Schweitzer Engineering Laboratories offers a complete range of solutions that improve how electric power is delivered. Our mission is simple—make electric power safer, more reliable, and more economical.

Cover: College of Anise Swallowtail butterflies, photos courtesy Roger Jones.
The spirit of the land grant institution: Had the intent of the land grant spirit been simply to produce homemakers or farmers or carpenters, Justin Morrill, the author of the act that established the land-grants 150 years ago, might have best looked for his model among the craft guilds of the fifteenth century, wrote Enoch Bryan in 1931, 15 years after he stepped down as the first enduring president of Washington State College. In one of four essays that make up The Spirit of the Land-Grant Institutions (reissued in 1961), Bryan argued that the curriculum prescribed by the land-grant legislation was academic rather than vocational. “It was far broader, far more fundamental,” he wrote.

In other words, the Morrill Act, or “charter,” as Bryan referred to it, represented a revolutionary shift in education, from the “verbalistic” to the scientific, shifting American education from an elite and narrow institution that produced mostly doctors and lawyers, to a rich process accessible by the common man and woman.

As radical and fresh as the idea might be, Bryan argued that the origins of the land-grant spirit lay with Thomas Jefferson’s 1818 charter establishing the University of Virginia. Both, wrote Bryan, represent a shift to the natural and physical sciences, “to historical, political and economic science, to the study of agriculture, commerce and industry, as based on these sciences with a very distinct declaration of purpose, through these instruments, of contributing to the subsistence, comfort, health and happiness of all the people…”

Bryan was emphatic that this new educational spirit did not exclude the classics. Nor the arts. It was Bryan, after all, who established a music curriculum at Washington State College. Farmers need music, too, he believed.

So passionate was Bryan about the land-grant spirit that created his Washington State Agricultural College that he wrote about it throughout his life. More immediately, while still president, he envisioned an agricultural utopian community in which his students might live out the ideals and practices they learned while under his tutelage, sinking his savings into 300 acres of land on a bench above the Snake River, just above the site of the Little Goose Dam.

This year’s observances of the 150th anniversary of the first Morrill Act vary amongst the more than 70 original land-grant colleges, most of which are now universities. WSU joined 27 others in presenting its vision of the modern land grant through a display, “Feed the World. Power the Planet,” at the Smithsonian Folklife Festival this summer. The anniversary also presents an occasion to ponder whether the spirit of the land-grant still holds true.

It certainly does for John Reganold, Lynne Carpenter-Boggs, Brad Jaeckel, and others involved in WSU’s organic major and farm. And, evidently, to Chuck and Louanna Eggert, who recently gave $5 million to WSU to establish a much larger and more ambitious organic farm on campus. The Eggerts, who met at WSU, founded Pacific Natural Foods.

According to Reganold, the organic major and the first organic farm, located next to Tukey Orchard, were established for a dual purpose: to train students who wanted to learn about sustainable agriculture and, perhaps more important, to bring more people back into agriculture.

“This work was done in 2002,” says Reganold, “and it is still in place.” By 2002, the number of organic farms in Washington State had dropped below 2 percent, down from 16 percent in 1945 and 41 percent in 1900. Similarly to Bryan’s vision, the purpose of the organic agriculture major and the new farm are not simply to produce organic farmers, but to investigate the science behind the discipline, explaining, enhancing, and developing techniques that are increasingly being adopted by other agricultural approaches.

Sadly, Bryan’s dream of a utopian community, after thriving briefly, succumbed to a common Western affliction, the lack of sufficient irrigation. The Eggert Family Organic Farm and the associated potential advances in agricultural knowledge and understanding may well be seen as an affirmation of his dreams.
Three Great Ways to Belong to One Great Organization.

There are over twice as many members of the WSU Alumni Association (WSUAA) today than there were just a few short years ago. They joined to support student scholarships, take advantage of all the incredible member benefits, and connect with other Cougars. We extend our thanks to all the alumni, students, friends, faculty, and staff whose membership has helped the WSUAA claim its rightful place among the finest and fastest-growing alumni associations in the country. We salute our Annual, Life, and now Platinum Life Members.

New: Platinum Life Membership.

Platinum Life Membership is the newest way to belong to the WSUAA. It was suggested by and created for Cougs who want to help the WSUAA do even more for WSU. Platinum Life Members enjoy all the same great benefits and services as Annual and Life Members, plus a growing suite of extras.

If you have not yet joined, or you are a current member interested in one of the other membership types, please sign up today. Your membership—regardless of which type—is vital to the continued success of the WSUAA and WSU.

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Eric Dieterle ’96, Flagstaff, AZ

I found the Summer 2012 issue informative and visually appealing as always but discovered, in addition, two personal surprises.

1. Former Nunnemaker is a name that has burned itself into my brain but I never knew anything about him. At the end of my junior year (1956, I think), I unexpectedly received the Nunnemaker Award (for the student with the most promise of making a contribution to the humanities). I didn’t apply for this—it just arrived as a letter, with a check for $500; I recall it was fascinating to learn about him and his interests in the humanities.

2. As he died in 1949, the award must have been set up by his family, because I never knew anything about him. At the end of my junior year (1956, I think), I unexpectedly received the Nunnemaker Award (for the student with the most promise of making a contribution to the humanities). I didn’t apply for this—it just arrived as a letter, with a check for $500; I recall it was fascinating to learn about him and his interests in the humanities.

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Fueling Big Ideas FOR YOUR FUTURE

When jetliners routinely fly coast to coast on fuel derived from sticks, branches, and bark left on the forest floor, we’ll have pioneer researchers like WSU’s Xiao Zhang to thank. Dr. Zhang, a leading expert in converting non-food woody biomass to biofuel, is working hard to make the process cost-effective and sustainable.

It’s all part of our search for a clean, renewable energy future—here in Washington state... and beyond.

Looking for life’s origins in the clouds of a moon

by Eric Sorensen

On the eleventh floor of the Webster Physical Sciences Building, Carol Turse watches over an array of glass tubes, flasks, and electrodes buzzing with 45,000 volts of electricity. Looking out the window, she takes in one of the better views of Pullman and the Palouse hills; looking inside the glasswork of her lab, she sees the atmosphere of Saturn’s largest moon, Titan, and all goes right, elements of life in the making.

With clouds and a thick, planet-like atmosphere, Titan is unique among the moons in our solar system. It might also be conducive to creating amino acids, the building blocks of life, which is what Turse hopes to see in a few days.

Turse, a doctoral candidate in the School of the Environment’s Laboratory for Astrobiological Investigations, is conducting a variation of the Miller-Urey experiment, the first successful laboratory attempt to test theories about the origin of life. In one flask she is boiling a mix of methane and ammonia, simulating conditions on Titan’s surface.

“I call it the ocean flask,” she says. As the compounds boil, vapors rise to an “atmosphere flask” where they are exposed to the spark from a Tesla coil. This simulates lightning or some sort of static discharge, which can break the bonds of ammonia or methane and ease the way for more complex organic compounds to form.

As the vapors condense, they run through a tube back to the ocean flask. If things go right, a week or so of this activity will produce a primordial soup similar to the “warm little pond” that Charles Darwin once speculated could lead to the chemical creation of a protein around which life would form.

Stanley Miller, a graduate student of the Nobel laureate and then-University of Chicago physical chemist Harold Urey, first conducted the experiment in 1952 after Urey suggested a more primitive earth atmosphere of methane and ammonia may have helped life emerge. Miller built a setup similar to Turse’s and after a week had a yellow-brown solution that contained glycine and several other amino acids.

Miller presented his findings in a seminar attended by Urey and Enrico Fermi, the University of Chicago physicist. At one point Fermi asked Urey if Miller may have indeed demonstrated the way life originated.

“Let me put it this way, Enrico,” replied Urey. “If God didn’t do it this way, he overlooked a good bet.”

Scientists now believe early Earth’s atmosphere was mostly carbon dioxide and nitrogen with little reactive methane and ammonia. Miller could not replicate his results in that milieu, but one of his former students did once he took into account other factors.

Titan also has conditions that challenge a Miller-Urey setup, the chief one being intense
cold. Turse couldn’t conveniently replicate -180°C in the lab, but she and her advisor, Dick Schuler-Makuch, theorize that the results would have a large and far-reaching impact.

Turse’s work has now reproduced variations of the original Miller-Urey experiment. Turse, 36, has also reproduced variations of the ex-complex life. “It’s exciting, and it works, but what about other planets as well? Many of them are the same.”

After running her apparatus for a week, Turse analyzed the resulting, cloudy soup and found four amino acids—not as many as Miller found, but amino acids nonetheless.

She replicated the experiment and just before turning the equipment off, noticed a bright pink droplet on one of the electrodes, and noticed that the equipment was running. Now she is taking samples of the soup at different times, aiming to see how different compounds are forming and to answer a broad new question for science. Why might a variation of Darwin’s pond be pink?

World vets

by Andrea Castillo ’12 : Quiver ing all over, a dirty yellow and white puppy with a large pinky whimpers as a veterinarian injects it with electricity, says Allum. “The way this clinic is set up pretty closely mimics what the senior surgery students will operate from in their vet schools.”

Students from the United States will pay to participate in the summer training sessions. The money from their tuition pays for the Latin American students during the year. Animals brought in for classes will also get neutered for free, continuing to help each animal overpopula tion in Nicaragua. “That is the beautiful part about this pro gram,” says Claudia Mayorga, general manager of the Surgical Training Center. “The Latin American students pay absolutely nothing to participate in the training sessions. They receive everything they will need, including a DVD of the surgeries they can watch at home. This training, if not part of a self-sufficient program, would be very expensive.”

Mayorga says the clinic and training sessions will develop better veterinarians in Nicaragua. “Veterinarians in Nicaragua have all the knowledge to perform surgeries but don’t have the procedures,” she says. “Not all of the universities in this country have a surgery room with all the equipment necessary. This clinic meets those needs.”

In March, a group of 11 volunteers traveled to the Surgical Training Center as part of a World Vets field project, providing free spay/neuter services and other medical treatments for small animals. The team completed about 105 basic consultations and 75 surgeries in four days of work.

Karen Allum ’94 DVM, who led the volunteer group as a field service veterinarian, says the new facility is great for veterinary students still learning to do surgery. World Vets teams don’t usually get to work on real operating tables and in real clinics during field projects, she says. “We’ve done surgery in a fire station, a Catholic church, in an abandoned racetrack and on basketball courts—oftentimes without water or electricity,” says Allum. “The veterinary clinic that our pretty closely mimics what the senior surgery students will operate from in their vet schools.”

