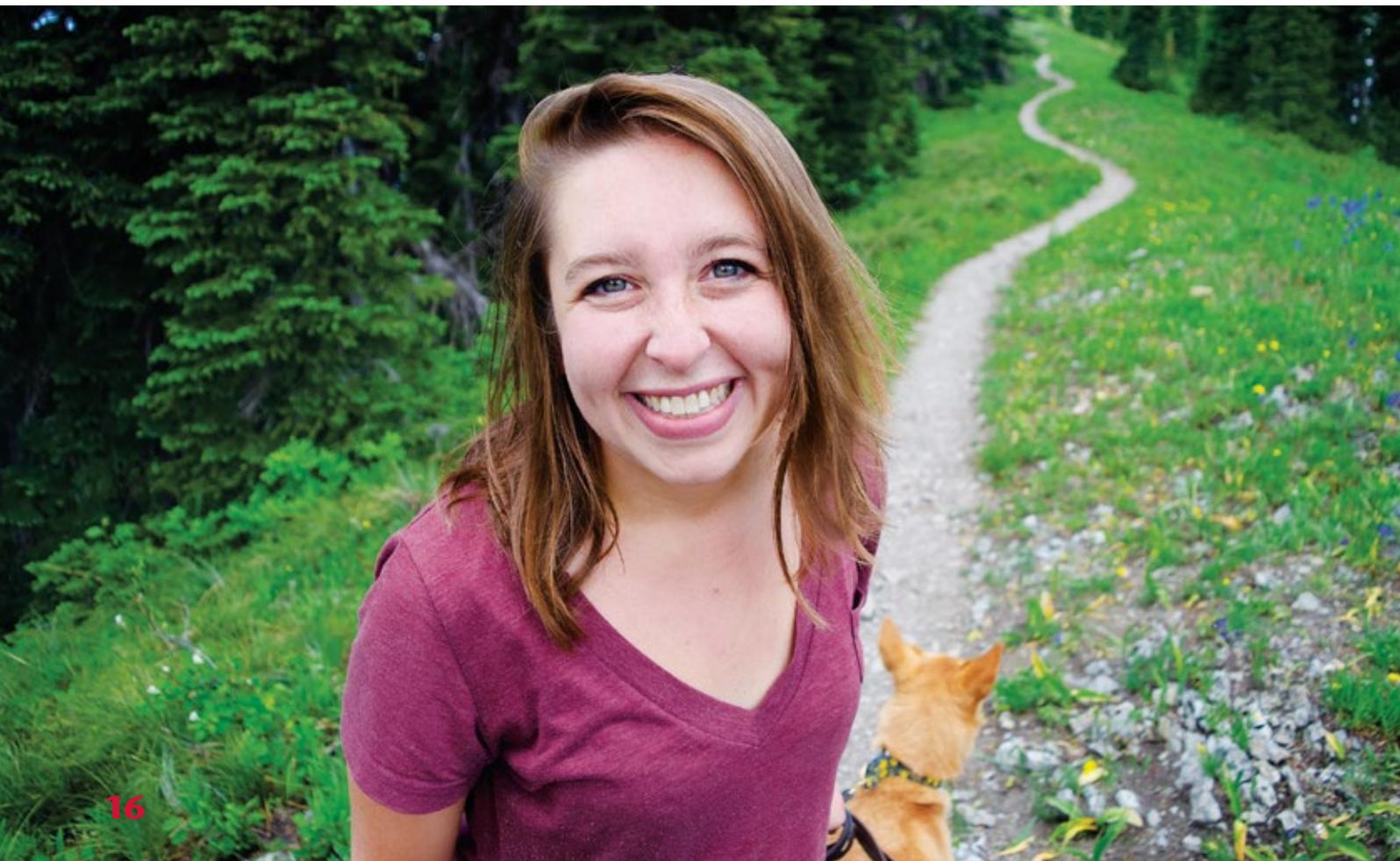
“I think scavenging is also very common. Either descriptions of dogs milling about and getting their own food, rather than being provisioned by humans, or humans having to take measures against their dogs taking the humans’ food.”

Another is personhood, “this idea that you don’t have to be a human to be a person.”

Among the Konso of Ethiopia, for example, it is taboo to buy or sell dogs because of their personhood, while a Toraja myth from Sulawesi states that dogs are equal to humans because they descended from a human ancestor.

While filling a gap in scholarship is important, Chambers’s dogged exploration of this ancient relationship is a real treat for the rest of us, too. ✨

COURTESY JAIME CHAMBERS





**Iridescent little fairywrens drew doctoral student Jordan Boersma to**

**the grasslands of Papua New Guinea, but it was the unexpected generosity of the people that captured the researcher's heart.**

"I've traveled all over Asia and never experienced this level of hospitality. If you accept their culture, they'll really take you in and look after you," he says.

Hubert Schwabl, professor in the Washington State University School of Biological Sciences, says Boersma is one of the rare students who is able to do field work under difficult tropical conditions.

"Jordan has worked in Australia and Borneo and is now part of WSU's collaborative ornithology project with Cornell and Tulane Universities."

Boersma, who joined the project in 2015, says white-shouldered fairywrens are good models for mate selection studies. The sparkly birds, found only in Papua New Guinea, are easy to observe as they hop around in the grass looking for insects.

"We're studying this particular bird as the females within this single species show variation in ornamentation," he says. "A lot of female birds are colorful but it's rare to see substantial variation in one species. The males are the same across their range but the females vary."

Boersma says it was the study of elaborate male color traits that led to Darwin's theory of sexual selection. The theory, however, does not translate well to females.

"As scientists, we've been so male oriented over the years—so chauvinistic," says Schwabl with a smile. The expert in physiology devotes much of his research to the study of female avian reproduction and behavior.

He and Boersma decided to investigate whether or not female fairywren variation was tied to testosterone levels, a hormone present in both sexes. This was not an easy task to carry out in a largely undeveloped country.

"I was a bit guarded my first time in New Guinea—the economy is poor, there are few jobs, and you can't buy much there," Boersma says. "It takes a lot of preparation. You need to anticipate your needs for 3–5 months, especially your research equipment.

"But once I get into the rhythm of life there, it's great," he says. "There's not much cell signal in our research areas, so we spend a lot of time having conversations with the local people and becoming part of the community."

In order to study the birds, Boersma had to make arrangements with the local landowners. He also hired and trained people to assist with his research and gave community presentations on conservation.

"One of our biggest challenges is just getting to the field sites," he says. "There are only a couple roads and there's no running water or electricity."

Along the way, Boersma learned about the local culture, including witchcraft and cannibalism. One day, he happened to jog through a historical battlefield where 100 years ago, rival tribes lined up to throw poisoned

spears at each other. Per tradition, any warrior hit by the spear had to submit to being dragged off for dinner. It was considered dishonorable to run away, he says.

Boersma also undertook a challenging field expedition to Fergusson Island.

"It's a few hours travel by small boat and the sea is really rough in August," he says. "Then, local criminals discovered a cache of American World War II weapons and began patrolling the ocean area we planned to cross. They would steal dinghies and tell the owners to jump and swim for shore.

"Luckily, my friend's extended family was respected by the top pirates, so they helped escort us across the rough seas—we almost flipped from massive waves but we made it."

Once safely back at WSU, Boersma determined that indeed, elevated testosterone levels are responsible for the female fairywren developing white wing patches. In turn, those females with flashy wing patches defend their territory more aggressively than do unadorned females. It's a piece of information that cements his dissertation and adds to Darwin's theory.

But Boersma's not done yet. He hopes to someday return to his friends in Papua New Guinea.

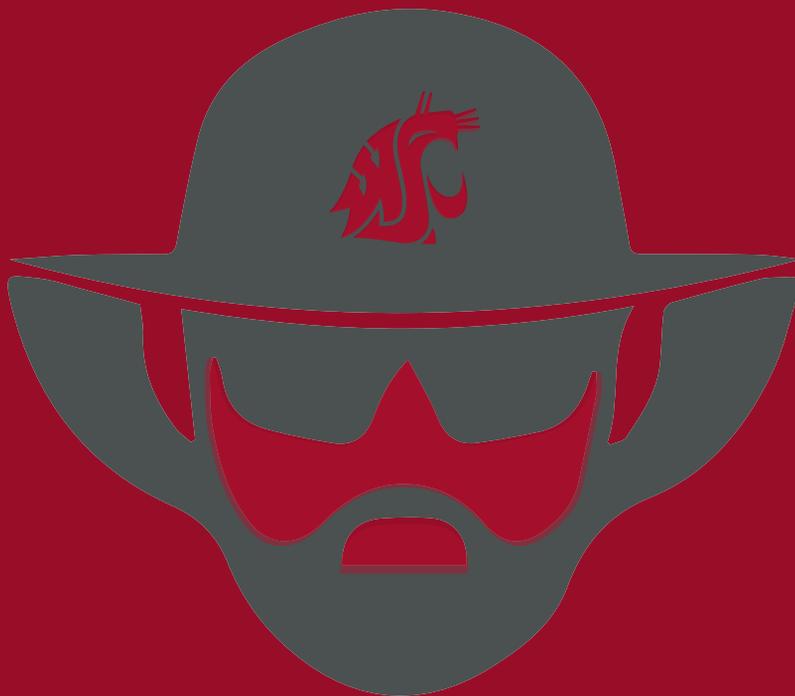
"Early on, I wanted to provide some sustainable long-term opportunities for the local people to study biology, so they can benefit from their natural resources without having to sell or lease their land to palm oil or logging companies," he says. "I really want to build a research station—to stay committed for decades, until they can carry it on themselves." \*



**Hearts in darkness**

PHOTOS COURTESY JORDAN BOERSMA

# New coach



# New era

BY RJ WOLCOTT

## THEY CALL NICK ROLOVICH A PLAYER'S COACH.

Sitting in his office looking out on Martin Stadium, the head coach of the Washington State University football team considers the designation bestowed by his assistants.

"I care about my players very much," he says. "I'm a people's coach. I like to see people have success in life, and if I can, I try to help."

Willingness to help others runs in the family. You'd be hard pressed at a Rolovich family gathering to find someone who wasn't a firefighter or law enforcement officer.

After being benched during his senior season at the University of Hawaii, Rolovich made plans to take the San Francisco firefighter's exam. He planned to drive down the day after the Rainbow Warriors played the University of Nevada. Rolovich thought his days in football were over.

He didn't make the exam. The events of September 11, 2001, caused the game between Hawaii and Nevada to be delayed.

Next thing he knew, the starter was injured and he was once again leading the Rainbow Warriors offense. He finished his senior season 8-1 as a starter. Rolovich saved his best for the last game of the season: a 72-45 routing of the twelfth-ranked BYU Cougars in which he threw a record eight touchdown passes.

It's the kind of Senior Night he wants for all of his players at WSU.

As the former college quarterback talks, flashes of his competitive spirit strike like lightning.

"I probably hate losing more than I like winning," Rolovich admits.

WSU's recent bowl game success—six appearances in the last seven years—is mentioned to him.

“Rose Bowl,” he counters. “Appearing isn’t enough, winning is the ambition.”

He’s been known to challenge opposing coaches who are former quarterbacks with what Rolovich calls The Rusty Arm Challenge. He fell to Colorado State Coach Mike Bobo a few years back, and his challenge went unanswered by University of Michigan’s Jim Harbaugh.

Rolovich also takes all challengers in Portuguese horseshoes, a lawn game similar to corn hole where players score points by tossing washers into holes of differing sizes on a small sloped board, like his handcrafted set from Maui.

At first glance, Pullman and Hawaii seem to have little in common. But Rolovich sees the relatively isolated locations as similar.

“What I learned living on an island is that everyone is reliant on each other,” he says. “You may not know the guy on the dock who is unloading your milk, but he is doing that so I can buy milk for my family.”

Reliance breeds strong community ties, something Rolovich hopes his players can do, along with class or football responsibilities.

Craig Stutzmann, WSU’s co-offensive coordinator and quarterbacks coach, remembers Rolovich making sure leftover team meals were donated during his time as Hawaii’s head coach. Stutzmann caught passes from Rolovich for two seasons.

“Everyone asks for a word that describes Nick, and what I say is eccentric,” Stutzmann says. “He is different in a good way. He’s humble, he likes to have fun, he’s

not afraid of putting himself out there and laughing at himself.”

Rolovich has won fan loyalty with his deft use of social media, and during gatherings. A request on Twitter for the best Cougar bar in Seattle netted 20 odd recommendations, and two packed bars on back-to-back nights. He smiles while recalling a Marco Polo chicken thigh left uneaten the second night because of the demands on his attention from WSU fans.

Rolovich learned to be comfortable with living authentically from one of his best coaching friends, Mike Leach. The pair have spent hours talking about football, their life philosophies, and the topics that pique their curiosity.

A few years ago while attending a coach’s conference in Charlotte, North Carolina, Rolovich decided to pay his friend in Key West a visit. Rolovich’s wife, Analea Donovan, advised her husband to reach out to Leach beforehand.

Rolovich didn’t, hoping to maintain as much of the surprise as possible.

Upon arriving in Key West, he texted Leach. No answer. So Rolovich took in the sites. He visited some of Leach’s favorite haunts, but no one had seen him recently. A call to Leach also went unanswered. Like the mythical Sasquatch he’s often discussed, Leach couldn’t be tracked down.

That evening, as Rolovich was prepping to call it a night, Leach texted back. He was on his way to a movie with his wife, but could meet up after. The pair spent eight hours on a historical trip through Key West, visiting shipwrecks and other favorite sites.

Casual fans of WSU football will notice similarities between Rolovich’s and Leach’s teams. Expect lots of passing, and lots

of scoring. It’ll be an up-tempo attack, Rolovich says, marked by tactics that are sure to divide old school football diehards.

“We’re going to be very aggressive on fourth down,” Rolovich says. “Punters are fine, I just hate giving the ball up.”

The goal is 35 points a game, with hundreds of yards both in the air and on the ground. It’s an attack that, much like Leach’s Air Raid, seeks to take advantage of a defense by overwhelming them with potential downfield threats.

Rolovich has installed a countdown clock for the Apple Cup because even in his short time in Pullman, fans have impressed upon him the importance of that game.

“The passion among fans is incredible,” he says. “It’s not just, ‘Hey I like Cougar football,’ it’s a real, deep affection for the team, and for winning.” ✨



DETAIL FROM PHOTO BY DOUG SAMUELS/FOOTBALLSCOOP

# Peppers

BY ADRIANA JANOVICH

## Jalapeños were the gateway.

After that came habaneros, serranos, cayennes, poblanos, red Anahims, and Hungarian purples. Betsy Burlingame loves them all for “their intense flavor,” which ranges from herbaceous and vegetal to sweet and spicy.

