

## Fans fill Gill for champs

Experts said the women of Beaver basketball — despite making history in 2016 with an appearance in the Final Four — would slip back to the middle of the pack this season and finish no higher than fifth in the Pac-12.

The team and its fans said otherwise on Feb. 24, when 9,604 sold out Gill Coliseum, the first time ever for an OSU women's game. As the final seconds ticked away, the crowd roared as head coach Scott Rueck's squad celebrated a win over perennial power Stanford, clinching a share of their third straight conference championship.

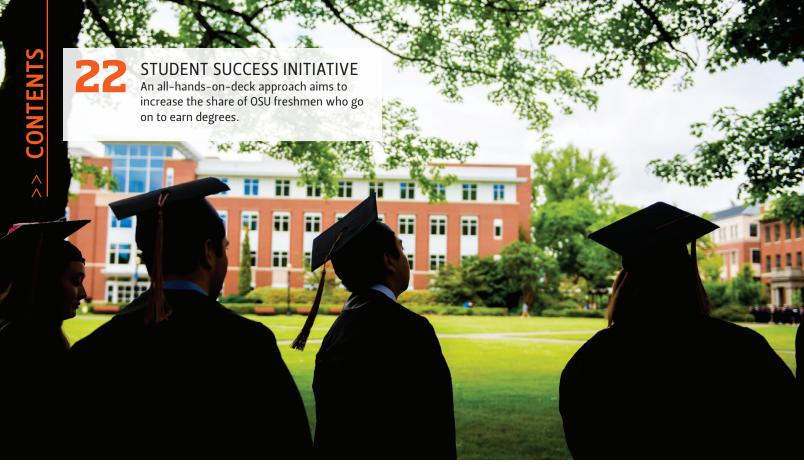
"Usually I don't look into the crowd before the game, but it was impossible not to," senior guard Sydney Wiese said afterward. "Shoutout to Beaver Nation, because they really showed up in force. They were on our side all night, and it was electric. They were a part of the game just as much as we were, and I'm so thankful we could share it with them."

Two days later the Beavers defeated Cal in Gill to go 29-4 and win the regular season conference title outright, in what Rueck deemed "a perfect ending to a fantastic regular season."

The Beavers would go on to take second in the Pac-12 Tournament in Seattle and earn a No. 2 regional seed in their fourth consecutive appearance in the NCAA Division I Women's Basketball Tournament. They made it into the Sweet Sixteen of the tourney before falling to Florida State in the semifinals of the Stockton Regional, ending their season 31-5

Along the way they earned a large collection of honors, including:

- » Wiese, who earned numerous conference and national all-star nominations and selections, finishing her OSU career by breaking the conference record for threepoint shots and the OSU career record for assists.
- » Senior Gabriella Hanson being named conference defensive player of the year.
- » The fans in Gill leading conference attendance with an average of nearly 4,400.
- Rueck being named conference coach of year by the media and his fellow coaches.
   (Photo by Dave Nishitani)



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On the cover: Aubree Olmstead '15 helps a resident at Columbia Basin Care in The Dalles, where she was executive director at 22, thanks to hard work and an internship. Story, page 22. (Photo by Hannah O'Leary)

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#### It's a sweet thing to have support

I've never met Zack Schreiner '13 in person, but he's a hard guy not to like. He emailed me a few months ago to brag a little about a fellow Beaver.

"I don't know how you choose who you write about," he wrote, "but there is someone that I know who has quite the success story after leaving Oregon State ..."

That "someone," it turns out, is his wife, Aubree Olmstead. That's her on the cover of this issue.

"Over the course of eight months, she went from being an unpaid intern who had not yet received her diploma to the executive director of a facility with over 100 employees, and is responsible for the care of 50-plus residents," Zack wrote. "At this time she was only 22 years old. She attributes a lot of her success to the skills and education that she gained while at Oregon State."

You can read Kathryn Stroppel's story about Aubree on page 22. She graduated in 2015 from the College of Public Health and Human Sciences, where she was urged to take an internship that led to a highly successful start to her career.

I called Zack a couple weeks ago to tell him his wife was going to be on the cover.

"Wow," he said. "She's going to be very surprised."

His email had arrived just as we were discussing who to put on the cover of this issue, with its focus on OSU's Student Success Initiative.

Aubree Olmstead is a good example of how student success becomes alumni success.

She came to Oregon State, worked hard, got a great education and sound advice, gathered the resources and will to get through the inevitable challenges of her college years and

emerged into a job she loves, in a field of her choosing.

Like so many tens of thousands of the rest of us Beavers out in the world, she'll probably never win a Nobel Prize or have a building on campus named after her, but she'll be out there, making her mark, serving her community as she leads a useful, fulfilling life. That sounds pretty successful to me.

The university's Student Success Initiative is mainly about making sure more of the students who enter Oregon State and are willing to work hard like Aubree did, get the best possible chance to realize their potential.

For a lot of reasons, too many don't. Four out of every ten first year students don't get to make that exultant walk out of Reser Stadium on Commencement Day, diploma in hand. Many end up stuck with no diploma, little earning power and mounting student loan debts.

The smart people leading OSU's Student Success Initiative have strong evidence that with key encouragement, guidance and financial help in various combinations, far more of those students can end up like Aubree, with a degree in hand and a bright future on the horizon.

As for her and Zack, it turns out that they've been friends since middle school and they were married Jan. 3. She's not a big self-promoter, he said, but he's happy to do that for her.

"I've always teased her that I was going to call someone at OSU about doing a story on her," he said. "I just think she's a great example of a successful college graduate."

I think he's right. I also think that when this issue of the *Stater* shows up in their mailbox and she sees the cover, he might have some explaining to do.

Kevin Miller '78, editor

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#### CONTACT THE STATER

877-OSTATER (877-678-2837) stater@oregonstate.edu Oregon Stater, 204 CH2M HILL Alumni Center, Corvallis, OR 97331-6303

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#### **Publishers:**

Kathy Bickel, executive director and vice president of alumni relations; Wade Westhoff '93, president, OSUAA

Editor: Kevin Miller '78 stater@oregonstate.edu Direct: 541-737-0780 Toll-free: 877-678-2837

#### **Associate editors:**

History and traditions: Hannah O'Leary '13 Design: Teresa Hall '06 Philanthropy: Molly Brown Photography: Hannah O'Leary '13 Sports: Kip Carlson

Chief proofreader: Janet Phillips McKensey '79

#### STATER ADVERTISING AND OSUAA SPONSORSHIP SALES

Angela McBride, marketing associate director osualum@oregonstate.edu

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## Top-ranked **DEGREES**

ONLINE

When it comes to your career, it's never too late to change course. Kristy Trevino has a Ph.D. in Chemistry and was working an industry job she didn't enjoy when she decided to start fresh. She enrolled online with Oregon State University Ecampus, earned a master's in natural resources – and now her career in water conservation is booming as an educator, journal editor and advocate.

Read her story here:

ecampus.oregonstate.edu/kristy

#### **Kristy Trevino**

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#### Bad day on the peak

I read with great interest your story about Marys Peak in the winter 2017 Oregon Stater.

My only trip to Marys Peak took place during the fall of my senior year at OSU.

A friend (David Hauptman '63, now deceased) and I decided to go deer hunting. He had the only gun and a pickup and we left campus sometime around noon for an afternoon adventure. He chose the location — to hunt on Marys Peak. When we started up the road to the peak it still seemed like a nice day, though a bit

At one point we stopped as a deer crossed the road in front of us and David grabbed his rifle and chased after the deer. Minutes later he returned and we continued up the road toward the top of the mountain. It got increasingly windy and we saw tall trees swaying violently so we decided to turn around. I guess we must have driven at least two-thirds of the way to the top before turning around and slowly coming down the mountain, as the wind was now extremely strong.

It was getting dark as we emerged from the road to Marys Peak. We thought something was unusual and noticed there were very few lights in the valley. We soon encountered trees across the road leading down to Philomath and eventually to Corvallis.

After guite some delay the road was cleared as crews were out with chainsaws and we decided a major power outage must have occurred while we were out hunting.