One of King’s long-term visions for World Vets is to open training centers in different countries.

Founded by Dr. Cathy King ’97 DVM, World Vets has grown into an international organization providing veterinary services and training in developing countries. Photos Andrea Castillo ’12
The city
by Katlin Glee$pie ’13

Charles Francis Adams, a businessman from Boston, envisioned a perfect city. It was to be
well-planned, self-sustained, and environmentally prosperous. It could not be too crowded. It
had to be close to water. It would be somewhere in the West.

Adams and a group of fellow businessmen created the Lewiston-Clarkston Improvement
Company and in 1896 chose the site of modern-day Clarkston for their garden paradise. There
they built the community of Vineland.

Now, Vineland’s story is being retold by WSU faculty and students.

“Vineland: Shaping Paradise” was installed as an exhibit in the WSU Manuscripts, Archives,
and Special Collections (MASC) in April. An online version of the exhibit is expected to be
launched late this summer.

The history department at WSU sponsors the Greater Columbia Plains Initiative, dedicated
to exploring the history of the Columbia Plains. With the support of grants, the group was able
to create a two-year seminar that allowed students to research the region.

Students created the Vineland exhibit using MASC’s Lewiston-Clarkston Improvement
Company Records, a collection of 150,000 photographs, maps, and other items recording the
rise and fall of the community.

“There’s all kinds of really beautiful maps and photographs,” says Associate History
Professor Robert McCoy, one of the faculty members involved in the project.

The history of Vineland is not unusual, but is something many people are familiar with, says McCoy.

“The potential for irrigation along the Snake River drew investors to the area. The Lewiston-
Clarkston Improvement Company built a dam and irrigation systems, allowing agriculture to
flourish in the region.

However, like most utopias, interests changed. The company passed to different hands in the 1920s.
In the 1940s, a local fruit warehouse and commission firm bought out the company.

Each student research a different aspect of the community, including a series of photographs
taken by Asahel Curtis, Edward Curtis’s brother, and the use of Sir Ebenzer Howard’s “Garden City” ideals, which emphasized grace and beauty in urban planning.

Unlike a paper that will only be seen by the professor, the seminar allowed students the
opportunity to complete a project that would be seen by a large group of people.

“I think the sense was that they were doing something that was going to be presented to a
large group of people,” McCoy said. “They had to make sure that they knew what they were talking about.

“I think it’s always a challenge to push people to do something new, but it’s very rewarding.”

Unfiltered history
by Tom Story • Tom Brigham, the executive
secretary of WSU’s Ensmette Society, stopped by
the magazine office some time ago with a box
full of interview transcripts, the results of one
of the society’s major projects. Had known how
absorbing and daunting the contents would be.
I might have been more hesitant to accept delivery.

Seriously, the oral histories contained in the box provide absorbing recollections of WSU
history from the early 1950s on. At that time, the interviews combine engrossing storytelling and
striking insight. Conducted and transcribed by history graduate student, now instructor, Katy Fry
’09, the histories provide unfiltered mem-ories of WSU through five presidencies and rich
insight into how we came to be where we are now.

I met agricultural economist Norman Whitely (at WSU 1964–1989) after she joined WSU to
following Title IX guidelines has been told many
times, including in this magazine, where never have
we heard such a personal and moving account of
what it was like to start her university career in an
imbalance athletic system.

Not only does biochemist Ralph Youn (Molec-
ular Biosciences, 1960–1990) recount his dis-
covery of an ATP analog that is used widely in bio-
chemical research, he shares his thoughts about the
relationship between scientists and their mothers.

The last Cascadia event occurred in 1700, and the odds of another in the next 50 years are
between 10 and 14 percent. A deep earthquake, like the magnitude 8.9 magnitude quake of 2001, is
a near certainty in the next half-century. But the quake’s magnitude is only one measure of its
destructive power. Even moderate shaking can wear structures into submission if it lasts long enough.

“Our Cascadia event [of 2008] was two minutes long and the damage is significant,” says Dolan.
"It doesn’t have to be as strong as

Come the big one, everyone becomes a Coug
by Eric Stetson • An earthquake is like a big finger in a spider web. Touch one spot and parts of the web far away will move.

Dan Dolan has been pondering just how far away in the hopes that the web of our state’s vast institutional infrastructure doesn’t snap under the strain. Dolan, a professor of civil and environmental engineering, looked at how we might respond to and recover from damage to the state’s buildings and housing stock as part of the Resilient Washington State Initiative, a multifaceted assessment of the ways an earthquake can hurt us and how hard it will be to recover.

The quick answer: Recovery could be very hard, and picking up the pieces will involve a lot more than lifting bricks.

The Cascadia subduction zone has nearly two dozen ways to do damage. The Cascadia subduction zone is a large zone of earthquake activity, roughly the size of the Pacific Northwest.

Our Story

Jewett Observatory, 1952: 50 years ago at WSU—Taking a look back at WSU in 1962 through the lens of the college’s yearbook, The Chicoe.
A talk with Mike Leach about life, animals... and Cougar football

by Larry Clark ’94 — I understand how the interview with Washington State University’s new head football coach Mike Leach differs from Cougs from college football in Pullman and pirate stories. The key West (I asked that one) but built in ancient Rome! The team is back! This year they won 10 football games and points in a stadium, or so he can tell Leach on focus or to figure that out. "You talk to me, and I'll look into the question."

Leach is an easy person to talk to, a natural storyteller with a steady delivery, but his eyes display a quirky curiosity. In Leach’s bookstore, Jim Gaylord’s, he applies his keen imagination and knowledge to the game of football. For example, Leach wrote about sharks being off the coast and overcoming four by an analysis of David vs. Goliath. The book ranges across Leach’s mental landscape and applies his lessons to life as well as football, as when he writes about going for it on fourth down. "You think it through, and if you believe the benefit outweighs the risk, then you need to do it."

"Unusual," Leach says, did not play football at the college level. Leach earned his law degree from Pepperdine before when he asked what was great about WSU.

I mention my own experience at WSU meeting Japanese students and studying abroad, which grabs Leach’s attention and leads him to reminisce about his own time in Japan. He had gone on a nine-day coaching clinic, eating foods new to him, sleeping in too-short beds at the "Lost in Translation" hotel, and trying out a traditional Japanese Sabertooth Cat. Leach?"

"Respect everybody and fear nobody," he says. "He’s got a wooden leg." He’s got a wooden leg.

The conversation ranges even further afield. We talk about restaurants in Pullman (Spicy’s, Black Cypress, and a bunch more), gargoyles and music at Rico’s, his kids’ impressions of Pullman schools (they love them), and Jimmy Buffett (Leach is a fan, but he notes, "I wouldn’t meet him."

We all return to football. Leach says for the fall season Cougar fans can expect steady improvement and dedicated effort. "We’re a team that’s emerging and that’s all exciting!"

As I prepare to leave, Leach tells me about another of his books, Sports for Dorks, in which he writes about being a real pirate, straight out of another time. "You’re the most authentic pirate I’ve ever seen. Have you ever been anybody that compared?" The pirate drops his eyes, and he shakes his head and says, "There’s one." Leach says, "What does he have that you don’t have?" The pirate says, "He’s got a wooden leg."
IN 1944, when Glenn Aldrich was 12, he helped his father carry blueberry plants into an old sheep pasture next to their home. The family then planted the first commercial blueberries in Lewis County and in some of the first in the state.

Maybe it was fate, says Aldrich. His father had found the perfect crop for the soft soil and silty along the Cowlitz River. The berries flourished there in Montesano, a pretty pocket of the valley. Sixty-eight years later those berry bushes tower over Aldrich. In the intervening years, he has added some 20 more acres, spent time in the Air Force, taught vocational ag to high schoolers, raised sons Chris '87 and Jason '92, and helped found the Washington Blueberry Commission in 1980.

When I called the farm to see if Aldrich would be willing to be interviewed for this story, his wife Weston was quick to answer: "Oh sure. He majored in talking," she laughed. "Well, he majored in agriculture, I think. But he could have majored in talking." So as I walk up the drive between that original field of blueberries and a set of barns, I'm not surprised that Aldrich has started the conversation before we even make our introductions. Pointing to the field he explains there are Rainier blueberries, an early variety known for good yields, size, and flavor. There are three or four other fields around the state that are about the same age, Aldrich explains, and some even older. These first plants on the farm came from Eberhardt's Nursery in Steamboat Island, in south Puget Sound. Farmer Joe Eberhardt had introduced the blueberry to the region and also developed some of his own varieties—the Eberhardt and the Olympia.

The cultivated blueberry hasn’t been around all that long. The highbush cultivated blueberry that we know today was born in New Jersey in the early twentieth century. Aldrich says, alluding to the work of Elizabeth White. The daughter of a cranberry farmer, White enlisted the help of local wild berry pickers to go into the woods around her family’s cranberry bogs and find and tag the best wild berry bushes with the help of local wild-blueberry pickers to go into the woods around her. The highbush cultivated blueberry that we know today was born in New Jersey and New Hampshire to use in crosses and hybrids and establish the foundation for our blueberry varieties today. Several, including Brooks, Rubel, and Sooy (named for one of the pickers from Elizabeth White’s farm) were used to make the early crosses and until recently were in the genetics of almost all commercial berries.

In his decades growing berries for sale and berry bushes for nursery stock, Aldrich has seen the industry develop—and now, as new health information about the berries has become fodder for the mainstream press, demand has skyrocketed. "There’s no doubt about it, the health news has been fabulous for our marketing." According to the U.S. Blueberry Council, the fruit is an excellent source of vitamin C, manganese, fiber, and antioxidants.

It’s the anthocyanins, says Aldrich. The pigments that make the blueberry blue are also found in eggplants, black currants, and cranberries. They’re credited with having high antioxidant effects, protecting the cardiovascular system from oxidized cholesterol, and reducing artery-clogging plaque. Research on the benefits of blueberries is still in its early stages, but recent findings have credited the fruit for lowering blood sugar, preserving sight by protecting against macular degeneration, and protecting memory.

For decades most of Washington’s blueberry farms have been like Aldrich’s, small, intensive, and local. "The west side farms can range from a fraction of an acre to hundreds of acres," says Alan Schreiber, administrator of the Washington Blueberry Commission. But in recent years blueberries have moved east of the Cascades into the Columbia Basin, where they’re being planted by the hundreds of acres. The big issues on the east side are irrigation and making the soil acid enough to host the high-yielding blueberry plants. Heat is a lesser concern. Still, the berries do best in cooler environments at the edges of woods, in coastal areas, and in mountain clearings.