Peppers, she says, “just add spice to your life.”

Burlingame (’72 Psych., ’94 Bus.), a WSU Extension Clallam County Master Gardener for nearly a decade, spices up her life with peppers she grows herself. She puts them in eggs and on sandwiches—and has pickled her own peppers “for years now.” She also makes her own blackberry-habanero marmalade—a particular favorite—as well as salsa and hot sauce, saving the leftover pulp and freezing it in small scoops—“I call them hot flavor bombs”—to add to soups, stews, and chili. And she uses her homemade dried chile powder for flavoring poblano cream sauce, tamales, tacos, and enchiladas.

Her advice: “Pick your favorite and grow that. You’ve got to start somewhere. Why not start with your favorite, what you buy most at the store? I started with jalapeños, then I branched out. Now, I grow six or eight varieties every year.”

Peak pepper season in the Pacific Northwest runs July through October. But Sequim, where Burlingame has lived for nearly two dozen years, is “so far north that we don’t really start getting going until September. The temperature does not stay above 50 degrees at night here until July or August, and that’s one of the key factors. If you can control the temperature and keep things warm at night you can have better success.”

Peppers grow best where it’s warm. They like six to eight hours of sunlight per day and prefer well-drained, fertile soil that

stays between 65 to 70 degrees. “They don’t like to grow when their feet are cold,” says Burlingame, who grows most of her pepper plants in her greenhouse.

“Our summers are short,” she explains. And she really enjoys jalapeño poppers. She also likes to infuse tequila with jalapeños. “The longer you leave them in there, the hotter it will be,” she notes. “It doesn’t take very long—just a couple of hours—and it makes great margaritas. It just adds a nice zing to your drink.”

Of course, some like it hot. And others like it even hotter.

The Scoville scale—named for Wilbur L. Scoville’s 1912 test—measures the concentration of capsaicin, the chemical compound that produces piquancy sensations in people. The more capsaicin, the hotter the pepper. The Carolina Reaper, for example, averages just over 1.5 million Scoville Heat Units (SHU). By comparison, habaneros—considered fiery by most palates—range from 100,000 to 350,000, while jalapeños generally rank from 2,500 to 8,000. Red cayenne peppers typically register around 30,000 SHUs, while poblanos fall in the 1,000 to 2,000 range.

Bell peppers, which don’t produce capsaicin, are perhaps most approachable—landing at the bottom of the scale with a score of zero. These sweet peppers are among the most well-known and commonly used members of the nightshade genus *Capsicum*.

Peppers come in a rainbow of colors—from green and yellow to orange, red, and even harder-to-find purple and chocolate-brown. Raw bell peppers of any color are crisp, refreshing, and a bit grassy in flavor. Red, the most ripened, is sweetest. Chop them up for a pop of color and crunch in salads, salsas, and guacamole. Because of their boxy shape, they’re perfect for stuffing and roasting. They’re also great for grilling. (Think kebabs.)

Elongated poblanos—spicier than bells, but still mild—are also great for stuffing. Consider beans and rice, shredded meat, sweet corn, diced tomatoes and onions, and plenty

of melty cheese. Dried poblanos, known as ancho peppers, pair with chocolate to make a rich molé sauce.

Piquant varieties—such as jalapeños and cayennes—pair especially well with creamy, soft, mild cheese, says John Haugen ('93 Civ. Eng.), manager of WSU Creamery. Its Hot Pepper flavor was already popular 30 years ago when he started working there as a student. The cheese features diced jalapeños in Viking cheese, which Haugen describes as “similar to Monterey jack.” But, he says, “People were still asking for something hotter.” And their requests led to Crimson Fire! (Yes, the exclamation point is part of the name.)

“I was here when we started developing it,” Haugen says, recalling, “There was a contest for naming it.” Since then, the award-winning cheese has become one of the creamery's top sellers—along with classic Cougar Gold. Crimson Fire! features both jalapeño and cayenne peppers and remains the creamery's only reduced-fat cheese, offering a third less fat than regular Viking cheese.

If it's still not hot enough, there's an aged Ghost Pepper cheese made with either Cougar Gold or Smoky Cheddar—depending on availability—and only for sale on a limited basis in person at Ferdinand's Ice Cream Shoppe at WSU Pullman. WSU Creamery also makes a seasonal Red Pepper Garlic cheese featuring cayenne pepper in Viking cheese.

Most heat seekers—including fans of WSU Creamery's spicy cheeses—largely have fifteenth- and sixteenth-century traders and explorers to thank. They introduced peppers to the Old World and helped spread them around the globe. By Christopher Columbus's 1492 journey, black pepper was literally worth its weight in gold. The rise of the Ottoman Empire and fall of Constantinople to the Turks had disrupted trade routes and sent its price skyrocketing. King Ferdinand and Queen Isabella asked Columbus to bring back both black pepper and gold—along with a westward route to the East Indies. Instead, he bumped into Caribbean islands where chile peppers were a long-established dietary staple. Evidence shows they were

cultivated and traded as early as some 6,000 years ago in areas of the Americas—predating the invention of pottery in some places.

Peppers are native to Central and South America, and their use can be traced from ancient Mexico and Peru to the Bahamas—where Columbus landed and tried what the natives called *aji*. He was taken aback by the spicy bite and introduced *aji* as an alternative to black pepper when he returned to Spain in 1493. After that, explorers and traders—first Spanish and Portuguese, then Dutch and British—helped spread peppers around the globe from Europe to India, West Africa, East Asia, and beyond. The slave trade expanded the use of pepper in North America, where the woody-stemmed plants grew easily in warmer



PHOTO: ROBERT HUBNER

areas. Thomas Jefferson cultivated cayenne, bell, bullnose, and Texas bird peppers in his famed garden at Monticello in Virginia.

Low in calories and rich in vitamin C, peppers are also good sources of vitamins A and B-6 as well as potassium. They're widely available and relatively cheap—one of the things that made them become so popular so fast hundreds of years ago.

In general, the smaller the pepper, the hotter it will be. But climate also affects a pepper's pungency. Long hot days prompt peppers to produce more capsaicin, which triggers the body's pain response system.

“If you take a bite of a habanero pepper you feel like your mouth is on fire,” says Muriel

Nesbitt, a retired University of California San Diego biology professor who lives in Port Angeles and has been a WSU Extension Clallam County Master Gardener just over a decade. “The capsaicin interacts with a neuroreceptor that is also used to detect harmful levels of heat. It sends a message to the brain that says we're being burned. It's a false perception.

“Most mammals aren't willing to eat peppers,” Nesbitt says. “Humans seem to be the exception. We somehow find the pain pleasurable—or, some of us do. I'm a bit of a wimp when it comes to Scoville Heat Units.”

If, like Nesbitt, you can't take the heat, don't reach for water or beer. “The secret is oil,” she says. “Capsaicin is an oily substance.

It's not water-soluble, but will dissolve in oils and fats. If you have cream cheese or bacon grease that will help dilute it a bit.” (Think jalapeño poppers.) A glass of milk or spoon of yogurt or ice cream will also help.

Look for peppers that are bright, shiny, firm, and free from cuts and soft spots. They shouldn't have moldy stems or wrinkled skin, either. For less heat, Burlingame and Nesbitt recommend removing the seeds and white pith where most of the capsaicin is stored.

Nesbitt enjoys jalapeños and grows some red and purple peppers, but that's where she draws the line. “If you ever try a Carolina Reaper,” she says, “call me up and tell me how it was.” ✨

*feature*



# To dream

t h e i m p o s s i b l e d r e a m

In an unstable economy, Washington residents struggle to find affordable housing

ILLUSTRATION CATHERINE MACBRIDE

# The lament is laced with confusion and angst. “I’ve got a decent job. Why can’t I afford to buy a house? Or even rent a nice apartment?”

It’s not an isolated complaint. From the Seattle-Tacoma area to Spokane, the Palouse, and other cities across Washington state, the clamor for affordable housing has risen to the breaking point.

According to a recent report by Up for Growth, a Washington, D.C., nonprofit research firm, the Evergreen state logged a shortfall of 225,600 homes between 2000 and 2015—eighth worst in the nation for housing underproduction.

Indeed, housing for low- and middle-income families is in short supply in many areas of the United States. Add that to rising construction costs, stagnant wages, and a complex set of other factors, and America is now facing its highest population of cost-burdened and homeless citizens since the Great Depression.

Cost-burdened means having to spend more than 30 percent of family income on

housing, with subsequent difficulty affording food, clothing, transportation, child care, and medical care. Severely burdened households dish out more than 50 percent of income on rent.

Seattle has some of the highest rates of cost burden in the nation according to The Harvard Joint Center for Housing Studies’ 2018 State of the Nation’s Housing Report. More than a third of Seattle families with incomes under \$75,000 struggle to pay the rent. It’s a number surprisingly similar to sparsely populated Whitman County, where the Palouse Regional Housing Assessment estimates 37 percent of area residents are cost-burdened.

Though cost burden can lead to homelessness, today’s housing crisis is also about low- and middle-income citizens holding down two or three jobs and still not being able to make ends meet. It’s about teachers, firefighters, and full-time staff at Washington State University priced out of finding a safe, comfortable, and secure house—or even apartment—of their own.

The housing crisis is fundamentally a crisis of affordability, which, after many years in the making, has grown to the point that it threatens middle class stability. The solutions, unfortunately, are extremely complex and difficult to implement. The best estimates are it will likely take decades to produce enough homes to meet projected needs.

Ryan Smith, however, doesn’t want to wait that long. As director of the WSU School of Design and Construction in the Voiland College of Engineering and Architecture, he is boldly taking steps to tackle the affordable housing problem. Working with a diverse team of

faculty researchers, students, and community partners, Smith is reshaping our vision of housing with solutions ranging from exciting modular construction concepts to high-efficiency Habitat for Humanity homes.

The story begins last November at an all-night hack-a-thon.

**It was five o’clock and already dark. A few stubborn leaves rattled in the wind outside the entrance to Carpenter Hall on the WSU Pullman campus. Inside the classy old architecture building, the lights were bright, and corridors filled with the excited voices of nearly 100 students who gave up their Friday night to partake in WSU’s first Hack-A-House competition.**

Smith organized the event with the help of Matthew Melcher, associate professor of architecture. It was sponsored by Ivory Innovations, a housing affordability incubator at the University of Utah. The center was started by Ivory Homes, Utah’s largest development firm.

“Hack-a-thons are traditionally idea competitions or ‘sprints’ where people get together to hack a problem,” says Smith. “In this case, Ivory Innovations had the idea to do a 24-hour competitive sprint centered on solutions to affordable housing.”

Ivory’s first competition was held at the University of Utah in 2018 and focused on solutions for the Salt Lake City area. Smith, previously a professor at Utah, was asked to take part. The event was so successful, Ivory decided to expand to other universities in 2019, including WSU last November.

For Pullman’s hack-a-thon, Smith invited graduate and undergraduate students from both WSU and the University of Idaho to submit ideas for innovative housing solutions in the Palouse area.

“We put them into teams of 4–5 students,” Smith recalls. “Each team was assigned their own private room to brainstorm and create a slide presentation. We provided food, coffee, and snacks, and also had speakers, including Jennifer Wallace from Palouse Habitat for Humanity, who helped frame the problem.

“The next day, the students made three-minute business pitches which were judged by a panel of local jurists,” he says. Ten thousand dollars was awarded in prizes including \$5,000 to the overall winner—a team of WSU graduate architecture students who proposed building modular housing on Palouse farmland that is too steep to cultivate.

Coleman Coddington, and teammates Ezekiel Nelson, Gabe Hernandez, and Jake Monroe designed a “housing unit that could be prefabricated and replicated to cut down on cost. The units could potentially be stacked and would fit right next to each other,” Coddington explains.

“We inserted these units on steep farmland and extended the adjacent farmland over the top, giving farmers more useful land than they had before. The owners of the units would rent their roof

THE MODULAR KIRKLAND AVENUE TOWNHOMES IN RENTON WERE COMPLETED 90 PERCENT OFFSITE. (COURTESY GRACE KIM/SCHEMATA WORKSHOP, INC.)



space back to the farmer allowing them to lower their cost of rent. The farmer would also gain subsidies from the government based upon the number of these units they built on their land.”

Smith says all of the teams came up with innovative ideas. “The students just raved about the competition and I really hope we can do something like it again next year.

“The winning team was so excited, in fact, they wanted to keep going,” he says. “So, we’re working with some of the same students on a home design for Palouse Habitat for Humanity that will be built this summer. We plan to monitor the project for energy efficiency and affordability.”

**The building-block concepts in the winning Hack-A-House design are familiar to Smith, a modest man who is widely recognized as a leader in the emerging field of offsite construction and modular housing. Recently, he and Ivan Rupnik of Northeastern University formed a consulting company called MODX which holds events all over the world.**

Last February, MODX held a Northwest conference in collaboration with Seattle’s Housing Development Consortium, a nonprofit organization led by executive director Marty Kooistra.

The MODX program included a visit to Katerra’s cross-laminated mass timber factory in Spokane Valley. There were also talks by Seattle architects and industry leaders. Smith says their goal is to introduce local builders to offsite modular construction, including ways to manage the industry’s inherent challenges.

“Modular construction is a really good solution for affordable housing because it is fast and cost-controlled,” he says. “Also, if you can buy in bulk, you can potentially get the cost to come down.”

Smith says offsite construction is defined as any project that uses elements built in a factory and then brought in and installed on the job site. There are two types of offsite construction and the first is called panelization.

“Instead of framing a home with sticks—2x4s or 2x6s—we’re making panels and then bringing them to the job site,” he says. “These can range from open panels to those enhanced with sheetrock and insulation, pre-installed windows, or pre-wired.”

The second type is modular. “Here, the factory builds three dimensional boxes that when stacked like Legos on the job site make up the entirety of the project,” Smith says. “Those boxes usually contain one unit and can be completed up to 60 to 90 percent in the factory.”

Theoretically, offsite construction delivers a higher level of quality control and consistency than can be achieved by building a home at the job site. By using

the same labor force to build unit after unit, the crew grows increasingly skilled and efficient.

As for cost savings, Smith says they are still trying to calculate exact numbers, but a recent study was revealing. His team analyzed 17 modular projects and reported an 11 percent cost savings on average. The greater finding, however, was that projects were completed 42 percent faster.

“That’s a big thing for construction,” says Smith. “Finishing sooner means you get rent money sooner. So, even if the project goes over budget, they’ll get a schedule savings.”

Though the national market for modular homes is still in the early stages, Smith says we’ll likely be seeing more of them in the near future.