Yes — my only trip to Marys Peak took place on Friday, October 12, 1962, the day of the Columbus Day Storm.

> Herschel L. Mack '63 Gold Hill

#### Chuckling over article

I'm chuckling over the article on Marys Peak. I hope the OSU history folks know that the first stories of that peak are as old as Biblical tales.

In the 1800s, an Indian tale was collected that tells of a band fleeing up the peak, escaping from a huge flood. A quick check with the geology folks will tell you at least how old that tale has to be from the Missoula era.

It is almost twice as old a tale as a Klamath legend of Mt. St. Helens battling Mt. Mazama — and St. Helens was the winner.

Both geological events were not tied to the stories and their geological truths until the 1960s. They make the tales from "here" outdate most of the physical evidence of early settlement by people.

> Mike Reid '68 '73 Sheridan

#### Memories of gasohol

In the most recent Oregon Stater, Vance Fraser '81 made a case for ethanol as a motor fuel. In the early 1980s, fresh out of OSU. I went to work for Bonneville Power Administration. With a BS in chemistry they decided I was a good fit to develop their "gasohol" program. My first task was to determine what alcohol would be used. Of course, Archer Daniels Midland, the big corn and ethanol developer, was heavily lobbying Congress for a kickback to corn farmers, and ethanol was all the rage.

As I dug into the issue I discovered that ethanol (other than that derived from petroleum) could only be produced by fermentation (a batch process) and then the product had to be distilled. Both the farming of the corn and the distilling of the fermentation product used fossil fuels. In fact, more fossil fuels were consumed making ethanol than we would get back as a motor fuel. Brazil had started its alcohol fuel program using as a feedstock sugar cane waste, which was a higher quality feedstock for ethanol production than corn.

Methanol, on the other hand, could be made from any carbon source — from wood chips to coal — and rather than being a batch process requiring fermentation and distillation, it could be made catalytically in a continuous process with no fermentation. For BPA I suggested we adopt methanol, which we did.

Of course Congress in its infinite wisdom gave the farmers the big handout. Years later I visited Brazil on an unrelated project and discovered that their alcohol fuels program was foundering.

They were no longer producing their own ethanol and instead they were buying ethanol from us for their program. Because of the Congressional handout, ADM had built new refineries to up their capacity. Now we were producing more ethanol than we needed. But the die was

In a world where food security is an increasing problem, turning our farmlands in the Midwest into corn factories for the production of ethanol has a real taint to it.

Sometimes it pays to do an energy accounting on a process before just jumping in and going with what industry will best line the pockets of our politicians. Now, as a result we have huge swaths of our land in monoculture and the varieties of species that were previously nurturing bees are all gone, Roundup-ed into an early demise. It is small wonder that glyphosate (Roundup) is found in the bodies of collapsed bee colonies.

Thanks for the opportunity to share on this subject.

> David Plath '77 '79 Lincoln City

#### Lack of wisdom?

One can certainly see the generational differences as well as philosophical differences in all the letters regarding wolves. Those directly affected are disparaged by do-gooders as being anti-environment and on the dole, being subsidized by the federal government.

Where did this younger generation come up with the belief that government should not have programs that benefit people by charging less than market price; especially those that actually take in some receipts rather than all payout?

By applying their beliefs consistently, we would close down the Park Service and the national parks, since the government is obviously subsidizing the recreationists who visit them and not charging market value.

Those recreation visitors cause some resource degradation, too, as well as impacts to lakes, streams and wildlife. It seems to me that the anti's want everything their way in spite of the compromises that have been worked out in various states regarding depredation payments and wolf management, and the fact that we have more wolves now in the U.S. than we have had in the past 70-plus years.

Part of the problem is that our educational institutions teach conflict and knowledge that is one-sided. Too bad they don't teach compromise and wisdom. Nothing wrong with acquiring knowledge but without wisdom knowledge will often lead to the wrong conclusion and strife (not to mention a lot of wasted energy).

Proverbs 4:7 tells us "...acquire wisdom; and with all your acquiring, get understanding."

This applies not only to the wolf vs. cattle grazing debate in those letters but

## Opinion: Make OSU's case to policymakers by joining forces with The Beaver Caucus



By Ilene Kleinsorge Like many alumni, you've been there for Oregon State University — cheering on our teams, proudly promoting our world-class research, remembering what it's given you professionally and personally. Now, OSU needs your voice again. Shaping the future of our great university is a responsibility we all share.

After 28 years at OSU, I know how it

feels to leave and still care passionately about its success. Last fall, I had the honor of joining the board of The Beaver Caucus, a passionate group of OSU students, alumni and friends who are committed to supporting our world-class university. We do this by providing a platform to communicate directly to policymakers who are making critical decisions impacting the future of OSU and higher education in Oregon.

The last two decades have been challenging for Oregon higher education. In the wake of the 2007 recession, the Oregon State Legislature began divesting from higher education. This resulted in staff cuts and tuition hikes. But the 2015 legislative session went a long way toward reversing this trend and restoring higher education funding to pre-recession levels. During the 2017 legislative session, The Beaver Caucus is working tirelessly to ensure that this trend continues.

In March, we hosted Beaver Caucus Day at the Capitol. Students and alumni met with state legislators and urged them to continue their investment in OSU's future. Beaver Caucus members asked lawmakers for an overall increase in university operating funds to keep tuition costs down for today's students, capital investment to expand our OSU-Cascades campus in Central Oregon and construct the Oregon Quality Food and Beverage building on our main campus, and funding to maintain OSU's statewide extension services.

But we're not done yet! The legislature will be in session for several more months and it's time for you to get active! We need a coordinated alumni network to advocate for continued funding in Oregon higher education.

To help, visit *thebeavercaucus.org* and sign up to join our efforts. Make sure your voice is heard on issues that matter to your university, whether by sending a simple email, testifying before a committee, meeting with a legislator or some other way of presenting the message. You decide what you're comfortable doing.

Oregon is better off if we invest in our students. The Beaver Caucus is committed to building on the progress made in public support for higher education in the 2015 session. But we can't do this without your help! OSU's future is up to you.

Ilene Kleinsorge is professor and dean emeritus in the OSU College of Business, and professor of business at Linn-Benton Community College.

also to global warming and the conclusion that man can stop it. Unless universities can find the knowledge to control solar flares and the ocean currents, they will continue to waste resources pursuing knowledge rather than seeking wisdom.

Larry Cron '62 Missoula, Montana

#### **Wants divestment**

Thanks to Vance Fraser '81 for his recent letter encouraging OSU to divest from fossil fuels.

I've been working with 350 Salem, my local branch of the national 350.org, in an effort to block the continuing efforts by the fossil fuel industry to punch their products through Oregon to reach the Asian markets.

We are trying to protect ourselves and our children from the impact of climate change, and stop the raw destruction that coal and oil laden trains, as well as gas pipelines, wreak on our Oregon landscape. Through a lot of hard work by a broad coalition of grassroot organizations, we've been able to end or delay most of these projects.

However, our fight to save our state and our planet would be much easier if we could dry up the funding that the fossil fuel threat needs to stay alive. For OSU to divest from fossil fuels would be a big win in our battle for Oregon families.

We know we have to wean ourselves off fossil fuels if we are to survive, so building more dirty fuel infrastructure makes no sense. Let's do the right thing and ask the university to only direct their funds to a clean and healthy future for Oregon.

Ray Quisenberry '94 Salem

#### Left out Prothro

I have enjoyed the entire issue of the *Stater*, and especially the coverage of the 1957 Rose Bowl. I am surprised though, that no mention was made of the coinci-

dence that the left-handed quarterback of the Duke team for the 1942 game was TOMMY PROTHRO — coach of the 1957 Reavers

Our fraternity, Sigma Phi Epsilon, had a commemorative skin above the fireplace — a bet payoff from the Duke chapter.

Jerry D. Lambo '57 Medford

#### Send us letters

We love letters. We might edit them for clarity, brevity or factual accuracy. Send them to *stater@oregonstate.edu* or Letters to the Editor, *Oregon Stater*, OSUAA, 204 CH2M HILL Alumni Center, Corvallis, OR 97331-6303.