"We’re expecting that next year in 2012," says Schreiber. "For those who want to grow their own blueberries, WSDU Extension advises planting them during their dormant season between January and March west of the Cascades, or March to April in Eastern Washington. Ideally they would be two-year-old root stock or three-year-old plants in containers. When the lack of acidity is an issue, home gardeners can amend the soil with shredded pine bark or a sulfur product. They reach full production stage around eight years—getting five to six feet high and producing up to 25 pounds of fruit per plant. The harvest blooms in late April and early May and are ready to be picked from July through September. "In the warmest spots in Eastern Washington they will start picking at the end of June," says Schreiber. August is the peak of the season. And the last will be picked in late October.

Pick your blueberries four to five days after they turn blue, when the sugar levels are highest. Then check back every three to five days since berries on estimator do not all ripen at the same time. Fresh berries should last up to two weeks in a refrigerator. They also freeze well. Simply rinse them and spread them on a cookie sheet and set in a freezer until frozen through. Then store them in bags.

For most home berry growers, the biggest problem is the birds that will swoop in and steal away the berries as soon as they’re ripe. The best solution is simply netting the berries to keep the birds out. But there are a few other concerns, including an aptly named fungus, mummy berry, which leaves the fruit white, hard, and inedible. Mummy berry is prevalent after long wet springs, especially if affected fruit from the previous year is left on the ground under the bush. There is a fungal spray to use on developing blossoms, but one of the best ways to address this is to take out beneath the bush in early spring and to immediately remove any of the blighted shoots and affected berries when you see them.
earthquake. When have you had that long, fatigue takes over after a while. The damage accumulation gets to be too much. And we currently don’t design for earthquake duration. We only design for peak accelerations in our codes.

Earlier this year, the Resilient Washington State subcommittee summarized assessments compiled by teams in four areas: critical services, design for earthquake duration. We only design for peak accelerations in our codes.”

“Video frame from “Alaskan Way Viaduct and Seawall Replacement Project,” depicting simulated damage from earthquake at wsm.wsu.edu/extra/quake.”

The traditional explanation of our low genetic diversity is that sometime between 100,000 and 150,000 years ago a special event, perhaps a volcanic eruption or epidemic, caused a “bottleneck” in our species’ population size. Although our population has rebounded since then, mutation rates, which are relatively slow, have not kept pace with rapid population growth, leaving us with much less genetic diversity than predicted by our current population size.

Similarly, if buildings were to fail at all, says the University of Washington, students might not need to attend classes somewhere else. Which is where the spider-web analogy comes in: Damage on the east side of the state could force residents on the west side to make do with fewer doctors and less police protection, and WSU might have to temporarily teach UW courses.

“If you look around Aurora and drive up and down 15, you’ll see a lot of these buildings where a first floor is in place and then to three floors of apartments above,” say Dishon. “And allow on steel column, steel-piped column or something like that. There’s no lateral capacity on the first floor. And people that are living down a very big risk to having a resilient community because if those buildings come down, they’re no longer habitable.”

Yet another existential mystery

by Tim Strozy

“Although humans greatly outnumber our closest living relatives the great apes, for some reason the genetic diversity of modern humans is much lower, posing a puzzle that only gets more puzzling the further geneticists look into our evolutionary past. Not only does this disparity not exist if you compare ancient human groups to modern humans, but it exists even in the absence of bottlenecks or expansions in census population size.”

The result? In populations structured by a high cultural similarity threshold, natural selection could have suppressed genetic diversity “over thousands of generations, even in the absence of bottlenecks or expansions in census population size.”

“Genetic diversity is our insurance against losing our genetic toolbox,” says Premo. “But even if it’s rare, a volcanic eruption, or a big asteroid impact, can cause a genetic bottleneck.”

Cherries in two dimensions

by Nella Letizia

Two-year-old trees in the WSU Roza Experimental Orchards near Prosser are the first step in transforming a 100-year-old production system for sweet cherries. The trees’ unique cultivars, selected for fruiting efficiency (UF3s), form the core of a novel architecture suited for mechanized harvesters in sweet cherry orchards of the future.

Planted at an angle, young trees are trained to grow on a two-dimensional plane, putting more of their effort into developing a fruiting wall instead of the nonproductive wood in a traditional, three-dimensional canopy.

The UFO tree architecture is taking off around the world, says Matthew Whiting ’93 PhD, associate professor of horticulture at the WSU Irrigated Agriculture and Extension Center. Whiting co-directs a $3.9 million, four-year, collaborative project funded by a USDA Specialty Crops Research Initiative (SCRI) grant to develop a sustainable, stem-free cherry production, processing, and marketing system.

Washington, California, and Oregon ranked first, second, and third in U.S. cherry production in 2011 at 200,000, 75,000, and 45,000 tons. At the same time, says Whiting, sweet cherry harvesting requires the most investment of time and labor among all diverse fruit operations. Cherry trees and the orchards they grow in don’t accommodate mechanical harvesters, laborers still pick fruit by hand, climbing and carrying 10-12-foot ladders all day. With each mature cherry tree producing between 500 and 200 pounds of fruit, harvesting takes many pickers—often hundreds in a given crew.

Unfortunately, these pickers are increasingly hard to find. State officials, petitioning Congress for help, estimated that nearly 72 percent of Washington seasonal workers are here illegally and claimed that many potential laborers are staying away because they’re afraid of being deported.

Immigration reform could reduce the labor pool even further. Georgia’s 2011 ordred with its immigration enforcement law serves as a cautionary tale. An economic impact report estimates that after HB 87 took effect on July 1, labor-related issues to participating growers after the spring and summer harvest were $75 million.
One Washington sweet cherry grower, Denz Hayden '73, president of Hayden Farms in Pasco, is paying close attention to the Georgia program. "We're in one political decision away from disaster," Hayden says. He's not sure why he started moving in this direction several years ago. But five years ago, a few growers in Washington, Oregon, and California planted test UFO blocks of this program. "We decided we're never going to plant a traditional cherry tree again," he adds. "We've seen the advantages of the UFO. It cost a lot to get the block in, but we think in the long run that the yield advantages that we've seen so far and the picking advantage will outweigh the initial cost of establishment." The key is in promoting uprights. The more uprights in the first year, the better the chance for fruiting sooner—and the higher the yields. In 2011, Whiting, graduate student Antonia Sanchez-Labbe, Joseph Grant of University of California, and Lynn Long of Oregon State University tested how timing the horizontal training of initial growth with affects shoot numbers. The team discovered that the earlier the trees were tied down horizontally, the more upright shoots sprouted. Along with training, proper pruning techniques ensured removal of upright shoots. Now completing their second year of the USDA grant, SCRI researchers from around the country are also working to breed a sweet cherry variety with fruit that falls easily off the stem, develop a mobile cherry harvester, extend shelf life through better packaging, assess consumer preference of stem-free cherries, and delve into the economics of mechanical harvest.

Chinooks and Powwows at your fingertips

by Larry Clark '94

If you're searching for a photo of a long-lost college friend or you want to dig into the rich history of Washington State, visit the WSU Manuscripts, Archives, and Special Collections’ website to browse WSU’s yearbook The Chinook up to 1986 and most issues of The Powwow, the alumni magazine from 1910 to the present, if you are looking for those books.

You can access the digital archives of the Chinooks via wsm.wsu.edu/extra/chinook and the Powwow via wsm.wsu.edu/extra/powwow.


Advance your career and your education with an online MBA or Executive MBA program from WSU.

Offering the flexibility you need and the academic excellence you demand, our programs will give you the skills to drive innovation, lead effectively, and compete on a global scale.
The China Connection
Boeing, our largest exporting company and an icon of Washington state, projects that over the next 20 years China will need 5,000 new airplanes, worth more than $600 billion, and will be its largest commercial airplane customer. The Boeing-China link is not just a future partnership. In 2006, Boeing's first engineer in China was from Wong Tsao, and Boeing has had a presence in Chinese commercial aviation since 1972. Aerospace products are now Washington's top export to China, at $3.9 billion and representing 55 percent of all exports. Moreover, every commercial Boeing airplane has some parts made in China, from doors to wing panels.

Likewise, many other industries export significant amounts to China. That number, says WSU economist Andrew Cassey, has been growing in volume and dollars in recent years. One in three jobs in Washington state is tied to international trade, partly, says Cassey, because “the ports of Seattle and Tacoma are closer to Asia than other West Coast ports by a day’s shipping distance.”

Spangenberg agrees. “You can’t afford not to study abroad anymore.” Whether you’re selling paper clips in Bellevue or you’re selling Boeing airplanes in Beijing, you’re going to be working in an international market. Spangenberg says that for business students a “true understanding of China is essential.”

Based on that, WSU’s China connection is far more than just an institutional relationship. It’s a vital part of a broader need for students to embrace another culture. “More than anything, we hope that students develop what we might call a ‘global mindset,’ a curiosity and interest about people outside the U.S.,” he says. 

Boeing holds a unique opportunity to learn about China in these settings. “We can only export what we produce and for the US government’s China Scholarship Council will fund students to either earn their doctorates at WSU or conduct part of their research and build academic collaborations with WSU. Currently, 20 to 25 students are doing their doctoral work at WSU and another ten are involved with shorter-term research.

Chinese students also make an impact economically. Eric Schinfeld, president of the Washington Council on International Trade, says the state’s exports amount to about $400 million in benefit from students coming here. Moreover, says Schinfeld, “just by educating students from China, you’re facilitating trade with China. They develop an affinity with Washington state. We sometimes forget about those relationships when we get so focused on commodity export.”

Over in the College of Business, the Chengdu-based program at the Southwest University of Finance and Economics has been bringing in many Chinese scholars and students, including an executive MBA exchange.

The dean of the college, Eric Spangenberg, says another benefit for U.S. students is that “they learn by living with Chinese students, working on projects, sitting in class with Chinese students and professors.”

These experiences are essential for an international business program, says Spangenberg, but it “takes a long time to establish relationships and reputation. Many are done on a one-by-one basis.”

Arasu says faculty-led tours to China, such as the College of Business’ recent study abroad program to Yunnan Province, and WSU Honor’s College dean Libby Walker is coordinating with Southeast University in Nanjing on an exchange with their honors programs, a novel offering at Chinese universities.