“I think modular is still seen as a risky proposition because it’s unknown, but I don’t see a way to build the amount of housing we need in this country in the time we need it without using more productive and faster methods to deliver it.”

Kooistra and the Housing Development Consortium recently organized an offsite construction task force, which is testing five modular pilot projects in the Seattle area. Smith is also on the team and hopes to publish the outcomes as a how-to guide to help other builders successfully incorporate modular techniques into affordable housing projects.

The sooner the better for Kooistra, who says King County is suffering a shortfall of about 156,000 affordable homes.

“That number is quite staggering and if you project it out, it gets worse,” he says. “We will need to build at least 45,000 homes that are affordable to low-income households every five years until 2040 to catch up.

“In the greater Puget Sound region, the population is projected to grow by another 1.8 million people by 2050. So, however you slice it, a lot of the housing here is no longer affordable to lower income households.”

Kooistra lays the blame on a laundry list of causes such as high land costs, a regressive state tax structure, lack of public funding, and constantly increasing rent costs.

“Incomes haven’t risen commensurately with rent hikes,” he says. “It’s a problem that extends statewide, including rural areas. For a lot of people, the economic revenue coming into the household just doesn’t meet the high cost of living anymore.

“On top of that, the construction industry is experiencing a shortage of workers, which drives up contractor and subcontractor costs. A couple years ago, we were at least 300 carpenters a day short in Seattle.

“So, we need strategies to develop the workforce or use methods like cross-laminated timber, modular, and other offsite construction,” Kooistra says. “We can change building methods to decrease costs.”

**In the big-picture view, the housing crisis can be traced to the 2008 Great Recession when, after years of artificially inflated home prices, loose lending practices, and subprime mortgages, the housing bubble collapsed in stunning fashion, causing millions of Americans to lose jobs and default on home loans.**

“Going into the recession, we had a surplus of single-family houses because it was all based on speculation,” says Smith. “When the recession hit, builders stopped producing product until about 2012. But we still had population growth so there’s a lot of pent-up demand.

“Then, coming out of the recession, when developers started building again—if you look at the numbers from Freddie Mac and Fannie Mae—it’s pretty clear that we will likely not return to the single-family housing production levels that we had prior to the recession. That was an unhealthy speculative market that the government has developed regulations around, and we just won’t return to that.

“So, many developers moved into the multi-family home market,” he says. “What we see, especially in California, and in mid-size cities like Spokane, Salt Lake City, and Denver, are low-rise, light wood-frame apartment buildings like Evolve in downtown Pullman. You see

this California model everywhere—to provide housing where people can’t afford single-family homes.

“The reason modular is taking off right now is because of this low-rise, multi-family real estate market,” says Smith.

It’s a market that includes many millennials who, thanks to the recession, can’t afford down payments on homes. And, baby boomers who are downsizing—selling their energy-inefficient homes and moving into a multi-family housing complex that offers attractive amenities.

Kooistra says after the recession, housing prices rose dramatically in Seattle.

“Without a construction work force that could keep up with demands, pricing went even higher. We’ve really underproduced while we grew and it’s led to significant costs, whether renting or buying, for consumers.

“And, we know when rents increase significantly, say about \$100 per month, it has huge impacts on the numbers of people who become homeless,” he says. “There’s solid data showing there’s a direct correlation.”

Indeed, a 2017 Zillow report shows that even a five percent increase in rent would force an additional 3,000 people into homelessness in New York City, 2,000 more in Los Angeles, and 260 in Seattle.

Seattle already claims the nation’s third highest homeless population with about 12,000 individuals seeking shelter on

any given night in King County. That number is at least 1,000 for Spokane County.

“We’ve got our work cut out for us,” Kooistra says. “People are getting physically displaced in our metro area here. There is also cultural displacement—people of color are disproportionately impacted.

“The harsh reality is solutions are not that easy to come by. We’re going to have to hunker down over the next decade and work together if we’re going to have any meaningful impact.”

**A recent study looked specifically at the effects on older adults. WSU’s Metropolitan Center for Applied Research and Extension in Everett joined forces with King County and the City of Seattle Aging and Disability Services to assess the area’s projected needs for senior housing.**

The 2018 report, “Moving Toward Age-Friendly Housing in King County,” found that the number of older adult-led households is on track to outpace the supply of accessible and affordable housing in King County. Half of senior households who rent are already cost-burdened, as are 40 percent of those with a mortgage.

“The challenge of finding places to live for a diverse aging

population who are on a fixed income, who may have health or mobility issues, is going to be a significant factor of what we have to deal with as a community,” says Martha Aitken, Metropolitan Center assistant director.

The study team, which included Season Hoard, assistant professor at the WSU Division of Governmental Studies and Services, and Cory Bolkan, associate professor in human development at WSU Vancouver, targeted solutions for aging in place and equity, especially for the older LGBTQ+ population.

Their strategies ranged from updating land use policies to allow cottage clusters and accessory dwelling units to increasing funding for home delivery services. They also recommended building senior housing units near established services to provide for daily needs, socialization, and transportation.

Similar challenges are playing out in eastern Washington. The 2019 Palouse Regional Housing Assessment found housing expenses in Pullman are 44 percent higher than the national average.

Smith says Pullman suffers from artificially inflated housing prices due to a concentration of high-salary professionals working in a rural area. As a consequence,



**Above:** Searching “How to live in your car” on YouTube can return over 10,000 results. **Below, clockwise from top left:** Ryan Smith, Director, WSU School of Design and Construction. *Photo WSU News.* Palouse Habitat for Humanity Director Jennifer Wallace and homeowner Rick Kruger. *Staff photo.* Housing Development Consortium director Marty Kooistra. *Courtesy Marty Kooistra.* Hack-A-House winners Gabriel Hernandez, Ezekiel Nelson, Jacob Monroe, and Coleman Coddington. *Courtesy Coleman Coddington*

lower-income families are forced to move to outlying areas, which, in turn, displaces residents of other small towns—similar to what’s happening in Seattle.

And, while the Palouse has a high number of multi-family student apartment buildings, there is a significant shortage of single-family homes. It’s estimated that roughly 270 will need to be built every year for a decade to catch up.

In the meantime, the 2019 report proposes that Pullman and Moscow partner with outlying communities to set up rural housing transition zones. Other ideas are allowing tiny home neighborhoods and utilizing land trusts such as the Moscow Affordable Housing Trust.

“Our typical mortgage is \$500-600 per month and you get the entire house plus the benefit of home ownership, which can hopefully break the cycle of poverty by passing some wealth down to future generations,” Wallace says.

Standing quietly off to the side, the new homeowner Rick Kruger says, “My daughter actually applied for us and I never dreamed it would happen, that’s for sure. I was very surprised.”

“Rick’s whole focus is to have something better for his wife Roberta, who has multiple sclerosis and depends on a wheelchair for mobility,” says Wallace. “Together, they’ve put in over 400 hours of sweat equity with Rick helping build the house while Roberta worked on newsletters.”

Rick, 55, a U.S. Army veteran and Moscow city employee, explains that their rented house in Troy, Idaho, has long narrow hallways and 1910 newspapers in the walls for insulation. “Roberta can’t get around with her wheelchair, so we set up a hospital bed in the living room and she lives there with no personal privacy,” he says.

Their new home was specifically built to be ADA accessible with 36-inch-wide doors throughout. There is a front-loading washing machine, and the kitchen has been modified with lower cabinets and a stronger floor.

“Roberta’s so excited to be able to do her own laundry again,” Wallace says. “It’s the little things that give you dignity—it’s nice to give that back to her.”

Rick says it truly is a fresh start. “You have no idea—our old place was so cold and expensive

**On a drizzly January afternoon, I pull up to a muddy construction site in the tiny town of Palouse, Washington. As I make my way toward a new house on the corner, the door opens and a woman in pink waves a cheery hello.**

Wallace, executive director of Palouse Habitat for Humanity, has agreed to give me a tour of their current project. The 1,200-square-foot, soft-green house has three bedrooms and two baths including a roll-in shower for a wheelchair. It’s energy efficient and airtight—and number nineteen for the agency, which has built homes in the region since 1992.



to heat. I'm not going to know what to do with myself."

**The Habitat project is just the kind of community involvement and affordable housing that Smith champions.**

Now, thanks to Jessica Perone, faculty consultant for the WSU Center for Civic Engagement who negotiated a meeting between Smith and Wallace, WSU and University of Idaho students will get a chance to take part.

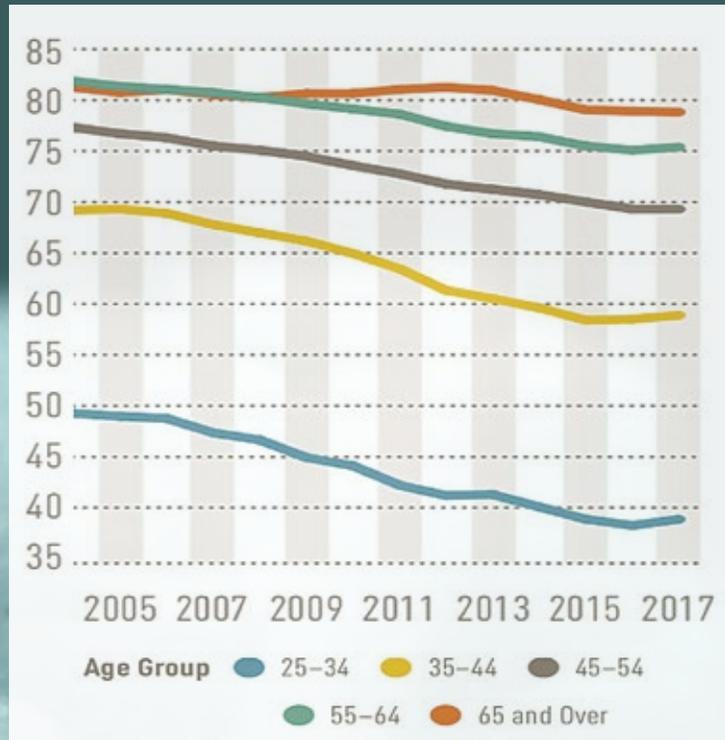
Smith says the School of Design and Construction and WSU's Rural Communities Design Initiative have joined forces with Palouse Habitat for Humanity. Their first project will be helping with Habitat's 2021 house to be built in Uniontown.

Winning Hack-A-House team members Coddington and Nelson will be on hand to offer design expertise and install energy-efficient building materials. The partnership will also provide long-term opportunities for faculty research and energy use monitoring.

It's one example of the small steps that, multiplied throughout the state and nation, are helping thousands of people close the gap between wistfully dreaming of a home and finally holding the key to their own front door. \*



**NATIONAL HOMEOWNERSHIP RATE (%)**



Source: Harvard JCHS tabulations of US Census Bureau, Housing Vacancy Surveys

**WASHINGTON STATE HOUSEHOLDS BURDENED BY HOUSING COSTS**

- 20-30% OF INCOME TO HOUSING
- 30-40% OF INCOME TO HOUSING



Households who pay more than 30% of their monthly income for housing (either owning or renting) are considered **cost-burdened**. Many financial planners suggest spending no more than 28% of gross monthly income on housing expenses. Source: Harvard Joint Center for Housing Studies tabulations of the US Census Bureau 2006-2017 American Community Survey

From 2000 to 2015 Washington state underproduced housing by approximately **225,600 units**. The **current growth pattern** [67% **low density** | 29% **medium density** | 4% **high density**] at the current growth rate would not make up for this supply and demand imbalance. An **accessible growth pattern** [8% **low density** | 54% **medium density** | 38% **high density**] likely would. Source *Up for Growth, 2020*

**low density** = single-family homes | **medium density** = accessory, duplex, triplex, quad homes, courtyard apartments, podium apartments | **high density** = apartment towers



## A natural understanding

BY STEPHANIE E. HAMPTON

Natural history played a central role in the sciences for centuries. Charles Darwin and Alfred Russel Wallace, among many others, were natural historians whose ideas not only changed the course of science, but of society as well. Thanks to their work, the concept of evolution drives thinking in biology but is also a metaphor for social change and economic development.

In the past century, though, what most people think of as natural history—museums, expeditions, taxonomy—has experienced a steep decline in research and education support. This decline runs parallel to a decline in the direct experience of nature. While both are signals with troubling implications for society and science, new technologies provide novel insights into organisms and ecosystems that were not previously available—and also create new opportunities for public involvement in natural history.

In 2014, my colleagues and I, in a paper in *BioScience*, defined natural history as “the observation and description of the natural world, with the study of organisms and their linkages to the environment being central.” While this definition is unlikely to satisfy everyone, what it does do is put an emphasis on natural history being multidisciplinary. It also emphasizes the idea that natural history is multiscaled, from the micro to the macro, from microscopic algae to entire forest ecosystems.

I want to emphasize that the study of natural history opens doors for non-scientists to contribute to biology, conservation, and resilience in the face of global change. You don’t have to be a specialist with a doctoral degree to contribute meaningfully to our understanding of nature and natural systems, including the many ways humans impact these systems.

Natural history knowledge also benefits non-biologists. Understanding the ways organisms have adapted to local conditions can teach us important lessons about resiliency and sustainability.

Take human health. About 75 percent of emerging infectious diseases share part of their life cycle with animals. Understanding the life cycles of host organisms is essential to managing outbreaks of disease. Cholera, *Vibrio cholerae*, is a great example. We now know that *V. cholerae* associates with zooplankton. That discovery led to a startlingly simple prevention technique: filtering polluted water through cloth. The cloth doesn't trap individual cholera cells, but it does block the zooplankton they are attached to.

With food production, too, we can quickly see the benefits of natural history. Innovative techniques such as biological pest control (bringing good bugs to deter the bad ones) or multispecies cropping (to likewise encourage the presence of good bugs) reduces reliance on pesticides (and thus decreases a farmer's costs) and, simultaneously, increases biodiversity at the local level.

Overlooking the critical role played by local natural history knowledge and the traditional ecological knowledge of indigenous people can have negative consequences. Forest fire suppression in western North America, for example, based on practices that work in the hardwood forests of eastern North America and Germany, has proved very costly in lives, homes, habitat, and money. So, too, with salmon habitat in northwestern North America. Tree debris in creeks and rivers provides habitat for fish but hinders navigability. Removing debris improved navigability but now millions of dollars are spent to reintroduce such habitat-building debris.

Taking local natural history knowledge into account often inspires scientists' efforts. The Alaskan Iñupiat's traditional ecological knowledge of bowhead whales helped establish hunting quotas—knowledge that was later confirmed by researchers using a variety of technological methods. Even more recently, an interdisciplinary team of scientists verified what people of the Haida Nation have known for years. Younger Haida Gwai herring learn from older fish where spawning grounds are. That traditional knowledge has improved computer models of herring stocks, potentially improving fishery management.