#### Corrections

Report errors at stater@oregonstate.edu or at Corrections, Oregon Stater, 204 CH2M HILL Alumni Center, Corvallis, OR 97331-6303.



## Q: For cancer patients, are high-dose IV infusions of vitamin C helpful, harmful or neither?

#### **Answer:**

Oregon State alumnus Linus Pauling '22, two-time winner of the Nobel Prize, was very interested in the value of vitamin C in treating cancer. Along with Ewan Cameron, he conducted experiments in the '70s demonstrating that large doses of intravenous (IV) vitamin C were helpful in increasing the survival time and improving the quality of life of terminal cancer patients. When follow-up studies using vitamin C given only orally did not show any benefit, many cancer researchers doubted the claims in Pauling's and Cameron's studies.

About 10 years ago, studies at the National Institutes of Health revitalized cancer research with vitamin C. They confirmed that high concentrations of vitamin C do indeed kill cancer cells, and a number of studies since have characterized its molecular anticancer mechanisms. Those results spurred new clinical research, but there is still much to learn. Here we break down the pros and cons of pursuing vitamin C as an adjunctive cancer therapy.

#### PRO:

- » It's likely safe: Results from controlled clinical trials indicate that IV vitamin C is generally safe and well tolerated in most cancer patients.
- » Vitamin C kills cancer cells: Researchers have found that high

concentrations of vitamin C attained with IV use can produce hydrogen peroxide. This interferes with functions in many cancer cells, leading to their death. Already successful in animal models, vitamin C is currently being tested in cancer clinical trials in combination with conventional therapies like chemotherapy.

» It may reduce harmful side effects of other cancer therapies: Studies have found it can alleviate fatigue, decrease the side effects of some chemotherapy drugs and improve quality of life measures in many cancer patients.

#### CON:

- » IV vitamin C is not a miracle anticancer agent: "Research has shown that there are cancers not affected by the use of IV vitamin C," says Alex Michels, Ph.D., Linus Pauling Institute research associate. "People who believe they can avoid conventional cancer therapies by using vitamin C infusions might be disappointed by the lack of success."
- » It's not for everyone: It's critically important that patients be prescreened to determine if they are suitable for IV vitamin C, which may cause serious problems in people with impaired kidney function, certain genetic characteristics or other issues. IV vitamin C could also interfere with the anticancer efficacy of some drugs,

- while enhancing the effectiveness of other drugs. Supervision by trained medical professionals is necessary.
- » You can't just take a pill: The therapeutic effect of vitamin C in cancer patients cannot be achieved by taking supplements. IV vitamin C allows concentrations in the blood to reach up to 1,000 times greater than taking any supplement, regardless of formulation.

#### **BOTTOM LINE:**

Vitamin C infusions are a promising approach to fighting cancer, but much more work still needs to be done to determine how and when they should be used. Clinical trials to answer these questions are under way at centers around the world.

A new edition of *Cancer and Vitamin* C by Cameron and Pauling that summarizes the recent clinical research will be published soon.

For more on vitamin C and health, check out the Micronutrient Information Center: *lpi.oregonstate.edu/mic/vita-mins/vitamin-C*.

Learn more about Linus Pauling at scarc.library.oregonstate.edu/digitalresources/pauling/.

The Linus Pauling Institute is a world leader in molecular nutrition research and public outreach.



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#### **Get ready for OSU 150**

#### Here's what the big fuss will be about

Oregon State University will turn 150 years old in fall 2018 and — trust us — there will be plenty about that in the next four issues of the Oregon Stater. A huge, rolling celebration is planned, starting with events around the 2017 eclipse as its path crosses Oregon in August and continuing through to a closing symposium with a focus on OSU's next 150 years. A showcase exhibit on OSU history will open in winter 2018 at Portland's Oregon Historical Society Museum, and traveling exhibits will traverse the state. President Ed Ray has been a major booster of the celebration, so we asked him to discuss why it's so important to take stock of the past when you're working so hard to prepare graduates and conduct research aimed at the future.

Let's tackle the obvious question for those who might be a little skeptical. This is a university. Everything sits here and gets older and we have a lot of anniversaries. Why is this one such a big deal?

"There aren't that many institutions in America that have been around 150 years, including almost every major corporation. There's something to be said for persisting, for sticking around and understanding how that happened.

"But an anniversary is only a big deal if you make it a big deal. It's like life: What do you do with your opportunities? A lot of them you miss, some of them you ruin and some of them you take advantage of to set your future course. In effect, an anniversary gives one — whether it's your 100th anniversary or your 150th anniversary — a chance to take stock. Where did we come from? What have we turned into? What are we going to be like for the next 150 years?

"So, part of what happens when a moment like this rolls around is that it lets you stop and ask, 'Does everybody know our story — how we got started and how we got to where we are today and how does it compel us going

"It's a good time to reflect, to look at the people who've come from here. Some of them are pretty amazing and have had an impact around the world.

"And — if you're at all introspective — it makes you want to look at yourself and say, 'So, uh, what am I doing?' How does what I'm doing stack up against what those who've come before me did?

"More importantly, what's all this have to do with what we need to do, going forward? Are we going to just sit here being self-satisfied, saying, 'Look what all those people did back then, while this place was becoming 150 years old?' Or do we want to think about whether we're doing something that — in 50 years when OSU is celebrating 200 — will give people reasons to look back and feel proud of us?

"Here's an example: When I first came here (in 2003) I told people we had to have a university-wide fundraising campaign. I said, 'We've never had one, and we can feel sorry for ourselves about that.' A lot of universities had completed a campaign or were on their second or third campaigns, and they were seeing the benefits of that, and we were not. 'We can feel woeful,' I said, 'or we can recognize that if we don't do something now, people who come after us are going to look back on us and say, 'Why didn't those lumps get off their duffs back then?""

(In case you missed it, under Ray's leadership, OSU did get off its duff; the OSU Foundation's ensuing Campaign for OSU raised about \$1.14 billion, which continues to transform the university.)

"I think it's tremendously useful at a time like this to look back at what's been done and let that motivate you going forward.

"I'm excited about our planned exhibit at the Oregon Historical Society Museum in Portland, and then we'll have some traveling exhibits to take around. We'll have events celebrating the past, and we'll talk about the present, and toward the end, in fall 2018, we'll have a symposium to look at what Oregon State University must do to be as relevant in the future as we are now. We want to have as much or more positive impact than we've ever had, here and around the world.

"To the extent that celebration can get us excited, and get our competitive juices flowing, that's all to the good."

As we consider our past with an eye toward the celebration, it seems like common threads run through it all. For example, we are a land grant university and that means we are service-oriented.

"And that's not common to all universities. People here are incredibly proud of the fact that we are the land grant university for Oregon. It's palpable. It's wonderful to be part of a community that has that sense of history, and a sense of being compelled to serve others and serve Oregon and the world.

"That's very unusual, and it's a wonderful quality for a university to have and celebrate. Something about serving others that I read somewhere comes to mind: As children especially as teenagers — we tend to be so self-conscious, so worried about what people think of us, so 'me-me-me' all the time. Someone wrote that self-consciousness is the height of self-conceit. If you learn how not to be focused on yourself all the time, and to focus on serving others, you'll be fine."

What would you say to people who might be a little impatient with the celebration, who would say, "We're not about then, we're about now. Let's get on with it!" "We're part of a longstanding community and a culture that have made — over a long time — commitments that are not just about ourselves. This community has made a difference around the world, and now it's time to look at what it took to get here and to understand that heritage, which should inform and inspire us to deal with the challenges we face today, and to get excited about possibilities we haven't even considered.

"When you think about it, why celebrate a wedding anniversary? Because it's an opportunity to take stock of how you can be a better partner, or how the two of you can do those things together that you keep putting off. Maybe it's been eight years since you talked about taking that cruise or doing that service work digging wells in poverty stricken areas at home or abroad, and you make plans to do things that are important to you.