Faculty-led tours, often at a lower cost than semester- or year-long study abroad programs, such as Karen Leonas leading apparel and textile merchandising students on a study tour of China’s textile industry, can increase exposure to Chinese culture and industry across disciplines. Other programs are in the planning stage. Forrest Purkey is working on the College of Education’s first study abroad program to remote Yunnan Province, and WSU’s Honor’s College dean Libby Walker is coordinating with Southeast University in Nanjing on an exchange with their honors programs, a novel offering at Chinese universities.

Like Zhao, many Chinese students attend WSU for its strengths in engineering, agriculture, clean energy, business, and other programs. In fact, according to Prerna Arasu, WSU’s vice president of international programs, 45 percent of our international students are from China, far more than from any other country.

“WE HAVE A ROBUST CONNECTION WITH CHINA AND IT’S ONLY GETTING STRONGER,” she says. Arasu says a recent agreement signed with the Chinese government’s China Scholarship Council will fund students to either earn their doctorates at WSU or conduct part of their research and build academic collaborations with WSU. Currently, 20 to 25 students are doing their doctoral work at WSU and another ten are involved with shorter-term research. Chinese students also make an impact economically. Eric Schinfeld, president of the Washington Council on International Trade, says the state’s exports amount to about $400 million in benefit from students coming here.

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After taking basic classes at Pullman, with the goal of becoming fluent.

The high level of proficiency necessary to be fluent. WSU students can at the K-12 level.

Mandarin, unlike most European languages," says Lupke, while acknowledging the difficulty of thousands of characters and the language’s tones.

"The written language, the characters, and the tones de make Chinese more difficult than many other languages, but the relative simplicity of the grammar makes it much easier. So I think it is a tradeoff."

"It's absolutely critical that we have as many American students getting good in the Chinese language as possible. Those students need to be spread across a wide range of disciplines; we need engineers, lawyers, doctors, nurses, people in business, agricultural economics," he says. Another form of exchange comes from WSU professors and researchers already in these fields. Arasu says collaborations are taking place, with more on the way. Smart grid expert and WSU engineering professor Anjan Bose has been invited by the president of Tsinghua University, one of China's top engineering schools, to evaluate their electrical engineering program.

"Students must sign a language pledge," says Lupke. "They have a Chinese roommate who’s carefully screened, who’s not allowed to speak to them in English. There are no so-called English language courses. Everything is 100 percent Chinese. You’re living it, you’re breathing it, you’re dreaming it at night."

To help defray the costs of studying in China, students have access to a number of scholarships. The College of Business students have help from Scott ’22 and and the million-dollar donation for undergraduates to study abroad.

Others have been awarded the David L. Boren Scholarship out of the Department of Defense, providing $20,000 a year for study abroad of languages in the critical interest of the U.S., such as Chinese. "In the past five to seven years, we’ve received 14 of those scholarships, which I think is more than any other university to whom we would compare ourselves," says Lupke.

The federal government, recognizing the strategic importance of Americans understanding Chinese language and culture, also began the 100,000 Strong initiative in 2010 to dramatically increase the number of students studying in China. Ten times more Chinese students come to the United States than Americans who study Chinese, a number that Lupke feels is untenable.

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"The middle class is in a pretty tricky situation," he says. "On the one hand, they want the political stability. On the other hand, they feel kind of stifled by the political system. I believe most of the middle class are pretty ambivalent.

One way Chinese students can both learn about America and practice the ideas—without jeopardizing their economic stability at home—is by coming to the U.S. to study, says Zhou. They now have the financial resources to do that, and increasingly they are doing so.

WSU students and faculty, the cost, along with perceived linguistic and psychological barriers, should not keep them from going to China and learning about the culture, says Arasu. She knows many students can’t afford to study abroad, because of financial or degree completion constraints.

"What are we doing for the 95 percent of our students who don’t have the privilege or opportunity to go abroad?" she asks. Part of the solution is building interactions between international students and American students here on campus, says Arasu, citing a recent exchange with WSU’s football athletes.

WSU still needs increased scholarships for study abroad and alignment of curricula with overseas programs to ease the transfer of credit, she says, but the need for students with global experience, even in just a classroom, is absolutely necessary.

Chen argues, "This kind of change is imminent. We cannot wait until the students themselves realize, ‘Now I’m working and realize I wish I had a Chinese society course.’ It’s too late.

As students and businesses come and go from Cincinnati or other places in China, they’re also transforming. "More important than this intellectual content, the facts and figures, is this personal growth and attitude change," says Zhou.
**INTENT ON PROGRAMMING**

A machine to cut a section of sheet metal, six engineering students hunch around a worktable on an upper floor of a factory that designs and builds tooling and automation for the aerospace industry.

The space is bright and warm. A tinkerer’s dream of wires, tubes, tools, fittings, shelves, cords, and hardware surrounds them. The students scrutinize a screen, scribble in their notebooks, and scratch their heads. Determined to arrange a resistor ladder electrical circuit to tell the machine to move a single part before lunch, Josh Sackos frowns at a laptop. “You could just try to run it and see what happens,” offers Mohammad Faraj.

Rick Calawa, the engineer leading the spring break short course at Everett-based Electroimpact, agrees. “It’s not a nuclear launch,” he says. “Give it a try.” Sackos taps at the keyboard. His classmates lean in. He gives the run command and … nothing. Then Faraj steps up to the main computer and after some discussion, types in a change. All of a sudden the giant metal contraption rattles noisily as a pin rapidly moves forward and back. But it’s not quite what they wanted.

Calawa, the expert, tries to offer a solution.

“Wait,” says one of them. “Don’t give us the whole thing.” A few more minutes of changing the commands, they finally sort it out and with a sigh of relief, Calawa takes off for lunch. Patterns Noll, Ben Hazari, and Kevin Kline stay at the table pulling sandwiches and energy bars from paper bags and talking about how they got into engineering at WSU. “In high school someone said, ‘Hey, you should go into engineering,’” says Noll, “and I thought, ‘Why not?’”

These are jobs for people who like math and science and who might prefer blue jeans to blazers. And, frankly, these guys like solving puzzles. “This stuff we’re doing here is really appealing,” says Hazari, gesturing around the factory. “We’re learning new ways to automate things,” adds Kline. “It’s more inventive.”

“Inventive. Cool. Appealing. The words are music to Dean Candis Claiborn’s ears. At a time when our state is a net importer of engineers and so many of our industries are counting on a new generation of workers, that kind of language could tempt a new generation of students into engineering at Washington State University.

**BY THE NUMBERS**

Washington is home to about 650 aerospace-related companies, and almost all of them regularly need new engineers. When you step back and look at the other fields of engineering, says Bob Olsen, WSU associate dean for undergraduate programs, the demand simply grows. He fattles off a few of these areas: computers and technology, public works projects that have popped up from federal economic stimulus money, a retiring baby boomer generation of power and utility engineers, and a universe of new inventions and applications.

Washington, according to the U.S. Department of Commerce, is one of the largest employers of engineers per capita, but at the same time ranks 38th in the percentage of bachelor’s degrees granted in science and engineering. Higher education has fallen short, says Olsen. The gap between supply and demand threatens our state’s economy and deprives Washington’s students the chance to be part of the advances that will grow our state.

“The employers out there are all over the map,” says Olsen. “We have the big ones like Boeing, Paccar, power companies, aerospace suppliers, and civil engineering firms. And many newer areas like software medical technology.

To help fill the need, WSU is recruiting new engineering majors and working to retain them once they’ve declared, says Olsen. Over the
years the school has had a problem with losing declared majors to other programs. In 1999, just 33 percent of the students who started out as engineering majors finished as such. Now, by taking steps like enhancing advising, developing mentoring programs, and offering freshmen and sophomores opportunities to work on real design projects, that number is around 50 percent, says Olsen.

And freshman interest in engineering as a major has gone up 45 percent,” he says, adding that the school is recruiting more transfer students from the community colleges. The school is also working to lift enrollment limits, increasing the number of seats in the upper division programs available to qualified students. And the state has directed WSU and the University of Washington to each redirect $3.8 million of their budgets into their engineering programs with the goal of producing a total of 580 more engineering degrees a year. For WSU, this means not only bolstering the engineering training in Pullman, but enhancing the joint mechanical engineering program based at Olympic College in Bremerton and offering an engineering degree in Everett at the University Center of North Puget Sound.

But WSU’s instruction is just part of the effort. “We don’t train people for a particular industry,” says Olsen. “Our goal is a broadly educated engineer who can then work into these areas.” Through one-on-one relationships, the professionals help students figure out how to make the best move into the industry.

But first, these women and men have to choose to study engineering. For many, it seems the engineer links in some gray zone between science and technology. It’s just not an obvious career choice. The leaders and faculty at WSU are puzzling through this problem—how to show engineering as a more dynamic, exciting, interesting, and—dare we say—glamorous vocation.

The public image of an engineer doesn’t offer much, says Dean Claiborn. While you have all kinds of examples of lawyers, doctors, mechanics, even forensic scientists on television, you don’t really see engineers, she says, “unless you count MacGyver.” And most of today’s students have never even heard of the TV character who engineered machines with hydraulic, pneumatic, electrical, and mechanical applications. She uses a range of tools to build the contraptions her clients need. For an exercise equipment company, she is building a hydraulic unit to test a treadmill. “We have to simulate a runner,” she explains, “so the company can test the treadmill under heavy use over a period of time. I can’t wait to see it up and running.” She cracks a smile, suddenly aware of her pun.

The highest median earnings of any major are in engineering. Last year a Georgetown University survey of the economic value of college majors showed that the highest median earnings of any major are in engineering ($75,000). “It’s a question of getting the message out to students,” says Claiborn.

And if you want to make money, be an engineer, she says. They are among the top earners of new graduates. Last year a Georgetown University survey of the economic value of college majors showed that the highest median earnings of any major are in engineering ($75,000).

Angel Hall ’09 discovered engineering offered her both creative satisfaction as well as an opportunity to do good.

Working for Western Integrated Technologies she gets to design machines with hydraulic, pneumatic, electrical, and mechanical applications. She uses a range of tools to build the contraptions her clients need. For an exercise equipment company, she is building a hydraulic unit to test a treadmill. “We have to simulate a runner,” she explains, “so the company can test the treadmill under heavy use over a period of time. I can’t wait to see it go and running.” She cracks a smile, suddenly aware of her pun.