I think revitalizing the study of natural history, not only among professional scientists in research universities but at all educational and societal levels, will bring such benefits to all of us.

I can hear an objection already: I live in the city, far from nature. But nothing could be closer to you than nature!

Nature is not confined to wild places—or, put another way, you can find wild places on your own person. Using an inexpensive smartphone microscope like the Diple, you can explore the microbiome of your belly button lint or your showerhead. Such activities are not only fun, engaging, and inspiring, they potentially add to the kinds of big data sets that professional researchers can use to improve life for all concerned.

From sourdough to sauerkraut, there's plenty of wild in the kitchen, too. Citizen scientists recently shared samples of sourdough starters and startled the professionals who, after sequencing microbial DNA in the dough, found an amazing diversity of microbes.

Using smartphones and social networks, apps like Seek, iNaturalist, and eBird empower dog walkers, bird watchers, and kids in parks to record their observations, share them with others, and get a sense of what nature's up to in their neighborhood, rural or urban. Some of that data is of high enough quality that researchers can use it to help make informed decisions about conservation—and the citizen scientists who collected it get kudos and the satisfaction of having helped make the world a better place.

All sorts of technology also enable citizen scientists to engage with nature. Drones can be used to capture photos and video of changes in landscapes and develop 3D maps useful to fire managers, scientists, and policymakers. Camera traps and even simpler tools can be used to understand the ecologies of backyards, those overlooked sources of wonder and wilderness that few people actually study.

What we don't know is immense, and there is plenty for all of us to do. We need to learn the basics of natural history because it contributes to our ability to assess the changes our planetary systems are undergoing. A resilient future requires us to be able to make informed predictions about how and why things change. Our ability to build computational models that do precisely that is immense and steadily improving—but those models are worthless without basic natural history knowledge to inform them. ✱

*Stephanie E. Hampton is a professor of environmental sciences and director of the Center for Environmental Research, Education, and Outreach at Washington State University. She acknowledges and thanks her coauthors on the BioScience paper.*



**Forty years ago, on a fateful day in May, a volcanic eruption unprecedented in modern times—etched itself on the memories of Washingtonians from Vancouver to Pullman**

STUDENTS FROM A SEATTLE HIGH SCHOOL, ON A BIOLOGY FIELD TRIP TO VANTAGE, WATCH ASH CLOUDS APPROACH. (PHOTO CARMEN R. ANDREWS)

# When the sky

# fell





**D**on Swanson agreed to fill in. The volcanologist would man the forward observation post for a few days, replacing a geologist who was traveling. But Swanson himself needed a replacement—for that night. His colleague at the U.S. Geological Survey, David A. Johnston, agreed. But he wasn't really looking forward to spending the night near the mountain. "He, more than the rest of us, probably had a better understanding of how explosively Mount St. Helens could erupt," says Swanson ('60 Geol.).

Sunday morning, Swanson was at the U.S. Forest Service building in Vancouver—readying to drive to the mountain—when monitoring instruments began showing major activity. He ran to the radio, but there was no answer. By then, Swanson later learned, Johnston had already reported the eruption, transmitting the now famous lines from that fateful day: "Vancouver! Vancouver! This is it!"

Forty years later, the angry-looking ash cloud billowing above Mount St. Helens remains one of the most iconic images in state history. Those living in the state of Washington at the time of the May 18, 1980, eruption all have a where-were-you-when-it-blew moment.

Within an hour, Swanson was documenting the cataclysm from an airplane, flying in figure-eights on the south side of the volcano to film and take photos. On the other side of the state, students at WSU Pullman were



**At top:** Mount St. Helen erupts May 18, 1980. *Aerial photo Don Swanson/USGS. At bottom:* Ash cloud as seen from Silver Lake, Cowlitz County. *Copy of archival print—source unknown—courtesy Steve G. Bisig/Flickr*

Colfax firefighters help control traffic on US 195 the day after the eruption. *Photo Barry Kough/Lewiston Morning Tribune*

studying for finals and doing everyday chores like laundry. Don A. Dillman, now a Regents Professor in sociology, was roller skating with his wife and two young children. Glenn Johnson, in his second semester of teaching broadcast journalism, decided to use the disaster—and time provided by canceled classes—as an opportunity to report the news.

The 8:32 a.m. eruption blew 1,314 feet off the 9,677-foot peak and marked the most devastating volcanic event in U.S. history. Fifty-seven people—including Johnston—were killed. So were some 7,000 big game animals, such as deer and elk, as well as countless fish and birds. The resulting avalanche of debris, mudflows, and flooding caused damage in 230 square miles. The lateral blast knocked down trees as though they were matchsticks, wiping out the landscape in an 8-mile radius.

Ash darkened the sky and fell heavily in Yakima, Ritzville, Spokane, Pullman—even Billings, Montana. Prevailing winds carried a fine dusting to the East Coast. Within two weeks, ash from Mount St. Helens circled the globe.

Swanson observed the billowing ash from a Forest Service plane. “As soon as we lifted off the ground I could see that the top of the volcano was missing,” he says. “I could see the giant plume. When we got up closer, I could see the mud flows on the south side of the volcano, but it was obvious most of the activity was north. We couldn’t get around to see it. It was simply out of the question.”





**At top:** Steaming water flows under the I-5 Toutle River bridge, eventually closing it. The SR 504 Saint Helens bridge also on the Toutle River was washed away by a lahar. **At bottom:** Downtown Yakima is dark at 3:00 p.m. *Associated Press photos*

For the next three hours, he watched roiling, cauliflower-like clouds of ash spew from the volcano. “It was a front-row seat,” he says. “It was such a powerful event that was happening, yet it was soundless. We couldn’t hear anything. It was like watching a silent movie. It was certainly the most unusual experience I had in my career.”

Swanson, now 81, went on to become the scientist-in-charge of the Cascades Volcano Observatory and, later, the Hawaiian Volcano Observatory on the rim of the Kilauea Caldera—where he still serves as scientist emeritus. But Mount St. Helens has never left him. He knew three people who perished in the blast zone and dedicated his career to better understanding eruptions in order to prevent similar tragedies. “I think about it almost every day,” he says.

Dillman wrote a detailed account, which the Manuscripts, Archives & Special Collections at WSU Libraries keeps for posterity. A faculty member since 1969, he was chairperson of the Department of Rural Sociology when he wrote his 35-page paper, “After Mount St. Helens: Seven Gray Days in May.” His wife, Joye, now a professor emeritus in the Department of Human Development, was an assistant professor in the Department of Child and Family Studies. They were in Lewiston, roller-skating with their two children along the confluence of the Snake and Clearwater rivers, when they noticed—around 12:30 p.m.—what they thought was the onset



of a thunderstorm. The drive home let them watch the “eeriness” unfold.

“The western horizon was pitch black. Yet the far eastern sky remained an undisturbed blue ... It would have been easy to imagine that we were on another planet,” Dillman writes. The family stopped to buy film, then went home and turned on the TV to wait for news. At some point, Dillman writes, “I stick my head out the patio door, take a whiff, and decide I’m not going anywhere for anything tonight. The smell? A little like holding your head inside of a cold fireplace while somebody stirs the ashes.”

Monday morning, Pete Butkus ('70 Crim. Jus., '85 MA Ed.), the 31-year-old newly elected mayor of Pullman, called a directors' meeting. That evening, he appeared on a special broadcast on KWSU. “There were obviously health concerns,” he says. “We tried to keep people from breathing the stuff. You saw everything from masks to bandanas. A few students called me, and they had asthma. I remember kind of talking them through it: stay inside, wear a mask if you go outside, call your doctor. Basically, limit your exposure to this stuff.”

The newscast was anchored by Johnson, who became “the Voice of the Cougs,” announcing men’s basketball and football games for 40 years and counting. He’s now serving his fifth four-year term as mayor of Pullman. When classes were canceled midway through



**At top:** Four to six inches of ash fell in Ritzville, with drifts as high as two feet. *Photo Jim Shelton/The Spokesman-Review.*  
**At bottom:** Keeping emergency vehicles running in Moses Lake required creative solutions. *Wide World Photos*



his 8:00 a.m. session, he encouraged his broadcast students to seize the day. “I said, ‘We’ve got an opportunity here,’” Johnson recalls. “‘This is a huge story. You’ve got all day off now, so let’s go do something. Let’s learn from this.’ And they were all for it.”

Johnson and his students started brainstorming angles and sources for interviews: health, agriculture, public safety. They also went outdoors to shoot B-roll of the campus and try to get interviews with people on the street. “That didn’t last long because”—despite their precautions—“the ash got into the camera’s telephoto zoom mechanism,” Johnson says. “We had to regroup. We couldn’t continue to shoot outside because of the ash. So we decided to bring the interviewees into the studio. Then we went on-air live. I anchored, and we cut to the different interviews. Students”—including the late longtime KOMO 4 anchor Kathi Goertzen (’80 Comm.) and Dave Wike (’80 Comm.), the longest-serving TV photojournalist at KING 5—“got a heck of an experience out of that.”

Track stand-out Karen (Blair) Troianello (’80 Comm.) had recently run her last race as a Cougar and was looking forward to graduation when it started raining ash. “Since 1980, there’s always been a jar of ash on my bookshelf,” she reflects. “I watched as the ash along various Eastern Washington highways became another layer of the earth, ready to tell a story to later generations of geologists.” ✨



**At top:** Ash arrival in Spokane brought venues and services to a grinding halt. *Photo J. Bart Rayniak/The Spokesman-Review.* **At bottom:** Mammatus lobes on the volcanic cloud viewed from Ephrata. *Photo Douglas Miller/Courtesy USGS*

BY ADRIANA JANOVICH

### REMAINS OF THE DAY

J. Lewis Payne pops the lid on one of the vintage barrels—a mix of surplus military metal and heavy-duty cardboard—stacked in a WSU barn that once housed moose, elk, and woodland caribou. The drums look rather dusty and nondescript, but they hold an unusual treasure: ash from the May 18, 1980, eruption of Mount St. Helens—and left largely untouched for the past 40 years.

The ash is quadruple-bagged and tagged with hand-written labels noting collection sites. Most came from the rooftops of Eastlick and Heald Halls. But there's some from Pullman's Lincoln Middle School, too, as well as at least one bin simply described as coming from "Yakima."

Payne—the caretaker of the ash as well as the 800-acre Hudson Biological Reserve at Smoot Hill, where the cache is stored—reaches down into one of the drums and scoops up a handful. "It's like there's no weight in my hand," he marvels. The ash feels powdery and fine, like pastry flour or powdered sugar, but is very light gray in color. It's soft, cool, and dry, and smells faintly of wet cement and—oddly—dried mushrooms.

Today, nearly 100 barrels of Mount St. Helens ash are stacked in two kennels of the barn, which—Payne points out—used to be home to Morty, the moose featured in the opening credits of the CBS series *Northern Exposure*.

Payne's lived at Smoot Hill since 1994, when he was a research assistant at WSU. He came to Pullman as a doctoral student, studying under Richard "Dick" Mack, now a professor emeritus of ecology in the School of Biological Sciences. Shortly after the eruption, Mack and his graduate students worked quickly to gather ash for future research projects. "There was a prediction of rain," Mack says. "And I knew we needed unadulterated ash."

One of his students, Stewart Higgins ('80 MS, '84 PhD Sci.), a now-retired senior scientific assistant with WSU's Center for Sustaining Agriculture and Natural Resources, collected samples in Yakima. Mack used some of the ash for research through the mid-1980s, particularly studying its effects on vegetation. The rest has been stored, tightly sealed, for safekeeping—and largely without much interest. The fact that it's here and available is "not widely known," Mack says.

In fact, "To the best of my knowledge, only two people in the last 20 years have come to look at the ash," Payne says, noting both were from the United States Geological Survey. "It's a resource that needs the right project." ❄️



STAFF PHOTOS



- 39** alumni profiles
- 43** new media
- 45** honorary degrees
- 46** class notes
- 50** in memoriam

MEMORY PHOTO BY NINO ORTIZ/FICKR



PHOTO MEGAN BLACKBURN

## Consider the butterfly

BY ADRIANA JANOVICH

Krist Novoselić was a fan. He had read *Wintergreen* and wanted to meet the author. Robert Michael Pyle, one of America's leading nature writers, was nearly a neighbor.

Novoselić enjoyed several of his other titles, too—*Sky Time in Gray's River*, *Where Bigfoot Walks*, *Nabokov's Butterflies*—and introduced himself at a book-signing in Skamokawa, near both of their homes in southwest Washington. Not long later, they bumped into each other again.

“By coincidence,” Novoselić says, “I went to a Leo Kottke concert—he was playing in Longview, Washington—and Bob was there.” They ended up at Pyle's home, sharing stories and beers and bonding over the common values of conservation and community as well as an affinity for rural America.

This was in the early aughts, right around the time Novoselić ('16 Soc. Sci.), bass guitarist of the iconic grunge band Nirvana, was getting involved with the Grange. Pyle was a longtime member, and the Yale-educated

lepidopterist and legendary bassist continued to get to know each other through the grassroots, fraternal organization.

Planning a program for a Grange meeting led to the lengthy endeavor that became *Butterfly Launches from Spar Pole*. The album features poetry by Pyle and music by Novoselić. Ray Prestegard, who's in the band Giants in the Trees with Novoselić, also contributes.

The project is a departure from the down-home Pacific Northwest groove-pop of Giants and the raw, distorted, power chords of guitar-heavy grunge. This folksy, acoustic, spoken-word album celebrates the natural world. Climate change, natural selection, and evolution are all addressed. But the artists don't aim to preach politics. Rather, Novoselić says, “It's up to the listener to decide.”

The title comes from the anchor point in early logging setups in the American West. A spar tree, or spar pole—since replaced by portable steel yarders—was chosen for its strength and height. “The spar pole is a kind of symbol of a forest that's in production for timber,” Pyle says. “It's also a symbol for the

vanishing of the trees. I think it kind of cuts both ways. We're not going to have forests if we don't take care of them, but we're not going to have jobs if we don't take care of them. We want listeners to think about these things, and we want to present these ideas in a way that's entertaining.”

The collaboration grew out of a radio show Novoselić used to host. “I'm really into the guitar player John Fahey,” Novoselić says. “I did this reading—basically, there were two turntables going—with some John Fahey on guitar and the other would be like Orson Welles reading the Gettysburg Address or somebody reading Walt Whitman. And it just had a nice feel.”