"The celebration only matters if you make it matter. People are poorer for it when they let celebratory moments like this pass by, rather than spending time imagining and then executing what they might do to mark the moment. That closing colloquium in the fall of 2018 will be all about the future, and will become an important part of our strategic planning process. We'll still be working on Strategic Plan 4.0, but this will help us think about what 5.0 and 6.0 might look like."

OK. With that in mind, before it really gets started, what's your hope of what will have changed in our community when we're done celebrating OSU 150 more than a year from now?

"One of the things I always talk about — I do it because I honestly believe it — is that our graduates are the most important contribution we make to the future. But that's based on an incredible presumption on my part, which is that they will make choices and take actions that make things better.

"I think we need to know our history to make good choices about our future. There are so many examples that demonstrate the importance of individuals, institutions and nations acting upon choices that are informed by an understanding of their past.

"But I think some people are 'a-historical,' in that they don't care about the past. For example, they have no idea what the last 100 years were like in this country. They don't know how what happened back then — the choices that were made — contributed to the economic and social progress we have made and determined the opportunities we have now. "Those opportunities weren't always here. Things don't just happen. Choices have consequences.

"When I think about our graduates, I don't want them to be a-historical. I want them to know our history and understand the struggles and accomplishments of students who have gone before them. And then I want to say to them: 'They were students just like you. Look what they did! Now, what are you going to do?'

"Of course, I realize that not every student will want to participate in the events, or go see the major exhibit up in Portland or even the smaller exhibit that we'll have on campus.

"But the ones — students and the rest of us — who do participate as we pause to consider our past 150 years will have a better chance of making choices that lead to positive changes over the next 150 years."

Learn more about the university's morethan-a-year-long sesquicentennial celebration at OSU150.org. Early events include a combined celebration of the Aug. 21 eclipse and OSU's Space Grant status, titled "OSU 150 Space Grant Festival: A Total Eclipse Experience," scheduled for Aug. 19-21 in Corvallis. STATE
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#### New provost sees rising trajectory

By Kevin Miller

"Bigger impact."

That was the cheerful, enthusiastic answer Edward Feser provided when asked what he wants for his new university.

Feser is Oregon State's new provost and executive vice president — which makes him chief academic officer and president Ed Ray's right-hand man. He said he's impressed by the ambition and excellence he sees at Oregon State, and he plans to help make sure there's more of both in coming years.

Noting that he has worked at large research universities that have reached top-tier national status, Feser said he was especially attracted by Oregon State's "aspirational" stance.

"When you're at that top tier, sometimes there is a certain amount of preserving — protecting what you've built - versus building. I wanted a different challenge."

He had been interim vice chancellor for academic affairs and provost at the University of Illinois at Urbana-Champaign. He succeeds Ron Adams, who had served as OSU's interim provost and executive vice president.

"Ed Feser will be a great addition to Oregon State University," President Ed Ray said in announcing the appointment. "His academic and leadership success at the University of Illinois, the University of North Carolina and the University of Manchester in England will serve him very well."

As provost and executive vice president, Feser will lead the continued implementation of the university's strategic plan and Student Success Initiative; support growth of OSU's grant/contract-funded research and impact; foster faculty and graduate student success; and support OSU's diversity, enrollment management and outreach and engagement strategies.

"Oregon State is on a good trajectory to become — as the president has articulated - one of the premier land grant institutions," Feser said. "It's not there yet but it's on a path in that direction. If I'm successful, I'll do all I can — and I'm not the only player, of course; it's a collab-



Edward Feser, OSU's new executive vice president and provost, says the university is not far from reaching the elite level of the nation's land grant research universities. (Photo by Hannah O'Leary)

orative process — to leverage as many people and resources as possible to take another step on that trajectory."

Feser became Illinois' interim provost in September of 2015. Beginning in 2012, he served as dean of UI's College of Fine and Applied Arts. As dean, he oversaw academic and engagement programs in architecture, landscape architecture, urban planning, design and the visual and performing arts.

He said he realizes that the title of provost can be mysterious to many outside academia.

"The role of the provost is to make sure that the academic goals of the institution are advanced, to work with the deans to develop educational programming — and certainly to work with the vice president for research — but really to put the academic mission front and center in everything we do.

"The deans are your core academic leaders day to day. They work with the

department heads and the faculty. So certainly, any major initiative that you undertake, you want to have the deans deeply invested in it, and it's the provost's job to do that."

Feser's wife of 26 years, Kathy, is a civil engineer-turned-primary school science teacher. Their son, Jack, 22, is pursuing a doctorate in computer science at MIT. Their daughter, Mary, 19, is a freshman at Colorado College, studying economics and languages.

Asked if he had a specific message for OSU's alumni base after only a few days on the job, Feser didn't hesitate:

"I think what they have to realize is that being a premier university is very much attainable, providing everyone gets behind it."

To learn more about the new provost's background and plans, see bit.ly/provostfeser.

#### Noted publications by Beavers and friends

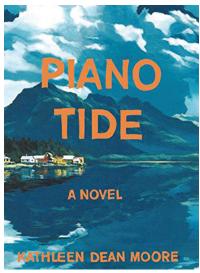
Books featured in "In Print" were written by alumni, faculty and friends of OSU. More publications appear in the "Published" subsection of the "Of note" section on page 57.

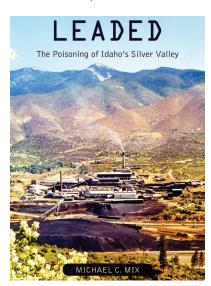
Piano Tide (Counterpoint Press) by Kathleen Dean Moore, distinguished professor of philosophy and writer laureate emeritus at OSU. Her debut novel makes us question the balance between limited earth resources and human impact, brought to us through the wild Alaskan lifestyle and affable characters.

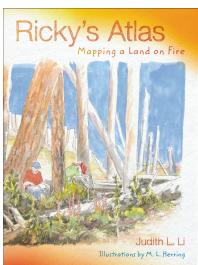
Ricky's Atlas: Mapping a Land on Fire (OSU Press) by Judith L. Li, retired associate professor in the Department of Fisheries and Wildlife. The book is a sequel to 2013's Ellie's Log: Exploring the Forest Where the Great Tree Fell, and continues the exploration of nature in Oregon. In a story set east of the Cascade Mountains, Ricky and Ellie explore the relationship between people, plants and animals while dealing with a lightning-caused wildfire. The book was published in 2016 and recently won an award from the American Association for the Advancement of Science.

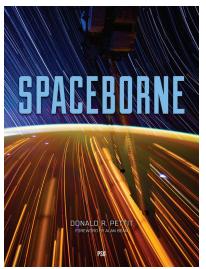
Leaded (OSU Press) by Michael C. Mix, retired professor of biology. The book tells us the story of the Bunker Hill lead smelter emissions and the conflict between industry's wants, employee health and environmental impact.

Spaceborne (PSG) by Don Pettit '78. Astronaut and photographer Pettit shares stunning imagery from his 370 days aboard the International Space Station.











## Science academy gives Lubchenco top honor; she urges colleagues to connect with public



The National Academy of Sciences will honor OSU marine ecologist Jane Lubchenco with its most prestigious award, the Public Welfare Medal, April 30 in Washington, D.C.

Meanwhile, Lubchenco has published a paper telling her scientific colleagues that the current political climate means it's time for "getting off our lofty perches and being more integrated into society."

The academy has annually presented the Public Welfare Medal, which recognizes distinguished contributions in the application of science to the public good, since 1914. The medal honors individuals "who have

worked tirelessly to promote science for the benefit of humanity." Past winners include Neil deGrasse Tyson, Bill and Melinda Gates, Carl Sagan, Alan Alda, C. Everett Koop, David Packard, Jimmy Doolittle, Herbert Hoover and Gifford Pinchot.

"It's an incredible honor, especially since it comes at a time in history when it's more important than ever for scientists to engage with the public in meaningful ways and demonstrate how our work improves people's lives," Lubchenco said.

She is a university distinguished professor and adviser in marine studies in the OSU College of Science and former administrator of the National Oceanic and Atmospheric Administration — the first woman to serve in that role. She led NOAA's response to the Deepwater Horizon oil spill in 2010, and to other disasters, including the earthquake and tsunami in Japan in 2011.