This job is perfect for her, she says, because she can build an idea and then work with other engineers to make it work. “You need engineers who can sit there and design all day,” she says. “But you need other ones who have a big picture and can kind of farm out the different steps that need to be done.”

In her spare time, Hall is president of Developing World Technologies, a nonprofit group that funds the creation of new technologies to help unindustrialized communities. The humanitarian effort started when she was at WSU. “I saw this as a senior project on a human power irrigation pump and was hooked,” she says. “I wanted to go to Malawi. I wanted to make a project like that.”

Her team made a self-priming pumping system and took it to Africa to see if it would work. They toured the countryside, visited an orphanage, and saw small farms planted with lettuce, beans, and tomatoes. And they tried out their pump.

“We found out it didn’t work,” says Hall. The team had designed the pump to fit the rear spreader of a standard U.S. bicycle. But the bicycles in Malawi come from all over the world and have many different dimensions. Also, Hall and her partners didn’t realize that almost every bike had a rack over the back tire for transporting things like food and firewood. It got in the way of carrying and using the pump. They quickly refined their prototype, adapted it to fit around the rack, and are now working with a manufacturer to produce the pumps at a price the farmers can afford.

The idea is to help farmers irrigate to raise enough food to supply their families and then have some extra to sell at the market. Now the group is funding other similar engineering projects and ideas.
POWER ENGINEERING

Our state is the leading hydroelectric producer in the country, with the Grand Coulee dam being the highest capacity plant. Not only does the industry need engineers to maintain and operate the dams, it needs them to update and upgrade them to make them more efficient. Now is an interesting time, say energy industry leaders. A whole generation of power engineers is retiring and a new workforce is needed to take over.

Still, opportunities to increase hydroenergy outputs are limited by geography. Our state, more than most, has turned to other forms of renewable energy.

Curtis Robillard ’89 wasn’t planning on a clean energy career. He chose engineering as a means to more certain employment after college. “I grew up in Yakima Valley. I watched kids come back with different degrees, and there were no jobs for them.” Robillard majored in chemical engineering and found he could apply his training to a variety of needs at Union Carbide. “I learned that you can apply engineering to a lot of different areas.”

Renewable Energy Corporation in Moses Lake, for example, graduated in electrical engineering but then turned his energies to intellectual property law. His firm, Leek & Flayes, has clients working in electronics, e-commerce, life sciences, and nanotechnology.

Then there’s Donald Bradley, whose chemical engineering degree got him in the door at the Pacific Northwest National Laboratory and led to his becoming the director of the lab’s Coastal Security Institute in Sequim. He is now a senior technical advisor at the station where part of the work involves detecting pathogens and chemical agents in the ocean and along beaches and returns.

“They bring business people, manage companies, and become CEOs, vice presidents, or presidents,” says Claisen. They are also at the forefront of new business. A recent Forbes study shows that more engineers are running start-ups than business majors.

A NEIGHBORHOOD OF NEW IDEAS

That brings us to Cameron Wheeler ’09. He is just 24 and spends his days in one of the hottest innovation and technology spots in the country—South Lake Union in Seattle. Wheeler’s current venture is ZappBug, a device that uses heat to kill bed bugs.

After hearing the horror stories of people who unwittingly brought bed bugs home in their luggage, he crafted plans for a small heater and a large, collapsible container, then enlisted the help of a tailor to mock up a prototype. Using his engineering training, he calculated the largest possible box he could fill with luggage and other infested items and still reach the necessary heat to kill the bugs. Then he flooded in how much insulation he needed to help heat retention. He also designed the “box” with seams and zippers that the blood-fording bugs couldn’t penetrate.

Wheeler wants the venture to stay small and lean—just two business partners, and a flexible setup for ordering, assembling, and delivering the ZappBug.

""
IN THE MIDDLE of the last century, a Tennessee preacher-turned-sociologist, Tolbert H. Kennedy, found a relatively untapped pool of doctoral students among the nation’s black college graduates. Between 1944 and 1965, when Washington State University barely had a few dozen black students, he and fellow ex-preacher Wallis Beasley helped produce more black doctors of sociology than all but two schools, the University of Chicago and Ohio State.

Among them was a young man who went from the hardscrabble coal country of western Pennsylvania to graduate first in his class at Wilberforce, the oldest black college in the country, and get a master’s degree at Bowling Green University. Casting about to study for his doctorate, he fielded fellowship offers from nearly half a dozen universities.

Kennedy, then the head of the Division of Social Sciences, told the student over the phone what it was like at WSU and made it clear that he took pride in having so many outstanding black graduate students. He followed up with letters and calls offering to answer any questions.

“I was so impressed with that attention that I decided to go there,” recalls William Julius Wilson, sitting in one of three offices he keeps at Harvard University. “You have to understand, I didn’t get that kind of attention at the other universities.”

From WSU, Wilson went on to positions at the University of Massachusetts at Amherst, the urban sociology powerhouse University of Chicago, then the “dream team” of Henry Louis Gates Jr. at Harvard, with positions in the Kennedy School and departments of sociology and African and African American studies.

He is now one of the nation’s most accomplished and looked-to analysts of race, inequality, and poverty, a MacArthur “genius” award recipient and, counting this year’s accolade at Yale University, holder of 45 honorary degrees. Time magazine in 1996 named him one of America’s 25 most influential people. President Bill Clinton said his books “made me see race and poverty and the problems of the inner city in a different light.” “He is only the second sociologist to receive the National Medal of Science, the highest scientific award in the United States.”

He is at times bewildered by his success. His father died young, leaving Wilson’s mother to pull six kids out of poverty. All ended up going to college and earning at least a bachelor’s degree. He is largely a product of public education but his top rank of University Professor—with a capital “U”—typically goes to products of elite prep schools and Ivy League colleges.

In some ways he typifies the word academic in academic celebrity, with a button-downed presence and books long on analysis. But he is also an intellectual warrior, spearing several orthodoxies of his fellow liberals, stoking the ire of fellow black sociologists, and planting several flags against conservatives in battles over race and public policy. One of his books provided the socioeconomic backdrop for a season of the HBO series The Wire.

He has a true rags-to-riches story. He worked hard to make it happen and is unabashedly proud after several decades of personal doubt. But he will just as soon tell you that his life and life’s work illustrate that his version of the American dream is a statistical outlier, a beneficiary of opportunities beyond the reach of most poor African Americans.

T.H. Kennedy and WSU are among those opportunities. It’s easy to overstate that in a university magazine, and maybe Wilson let himself get carried away over several interviews and occasionally wistful memories of living in Pullman. But let the record reflect that more than once, with no prompting at all, he would say something like this:

“Going to WSU was the greatest decision I ever made in my life.”
In 1969, the year before Wilson's arrival, Pullman had fewer than 13,000 residents, of which about 7,000 were WSU students. Seventeen residents were listed on the city’s “white” housing category of the day. Wilson gave it little thought. Most universities were overwhelmingly white and it seemed perfectly natural to be comfortable with the racial makeup of his fellow graduate students and well fooled by the faculty. Pullman was similar to his rural hometown of Blaizeville, Pennsylvania. “It was a beautiful place,” he says, “and the image of walking in downtown Pullman and looking up and seeing the campus up on the hill was fascinating. And I loved it. There was just great fishing down on the Snake River.”

He recalls no incidents of racism on campus and only one "patriotic racial experience," in a bar downtown. Civil rights protests were being held on campus and at that time he was really into the bar and hand-holding. He put his hand on his shoulder and said, “Believe me, I like you. But boy, slow down.”

At that, Wilson has a good laugh.

We're sitting in his office in the W.E.B. Du Bois Institute for African and African American Research, four floors above the slate roofs and brick walls of Harvard Square. He is 76, but doesn't look it. Wilson followed the civil rights movement from Pullman, but racial issues were largely absent from his studies. He focused instead on the foundational aspects of sociological inquiry with Richard Ogles '61 PhD, senior advisor, professor of the philosophy of social sciences, and "a man with a rigorous mind." He studied the logic of inquiry, the nature of evidence, the structure of explanation—how to develop your theory, gather your data, make your case. "That's how I learned to be a graduate student," he says. Washington State informally follows the way that a timeline and teaches you its students.

At graduation, he was honored as the top graduate student in the sociology department. It was a moving moment and one of several reasons he feels so good about choosing WSU. "I was experiencing upward mobility," he says. "It was always kind of a racial thing. My basic argument was that economic class had become more significant in determining blacks' chances in life and that there was a growing gap between the haves and the have-nots in the black community." He and I have an appreciation of the social mobility that now the life chances of individual blacks have more to do with their economic class position than with their day-to-day encounters with white.

When I was a graduate student in the 1970s, racial awareness was an obvious feature on the north side of Pullman. The economic-class system was everywhere. It was very clear. And the focus was on social mobility, and that's where I really realized that I had a special talent," he says. "And that's where I got the kind of solid training that now I can go on to other issues.

In the early 1970s, sociological discussions of racially-based inequality often looked at structural forces and cultural causes. The economy, politics, and educational institutions were at the heart of the debate. But Wilson was interested in how social roles and relationships, the behavior of people in certain positions, and the machinery of our social processes played out. He was particularly interested in the topic of racism.

When the book came out in 1978, racism remained an obvious feature on the north side of Pullman. The economic-class system was everywhere. It was very clear. And the focus was on social mobility, and that's where I really realized that I had a special talent," he says. "And that's where I got the kind of solid training that now I can go on to other issues.

The American Sociological Association gave the book its Sidney Spier award but the Association of Black Sociologists protested the "misrepresentation of the black experiences." One academic blamed Wilson for "giving aid and comfort to those who would blame poverty on poor people." Wilson, who as a child had tended with kids who called him the n-word, "was really hurt by the criticism and outraged to be called a neo-conservative. But he didn't hide. "I took it as a challenge," he says. "I didn't retreat. Maybe it's something in my own personality. I fought back." His next book, The Truly Disadvantaged, focused on the flip side of rising black prosperity: inner-city schools and limited education, rising unemployment, rising welfare enrollment, and shrinking prospects for getting out of poverty. He got his shot at looking at the cumulative effects of living in neighborhoods whose poverty deepened as middle-class blacks moved out. It takes a prosperous village to raise a child, and, in the poorer neighborhoods, the village structure and culture put a serious hurt on the child's chances.