Pyle, a friend by then, heard the show, and it sparked an idea for the Grange program they were planning. “Bob gave me a call and said, ‘Why don't you play some guitar and I'll read some Walt Whitman?’ And I said, ‘No, why don't you come up with your own poetry and I'll play some guitar?’ I thought it'd be more interesting,” Novoselić says.

That first guitar-poem, “Notes from the Edge of the Known World”—full of references to flora and fauna—became the cornerstone of the album. “It took ten years,” Novoselić says. “We’d come together and have these flashes of activity, then I’d go back to school—I was doing WSU online—and in between I’d perform with Paul McCartney and Dave Grohl and Pat Smear. That was Sirvana. We won a Grammy. We had Hervana, too, at the Rock and Roll Hall of Fame (with Joan Jett, Kim Gordon, St. Vincent, and Lorde). Or I’d do a show with Beck and Dave and Pat.”

When they found time, they “recorded in a Grange hall, at my house, at an old creamery—with whatever equipment we had around,” Novoselić says. “And, finally, last year we had enough material. We took it to Jack Endino—he produced Mudhoney and Nirvana—and he put it all together.”

Novoselić, already a licensed pilot and published author—his 2004 book, *Of Grunge and Government*, is part memoir, part political tract—went back to school on a whim. His nephew was heading to community college, and he decided to enroll, too, commuting about an hour each way from his homestead in Deep River.

“I was driving home one day,” Novoselić says, “and there was a billboard. ‘Earn your degree in your pajamas.’ And I was like whoa, wait a minute. I had no idea. I looked at the website [for WSU Global Campus], and I was like oh man, yeah. I submitted an application and I got accepted and I signed up for classes and I just started studying. I’d be backstage reading. I really got into it.”

But make no mistake: “Online school,” Novoselić says, “is no cakewalk. It’s a lot of work. I’m very confident and happy with the skills I developed through WSU online—researching skills, critical thinking, writing, the scientific method.”

Classmates seemed to “not really” know they had a rock star in their midst. And, Novoselić says, “it didn’t really matter. I was what they call a non-traditional student, and it seemed like most people were, too. We were all managing our time. It’s our biggest resource, isn’t it? And I have so much going on.”

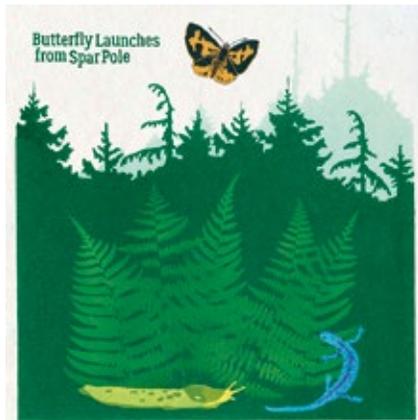
It took six years to get his degree. Afterward, he thought about law school. Instead, he says, “I got into Giants in the Trees.” The

band formed as he was preparing to graduate. Prestegard, vocalist Jillian Raye, and drummer Erik Friend met at Skamokawa Grange, answering Novoselić’s call for a jam session. Their second album, *Volume 2*, came out last year following their self-titled offering in 2017.

Novoselić’s Deep River roots go back nearly 30 years. He bought his place in 1992—the same year Nirvana’s *Nevermind* displaced Michael Jackson’s *Dangerous* at number one on the Billboard charts and the band won MTV Video Music Awards for Best New Artist in a Video and Best Alternative Video for *Smells Like Teen Spirit*. Deep River reminded him of Aberdeen, where he spent his high school years—only more remote. “I like the rain. I like big trees. I like space and quiet. And I like Deep River because that’s what it offers. It’s really a luxury to live out here like this.”

When he isn’t traveling for Nirvana reunion shows, Novoselić, who turns 55 in May, sticks close to home and the Grange. He’s master of Grays River Grange and owns the old creamery where Giants practices and parts of *Spar Pole* were recorded.

*Spar Pole*, Novoselić says, is “an invitation. I’ve always felt that good art invites you into its world, and that’s what we’re trying to do: capture the mind’s eye. Come inside. It’s really different. It’s not rock. It’s literature. It’s geology. It’s the natural world—life down to the barest cell in terms of time and the environment and mortality. We’re here now, and this is an invitation to the world we made with this work—the rest is open for interpretation.” ✨



Review of *Butterfly Launches from Spar Pole*: [magazine.wsu.edu/extra/Spar-Pole](http://magazine.wsu.edu/extra/Spar-Pole)

## Stepping up her game

BY JOSH BABCOCK

As a young child, Sylvia Omulo, often one of the first picks on the playground at Kenya’s Nairobi South Primary School, lived to play. Her favorite game was *kati*, a Kenyan form of dodgeball, using an improvised ball of wet, wadded-up paper stuffed into a sock.

When she missed her chance to attend the high school of her choice, she realized she would never make it to a university if she didn’t switch her focus from fun to schoolwork. She also realized she loved biology. From there, science took over.

“I became fascinated with how the human body works,” Omulo says. “The reason you have a pulse is because your heart valves open at a certain pace—no other subject gives you that. Biology is very real.”

Fast forward 20 years later, Omulo (‘17 PhD Immunology & Infectious Diseases) is an assistant professor in the Paul G. Allen School for Global Animal Health, specializing in antimicrobial resistance and infectious disease in her home country.

In partnership with WSU and the University of Nairobi, Omulo is leading a Centers for Disease Control and Prevention-funded antimicrobial resistance study. This research project explores the prevalence of, and relationships between, some of the World Health Organization’s priority antibiotic-resistant pathogens, including methicillin-resistant *Staphylococcus aureus* (MRSA), extended spectrum beta-lactamase (ESBL)-producing *Enterobacteriaceae*, and *Carbapenem*-resistant *Enterobacteriaceae* (CRE).

The study, in its second year, builds on Omulo’s doctoral work and takes place in the communities of Kibera and Asembo as well as the hospitals that serve them. The research aims to provide insight into what drives antibiotic resistance in the African nation, such as sanitation practices, antibiotic



Sylvia Omulo '17. Photo Geoff Crimmins/Moscow-Pullman Daily News

use, and exposure to animals or health care facilities. The end goal: to ensure people with bacterial infections have access to antibiotics that work when they need them most.

For Omulo, the research is personal. After high school, she suffered frequent bouts of tonsillitis. She had been accustomed to using a self-prescribed antibiotic for her recurrent infections: amoxicillin. But, on one occasion, the infection was so severe that her usual dose proved ineffective. Her uncle, a clinical officer, gave her an injectable antibiotic. This worked. Looking back, she says, that may be the first time she experienced antimicrobial resistance.

Omulo hopes her research will prevent children from enduring what she did, or worse. To that end, she sometimes struggles to turn science off. Her computer screen often glows into the early morning hours until she “guilts” herself into going to sleep, her upcoming workday often the only reason her head hits the pillow. “I really feel my work matters,” she says. “It impacts the life of people. I know even if I can make a small change, I will have done something for humanity.”

The work can be grueling. It involves looking for antimicrobial-resistant pathogens by collecting and analyzing hundreds of stool samples every week from urban and rural settings.

Omulo and her team have seen the devastating impacts of infectious diseases,

especially inside the hospitals involved in the study.

“It’s hard when you see children who have their whole future ahead of them and know they may not live to see the next day,” says Omulo, who hopes her work will serve as a critical component to solve the antibiotic resistance problem.

She says one major piece of that problem is no one knows for certain how many people die from infections due to antimicrobial-resistant bacteria.

“Antimicrobial resistance is a silent killer,” Omulo says. “When patients die in a hospital, they just say someone was sick and died. The fact that antibiotics were unsuccessful against an infection doesn’t make it onto death certificates.”

Despite this, the World Health Organization recognizes antibiotic resistance as a threat to global health and estimates 10 million deaths worldwide by 2050 if no effective interventions are made.

Omulo says it was important for her to return to Kenya to improve public health on a global scale. “I want to contribute to science,” she says. “They say, ‘Leave the world better than you found it.’”

She hopes to leave a similar mark on her 21-member research team as well. “I want to impact them, so they become better people and scientists,” Omulo says. “It all goes back to the impact I want to leave.” \*✱

## From covering the beat to on the beat

BY ADRIANA JANOVICH

Stephanie Schendel caught the journalism bug in college, spending two years on the staff of *The Daily Evergreen* and observing Pullman police officers as they responded to calls related to drunkenness, domestic disputes, overdoses—even a stabbing.

“I did maybe a half-dozen ride-alongs,” says Schendel (’12 Comm., Spanish). “They were very patient with me and answered all of my questions. It really impressed me. That was the beginning of it.”

Her real-time reporting experiments, or “tweetalongs,” were popular reads, and they helped launch her career—first as an award-winning crime reporter for the *Centralia Chronicle*, then as a detective with the Bellevue Police Department.

The job at the *Chronicle* opened during the spring she was finishing college, and the paper held the position for her until she graduated. “I really wanted to be a newspaper reporter,” says the Edward R. Murrow College of Communication 2011 Undergraduate of the Year and 2012 Graduate of the Year. “I really wanted to do cops and courts.”

She covered breaking news, criminal justice, and emergencies such as flooding—and loved it. After a couple of months on the job, an arrest was made in one of the most notorious unsolved Lewis County murder cases. Schendel produced numerous stories—from arrest to trial. Her coverage helped her win the 2014 new journalist of the year award from the Western Washington chapter of the Society of Professional Journalists.

Being a reporter “helped me grow up a lot,” Schendel says. “I definitely enjoyed it and wouldn’t change that life experience and professional experience for anything. Every day was an adventure. And it helped me improve my writing skills and my interviewing skills.”

## ALUMNI profiles

But, after about two years at the small-town paper, she says, “I was outgrowing my job.” Schendel found herself more and more drawn to the other side of the police beat. “Being a reporter is a lot of fun. But police work is one of the few professions that’s more fun than being a reporter.”

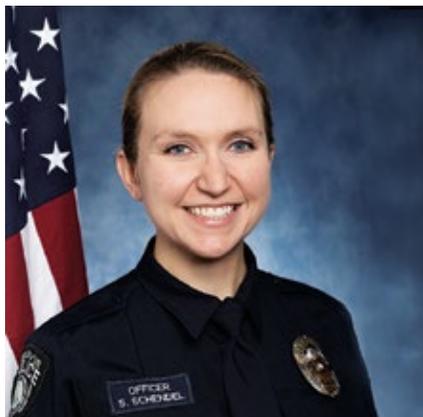
Schendel was hired by the Bellevue Police Department in late 2014, following extensive background checks as well as written, oral, and physical tests. Next came the four-and-a-half-month police academy, followed by three months of field training. Schendel went on patrol alone for the first time in October 2015, working ten-hour days on third shift—4:30 p.m. to 2:30 a.m.

Three years later, she became a training officer. “You become a better cop by training other people,” she says.

That same year, she tested for a specialty position. In January 2019, she started her new role as a detective assigned to special assault in the violent crimes unit. This includes sexual assault and domestic violence. “It’s a heavy subject,” she says. “I’ve learned to compartmentalize, which is really, really key. I have a role and a place as an objective investigator. I focus on what my role is. I’m not here to save everybody.”

Exercise helps her cope with stress. “I definitely have days when I’m emotionally exhausted,” she says. But, “I have a good work-life balance. I exercise at least six days a week. I maintain a healthy diet.” She’s also a regular at her neighborhood dog park. And, she’s engaged to a Kent police officer; they plan to wed in autumn.

Meantime, she’s working multiple cases. “That’s what I like: the variety,” she says. “I



Stephanie Schendel '12. Photo Karen Derby

want to learn about everything. You go into each investigation with an open mind. And they’re very satisfying cases to solve.”

One of the most satisfying was that of a ride-share driver charged with four sexual assaults in four cities. “He preyed upon individual intoxicated women,” says Schendel, who’s interested in someday maybe working major crimes.

She finds many parallels to newspaper reporting in police work. “As a police officer, you need to interview people,” she says. “You have to write reports. You interact with people you normally wouldn’t. You have to treat people fairly.” ✨

## A new terroir

BY ADRIANA JANOVICH

Nicole “Coco” Umiker started young, so young—in fact—that when she and her husband, Karl, began planting their first wine grapes on her family’s century-old Idaho farm she was only 21. She was still in college—studying microbiology, molecular biology, and biochemistry—when she convinced her grandfather to let them plant a quarter-acre of Merlot at his ranch.

“We were nerds trying to be farmers,” she says. “I was barely old enough to drink.”

The couple launched Clearwater Canyon Cellars in 2004 with four barrels. Since then, they have helped put Lewiston on the wine map, working for nearly a decade to establish an American Viticultural Area (AVA) for Lewis-Clark Valley. The wine grape-growing region, which straddles the Washington-Idaho border, received the federal designation in 2016.

This year, Clearwater Canyon is *Wine Press Northwest’s* 2020 Pacific Northwest Winery of the Year. The award, which a winery can only win once, honors not only the Umikers’ exceptional wines but their efforts in establishing the AVA. It also marks the first time an Idaho winery has received the regional award. “It’s very exciting,” says Umiker (’11 PhD Food Sci.), a WSU Alumni



Nicole “Coco” Umiker '11. Photo Kim Fetrow

Achievement awardee. “We always believed we could produce wines that were every bit as exceptional as the wines we admire.”

“It’s validation for all our hard work,” her husband says. “When we first started, there was nobody doing this in Lewiston. We were in no man’s land. The AVA was really instrumental in adding credibility to what we do and gave so much added value to the grapes grown here.”

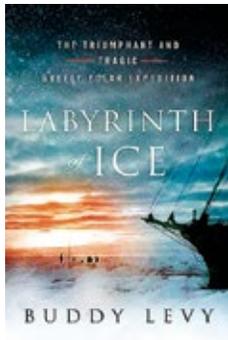
The Umikers—he manages vines, she makes wine—grow about half of the grapes they use at their estate vineyard, now six-and-a-half acres. Umiker’s grandfather, the late Ralph E. Nichols, was just a year old when his parents purchased the wheat and cattle ranch in 1916. Today, Nichols Family Farm spans 60 acres, including Umiker Vineyard and a 5,000-square-foot winemaking facility, completed in 2016.

The Umikers and two employees now produce 4,500 cases of wine per year. Seventy-five percent of the grapes they use comes from the Lewis-Clark AVA. “Our goal is to celebrate the terroir of this area,” says Umiker, who enrolled at WSU in 2005, a year after their first vintage. “Every year, we looked to see how we could make our wines more interesting and creative. We have no aspirations of getting big so that we can really focus on creativity and quality.”

This isn’t the first time *Wine Press Northwest* has acknowledged Clearwater Canyon. The publication named it the 2015 Idaho Winery of the Year.