In her recent paper, titled "Environmental Science in a Post-Truth World" and published in *Frontiers in Ecology*, she urged scientists to reach out and connect with the public to counteract a political climate in which it is more common to deny accepted science.

"A post-truth world, a U.S. cabinet full of climate deniers, suppression of science and scientists all threaten — seriously threaten — our democracy. Resistance is appropriate, but now, more than ever, scientists also need to engage meaningfully with society to address intertwined environmental and societal problems."

Read more about Lubchenco's award at bit.ly/2kcsh8x, and about her paper urging scientists to reach out at bit.ly/2krdFCy.



#### OSU center selected by federal government to build cutting-edge wave energy test site

OSU's Northwest National Marine Renewable Energy Center has been awarded up to \$40 million from the U.S. Department of Energy to create the world's premier wave energy test facility in Newport.

The facility, known as the Pacific Marine Energy Center South Energy Test Site, or PMEC-SETS, is planned to be operational by 2020. It will be able to test wave energy "converters" that harness the energy of ocean waves and turn it into electricity. Companies around the world are already anticipating construction of the facility to test and perfect their technologies, OSU officials say.

"We anticipate this will be the world's most advanced wave energy test facility," said Belinda Batten, the director of NNMREC and a professor in the OSU College of Engineering.

"This is a tribute to the support we received from the state of Oregon, and the efforts of many other people who have worked for the past four years — in some cases since the mid-2000s to see this facility become a reality. It will play an integral role in moving forward on the testing and refinement of wave energy technologies."

Those technologies, Batten said, are complex and expensive. "These devices have to perform in hostile ocean conditions; stand up to a 100-year storm; be energy efficient, durable, environmentally benign - and perhaps most important, costcompetitive with other energy sources. This facility will help

answer all of those questions and is literally the last step before commercialization."

The DOE award is subject to appropriations, federal officials said, and will be used to design, permit and construct an openwater, grid-connected national wave energy testing facility. It will include four grid-connected test berths.

"This is another enormous step for alternative energy, especially for an energy resource that Oregon is so well suited to pursue," said OSU president Ed Ray.

In making the award, the agency noted that more than 50 percent of the U.S. population lives within 50 miles of coastlines, offering America the potential to develop a domestic wave energy industry that could help provide reliable power to coastal regions.

Investments in marine and hydrokinetic energy technology will encourage domestic manufacturing, create jobs and advance this technology to help achieve the nation's energy goals, DOE officials said in their announcement of this award. Studies have estimated that even if only a small portion of the energy available from waves is recovered, millions of homes could be powered.

Read more at bit.ly/2icvMez. See a poster-sized infographic showing key elements of the planned facility at bit.ly/wavecenter.



#### Congratulations Dr. Kris Otteman!

Dr. Kris Otteman, OHS Vice President of Shelter Medicine and Operations, was named Alumni Fellow of the College of Veterinary Medicine by the OSU Alumni Association.

The staff and pets of the Oregon Humane Society are giving you a standing ovation!



#### An important form of self-defense

By Gretchen Schrafft | Photo by Hannah O'Leary

To many, aikido calls to mind the Japanese martial art that emphasizes strong, confident self-defense with no attack on one's attacker. To Sofia Baum and other members of OSU's Multiracial Beavers Network, it's the inspiration for a less physical form of self-protection.

For two years, Baum, a sophomore business major, has participated in the Multiracial Aikido Retreat, an event in Lincoln City where OSU students who identify as mixed-race gather to share stories and build community. In large and small groups, they discuss the complexities of their identities and teach one another how to defend against microaggressions - subtle or unintentional acts of discrimination.

This willingness to confront the sensitive subjects of race and identity head-on was a breath of fresh air to Baum when she first participated in weekly Multiracial Beavers drop-in sessions on campus last year. They certainly weren't big topics of conversation as she grew up in Junction City, about 27 miles down the highway from Corvallis.

"No one was like my brother and me," she said, noting that as far as she knew, they were the only people in town who identified as being Jewish and Latino. "I was the only Jew in my high school and one of maybe 30 Latino kids. Holding both of those identities and people wanting you to be a representative of either one was very interesting. Because I don't have a Spanish surname and my skin's not dark. But I have the curly hair and the brown eyes. I'm a morena (brunette), yet I have a big nose. So even physically speaking, people would get confused."

At OSU's Multiracial Beavers drop-in sessions, she's able to acknowledge her many identities, including but not limited to the strong connection she feels to her paternal grandmother, who survived the Holocaust, and to the deep ties she shares with her mother's side of the family which for four generations has lived in the barrios of San Antonio, Texas.

She believes that — especially in the current political and social climate — it's extremely important to understand the concept of intersectionality when considering identity.

"Whether it's race, gender, sexuality, sexual orientation, socio-economic status, age, education — all of these different things intersect to create a completely different experience," she said. "We need to recognize that and not jump to judgment, not pigeonhole people. I think there's a lot of value in building relationships with people that you might not normally, because they don't speak the same language as you, they're not the same religion as you, or they don't look like you. That's how we find commonality and empathy for each other."

If those sound like the words of a professional, it's because they are. In addition to her volunteer work with Multiracial Bea-



vers, Baum works for University Housing and Dining Services as a community relations facilitator for Poling Residence Hall, where she leads workshops in social justice education and cross-cultural understanding for her fellow residents. In all of her roles, she said, she takes pride in the same thing:

"I'm proudest of seeing the progress in the participants as well as the residents that I work with. And not progress as in, 'Oh, they have to think like me.' I can see the wheels turning, and the identity development, and the soul-searching reflecting on their

Her hope, she said, is that more people will clearly understand, accept and advocate for their own identities, however layered and complex they are.

Gretchen Schrafft earned her MFA in creative writing from OSU in 2016. She teaches writing and composition at two Seattle-area universities.

## Researchers study 159 married couples, find that healthy sex life may help at work

Maintaining a healthy sex life at home boosts employees' job satisfaction and engagement at the office, underscoring the value of a strong work-life balance, an OSU researcher has found.

A study of the work and sex habits of married employees found that those who prioritized sex at home unknowingly gave themselves a next-day advantage at work, where they were more likely to immerse themselves in their tasks and enjoy their work lives, said Keith Leavitt, an associate professor in OSU's College of Business.

"We make jokes about people having a 'spring in their step,' but it turns out this is actually a real thing and we should pay attention to it," said Leavitt, an expert in organizational behavior and management. "Maintaining a healthy relationship that includes a healthy sex life will help employees stay happy and engaged in their work, which benefits the employees and the organizations they work for."

The study also showed that bringing work-related stress home from the office negatively impinges on employees' sex lives. In an era when smart phones are prevalent and after-hours responses to work emails are often expected, the findings highlight the importance of leaving work at the office, Leavitt said.

The researchers' findings were in the *Journal of Management*. Co-authors are Christopher Barnes and Trevor Watkins of the University of Washington and David Wagner of the University of Oregon.

Sexual intercourse triggers the release of dopamine, a neurotransmitter associated with the reward centers in the brain, as well as oxytocin, a neuropeptide associated with social bonding and attachment. That makes sex a natural and relatively automatic mood elevator, and the benefits extend well into the next day, Leavitt said.

To understand the impact of sex on work, the researchers followed 159 married employees over the course of two weeks, asking them to complete two brief surveys each day. They found that employees who engaged in sex reported more positive moods the next day, and the elevated mood levels in the morning led to more sustained work engagement and job satisfaction throughout the workday.

The effect, which appears to linger for at least 24 hours, was equally strong for both men and women and was present even after researchers took into account marital satisfaction and sleep quality, which are two common predictors of daily mood.

"This is a reminder that sex has social, emotional and physiological benefits, and it's important to make it a priority," Leavitt said. "Just make time for it.

"Making a more intentional effort to maintain a healthy sex life should be considered an issue of human sustainability, and as a result, a potential career advantage."

Read more at bit.ly/2lODetP. Read the researchers' published findings here: bit.ly/2mXFh07.





As part of an ongoing effort to get alumni and other friends to help share the OSU story, Steve Clark '75, vice president for university relations and marketing, joins the Oregon Stater in presenting another batch of talking points for notso-bashful Beavers.