That plight falls inordinately on black children. Rare is the white family that lives in a poor neighborhood for more than a year. Most black families have lived in the poorest 25 percent of neighborhoods in consecutive generations. "A majority of black families," says Wilson. "It's not just poor black families." Sociological discussions of racially-based inequality often looked at structural forces and cultural causes. The economy, politics, and educational institutions were at the heart of the debate. But Wilson was interested in how social roles and relationships, the behavior of people in certain positions, and the machinery of our social processes played out. He was particularly interested in the topic of racism.

The Truly Disadvantaged. Wilson looked at how the overwhelming structural feature of poverty ends up having more granular, cultural impacts on the neighborhood. He discussed verbal skills, money, fear, how race comes to mean something in the world and make decisions based upon it:

"You may feel that education is not really very meaningful," he says. "You develop a view on the basis of your perception of how the world works that even if you graduated from high school, you're not going to have a job, so why even bother studying?"

"But that's how underclass neighborhoods in inner-city ghetto neighborhoods. The neighborhoods in turn have high levels of crime, welfare, unstable male-female relationships, drug use, and off-the-charts incarceration rates. More than two-thirds of African American high school dropouts in their 20s have spent time in prison. In inner-city, where low-skilled workers are uncomfortable with the severe punishments and reduced opportunities are jobless. Much of the job creation will need to be in the public sector.

In the foreword for our 25th-anniversary edition of The Truly Disadvantaged, Wilson advocates a mix of private and public-sector initiatives to address the problem of urban unemployment in general, and black unemployment in particular. He writes:

"The bottom line in any discussion of the black underclass is the question: Where is the money going to come from? But the recession and, more recently, the Occupy Movement, has shifted the policy argument, timing joblessness to the economy and general inequity, not some perceived personal shortcomings.

Wilson says some cities have favored The Truly Disadvantaged in support of initiatives like the blooming housing enterprise as if it were a blueprint for their programs to tackle inner-city poverty. Under the Obama administration, the policy has again been modified to include investments in early childhood education, employment, safety, and transportation.

The New York Times Book Review listed The Truly Disadvantaged among its 15 best books of 1987. The book influenced the thinking about the politics of the then-Chicago activist Barack Obama. Along with The Declining Significance of Race, writes University of Michigan sociologist Alfred Young '95, The Truly Disadvantaged "established William Julius Wilson as a pre-eminent public intellectual of the American social condition. Their impact extended far beyond the confines of the academic community and elevated Wilson to the status of a widely-read public scholar.

Murray also inspired Wilson to, once again, double down. He assembled a massive $2.5 million research project of his own, which involved working with "a team of five researchers from Washington State University, with research projects of inner-city Chicago neighborhoods, five co-investigators. It led to the 1996 book, When Work Disappears: The World of the New Urban Poor.

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WILSON WAS 12 YEARS OLD, the oldest of his five siblings, when his father died. It was a devastating experience, he says. “And my mother told me, ‘Bill, you have to take on greater responsibility. You have to be the man of the house. I’m 12 years old.’”

At first, he was too crushed. A classmate years later reminded him that he seemed in love with his spirit. But he did step up. He worked in a bowling alley, setting pins, cleaning, and giving the money to his mother, who worked as a housekeeper. They were on relief for a spell and often hungry.

At night his mother would gather the kids around a table to do their homework while she would cook. Despite that, they were overwhelmingly impoverished, it never occurred to them that they weren’t going to get a college education, says Wilson.

To some extent, his experience is echoed by the families in Good Kids from Bad Neighborhoods, a study of successful adolescents who overcome the overwhelming odds of their high-risk areas. The study, on which Wilson was a junior author, found a major factor in the kids’ success was the “mediating variable” of strong family units.

But there are some ways in which Wilson’s experience is hard, if not impossible, for today’s black poor to replicate. Yes, Wilson had personal initiative to spare. He worked hard, and thinks his first two marriages were done. But if you wallow in pessimism you just don’t do anything.

“We just have to keep fighting. We can’t succumb.”

Wilson caught the eye of the University of Chicago when the chairman of its sociology department, Morris Janowitz, saw him give a presentation in Cleveland. Wilson was a case of being in the right place at the right time, followed by what Wilson calls “affirmative opportunity.” At the time, a scholar needed to have a book published to be appointed a Chicago associate professor with tenure. Janowitz recommended Wilson’s appointment based on the unpublished manuscript for Power, Racism and Privilege. It was a gamble based on his potential. It paid off with The Declining Significance of Race.

After his Harvard appointment in 1996, Wilson had several years of self-doubt, in part from being surrounded by people from the best private schools and elite universities and feeling “like they have a kind of cultural capital that I don’t have.”

“Now I walk around with a swagger,” he says, “but it’s taken me some time to get to this point.”

He is a proud man, with books considered classics, a philantropist of nationally-known former graduate students, and popular courses, including one based on The Wire. He is an impressive individual, but it frustrates him to see economic and social outcomes, consequences of a vast, disparity-producing social structure, framed in individual terms.

Writing with Anmol Chaddha in the essay, ‘View Down in the Hole’: Systemic Urban Inequality and The Wire, he points out that two-thirds of Americans feel blacks who can’t get ahead “are mostly responsible for their own condition.”

The Wire is fictional, but its look at the inner-city institutions—the ghetto drug trade, police, City Hall, schools, and the media—necessitates “the range of forces that shape the circumstances of the urban poor while exposing deep inequality as a fundamental feature of broader social and economic arrangements.”

Over dinner one evening, Wilson took to talking about a scene early in the series when D’Angelo Barksdale, a lieutenant in his Uncle Avon’s drug gang, tells Stringer Bell, the second-in-command, that some of his underlings might chute under new restrictions. As if they have a choice, says Bell, as if they’re going to say, “let me quit this game here and go to college.”

Read more about Wilson’s WSU colleagues and their accomplishments at wsm.wsu.edu/suwa/WSUcohorts/cohorts.

*aThe Wire* is a fictional TV series based on the life of a real person, William Julius Wilson, a sociology professor at Harvard University. The series follows the life of a young man, Michael Baines, as he navigates the inner-city institutions of Baltimore, Maryland, including drug dealing, police, and the public school system. The Wire highlights the struggles of inner-city residents and the systemic issues they face on a daily basis.

**Power, Racism and Privilege**

This book, written by William Julius Wilson, explores the complex interplay of power, racism, and privilege in American society. Wilson uses a combination of empirical data and personal anecdotes to argue that race remains a significant factor in shaping opportunities and outcomes for individuals and communities.

**The Declining Significance of Race**

In this book, Wilson challenges the notion that race is a primary determinant of social standing in the United States. He argues that while race continues to matter, it is increasingly less important compared to other factors like class and education.

**View Down in the Hole: Systemic Urban Inequality and The Wire**

In this essay, Wilson and Anmol Chaddha analyze the fictional series *The Wire* and its portrayal of systemic urban inequality. They argue that the show provides a powerful reminder of the structural obstacles that urban residents face.

**Good Kids from Bad Neighborhoods**

This study, conducted by Wilson, examines the experiences of successful adolescents who have overcome extremely difficult circumstances. The study highlights the importance of supportive relationships and environments in promoting success among young people.
LUCIA’S BLUE (Celastrina lucia)

A lovely little butterfly, generally quite rare, Lucia’s Blue is partial to Cowiche Canyon. In some years, James has seen in as few as 200 butterflies, which is not quite as delicate as they look. When the butterfly takes flight, it has a wingspan of between 1.5 and 2 inches. As a Cowiche Canyon visitor that butterflies court, you’ll see the females lay eggs on the red osier dogwood. They lay them in clusters, either alone or in groups of three to five. As the eggs are laid, they merge into a single cluster.

The Lucia’s Blues develop very rapidly. Once the caterpillars are well-fed on red osier dogwood, they turn into a chrysalis, the stage in which they spend the rest of the summer and winter. “It was supposed to be a retirement project,” writes in his foreword to Life Histories, “In the whole world, no other book on butterflies is exhaustively unique. Although other books about butterflies life-histories exist, none quite matches in its thoroughness. As Pyle notes in his foreword to Life Histories, ‘In the whole world, no other comparable region enjoys a work of this size, ambit, and acuity for its butterfly fauna.’

But what distinguishes Life Histories from general field guides and most butterfly books in general is that it treats the whole life of the butterfly. After all, the common image of the butterfly, the beautifully patterned adult, represents only a fraction of the insect’s overall life. Once they have emerged, butterflies lay eggs that hatch into larvae, or caterpillars. The caterpillars feed, grow, and molt a number of times before becoming chrysalids, or pupae. The adult butterfly forms within the chrysalis and emerges. The portion spent in each stage varies by species.

As James points out in his introduction, the adult of many butterfly species may live for only a week or so, “with 98 percent of their life history hidden or unknown in immature stages,” so a full understanding of the factors controlling populations must necessarily include the study of immature stages.

But information on the entire life history of many butterflies of many geographical ranges is sorely lacking. Fortunately, Cascadia is now among those deficient ranges.

MOURNING CLOAK (Nymphalis antiopa)

From his pack, James pulls a container of butterflies, captured earlier across the ridge in Bear Canyon. In contrast to the rarity of Lucia’s Blue, the butterfly he holds in the sun as it warms up is known throughout the world. While the Lucia’s Blue apparently is particular to the red osier dogwood as a host plant, the Mourning Cloak claims an enormous range at least partly due to its much more diverse diet.

Common to riparian corridors, lower elevations canyons, forest margins, and meadows from Alaska to Venezuela, from Lapland to Siberia, as Pyle notes, the Mourning Cloak populates all of Cascadia except the wettest coastal rainforest. Although it is a tough butterfly, like many butterflies it has trouble with cool and damp.

In fact, such is that aversion that one thing that Washington is not rich in butterflies. Pyle calls it the “out factor.” Much of Washington is simply too wet and cool for butterflies to thrive. But where the Mourning Cloak lives, it thrives. Compared to its more ephemeral fellows, it is a long-lived butterfly. This one emerged last July, James tells his audience. It will lay its eggs shortly, and will still be around in the coming July. The larvae, however, will pupate to escape the summer heat. Now, warming in the sun, the butterfly rests on James’s hand. Butterflies, which are cold-blooded, need air temperatures of 65–70 degrees to fly.

Universal as it is, the Mourning Cloak can never lose its appeal, for it is stunningly lovely. Vladimir Nabokov, known for his Lepidoptera obsession, composed a poem about it in 1921.