In all, there are about 2,000 wineries in Washington, Oregon, British Columbia, and Idaho. “We’re inspired by so many of them,” Umiker says. “To be honored at the top of that list is kind of mind-boggling. It’s only going to feed our fire. I can’t wait to see what other wines we’re going to come up with in the future.” ✨

## NEWmedia



### Labyrinth of Ice: The Triumphant and Tragic Greely Polar Expedition

**BUDDY LEVY** ST. MARTIN'S PRESS: 2019  
Lt. Adolphus W. Greely, commander of the Lady Franklin Bay Expedition, assessed the situation from the edge of the ice floe upon which he and his men were stranded.

It was dire.

They were adrift on a raft of ice, and it was 11 degrees Fahrenheit—cold for the time of year but not as low as the sub-zero temperatures they regularly experienced during their two years of exploration and data collection, including a new record for farthest north.

But their resupply ships never reached them. Rations were dwindling. And another winter at the top of the world—with no connection to the rest of it—was fast approaching. How long would they be able to ride this floe? Would they find the caches of food left by boats that had come before? Would they perish in the harsh polar climate?

Buddy Levy uses this dramatic moment—and its questions of life or death—as the entry point to his latest offering, a gripping narrative of the ill-fated Lady Franklin Bay Expedition, its successes, and its setbacks. *Labyrinth of Ice* is an intense and riveting read. Levy writes cinematically, expertly crafting this harrowing true tale and masterfully making history come alive. His thoroughly researched account relies heavily on Greely's own volumes for direct quotes and devastating—sometimes horrifying—descriptions. Of constant danger. Of rising tensions. Of frostbite, fear, heroism, hunger, bravery, discovery, longing, and loss.

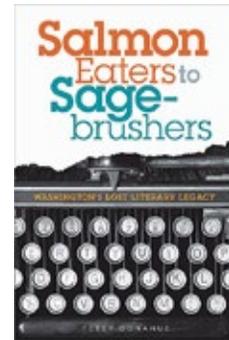
Twenty-five men, mostly soldiers, started Greely's expedition. They were dropped off in the summer of 1881 more than 1,000 miles north of the Arctic Circle and some 250 miles from the last known settlement. When no one came to collect them or drop off additional provisions as previously planned, Greely retreated south from the refuge of Fort Conger to seek reinforcements and try to connect with rescuers.

Levy balances their travails with the stories of ships that attempted to reach their camp as well as the work of Greely's wife, Henrietta, who toiled tirelessly to get the government to send another boat. He also includes historical photographs from the expedition, helpful reference maps, and a six-page bibliography.

Levy became interested in the expedition after learning about it during a trip to Greenland in 2003. But he had been fascinated by the Arctic ever since reading Jack London's works as a boy growing up in Idaho. His *Labyrinth of Ice* is a haunting page-turner with present-day relevance. Greely and his crew went north as part of the first International Polar Year, a coordinated approach to explore the Arctic by a coalition of countries. Theirs was the most northerly post. Not only did their observations help prepare future expeditions, but the data they collected provide a baseline for today's scientists studying climate change.

Levy, who's taught writing at WSU for 31 years, spent two years working on this superbly told, action-packed story of survival. His writing—exciting, extensively researched, and poetic—helps readers feel as if they, too, are experiencing the long winters and harsh landscape, feeling the bone-chilling temperatures, and hearing the howling winds and grinding ice. His engaging account covers the depths of human suffering and lengths men will go to stay alive when they are largely unprotected from the elements, living in a half-collapsed tent, boiling leather, scavenging lichen for some kind of sustenance, and going mad from starvation, scurvy, exposure—or a combination—all for the sake of science.

—Adriana Janovich



### Salmon Eaters to Sagebrushers: Washington's Lost Literary Legacy

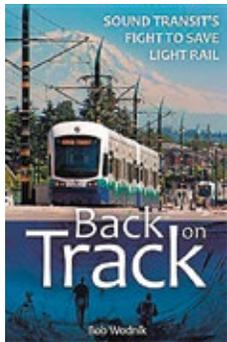
**PETER DONAHUE** WSU PRESS: 2019

In the introduction to his marvelous collection of biographical essays, Peter Donahue writes that he thought he could produce a dozen or so vignettes on “lost” writers of Washington state. Writing a “Retrospective Review” column for *Columbia Magazine* for 13 years, he ended up writing 55. He “kept finding more”—in used bookstores, archives, old newspapers. If the book met his basic criteria (a Washington writer, working in a “basic literary genre,” and of literary merit), he’d track down a copy and read it—and another essay would join the pile.

*Salmon Eaters to Sagebrushers* collects these essays, and they are wonderful. Donahue’s measure of “literary merit” is broad and generous, and includes ballad (Mary J. Elmendorf) and historical romance (Zola Ross), on the grounds that their “quality of expression transcends” the “sentimental or romantic value” of the particular genre in which the writer worked. He especially credits representations of the Pacific Northwest that go beyond mere description to explore a “mentally bounded place ... that rest[s] at the border ... between geography and history.”

While the place of Washington and the rest of the Pacific Northwest is secure because of “big L” literati such as Theodore Roethke and Ken Kesey, Donahue dives deeper to recover women writers who, he writes, dominated memoir during the mid-twentieth century, as well as genre writing that was rated second class when originally published. This is not only a great act of preservation, but a fascinating read that adds historical depth to our experience of the Northwest.

—Brian Charles Clark



**Back on Track: Sound Transit's Fight to Save Light Rail**

**BOB WODNIK**  
**WSU PRESS: 2019**

In the early years, it was like working at a startup.

“We had no policy guidelines, no HR (human resources department) to turn to. We were like throwing tracks out in front of a runaway locomotive,” says Paul Matsuoka, deputy executive director of Sound Transit, in Bob Wodnik’s latest offering from WSU Press.

*Back on Track* describes the beginnings of Sound Transit’s battle for light rail in Seattle and the central Puget Sound region. The young agency, laden with controversy, public ridicule, and unfavorable headlines, came close to collapse, as Wodnik explains.

Wodnik was an agency insider with a background in journalism. He served as Sound Transit’s senior communications specialist from 1999 to 2017 after working as a reporter and columnist at the *Everett Herald*, among other regional newspapers. Here, he goes behind the bureaucracy of one of Sound Transit’s most crucial and dramatic years.

In 2001, the organization faced backlash from prominent politicians and community leaders as well as the press. One editorial in *The Seattle Times* encouraged people to “Face Reality; Pull the Plug on Light Rail.” Naysayers included former Governor Booth Gardner, former state Senator Dino Rossi, and former King County Councilmember Rob McKenna, who had held a seat on Sound Transit’s board of directors.

Wodnik examines the events that led to the agency’s survival and the major players in the room when key decisions were made. Those people have since had time to reflect on how Sound Transit remained solvent. Joni Earl (‘75 Bus.) emerges as the heroine.

She discovered—at the tail end of 2000, just months after becoming Sound Transit’s chief operating officer—that the agency’s cost estimates were several years and close to a billion dollars off base. Several months later, she took the *Seattle Post-Intelligencer* to task for a story alleging costs had been concealed and helped Sound Transit secure an above-the-fold front-page correction. She also helped secure millions in federal funding for the project.

Wodnik lauds her for rebuilding Sound Transit’s credibility and getting the organization back on track. He doesn’t delve deeply into the lawsuits that plagued the agency during this tumultuous period but does list them briefly.

This slim volume also features other prominent WSU alumni, including U.S. Senator Patty Murray (’72 Kinesio.), Edmonds Mayor Dave Earling (x’65), and Ahmad Fazel (’81 Mech. Eng.), executive director of design and construction for Sound Transit.

—Adriana Janovich

**BRIEFLY NOTED**

**William F. Tolmie at Fort Nisqually: Letters, 1850–1853**

**EDITED BY STEVE A. ANDERSON**  
**WSU PRESS: 2019**

Scottish-born William Fraser Tolmie served as chief trader for the Hudson’s Bay Company’s fur trading post Fort Nisqually, the first white settlement on Puget Sound. Hand-written letters to and from Tolmie—sometimes sent by canoe—present a British perspective on the region in the early 1850s. Tolmie State Park near Olympia is named for him. So is Tolmie Peak in Mount Rainier National Park. Steve Anderson, who managed the Fort Nisqually Living History Museum at Point Defiance Park in Tacoma from 1980 to 1990,

first learned of Tolmie’s letters in 1983, then spent decades locating and transcribing them. The introduction by Tacoma historian Jerry V. Ramsey provides additional context.

**The Eulogy**

**DEBRA YERGEN ’92 COMM.**

**WHOLE HOUSE PUBLICATIONS: 2019**

Isabelle, a self-proclaimed progressive, aims to make peace with her aunt, a staunch conservative. Aunt Harriet raised Isabelle and her brother, Zach, after their parents died in a car crash when Isabelle was eight and Zach was ten. At the beginning of the book, set in 2015, Aunt Harriet suffers a life-threatening stroke, and Isabelle bickers with both her brother and her estranged husband, the father of their daughter, Grace. The story about learning to accept differences continues in the other two volumes of the trilogy: *The Bench* and *The Gathering*.

**Lights Up: A Collection of 20 Ridiculous Scenes for Young Actors**

**WRITTEN BY JOSHUA EVANS ’03**  
**THEATRE ARTS**  
**ILLUSTRATED BY SEAN HALL ’02**  
**THEATRE ARTS**

**2019**

This round-up of short scenes for child actors features characters such as Old Man Raisin, Mascot One, and a time-traveling teen. Evans, who began writing for children’s theater programs in 2004, says young actors prefer lively characters to heavy, dramatic plots. His mantra: “Write characters, and have fun.”

**A Nadie le Importa el Cielo Nocturno**

**MARIA ADARE ’78 LIB. ARTS, ’79 ED.**  
**2019**

When someone decides to end a relationship, it’s often a unilateral decision. This slim volume of poems, written in Spanish, explores feelings of loss and pain—and the ambiguity of looking for answers—after the end of a friendship. The title translates to “Nobody Cares About the Night Sky.” Poems are divided by years. Maria Adare is a pen name.

**WASHINGTON STATE UNIVERSITY AWARDED TWO HONORARY DOCTORATES IN 2019 AND 2020, ONE TO A DISTINGUISHED CHEMISTRY PROFESSOR AND THE OTHER TO A PHILANTHROPIST WITH A PASSION FOR EDUCATION.**



COURTESY RESEARCHGATE

#### **RALPH G. YOUNT**

Ralph Yount has given hope to millions of people who will never know his name.

During his 44-year career as a professor of chemistry and molecular biosciences at WSU, Yount's study of muscle function advanced medical understanding of diseases such as muscular dystrophy, ALS, and myasthenia gravis.

His work focused on the way muscles contract, specifically the relationship between a muscle protein called myosin and ATP, the molecule involved in energy transfer. His creation of an ATP analog was critical to work that eventually led to two Nobel prizes and has been cited in more than 4,000 papers.

The National Institutes of Health (NIH) funded Yount's work for 43 years without interruption and awarded him a MERIT grant in 1986, the first year the grants were established. This is one of the longest continually funded projects at the NIH.

He also served as vice president and chairman of the postdoctoral fellowship committee for the Muscular Dystrophy Association for 15 years.

Yount's extraordinary achievements as an educator and scientist have been recognized throughout his career. In 2001, former WSU President V. Lane Rawlins chose Yount

to be the first recipient of the Eminent Faculty Award, the University's highest award for faculty excellence over an extended period.

"Ralph Yount is what a faculty member should be," said Rawlins. "He questions every decision, is a tireless and brilliant researcher, loves to teach, and is a superb colleague."

In 2003, he was among the first three faculty members named to the newly-established rank of Regents Professor. He was also the first Edward R. Meyer Distinguished Professor of Biochemistry and Chemistry.

When it came to teaching, Yount often went the extra mile to recruit talented prospects and help them succeed. One of his doctoral students, James Wells, became a member of the National Academy of Sciences and was awarded the Regents' Distinguished Alumnus Award in 2017.

"Yount's career at WSU—as well as his kindness and compassion—have left an indelible mark on the institution," says Michael Griswold, Regents Professor and director of the School of Molecular Biosciences.

"Ralph demanded excellence of everyone, including himself. WSU is a better institution because he was here."

Yount is currently professor emeritus in chemistry. The Ralph G. Yount Distinguished Professorship in Sciences has been established in his name.

#### **MARK C. PIGOTT**

Mark Pigott is a genuine Renaissance man. The former CEO and current executive chairman of PACCAR Inc. oversees his fourth-generation family business while supporting education, libraries, Shakespearean theater, and other arts.

Founded in 1905 as the Seattle Car Manufacturing Company, PACCAR originally made railway and logging equipment as well as Sherman tanks for the Allied forces during World War II. The family later expanded into the design and manufacture of heavy-duty trucks, eventually acquiring the Kenworth, Peterbilt, and DAF lines, now sold in more than 100 countries.

President George W. Bush presented PACCAR the 2006 National Medal of Technology for its leadership in aerody-

namic, reliable, and environmentally friendly commercial vehicles.

Pigott believes business success works in tandem with companies giving back to society. He has personally, and as president of the PACCAR Foundation, supported research and education facilities, scholarships, social services, and the arts, including a gift to WSU for the construction of the PACCAR Environmental Technology Building.

PACCAR has supported the Independent Colleges of Washington for over 60 years and has donated to the Seattle Art Museum, Children's Hospital, and United Way. Pigott served on the board of directors for the United Kingdom's Royal Shakespeare Company America from 2000 to 2010. He also funded a project to replace historical Armada paintings in Parliament's House of Lords and helped restore St. Paul's Cathedral in London. The Pigott Education Center at the National Gallery in London welcomes more than 80,000 schoolchildren each year to nurture their appreciation for art.

A self-proclaimed bibliophile, Pigott understands the importance of libraries for preserving the cultural record and educating the next generation of readers. His love of Elizabethan theater is reflected in his support of the Folger Shakespeare Library in Washington, D.C., and the British Library in London.

Pigott's professional accomplishments and community service have earned royal titles in France, Belgium, Hungary, Italy, the Netherlands, and the United Kingdom. In 2012, he was awarded the prestigious honorary knight commander of the Order of the British Empire. ✨



PHOTO WSU NEWS



PHOTO MANUEL BALCE CENETA/AP

**STEVE GLEASON**, the former WSU football standout who started a charity to empower those living with ALS following his own 2011 diagnosis, recently received the highest honor the United States Congress can bestow on a civilian.

Gleason ('00 Bus.) received the **CONGRESSIONAL GOLD MEDAL** on January 15, 2020, in Washington, D.C.