#### Spread the word

#### **BEAVERS RIDING THE WAVE**

OSU's Northwest National Marine Renewable Energy Center was awarded up to \$40 million from the U.S. Department of Energy to create the world's premier wave energy test facility in Newport. The facility will perfect technologies to tap the enormous energy potential of ocean waves. See story, page 15.



#### THAT'S A LOT OF BAND MUSIC

Oregon State's university band — the oldest program in the Pac-12 celebrated its 125th anniversary with a fall concert at the LaSells Stewart Center. More than 500 students participate annually in the band, which is one of the largest collegiate programs in the Pacific Northwest.



#### NATIONALLY RANKED ROBOTICS ADVANCES

Oregon State's robotics program is ranked No. 4 in the nation and continues to expand. The program has created a new generation walking robot called "Cassie," and in January became part of a \$253 million national Advanced Robotics Manufacturing Innovation Hub that involves numerous governments, universities, private industry and others. In February, OSU announced its first spinoff company evolving from the robotics program: Agility Robotics. See photo and story, page 28.



#### YOUNGSTERS LEARN ENGLISH — THANKS TO OSU

The College of Education will train nearly 100 Oregon teachers to help K-12 students learn English. Aided by a \$2.5 million federal grant, the college will work with the Beaverton, Bend-La Pine, Springfield, Greater Albany and Corvallis school districts over the next five years.



#### **BATTLE AGAINST SUPER BUGS**

OSU researchers led by microbiology professor Bruce Geller have developed a new weapon in the battle against antibiotic-resistant germs. This international collaboration has developed a molecule that neutralizes these super germs' ability to destroy an antibiotic, such as penicillin. Testing in humans may be possible in about three years.



#### **OSU ECAMPUS TOP-RANKED AGAIN**

For the third straight year, Oregon State's Ecampus online undergraduate degree programs are ranked in the top 10 nationally. U.S. News & World Report named Oregon State No. 8 out of more than 300 colleges in the category of Best Online Bachelor's Programs. Ecampus has more than 5,600 undergraduate and graduate students from throughout the world working their way to an Oregon State degree.



#### Just minutes to catch a moon shadow

By Kevin Miller

OSU computer science student and soon-to-be NASA intern Levi Willmeth, his colleagues in the Linn-Benton Community College Space Exploration Club and their collaborators on a team of OSU engineering students face quite a task as this year's solar eclipse approaches.

On Aug. 21, working in conjunction with NASA and Oregon Space Grant as people around the world wait in anticipation, they plan to be the first of 50-plus teams across the nation to transmit live video of the shadow of the moon moving across the United States. Here are the basics, subject to fine tuning:

- » From the deck of an OSU research vessel approximately 30 miles offshore, they must launch a helium balloon with a payload of high-resolution video cameras to a near-space altitude of about 100,000 feet, timing and positioning the release to account for winds that will change at various altitudes during the ascent, so that the cameras are positioned to capture the 60-mile-wide path of the umbra — the darkest part of the moon shadow — as it races ashore north of Newport at about 10:15 a.m.
- » Using ship- and land-based receiving stations (OSU mechanical engineering students are devising a way to keep the ship-based gear aimed at the constantly moving payload as the ship rolls in the ocean), they need to cleanly capture the multiple, data-dense signals from the cameras.
- Meanwhile they'll uplink the information to NASA, which will broadcast it around the world as the opening scene of what should be a continuous live image of the moon shadow, ending as the umbra crosses coastal South Carolina.
- » Once the helium balloon pops as planned and the payload returns to Earth via parachute, members of the team must track its descent and rush to recover the valuable gear.
- » If it doesn't go well? Not to worry, there'll be another total eclipse of the sun across a tiny sliver of Oregon in 2108. Maybe because Willmeth, who became director of the Oregon project while enrolled at LBCC, and his wife Joanna already

manage the inherent chaos of raising two small girls and being students, or maybe because of the confidence imparted by his LBCC Space Club shirt bearing the slogan, "It's not hard, it's just rocket science," he seems more excited than worried about the challenge.

"There are so many things you have to get right," he said with an eager smile. He and his colleagues perfect their techniques via practice rocket launches and balloon flights while he develops expertise in writing software to remotely manage the high-flying payloads.

Their adviser, LBCC instructor Parker Swanson, saw the eclipse opportunity approaching and helped them sign up.

Willmeth's classwork and experience landed him a rare and prestigious internship at NASA, working at a software testing facility in West Virginia this summer. It runs for 10 weeks and he'll start immediately after his finals at OSU so he can be back in Oregon by mid-August.

"That was a condition of me accepting it," he said, noting that the combination of the eclipse project and the internship is something he couldn't have imagined as a boy.

"You grow up in a small town in backwoods Oregon and you never think opportunities like this are for you," he said. "You know people go to NASA, right? But you never think, 'Somebody from my town is gonna get that job.' The more I get involved with this, the more excited I am. You build this thing and it goes someplace and does something and you're not standing next to it. You can't reach over and hit the reset button and take over if it starts going bad. You have to do it right the first time."

To learn more about NASA's Eclipse Ballooning Project, visit eclipse.montana.edu. NASA's home page for the Aug. 21 eclipse is at eclipse2017.nasa.gov. Its home page includes a countdown until the umbra — the shadow of the moon — reaches the Oregon coast. Meanwhile, university officials are planning several eclipse-related events to mark the beginning of the OSU 150 commemoration. As details are firmed up, they will be listed on a calendar available at oregonstate.edu/150.



Levi Willmeth (center, tan cap) and colleagues in the LBCC Space Exploration Club react as they see early data from one of their many practice rocket and balloon launches. (Photo courtesy Parker Swanson)

#### Beware: This quiz just drones on and on

Just as it has in the study of robotics, OSU has quietly become an emerging leader in the field of using unmanned aircraft to do important work for researchers and customers on and off campus. To get an idea of what we ought to know about drones, especially as they relate to our favorite university, we turned to Mark Peters, the closest thing OSU has to a "drone czar." He oversees unmanned flight operations as a growing part of his duties as interim director for research integrity & international compliance officer in the OSU Research Office. Learn more about OSU's drone program at research.oregonstate.edu/unmanned-systems-initiative/uas-osu/home. (Answers are on page 64.)

- 1. What does UAV stand for? Bonus: What about UAS?
- **2.** Do I need to register my unmanned aircraft?
- **3.** Can I fly drones for a business and is OSU doing anything to support people looking to use UAVs?
- 4. Does OSU have and use drones?
- **5.** How many drone missions did OSU fly in the last six months of 2016?
  - A. 0-50
  - B. 100
  - C. at least 200
  - D. more than 300
- **6.** Which of these colleges are using drones?
  - A. Engineering
  - B. Forestry
  - C. Agricultural Sciences
  - D. Earth, Ocean and Atmospheric Sciences
  - E. All of the above
- 7. How big will the UAV industry be in the next 10 years?
  - A. \$1 billion
  - B. \$500 million
  - C. \$500 billion
  - D. \$100 billion
- **8.** Are any OSU alumni involved in the drone industry?

#### **OSU-Cascades receives visionary gift**

An anonymous \$5 million gift to Oregon State University — Cascades will propel the university toward its next phase of capital development at the growing campus in Bend.

"A visionary gift like this, at the onset of our efforts to seek capital funds from the Oregon State Legislature, makes a powerful and motivating statement," said OSU-Cascades vice president Becky Johnson. "Our appreciation is tremendous, as the gift signals to our elected officials and supporters how important higher education is for all of Oregon."

The investment is a key step toward the \$10 million philanthropic match required for state capital funding currently sought by OSU-Cascades, according to Johnson.

OSU-Cascades seeks \$69.5 million in state bonding from the 2017 Oregon Legislature for its next phase of expansion. The project includes preparing adjacent land for expansion and building an academic building and Student Success Center. Once state funding is approved, the anonymous donation will help build the new academic building. In his recent State



An architectural rendering depicts the concept for a new building that would continue development on the OSU-Cascades campus. (Rendering by Page | SERA)

of the University address, OSU president Ed Ray emphasized OSU-Cascades' potential impact on the state's economy.