Viburny-black, with a warm tint of ripe plum,
Here it opened wide; through this live velvet
Delightfully gows a row of sunflower-face graces,
Along a circular fringe, yellow as the ripples of...
Life Histories

Becker’s White (Pantia beckerii)

Of the thousands of known species, the only butterfly that causes economic damage is the Cabbage White (Pieris rapae). Gardeners here today might indeed scorn the white butterflies that flit through the warm canyon. A closer look, however, would change their mood. The difference, besides diet, is the underside of their wings.

“The whites you see here are Becker’s Whites,” James tells a new group. Whereas the Cabbage White’s underwing is yellow, the Becker’s White’s is a beautiful green.

Even with the James family’s purposeful hikes, the bulk of the information for Life Histories was accomplished in a more controlled setting.

James tells me separately the same as his wife, that this was originally a long-considered project that would be finished sometime after “retirement.” His major work is directed toward biological control in vineyards.

But then he caught wind that David Nunnallee in western Washington was also documenting butterfly life histories.

“Once we got together, there was a synergy,” says James. “It became more of an achievable thing to do in a shorter period of time.”

Although adult butterflies were collected in their habitat, and the finished book now provides an identification guide for whatever stage one might stumble across, one does not simply go out and track down eggs, caterpillar, chrysalis, and adult for each of 158 species of butterflies. For most of those species, that work required raising them in the lab.

On the one hand, such an endeavor was nothing new for James. He started raising butterflies as an aspiring eight-year-old lepidopterist in England.

But the reality of scientifically documenting each stage of these butterflies’ life histories was daunting.

“It was a phenomenal amount of work,” he says. Many of the species had never been reared before, and each species required a different way of getting them to lay eggs.

Their desire to produce such an exhaustive study required that James and Nunnallee raise each species multiple times.

“There was so much variation,” he says. Variation, that is, within an individual species. For example, the color of the larvae might vary depending on the host plants they feed on. Many of the entries in Life Histories include as many as six photographs of larvae in order to show that variation.

Each species, says James, represented a separate research project. But the final result is a wealth of biological and ecological knowledge that simply didn’t exist before their work.

The book has produced lots of “suggestions for further research,” says James with a smile.

Monarch (Danaus plexippus)

One butterfly that does not make a showing in Cowiche Canyon today is the Monarch, probably the best-known butterfly in the world. It is actually much too early for Monarchs, and even later in the season it is not common. According to Life Histories, most Monarchs that occur in Cascadia probably originate in California. This and the longer migration of Monarchs between Canada and Mexico are threatened by decreasing habitat, particularly stands of showy and narrow-leafed milkweed, their host plants, due to agriculture and urban expansion.

Efforts to conserve appropriate habitat depend on a better knowledge of their migration routes. Although eastern Monarch migrations are fairly well understood, our understanding of western migration is sketchy. Although a recent study analyzed data on host plant availability and climate and predicted origins of migrating monarchs, it still does not clarify routes.

James is proposing to answer fundamental questions about western Monarch migration by enlisting prisoners at the Washington State Penitentiary in Walla Walla.

To conduct a rigorous study, which will take years, James will need tens of thousands of monarchs. Raising them himself is simply not feasible.

As part of the Sustainable Prisons project, which has been successful in western Washington in connecting prisoners with nature, officials at the penitentiary contacted James about possible prisoner participation in his work. According to James, prisoners have “reared endangered species more effectively than experts.”

Starting this summer, prisoners at Walla Walla will begin raising the thousands of Monarchs necessary for James’s study. Once the butterflies have reproduced and metamorphosed, they will be tagged, transported to various sites near the California-Oregon border, and released.

In Wilderness is the Preservation...

“We cannot protect what we do not understand,” write Nunnallee and James in their introduction. Their book has contributed enormously to our understanding of the full lives of butterflies and, it is hoped, will contribute to the protection of these wonderful animals.

The great British naturalist Sir David Attenborough has called Life Histories’ “magisterial,” a label that suggests much more than a collection of data and observations. A richly unique combination of traditional natural history and obsessive data-driven science, the book is, finally, beautiful—both in itself, for it is wonderfully photographed and written, and for showcasing us the enormously complex beauty of our Canadian butterflies.

To find out the one species of butterfly elusive to Cascadia, visit wsm.wsu.edu/extra/Cascadia-butterflies.

There are over twice as many members of the WSU Alumni Association (WSUAA) today than there were just a few short years ago. Why wait any longer? You should join, too.

With a ten-fold increase in the number of WSUAA members, members have the opportunity to take advantage of:

- Special offers from Dell, Best Buy, Pizza Hut, Mayflower Park Hotel, Old Navy, Office Depot, Target.com, T-Mobile, Hotel Andrea, and many others
- The Cougar Business Network (CBN)
- No membership fee when joining the Wine-By-Cougars wine club
- Savings on Cougar gear at The Bookie, Crimson & Gray, and the Washington State Connections store
- Discounted rates to play Palouse Ridge Golf Club in Pullman
- Special rates at many preferred hotel chains and car rental agencies
- Savings on Cougar gear at The Bookie, Crimson & Gray, and the Washington State Connections store
- Wine-By-Cougars
- No membership fee when joining the Cougar Business Network
- The many others
- Access to WSUAA
- Special offers from Dell, Best Buy, Pizza Hut, Mayflower Park Hotel, Old Navy, Office Depot, Target.com, T-Mobile, Hotel Ändra, and many others
- And many more…

When you join, you instantly help fuel WSUAA programs and services that benefit students, alumni, and the University. In addition, you enable the WSUAA to make an even larger contribution to the strength of WSU.

Call or join online today. We all know that Cougars are capable of doing extraordinary things and, in true Cougar fashion, your support of the WSUAA helps WSU.
classmate Peggy McKee ’76 sloped and were married on the grounds.

Decades ago, the museum’s collections had outran its space. For lack of display room, many treasures are locked away in storage. Callan remembers working on plans to expand the museum more than 20 years ago. They needed more space for educational programs, better storage, added offices, and just plain updating. “We did a number of schemes,” says Callan. But money, and opportunity, worked against the project. “The stars just hadn’t aligned,” he says. Finally in 2010, the museum’s advisory board, the money, and the need reached the right point. What was a $30 million project got scaled back to a $10 million effort to add

The Andy & Bruce Stevenson Wing at Maryhill Museum of Art in Goldendale. Maryhot Nalbandian/The Oregonian

Finally, a third benefactor, Alma de Bretteville Siers, continued the effort after Hill’s death, ensuring the museum opened in 1940.

For Callan, who grew up in nearby Goldendale, Maryhill was always an eccentric character in a landscape filled with barns, wood-frame houses, and acres of oxbow slough. “I would go there,” he says, “It had a special attraction to me, not only for the collection and the building, but the site. Located above the Columbia River with views to Mount Hood and up and down the gorge. It’s 5,000-acre property is vast and stunning. Such was the attraction that after starting his career in Portland, Callan and his WSU

Andi Day ’93 [History] has returned to the county of his childhood home as the director of the Pendleton V.F.W. Post 1480 as executive director. She will be responsible for the county’s veteran’s service organization, region’s veteran’s industry.

Joe Terry ’04 [Bus. Adm.] is the interim vice president of personnel and government for Montana State University-Billings. He was appointed the position by president Jamal Miller. Terry is also the executive director of Benson’s Flying W Ranch, an organization that helps children make healthy eating decisions.

Andi Malott ’00 [M.A. Sci.] is a program president at the Solar Electric Power Association and will lead SEPA’s efforts in engaging utilities to create visual fireworks,” things that may not go together and may not sell, but work because they are what he wants to create.

If I rather spend time developing something super in my art with my dough than do a half-ass job of the dough, I just go out and say it,” he said. “I want to do the best art, the most original art, the most interesting art I can.”

In addition to completing the mural, Siler had his work displayed at the WSU Museum of Art this past summer. The Curator of Chicano art exhibit featured several of Siler’s finished works, in addition to a series of sketches and drawings he did in preparation for the mural. The museum spent $4,000 from the permanent collection fund for the pieces, enough for him to purchase supplies to finish the mural.

“It’s a good thing for Pullman history and a former faculty member who taught here for many years, that he represented in the permanent collection in a way that’s not just a painting,” says Chris Bruce, the museum director. “It’s a way of sharing some of what we’re outside and the end result.”

Siler was born in Spokane and grew up in Tucannon. Throughout his childhood, Siler was always interested in art, and took a sketch book everywhere he travelled.

Patrick Siler ’61

On the wall

by Katrina Clinegic ’13 | Patrick Siler points to a crack in the wall’s substrate. It seems inevitable, but not despairing. “If I don’t fix it now,” he says, “it’s going to come back.”

And then there’s tension between these things that are so disparate,” he said.

Siler’s work draws from German Expressionism, comics of the 1930s and 1940s, and traditional Japanese and Chinese brushstrokes. Siler said he tries to find discrepancy in objects and put them together to create “visual fireworks,” things that may not go together and may not sell, but work because they are what he wants to create.

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Yessenia Picha '12

of alpacas and affection

by Linda Weyrfd

Yessenia Picha comes from a family of alpaca owners, or alpacarers. She grew up around the curious, long-lashed creatures raised mostly for the fiber they spin, not for their meat. With 80 percent of the world’s alpaca population residing in Peru, it’s no surprise that after completing her veterinary degree at WSU, she would decide to return to Peru, her alma mater, and the Smithsonian. He has also returned to Pullman, where he spent 16 years as the main ceramics professor and faculty member of the Art Museum, and the Smithsonian. He has also attended various art fairs and exhibitions in the region and is known around the world for his work with camels, members of the camel family that includes camels, alpacas, and llamas. His colleagues and contemporaries were the type of experts Picha longed to work with, and she adds, that she also appreciated the school’s philosophy of respect toward animals. “What’s more, WSU had its own herd of alpacas. At home, alpacas don’t like people much because we view them more as business. And we don’t show them much affection. They ignore us and spit on us,” she said. In Pullman, she found a different experience. “Here, they were kind and smart,” she said. “I think because they are treated with more affection.”

Recognizing Picha’s desire to continue her education, Mubtaj Menon, an associate professor of comparative animal reproduction at WSU, encouraged her to apply for a Fulbright scholarship so she could return to WSU and complete her master’s degree. Not only did the competitive international program award her a grant for her studies, it provided for intensive English language training.