His Team Gleason charity works to raise awareness about ALS, also known as Lou Gehrig's disease, which causes the death of neurons controlling voluntary muscle movement. There is no known cure. So far, the foundation has provided nearly \$10 million in technology, equipment, and other services to more than 15,000 people living with the disease. His own struggle with ALS is documented

in the 2016 film simply titled *Gleason*.

In 2017, Gleason received WSU's highest alumni honor with the Regents' Distinguished Alumnus Award.

Gleason helped WSU reach the Rose Bowl in 1998 and went on to play seven seasons in the NFL—all with the New Orleans Saints. His electrifying 2006 punt-blocking dive at the start of

the Saints' first game in the newly rebuilt Superdome boosted morale throughout the hurricane-ravaged city. Outside the stadium today, the play is immortalized in a 9-foot bronze statue called "Rebirth." ✨

BY ADRIANA JANOVICH

➕ ▶ read more and watch videos: [magazine.wsu.edu/extra/gleason](https://magazine.wsu.edu/extra/gleason)

**60 DOUGLAS R. BOHI** ('67 PhD Econ.) won the Albert Nelson Marquis Lifetime Achievement Award from *Marquis Who's Who*. ✨ **KIM HERMAN** ('67 Poli. Sci.) has retired after 35 years as the first executive director of the Washington State Housing Finance Commission. During his career, the commission helped more than 81,000 families buy their first homes and financed the development of more than 141,000 multifamily apartments statewide.

**70 PATRICK TUCKER** ('72 Ag. Econ.) is the founder of Water from Wine, a nonprofit winery with a tasting room in Leavenworth and mission of generating revenue to fund clean water and sanitation projects. ✨ **DENNY HAYDEN** ('73 Bus.) was inducted into the Mid-Columbia Agriculture Hall of Fame, winning the organization's Stewardship Award. ✨ **DENNIS MUNDEN** ('73 Ag.) was inducted into the Mid-Columbia Agriculture Hall of Fame, winning the organization's Agriculture Advisor Award. ✨ The Muscular Dystrophy Association has named **DONALD S. WOOD** ('73 PhD Zool.) as vice chairman of the board. ✨ **AL ALDRICH** ('76 Comm.) has retired

after 24 years as a state lobbyist. He was the government affairs director for the Snohomish Public Utility District from 1995 to 2006 and senior vice president at Strategies 360 until he retired in summer 2019. ✨ **TERENCE "TERRY" STEVENS** ('76, '80 MS Env. Sci.) retired in 2019 after 36 years as director of the Padilla Bay National Estuarine Research Institute in north Puget Sound.

**80 MIKE GALLAGHER** ('80 Ag. Eng.) was recognized as an American Society of Heating, Refrigerating and Air-Conditioning Engineers Fellow. ✨ **SUSAN BLACKBURN** ('81 Lib. Arts), chief executive of Providence St. Mary Medical Center, has joined the board of the Walla Walla YMCA. ✨ **AMY FREEMAN** ('82 Const. Mgmt.) was awarded the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring. She serves as director of the Penn State Millennium Scholars Program. ✨ **JAMES "JIM" H. WELCH** ('82 MBA Fin.) has been appointed chief financial officer at Cognoa. ✨ **ROB RICE** ('85 Const. Mgmt.) has built more than 3,000 homes in 43 different new home communities during a span of more

than 30 years. He and his wife, Helena, live in Olympia with their two sons, Alex and Carson. ✨ **DENA YBARRA** ('87 Hort.) was named "Cherry King" at the annual Cherry Institute of Northwest Cherry Growers. She serves on the board of the Washington Tree Fruit Research Commission, chairs the commission's cherry committee, and serves on the Cherry Breeding Program Advisory Committee.

**90 IP Infusion** has hired **RAKESH DUBEY** ('91 MS Comp. Sci.) as vice president of engineering. ✨ Baker Boyer Bank has promoted **CATHY SCHAEFFER** ('91 Ag. Bus., '95 MA Ag. Econ.) to vice president. She also serves on the board for the Touchet School District. ✨ The Adventist Development and Relief Agency has appointed **ANNETTA "ANN" GIBSON** ('92 PhD Bus.) as vice president for finance. ✨ **CHERIE DAVIS** ('93 Soc.) is a new board member for the Rainier School District. ✨ **MARIO MARTIN** ('93 MS Hort., '06 MS Land. Arch.) has joined Shapiro Didway, a Portland landscape architecture firm. ✨ **SCOTT SAMUEL** ('93 Hotel & Rest. Admin.) has joined Rouxbe as director of culinary enterprise. ✨ **JOZEF BOSMAN**

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## CLASSnotes

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('94 Hotel & Rest. Admin.) is the new executive director for Summit Place Assisted Living in Bellingham. ✦ **RICK CAMPBELL** ('94 Ed.) has been named head coach of the BC Lions football team. He started his coaching career at the University of Oregon before making the leap to the Canadian Football League. He was head coach of the Ottawa Redblacks and has also worked for the Calgary Stampeders, Edmonton Eskimos, and Winnipeg Blue Bombers. ✦ **STEVE KING** ('95, '97 MS Civ. Eng.) is the new public works director for the city of Port Townsend. ✦ **HENRY SAYLOR-SHEETZ** ('95 Bus.) is the new principal of San Tan Heights K-8 in San Tan Valley, Arizona. ✦ **CHRIS FIGGINS** ('96 Hort.), president and winemaking director for Figgins Family Wine Estates, has joined the board of the Walla Walla YMCA. ✦ **HIRAL CHANDRANA** ('97 Mech. Eng.) is the new president of SuneraTech. ✦ **TIMOTHY COMPTON** ('97 Microbiol.) is the chief commercial officer at Avid Bioservices. ✦ **GREG FRICHETTE** ('98 Lib. Arts) and his wife, Shae, of Fricchette Winery were inducted into the Mid-Columbia Agriculture Hall of Fame, winning the organization's Rising Star Award. ✦ **JAMES M. MALCOLM JR.** ('98 Crim. Jus.) has joined Skagit County as its director of probation services. ✦ **JOHN MUSELLA** ('98 Comm.), president and chief strategist of communications and public affairs firm The Musella Group has been accepted into Forbes Agency Council, an invitation-only community for owners of and executives in successful public relations, media strategy, creative, and advertising agencies. ✦ **AARON EDWARDS** ('99 Comm., '17 MHPA), chief executive officer of Ferry County Public Hospital District, has been appointed to the Washington State Hospital Association Rural Health Committee for the second consecutive year. ✦ The new Roundtop Public House at Palouse Ridge Golf Club is operated by JW Links, co-owned by WSU associate professor **JIM HARBOUR** ('99 Hotel & Rest. Admin.) and **WADE DISSMORE** ('97 Hotel & Rest. Admin.). They also own and run Fork in the Road Catering and Southfork Public House in Pullman.

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**FREDRIK AMUNDSEN** ('01 Bus.) is the new chief financial officer at TGS. He comes to the position after 16 years with the company, most recently as executive vice president for TGS Europe.

✦ **STEPHEN ZIEGLER** ('01 MA, '03 PhD Poli. Sci.) recently founded the Center for Effective Regulatory Policy and Safe Access, a nonprofit research organization in Colorado that seeks to improve the way governments control drugs through research, education, and outreach.

✦ **BRANDON DULLY** ('02 Civ. Eng.), vice president of Guy F. Atkinson Construction in Renton, has been named one of ten of ENR Northwest's 2020 Top Young Professionals.

✦ **ALEX FRANCIS** ('02 Hum.) is the new general manager of Radisson Blu Minneapolis Downtown.

✦ Nintex has named **BEN BREWER** ('03 Comm.) its chief revenue officer, overseeing the company's global sales operations.

✦ **SCOTT DICKINSON** ('03 Poli. Sci.) has been named principal managing broker for Coldwell Banker Bain's South Snohomish offices.

✦ **JEFF PIERCE** ('03 Bus., Fin.) is the new chief executive officer of Wipfli Financial.

✦ **MEGAN WICKERSHAM** ('03 Ed.) is the new education program assistant for Hood River County OSU Extension Service and coordinator of its Master Gardeners Program.

✦ **CASEY PARVEY** ('04 Soc. Sci.) is the new vice president at Alliant, a Portland-based property and casualty insurance company.

✦ **SAM HOLDEN** ('06 Const. Mgmt.), a project executive with Skanska in Portland, has been named one of ten of ENR Northwest's 2020 Top Young Professionals.

✦ Integrated Tax Services has hired **MEGAN DIXON** ('07 Hum.) as its new business manager.

✦ **TODD DOWNING** ('08 Digi. Tech. and Cult.), president and co-owner of Waterland Estate Sales, has joined the Berkshire Hathaway HomeServices Northwest Real Estate team in Burien.

Green Park Elementary School. The appointment begins July 1, 2020.

✦ **CRAIG DAMMEIER** ('12 Poli. Sci.) has joined Holland & Hart's corporate practice as an associate focusing on mergers and acquisitions, corporate governance, financing, and general business matters.

✦ **SATIVA RASMUSSEN** ('12 Crim. Jus., Poli. Sci.) has joined the Seattle office of the international law firm Dorsey & Whitney as a lawyer in the firm's cannabis practice group.

She's also the chair-elect for the Cannabis Law Section of the Washington State Bar Association. She founded the section in 2016.

✦ **KYLE RYDELL** ('13 Supt. Cert.) is the new superintendent of Spokane's West Valley School District.

✦ **ERICA IVERSON** ('15 MS Eng., Arch.) has joined indieDwell as a design engineer.

✦ **ALLISON (BANNAR) ZAGER** ('16 Civ. Eng., '18 MS Env. Eng.) is a staff engineer at ALLWEST's Lewiston, Idaho, office.

✦ **CLARE BARTHOLOMEW** ('17 DVM)

is the new, full-time veterinarian at the Mendocino Coast Humane Society.

✦ **MATTHEW GLOVER** ('17 MA Music) was recently named executive director of the Billings Youth Orchestra.

✦ **GRIFFIN PLENERT** ('17 Civ. Eng.) has joined the Portland office of KPFF Consulting Engineers as a civil designer.

✦ **TOM MURGATROYD** ('19 Mech. Eng.) has joined Colmac Industries as an applications engineer.

Greater Spokane Incorporated has hired **TYLER PARCHEM** ('20 Poli. Sci.) as public affairs coordinator.

✦ The Portland Thorns selected **MORGAN WEAVER** ('20 Soc. Sci.) as number two overall in the National Women's Soccer League draft. Weaver tallied 43 goals and 12 assists in 85 appearances as a four-year starter at WSU. During her senior year, she helped guide the Cougars to the semifinals of the 2019 College Cup.

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<p style="font-size: 2em; font-weight: bold; color: #f1c40f;">80+</p> <p style="font-weight: bold; color: white;">WINEMAKERS</p>	<p style="font-size: 2em; font-weight: bold; color: #f1c40f;">150+</p> <p style="font-weight: bold; color: white;">WINES TO TASTE</p>
<p style="font-size: 2em; font-weight: bold; color: #f1c40f;">30</p> <p style="font-weight: bold; color: white;">BARREL LOTS</p>	<p style="font-size: 2em; font-weight: bold; color: #f1c40f;">10+</p> <p style="font-weight: bold; color: white;">GUEST CHEFS</p>

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Fourth-grade dual-language teacher **CESAR HERNANDEZ** ('10 Compara. Ethnic Stu.) has been promoted to assistant principal at Walla Walla's

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**RODNEY W. BITTNER** ('41 Bacterio.), 102, January 1, 2020, Roanoke, Virginia. **MILDRED M. HENDRICSON** ('42 Home Econ., '46 Ed.), 100, December 4, 2019, Whidbey Island. **LILY K. (OLSEN) TICHENOR** ('42 Home Econ.), 100, February 14, 2020, Waynesboro, Virginia. **MARJORIE E. KILLINGSWORTH** ('43 Home Econ.), 98, November 19, 2019, Spokane. **WILBUR F. WILHELM JR.** ('43 Mech. Eng.), 96, December 11, 2018, Canoga Park, California. **JANE LOREN HALVER** ('44 Gen. St.), 97, December 4, 2019, Lake Forest Park. **S. IRENE SEARS** ('44, '46 MS Ag.), 98, November 19, 2019, McMinnville, Oregon. **JACK BURTON WATKINS** ('44 Chem.), 98, November 13, 2019, Post Falls, Idaho. **RAYMOND L. BETTS** ('45 Arch.), 97, November 25, 2019, Spokane. **KATHERINE M. REINWAND** ('45 Busi., Chi Omega), 95, July 17, 2016, Folsom, California. **SALLY LOU JOHNSON** ('47 French), 93, September 24, 2019, Ephrata. **MARILLYN KILPATRICK** ('49 English, '51 Ed.), 92, September 16, 2019, Pullman. **NANCY JEAN LOWERY** ('49 Gen. St.), 92, August 23, 2019, Everett. **LESTER H. NORDLUND** ('49 Elec. Eng.), 95, July 9, 2019, Seattle. **DORIS JEAN SHERRILL** ('49 Phys. Ed., '52 Elem. Ed.), 92, December 3, 2019, Tacoma.