"OSU-Cascades is providing valued education, cultural opportunities, research and innovation to Oregon's fastest-growing region," Ray said. "I hope that all Oregonians will agree that this university campus and its statewide benefits are long overdue."

The Tykeson Family Foundation has pledged \$1 million toward the donor

match for the new capital expansion. The family also helped fund the campus's first academic building, Tykeson Hall.

The proposed building will provide needed classrooms, laboratories and student support space for the growing student enrollment at OSU-Cascades. More than 1,100 students are pursuing degrees at the Bend campus, which can accommodate up to 1,890 students. Plans are to grow enrollment to 3,000 to 5,000 students.

#### Tillamook group helps OSU food tech expansion

The Tillamook County Creamery Association (TCCA) is helping OSU expand its ability to conduct research, testing and teaching related to Oregon's dairy industry and other food and beverage industries important to the state.

The association pledged \$1.5 million to support construction of a new food and beverage facility to be part of the university's Department of Food Science and Technology.

Total projected cost for the new dairy pilot plant facility is \$6 million, which includes \$3 million planned from philanthropic support and a matching \$3 million proposed from state bonds, pending legislative approval during the 2017 legislative session.

As part of OSU's Oregon Quality Food and Beverage Products Initiative, the new facility will include an automated, small-scale dairy manufacturing plant with state-of-the-art equipment for production of cheese, ice cream, cultured products and dairy-based powders. There will also be contemporary lab and class-room facilities.

These innovations build on opportuni-

ties sparked by earlier contributions from Paul and Sandy Arbuthnot for OSU's Arbuthnot Dairy Center, where the university started its student-operated Beaver Classic cheesemaking plant.

The new facility will place greater emphasis on manufacturing for undergraduates, while graduate students will engage in high-level technical dairy research, which can be readily applied to the industry.

The TCCA is a 108-year-old, farmer-owned cooperative and producer of Tillamook-branded dairy products.

"We are extremely grateful to be part of such a thriving food and beverage industry here in Oregon, and to operate in a state that has such strong education and research partners," said Patrick Criteser, TCCA's president and CEO. "This donation demonstrates our confidence in OSU to train the next generation of dairy scientists and to partner with other companies around the region to advance the industry in a significant way."

Dairy foods are advancing in the Pacific Northwest on several fronts, with product innovation, expanded global markets and honors received for some of the world's most respected dairy products, according to Pete Kent, executive director of the Oregon Dairy and Nutrition Council.

"OSU's dairy foods program is well-positioned to drive future success by providing a well-trained professional workforce, extension assistance to processors and research focused on the needs of regional dairies," said Lisbeth Goddik, Arbuthnot Professor and leader of OSU's dairy processing program.

Eric Bastian, vice president for industry relations of United Dairymen of Idaho, agrees. "The proposed pilot facility at OSU will be a significant step forward as we train the next generation of dairy scientists and technologists," he said.

OSU's Beaver Classic Cheeses, including smoked and regular cheddar and Swiss, plus new porter soaked, hard cider soaked and Pinot soaked cheddars, are available for purchase on campus 11 a.m.-1 p.m. Fridays in Withycombe 159. Online sales are available at bit.ly/beaverclassic.

# Aubree's story: Photo by Hannah O'Leary

## How it looks when it all works out

By Kathryn Stroppel What did you want to be when you grew up? And if you're doing it, what did you do to get there? How did you know it would be right for you?

A key component of the university's broad-based Student Success Initiative recognizes that for many students, those answers — and the momentum toward graduation that comes with them — are found not just in the classroom but in internships, research, service learning, study abroad and similar opportunities.

Through hands-on, experiential learning, students like public health alumna Aubree Olmstead '15 can become highly motivated students who graduate and — when it all comes together — go on to successful careers in their chosen fields.

In her final term, Olmstead completed a required 360-hour internship at Columbia Basin Care, a skilled nursing facility in The Dalles, about a half hour from where she

#### IN STUDENTS' WORDS

Leaders of the OSU's Student Success Initiative are driven by a desire to see students thrive and graduate. Three students discuss why the initiative is important:

#### MORE ON STUDENT SUCCESS IN THIS ISSUE:

- » Editor's letter: Helping more Beavers get degrees, page 4
- » A university all in for student success, page 24
- » OSU Foundation: Be inspired by potential, be inspired by the best and be inspired by experience, page 24 Examples of the effort:
  - » Undergrads sequence the beaver genome, page 26
  - » CLA guarantees graduation in four years, page 26
  - » Giant Killer gives back, page 27
  - » Ecampus focused on student progress, page 27



**JENNIE TRINH** 

A cheerful, motivated sophomore pre-business major, Jennie Trinh was "always sad" and ready to drop out in 2016 when she received a \$1,000 High Promise Scholarship, aimed to motivate students who have potential but face hurdles. "My dad has always promised me that if you give to people ... and if you just keep working, help will come," she said through tears. "When I told him I had been chosen for this, he just said 'See? I told you."

grew up in Hood River. It wasn't just another box to check, she said: "I looked at it as a chance to see if I liked the field and to hone in on my skill set."

Karen Elliott teaches a pre-internship course in the College of Public Health and Human Sciences, helping students find internships throughout the state and beyond.

"I tell students to be open to all possibilities," she said. "When you stop thinking about a grade or credits and ask yourself, 'What do I want to do?' you discover amazing things about yourself, what fuels your fire and what gets you going."

The first Beaver graduate in her family, Olmstead was a little more than halfway through her internship at Columbia Basin when she was offered 960 more hours of supervised training, with the understanding that she would become an administrator after completion. In May 2016, at the age of 22, she became executive director of the facility, managing 100-plus employees in the 90-bed facility.

"My roles tie directly into what I studied while at Oregon State," she said. "I truly believe my education and degree gave me a competitive advantage and the knowledge I need to ensure I am successful as I move throughout my career."

That's music to Elliott's ears. "It's truly rewarding to see students excel and be involved in this process that can be life changing," she said. In 2015, to ensure that all of its students get similar opportunities, the college created its Office of Student Success, transforming the academic advising office into a hub of services that support students, including study abroad, career

and professional development, peer advisers and an internship coordinator.

Led by associate dean for student success Vicki Ebbeck, the student success team works to grow the college's number of experiential learning opportunities, including new experiences in the Dominican Republic, India and Botswana. These experiences add to existing programs, such as with Fu Jen Catholic University in Taiwan, the oldest faculty-led study abroad program at Oregon State.

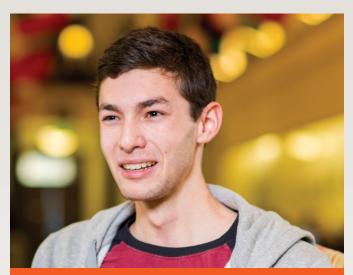
"Research shows that students are more likely to persist with their studies and improve their academic performance, and that every student benefits — especially historically underserved students — when involved in hands-on learning," Ebbeck said. "The key is to engage all students in these high-impact practices that can be transformative."

Olmstead's advice for current students: "Look outside your comfort zone, explore options, set goals, value your time, identify a role model or mentor and take chances, but most of all respect yourself and those around you."

She puts her advice into practice daily, whether it's overseeing departments, managing employees, staying within budget, working with local hospitals and physicians or staying on top of a stream of new rules and changing regulations.

"There is always something to be learned and something to be improved upon," she said.

Kathryn Stroppel is director of marketing and communications in the College of Public Health and Human Sciences.



#### **RICARDO OROZCO**

Biohealth sciences major Ricardo Orozco said the \$1,000 High Promise Scholarship he received in 2016 felt like an endorsement of his choice to focus on his studies and bet on his own success.

"I'm borrowing a lot of money. Hopefully my career will work out and I'll become a pharmacist," he said. "It's extremely self-fulfilling to decide what you want to do and then to just pursue it. The High Promise Scholarship was a great help."