“When she first got here, she spoke in broken English and seemed unsure of herself,” says Menon, himself a Fulbright scholar who now serves as WSU’s Fulbright Ambassadress. “But she was very determined, and worked hard. Under her two years here, she learned, grew, and gained confidence. And yet, she never lost sight of where she came from and her commitment to contribute what she learns when she goes back.”

Late this summer Picha returns to Cuzco as one of the first, if not the first woman veterinarian in Peru to earn a veterinary master’s degree in the United States.

Picha hopes to work mainly with alpacas and cattle and would like to eventually return to school and earn her doctorate. Someday she hopes to join the faculty at a university. “I hope to teach my students to be critical thinkers. Before, I didn’t question what I learned from my books or my professors,” she says. “Here, I was encouraged to ask, ‘Why?’”

And whenever she sees someone wrestling with alpacas she says, “I came to see that I would have to study harder and work harder to show that I can make a difference.”

In Memoriam

1930s
Mid-Roamer (‘34, ‘35), April 11, 2012, Pullman.
Frank E. Speakman (‘36, ‘37), September 13, 2012, Pullman.
Royal A. Van Houten (‘37, ‘38), September 20, 2012, Pullman.
John F. Jordan (‘38), September 27, 2012, Pullman.

1940s
Melinda D. Goath (‘40 Fine Arts), April 12, 2012, Pullman.
Charles E. Hoover (‘40), April 22, 2012, Spokane.

1950s
Cheryl R. Bart (‘52), March 1, 2012, McCall, Idaho.

1960s
John N. Martin (‘61), March 14, 2012, Pullman.
Patricia A. Monahan (‘62), May 2, 2012, Pullman.

1970s
Malcolm E. Siler (‘73), April 15, 2012, Pullman.

1980s

1990s

2000s
Betty Jean Beek (‘00), May 21, 2012, Pullman.
Professor Mark O. Smolin (‘01), May 23, 2012, Pullman.

2010s
Catherine Marie Purvis (‘10), May 24, 2012, Pullman.
Rachel T. Irving (‘11), May 27, 2012, Pullman.

1940s

2012
Becky Quigley (‘37), 90, March 6, 2012, Spokane.
Edith Metzger (‘37), Kappa Delta, March 9, 2012, Spokane.

1950s

1960s
Melinda D. Goath (‘60 Fine Arts), April 12, 2012, Pullman.

2012
John Woodrow Brown (‘01), May 24, 2012, Pullman.

2015

What it means to be a Coug

by Darvin Watkins ’84 – Marcus Capers wanted to make his place in the game of basketball. Now, after a four-year career at Washington State University, his workman-like attitude has forever etched his name into the Cougar record book.

In sports circles, Capers is referred to as the iron man, a distinction reserved for those rare players who have played more, or stayed with the game longer, than anyone else. Offically, the Cougar guard appeared in 1,315 games over his four years, an accomplishment that tops the previous record set by George Hamilton more than 30 years ago. If a WSU record earned by two years of post-season tournaments and stands, as some observers believe, as a record that may never be broken.

“It was a complete surprise. I didn’t realize I had played many games,” says Capers. “I wanted to make my mark on the game, and not live in the shadows of someone else’s success.”

Growing up in central Florida, Capers’ dream was to stay in basketball all his life. The idea of being successful as a high school basketball coach, he needed to succeed as a player. “Having played the game brings a different level of respect,” says Capers. “The same with recruiting. It’s how I helped bring several current athletes to WSU.”

Capers is known at WSU for being a natural leader—one who always showed up...
Marcus Capers participating in the WSU Athletics Student-Council program. Marcus Capers, the eight weeks that followed were a blur of homework and final exams.

On the night of his graduation, with his family at his apartment, he stepped out onto his deck for a brief pause, only to be struck by a blur of homework and final exams.

For practice and stay focused in every game. The stats show Capers’ contributions in every category—points scored, rebounds, assists, and steals. What they don’t show is that, as a player, Capers just seemed to make everyone else around him play better.

Marcus was all about the team winning games and had a role that made him a valuable asset. “The scholarship he had to offer had just been short when his scholarship was derailed. "Coach this school ."

"A very good defender and an opportunistic offensive player. We will miss his acrobatic dunks and his ability to always play with great effort!"

Recruited out of high school by several major programs. Capers narrowed his choice to Florida State and WSU. But in the end, he sensed that becoming a Cougar might prove more meaningful to him.

"Marcus was all about the team winning—points scored, rebounds, assists, steals. What they don't show is that, as a category for practice and stayed focused in every game.

The WSU faithful love to tell the story of Damen “Gabby” Rodriguez urging Capers, "...everything, that is, except the snow. It was Senior Night in 2009, with two had met during Capers' recruiting visit to Pullman and had remained in contact.

"There are certain things you can't tell your teammates, or that you don't really want to tell your friends," says Capers. "My mentor talked with me as a Marquette student, and Marquette the athlete. It made all the difference."


"There really is something special about this school...something very different from other campuses," Capers says.

"There is that difficult day when he learned head basketball coach Tony Bennett was leaving WSU. Capers considered transferring, but Rodriguez helped him reason through it.

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Marcus Capers leaves Washington State University with a degree in social services and a minor in communications. This fall will be his last year at WSU, and he is planning to attend the University of Washington to pursue a degree in social work. "It’s a mark that I was able to give back to WSU—to honor the gift I was given by the Rochester family," he says.

Life Achievements

#1 in number of games played—135*
#7 in career minutes—3,447
#13 in blocks—82
#17 in assists—232
#18 in rebounds—537

*Capers missed only one game in his four-year career, a 63-51 victory at Arizona State, Jan. 29, 2009 during his freshman season.

Watch a video of highlights from Capers’ WSU career by clicking here.

Michael Robert Saunders (‘60 Geology), 69, March 5, 2012, Reno, Nevada.
Jannelu Anne (‘68 Phil.), 63, April 1, 2012, Colville.
David Lee Pritchard (‘90 DVM), 68, April 6, 2012, Junction City, Oregon.

1970s

Kenneth Joe Capek (‘71 Art.), 64, May 24, 2012, Olympia.
Susanne Kathleen Dury (‘72 MEd.), 62, October 19, 2011, Crescent City, California.
Dale E. Inland (‘73 Swm.), 60, April 17, 2012, Shingle Springs.
John Tarnai (‘76 M.S.), 52, PhD Prep (‘75), 65, May 6, 2012, Richland.
Patricia E. Thomey (‘77 MS Human Ecol.), 58, April 9, 2012, Racine, New York.
Loren Newell Cunningham (‘78 Forest and Range Mgmt.), 57, May 2, 2012, tac.

1980s


Dominic Buzzo (‘84 MEng), Amy BOCY, Rice D’Ors, 48, March 11, 2012, Olympia.
Hyde Andrew Mahlave (‘78 BEng), 65, March 12, 2012, Laramie.

2000s

Kris Gaddy (‘02 DVM), 40, April 11, 2012, San Diego, California.
Buckley Moody (‘02 DVM), 45, April 20, 2012, Coeur d’Alene.
Joseph Thomas Nishihara (‘05 MEng), 55, March 4, 2012, Seattle.

Faculty and Staff

Aiden M. Black, 90, Choral Music, 2012, Pullman.

“My favorite part of leading my local chapter was hands-on community involvement,” she says. As president of the WSUAA, she’s the face of a much larger community, a factor that boosts the challenges along with the rewards. “Volunteering for my local chapter helped me meet my neighbors, essentially,” she says. “I learned so much about my community and it was satisfying to help build and strengthen the Cougar family. Now, I’m looking forward to helping connect more Cougar nations.”


To join and learn more about WSUAA, visit www.alumni.wsu.edu.
Finding the River by Jeff Crane ’04 PhD, ’98 OREGON STATE UNIVERSITY, 2011 :: Review by Hannah Sudermann :: In 1992, President George H.W. Bush signed into law the Elwha Act, which called for the removal of two hydroelectric dams from the 45-mile river that flows from Washington’s Olympic Range to the Strait of Juan de Fuca. Over the past year, the Elwha and Glines Canyon dams have been removed and now the decades of sediment behind them are being managed in a way to limit damage to the river downstream.

In just time comes Finding the River, the story of the river from its geological formation to the removal of the dams and the efforts to restore the salmon and trout that once dominated the waterway. Crane, an associate professor of history at Sam Houston State University, not only gives a rich history of the dams but details the efforts of environmentalists and Elwha Klallam Indians to draw attention to the damage they caused.

Crane mixes vivid descriptions of the landscape with an understanding of the natural, cultural, and political forces affecting the development, use, and removal of the dams. He brings up interesting details, including the blowout in 1912 during the construction of the first dam. The water surged 30 feet. Ranking dogs saved the Lower Elwha Klallam Indians from drowning.

Crane also details the early and failed efforts to transport the salmon past the dams, including a fish trap and elevator to carry fish to the river above, and later the construction of a fish hatchery below one of the dams.

In his conclusion Crane suggests the restoration of the Elwha River could open the discussion of removing other dams in the United States. He even goes on to name a few. Finding the River is what Crane hopes the native salmon will do, but he also hopes that others will find it as a landmark in our environmental history and example for efforts to restore other rivers around the country.
WhErE to approach cougars

Connect to Cougars one-to-one through Washington State Magazine. 68% of our readers live in the state of Washington and another 18% make their homes in other parts of the West. Your customers are already here, dedicated to Washington state and WSU. Visit wsm.wsu.edu/advertising where you can learn more about one of the best direct marketing tools available in the Northwest.

Mural, mural, on the wall

Pine Street Plaza Mural, 2009-2012
Artwork by Patrick Siler
Pullman, Washington

Artist and WSU fine arts faculty member for 32 years, Patrick Siler’s outdoor wall mural “Pine Street Plaza Mural” holds a prominent position in downtown Pullman. He completes the third and final panel this summer.

The WSU Museum of Art presented an exhibition this summer—Curator’s Choice: Patrick Siler Mural—showcasing the sketches and finished drawings that were a part of the project.

For more information on the artist and project, see article “On the wall” on page 47.

Watch a video of Siler and his work on the mural at wsm.wsu.edu/extra/Patrick-Siler.
MYTH #13 in the PLANNING YOUR ESTATE SERIES

YOU MUST BE A GENIUS

- OR NOT -

Truth is, we make giving to your favorite university simple, with sample bequest language and helpful forms on our website. Just contact one of our planned giving professionals. Let us show you how easy it is to create your own legacy.

ALBERT EINSTEIN (1879-1955)
Considered the "father of modern physics," his name is synonymous with genius.

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