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**F. A. "BUGS" CHAFFEE** ('50 Econ.), 92, September 1, 2019, Helena, Montana. **GLADYS M. CRANE** ('50 Comm., '53 Ed.), 82, October 18, 2018, Walton, New York. **RAYMOND O. DORBOLO** ('50 Busi.), 94, October 8, 2019, Salem, Oregon. **LEROY ROBERT MAKI** ('51, '52 MS Bacterio.), 91, September 9, 2018, Laramie, Wyoming. **MELVIN O. RASMUSSEN** ('51 Ed.), 97, November 16, 2019, Pasco. **NONA LEE WINIARSKI** ('51 History), 87, March 13, 2018, Tumwater. **ELEANOR MARY "ELLIE" ADAMS** ('52 Socio., Chi Omega), 89, October 25, 2019, Spokane. **CAROLYN M. CANDEE ANDERSON** ('52 Busi.), 89, December 19, 2019, Boise, Idaho. **OSCAR JOHN FERRIANS JR.** ('52, '58 MS Geol.), 91, December 19, 2019, Moses Lake. **JAMES H. HAWKINS** ('52 Pharm.), 91, December 19, 2019, Littleton, Colorado. **ROBERT ALLEN "BOB" OLSEN** ('52, '54 MS Bacterio.), 88, November 17, 2019, Everett. **JOHN LE NARD WEEKES** ('52 Pharm., Phi Kappa Tau), 91, December 1, 2019, Spokane. **ROBERT JOHN DAHLIN** ('53 Gen. St., Sigma Alpha Epsilon), 87, December 18, 2019, Spokane. **RALPH H. KOLSTOE** ('53 PhD Psych.), 93, January 1, 2020, Grand Forks, North Dakota. **CLARENCE ECKMAN MILLER JR.** ('53 Socio.), 89, July 22, 2017, Vancouver. **DALE E. SCARBROUGH** ('53 Busi.), 92, February 5, 2020, Camas. **EVERETT C. BURTS** ('54 Entom.), 88, November 17, 2019, Wenatchee. **LYLE ELMER RILEY** ('54 English), 88, December 27, 2019, Phoenix, Arizona. **PATRICK GARY DAMIANO** ('55 Pharm.), 84, July 18, 2018, Coeur d'Alene,

Idaho. **JANET RAE EISENMAN HOLLOWAY** ('55 Nursing), 85, November 25, 2019, Spokane. **MARY JANE OLSON** ('55 Socio.), 86, January 8, 2020, Port Angeles. **H. THOMAS "TOM" NORRIS** ('56 Pre-med.), 84, November 20, 2019, Mercer Island. **SHIRLEY LANTOW WEGNER** ('56 Comm.), 85, August 21, 2019, Bellevue. **WALTER WENDLER BUSH** ('57 Soc. St.), 88, December 7, 2019, Hillsboro, Oregon. **EUGENE R. DIXON** ('57 Busi.), 91, May 3, 2019, Clarkston. **RITA ANNE MAZUR** ('57 English), 84, February 6, 2020, Richland. **ARCHIE EUGENE NEAL** ('57 Mech. Eng.), 85, February 9, 2020, Pullman. **JAMES EVERETT NORRIS** ('57 Pharm.), 85, August 6, 2019, Mesquite, Nevada. **FRANCIS EUGENE "GENE" SCEARCE** ('57 Civ. Eng.), 86, January 5, 2020, Brea, California. **JOE E. TREMBLY, JR.** ('57 Phys. Ed.), 87, September 5, 2019, Liberty Lake. **ARLO CUBIT ACTON** ('58 Fine Arts), 85, December 13, 2018, Nevada County, California. **GEORGE F. BRADSHAW** ('58 Busi.), 87, November 28, 2019, Edmonds. **MAURICE J. HOOD** ('58 Arch., Sigma Phi), 84, November 17, 2019, Clinton. **GLEN A. RICHARDS** ('58 Civ. Eng.), 83, January 8, 2019, Oregon City, Oregon. **GAIL HELENE BENDIX** ('59 Apparel Merch.), 82, January 10, 2020, Bellevue. **CHARLES ARNOLD MAYER** ('59 DVM), 85, November 26, 2019, Fond du Lac, Wisconsin. **RONALD M. MCKITTRICK** ('59 Pharm.), 83, January 9, 2020, Yakima. **EDWARD LEE PETERS** ('59 Elec. Eng.), 87, January 14, 2020, Olympia. **ROGER M. WING** ('59, '64 MAT Ed.), 82, June 12, 2019, Issaquah.

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**LOIS ANN JOHNSON** ('60 Ed., Delta Gamma), 81, January 21, 2020, Bellevue. **DAN L. SMITH** ('60 Math.), 81, December 19, 2019, Sunnyvale, California. **VERNON LEE STEVENSON** ('60 Socio.), 85, January 9, 2020, North Chili, New York. **THEODORE JAMES "TED" CARRATT** ('61 Psych., '66 Biol.), 80, November 1, 2019, Grandview. **WILLIAM F. MANN** ('61 Physics), 80, January 5, 2020, Cambridge, Massachusetts. **LYNDA DONACA WIENK** ('61 Music), 80, February 14, 2020, Lake Oswego, Oregon. **WESLEY L. APKER** ('62 MEd.), 83, December 21, 2019, Sacramento, California. **GORDON D. MORGAN** ('64 PhD Socio.), 88, December 17, 2019, Fayetteville, Arkansas. **RICHARD WOLFE SPANER** ('64 Hotel & Rest. Admin.), 87, May 24, 2018, Phoenix, Arizona. **DAVID DEAN DEMEYER** ('65 Mktg., Phi Delta Theta), 76, September 16, 2019, Mount Vernon. **STANLEY GORDON KING** ('65 Mech. Eng.), 77, September 3, 2019, Lewiston, Idaho. **MARLAN KVIGNE** ('65, '67 MS Elec. Eng., '71 Eng.), 76, September 5, 2019, San Diego, California. **STEPHEN W. "STEVE" HOLLAND** ('66 Wildlife St.), 78, January 26, 2020, Corvallis, Oregon. **SI ROGER JOHNSON** ('66 Pharm.), 76, February 4, 2020, Seattle. **JAMES MEEKER** ('66 DVM), 80, January 3, 2020, Hobart, Tasmania, Australia. **GREG NEUMANN** ('66 Gen. St.), 76, May 23, 2019, Kirkland. **RONALD PATRICK "PAT" ROWE** ('66 Comm.), 75, September 3, 2019, Bellingham. **LARRY JOEL WISEMAN** ('66 DVM), 77, June 29, 2019, Colorado Springs, Colorado. **HOWARD CRAIG HOTCHKISS** ('67 Arch.), 79, December 22, 2019, Yakima.



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**JAMES IRWIN SHORT** ('67 Forest & Range Mgmt.), 75, November 9, 2019, Renton. **VANCE VERNON VALLANDIGHAM** ('67 Gen. St.), 79, October 30, 2019, Lake Worth, Florida. **PATRICIA H. CUDE** ('68 Math.), 73, October 7, 2019, Stephenville, Texas. **PATRICIA JUNE (HARBOUR) JENSEN** ('68 Busi.), 73, December 27, 2019, Tualatin, Oregon. **JOHN CHARLES PENNY** ('68 Biol., '72 Wildlife Biol.), 73, September 22, 2019, Wenatchee. **PATRICIA JEAN SCOTT** ('68 Ed.), 72, February 14, 2019, Shelton. **DENNIS A. CLINKENBEARD** ('69 Mech. Eng.), 78, October 15, 2019, Wenatchee.

**70 HARRY RUSSELL "RUSS" HUEBEL** ('70 PhD Amer. St.), 75, March 17, 2018, Kingsville, Texas. **MICHAEL LEE LANE** ('70 Ag. Eng.), 75, December 14, 2019, Arvada, Colorado. **DAVID ROY NEFF** ('70 Gen. St.), 70, July 30, 2018, Bellevue. **WILLIAM D. PARSONS** ('70 MAT Math.), 80, January 7, 2020, Rawlins, Wyoming. **JANIS CLARKE WALEY** ('70, '82 PhD Speech & Hearing Sci.), 71, September 16, 2019, Spokane. **LAURA J. BLOXHAM** ('71 MA, '75 PhD English), 72, November 18, 2019, Spokane. **ROBERT JAMES HOLMES** ('71 Math.), 70, November 23, 2019, Pullman. **EYOUNGSOO PARK** ('71 PhD Psych.), 81, January 4, 2020, Yuba City, California. **KACEY CHARLES COOPER** ('72 Busi.), 73, January 3, 2020, Pullman. **WILLIAM M. GASSERT** ('72 EDD), 96, October 13, 2019, Ogden, Utah. **SUSAN L. KLINE** ('72 Elem. Ed.), 67, May 28, 2017, Bellevue. **DONALD F. SCHWAGER** ('72 MFA), 70, March 21,

2018, Lake City, Michigan. **JOSEPH ARTHUR SOLDATI** ('72 PhD English), 80, December 31, 2019, Portland, Oregon. **JO ANN WASHAM** ('72 Kinesio.), 69, December 6, 2019, Auburn. **JOY ELLEN DUGGAN** ('73 Poli. Sci.), 65, June 23, 2016, Goldendale. **JANET ANN FIX** ('73 Gen. St.), 66, July 24, 2016, Arlington. **RODERIC ALAN PERRY** ('74 Wildlife Biol.), 68, June 13, 2019, Everson. **RONALD I. GREEN** ('75 Gen. St.), 81, December 9, 2019, Palm Desert, California. **THOMAS F. FLANAGAN** ('75 Police Sci.), 66, November 27, 2019, Cle Elum. **KATHLEEN L. "KATIE" FREI** ('75 Nursing), 66, November 11, 2019, Longview. **MARK RAYMOND SNOW** ('75 Mktg.), 70, November 5, 2019, Bremerton. **STEPHEN CRAIG WECKER** ('75 Bacterio.), 66, December 11, 2018, Wauna. **JOSEPH MARK ZEHNDER** ('75 Police Sci.), 69, November 5, 2019, Everett. **GEOFFREY HARRIS GOSS** ('76 Arch.), 65, October 29, 2018, Tacoma. **STUART RANDOLPH JONES** ('76 Gen. St.), 71, December 24, 2019, Seattle. **PETER J. LANDOLT** ('76 MS, '78 PhD Entom.), 67, December 22, 2019, Vancouver. **DIANE ELIZABETH NYMEYER** ('76 Speech & Hearing Sci.), 65, January 18, 2020, Lynden. **HARVEY C. BROOKS** ('78 MA Socio.), 74, December 24, 2016, University Place. **DOLORES I. DINNEEN** ('78 PhD Ed.), 81, March 21, 2019, Portland, Oregon. **NED LEON FACE** ('78 PhD Ed.), 88, March 16, 2019, Issaquah. **KIM MAUREEN MELINE** ('79 Ed.), 62, December 5, 2019, Gig Harbor.

**80 KEVIN LEE BECK** ('80 Const. Mgmt.), 61, February 15, 2019, Spokane Valley. **BRENDA GAIL SHEEHAN** ('80 Comm.), 60, December 25, 2019, Tampa, Florida. **LON CARLYLE UDY** ('80 Const. Mgmt.), 64, December 19, 2019, Ogden, Utah. **JEFFREY A. GETTMANN** ('81 Acc.), 64, November 4, 2019, Kirkland. **PETER GEORGE SNELL** ('82 PhD Kinesio.), 80, December 12, 2019, Dallas, Texas. **STEPHEN SCOTT FORD** ('83 Elec. Eng.), 59, October 26, 2019, Portland, Oregon. **CRAIG STUART OLSON** ('84 Busi., Econ., '04 MS Eng. Mgmt.), 58, August 20, 2019, Auburn. **MICHAEL RAY RETTER** ('84 Hort.), 71, September 4, 2019, Spokane. **GREGORY ANDREW ZIUZIN** ('84 Acc., Kappa Sigma), 59, November 27, 2019, Bellevue. **DAN R. NELSON** ('85 Busi.), 82, February 4, 2020, Bellevue. **ERIK RAY "WACK" WIITALA** ('85 Soc. Sci.), 57, August 29, 2019, Seattle.

**90 KIRSTEN "KITTY" BRODERSON HINTON** ('90 Anthro.), 52, August 9, 2019, Las Vegas, Nevada. **ERIC PETER SKANSGAARD** ('94 MS Psych.), 58, November 8, 2019, Wenatchee. **PHUONG VAN TRINH** ('95 Busi.), 46, August 19, 2017, Sandy, Utah.

**00 CARIMAY MADAYAG SIYAM** ('01 Nursing), 41, March 21, 2018, Daly City, California. **KELLY ANN KEIGWIN** ('09 Hum.), 51, July 19, 2019, Vancouver.

**10 CHARLES WILLIAM "CHARLIE" DAHMEN** ('11 Hum.), 30, November 1, 2019, Spokane. **DAKOTA JAMES WOODARD** ('15 DVM), 31, January 17, 2020, Dorris, California. **COLE ASHTON BONVALLET** ('17 Poli. Sci.), 24, December 22, 2019, Cabo San Lucas, Mexico.

#### FACULTY AND STAFF

**EVERETT C. BURTS**, 88, WSU Wenatchee, 1958-1994, November 17, 2019, Wenatchee. ✨ **SUSAN BUTTS**, 60, Student Involvement & Leadership, 1999-2020, January 4, 2020, Coeur d'Alene, Idaho. ✨ **KACEY COOPER**, 73, Mailing Services, 1972-1999, January 3, 2020, Pullman. ✨ **BEVERLY DOW**, 66, Physical Plant, 1982-1998, March 8, 2020, Pullman. ✨ **STEPHANIE FICCA**, 51, Mechanical and Materials Engineering, 2012-2020, February 27, 2020, Moscow, Idaho. ✨ **KELVIN LYNN**, 71, Materials Science and Physics, 1996-2020, January 2, 2020, Salt Lake City, Utah. ✨ **LLEWELLYN "AL" PINGREE**, 88, Physical Plant, 1976-1994, February 16, 2020, Pullman. ✨ **SUSAN WALLEN**, 76, Electrical Engineering and Computer Science, 1990-2007, February 28, 2020, Salem, Oregon. ✨ **JOE C. WATSON**, 74, Integrated Media Services, 1967-2011, February 11, 2020, Spokane. ✨ **STEVEN WEBER**, 65, WSU Vancouver Anthropology, 1994-2019, January 14, 2020, Vancouver.

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## LASTwords



ARTWORK PHOTO BY ROBERT HAFT

In the aftermath of the 1980 explosion of Mount St. Helens, Patricia Grieve Watkinson, then director of the Washington State University Museum of Art, organized a nationwide competition for artists to express their reactions to the eruption.

Titled “Living with the Volcano: The Artists of Mount St. Helens,” the exhibition traveled to about 20 venues in Washington, Idaho, Utah, Oregon, and Montana from 1983 to 1987. One of the artists represented was Linda Okazaki (’71 Fine Arts, ’75 MFA).

Watkinson wrote about the exhibition and Okazaki’s work:

As one would expect, it was the cataclysmic results of Mount St. Helens’ eruption—the uncontrollable power of nature and the unleashing of chaos—that affected many artists. In this chiefly pessimist view, nature is seen as indifferent, negative, destructive, fearful or awesome—yet not without moments of beauty. Humankind is an impotent and hapless sufferer, frequently unaware of its helplessness and lack of control. ...

Animals and birds also fell victim to the volcano... . In Linda Okazaki’s watercolors *Birds of a Feather Fall Together* and *Night Explosion*, brightly colored finches, the embodiment of life, tumble dead from a bleak night sky onto the bare rock below. Mount St. Helens, the assumed instrument of death, puffs unheeding in the background.

—“Mount St. Helens: An Artistic Aftermath” (Art Journal, Fall 1984, p.260)

After teaching at the WSU Fine Arts department for seven years, Okazaki moved to Port Townsend in 1980, built a studio and house with her husband, Ray Weber, reared three children, and maintained a studio practice, which continues today. Her son Miles, then six years old, was also represented in the Mount St. Helens exhibition. \*

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Reader memories of Mount St. Helens; Q&A with writers Buddy Levy and Robert Pyle; Mount St. Helens research; pepper recipes



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