#### **NATE LAUSMANN**

Engineering major and Honors College student Nathan "Nate" Lausmann was asked why it's important to include *all* students in the Student Success Initiative:

"It's important to meet all students where they're at. ... If the Honors College didn't exist, if we weren't trying to keep the best and brightest in Oregon ... that would hurt Oregon and probably the country as well. We need a diverse population everywhere."

#### All in for student success

By Kevin Miller



President Ed Ray has made it clear in speeches, editorials and cabinet meetings of top university officials:

It's time for a shrewd, protracted attack on a six-year graduation rate that has stubbornly hovered around 60 percent for

A new Student Success Initiative that includes programmatic changes across OSU campuses — and a \$150 million philanthropic effort by the OSU Foundation — are hard evidence that the university will no longer accept that four of every 10 students who enroll at OSU don't have a diploma within six years.

Among those leading OSU's effort are Susie Brubaker-Cole, vice provost for student affairs, and Susana Rivera-Mills, vice provost and dean for undergraduate studies.

"Universities were designed a long time ago for a very different population than the students who are coming through our K-12 system today," Brubaker-Cole said. "None of our students comes here lacking the potential to be successful, but we have to be realistic about the fact that the world has changed and we can't keep operating in the same obsolete university structures and processes.

"Even the elite universities in this country are asking the same questions and making changes. This is not a provincial question."

"We also have to accept that an incredible shift has happened in the economy of the United States," added Rivera-Mills. "There has been quite a divestment in our K-12 system and in our colleges. When you put all the variables together, it creates a completely new reality. We need to rethink the way our univer-

Using OSU's own data and data from 10 partners in the University Innovation Alliance, Oregon State officials seek the best, most cost-effective opportunities to increase student success.

A key example of an approach known to work — but one that

#### Foundation rolls out plan to help success initiative succeed

The OSU Foundation's recently announced plan to support the Student Success Initiative invites alumni and friends to foster change and improve opportunities for today's students by investing in a wide array of activities that are proven to increase students' likelihood of graduating and having successful lives.

#### **INSPIRED BY POTENTIAL:**

#### Make an OSU degree a reality for all qualified Oregonians

**GOAL:** Cover the unmet need for the cost of attendance for all in-state students with financial need — including housing, food, books, transportation

A typical in-state student still has a gap of more than \$7,200 between what they can afford and the annual cost of attending OSU, after receiving available grants and scholarships. For students with the highest financial need, the gap is \$9,500.

"And we know that, given the burdens that students face today, there is nothing worse for any student than to leave college without a degree ... and for the only piece of paper they can show to be a bank statement from their student loan debt." President Ed Rav

needs better support from the university and its donors — is experiential, hands-on learning. This encompasses any extended experience in which students work outside the classroom to apply and test what they're learning. It has a staggering correlation to student success.

Traditional paid and unpaid internships, studying abroad, participating in faculty research as an undergraduate and many other opportunities count as hands-on learning. For the most recent OSU cohort of students that have reached the six-year limit to be counted as graduates, the overall graduation rate was 61%. However, 83% of students with one hands-on learning experience graduated, and 91% of students with at least two hands-on learning experiences graduated.

Such programs are offered across campus. Some colleges require them. All colleges try to guide students into them, but fully one-third of OSU undergraduates never participate, often because they can't afford it.

Across the board, financial pressure is a major cause of the student success crisis. High costs and mounting debt make it tempting to quit school and hard to restart. OSU's average undergraduate cost of attendance is more than \$25,000 for Oregon residents this school year and nearly \$44,000 for nonresidents. To cover that on their own, students working full time and with all expenses covered during the summer, and working 12 hours per week during the school year, would have to earn take-home pay of about \$25 and \$44 an hour, respectively.

That's why a key element of Oregon State's initiative is raising more money for traditional scholarships — merit- and need-based — and for more innovative forms of financial support.

"We have to help them meet the financial challenges of going to college," Rivera-Mills said. "And we have to create clearer, more direct paths to graduation through better advising."

One new program financed by the university and by a generous anonymous donor offers one-time, \$1,000 "High Promise Scholarships" to first-year students who have great potential but — without a financial boost and a vote of confidence — might not return for their second year. One recipient was Jennie Trinh,

a sophomore in the College of Business who aspires to be a buyer for a retailer and then start her own company.

"My freshman year, I was so upset just trying to fit in," she said, smiling and crying as she explained how the one-time, \$1,000 gift changed her outlook. "I was so worried about paying for college. I was going to quit. Getting this scholarship was like someone saying to me, 'You can do it, and we're going to help you.' It made all the difference. It changed my life, I think."

A First-Year Experience program that starts as students enroll seeks to quickly connect them to other students and to campus resources and activities, which research shows to be another way to discourage quitting and grow social and academic success. Once students start their classes, advisers can use computerized predictive data analysis to spot potential problems. If a first year student struggles in a course that will be critical to success in his or her major, an adviser can intervene and head off later problems.

"It's easy to look at a student with a 1.5 GPA and see that there's something wrong," Rivera-Mills said. "The students who were falling through the cracks had 2.5 and 3.0 GPAs, and they can look fine when they're not fine. The analytics tool can let us look beyond the GPA."

Helping high-achieving students reach their full potential also is important, noted Toni Doolen, dean of the Honors College. Students who arrive with top-notch academic preparation and have generous merit scholarship support can still struggle, often silently because they've never had trouble in an academic setting.

"We talk a lot in the Honors College about the kind of support each student needs," Doolen said.

"If we can define early indicators of potential trouble, we can intervene in very specific and effective ways."

While Honors College students might be overlooked in many student success strategies, she said, it's crucial for Oregon's future to attract and graduate the state's best and brightest students. OSU, she said, must work harder and smarter to give all students the best possible chance to graduate and reach their potential.

#### **INSPIRED BY THE BEST:**

#### Make OSU the school of choice for Oregon's high achievers

**GOAL:** Provide competitive recruitment packages to all high-achieving Oregonians

High-achieving high school students considering OSU receive an average of seven offers from other colleges and universities. Those who go elsewhere typically receive scholarships and other financial aid that means they're paying \$2,000 less at the school they chose than they would have at OSU.

#### **INSPIRED BY EXPERIENCE:**

#### Make OSU a place where all students achieve success

**GOAL:** Create the opportunity for every student to participate in at least one transformational learning opportunity

61% — overall six-year graduation rate for OSU students 83% — six-year graduation rate for OSU students who take part in one hands-on learning experience (research, internships, volunteer service, study abroad)

91% — six-year graduation rate for OSU students who take part in more than one of these hand-on learning experiences

33% — number of OSU students who do not participate in these experience, often because they can't afford the added time and expenses.

"As a first-generation college student myself, this is personal, and I am committed to double down and deliver — and I hope you'll join me in that commitment." — President Ed Ray

#### **STUDENT RESEARCH:** Sequence the beaver genome

By Cathleen Hockman-Wert

It's pretty dam cool: Through the \$30,000 "Seq the Beav" crowdfunding campaign, OSU has become the first Pac-12 school to sequence its mascot's DNA. At the same time, the initiative is creating "gnawsome" opportunities for undergraduate researchers, giving them the kind of hands-on experience known to have a huge impact on the likelihood that students will graduate.



Filbert, a beaver at the Oregon Zoo in Portland, helped with the research by providing genetic material for the researchers. (Photo by Kathy Street)

The North American Beaver Genome Project will help scientists understand how members of he amazing Castor canadensis species functions as the engineers of the forest — felling trees, building dams, digesting wood.

With funding provided by more than 100 donors, the beaver genome was sequenced with a little help from Filbert, a beaver at the Oregon Zoo in Portland. Faculty and students in OSU's Center for Genome Research and Biocomputing have been analyzing the results, presenting their first findings this winter.

Undergraduate students on the team include Amita Kashyap of Portland, an honors bioresource research major in just her second year at OSU. Part of Stephen Ramsey's computational systems biology lab, Kashyap is the recipient of the Clayton Fox Agricultural Honors Continuing Venture Scholarship.

"I never thought I would study beavers," she said, but when she learned about the sequencing project she realized it would be a perfect fit for her interests in medical research. Much of what she's learning at the cellular level is relevant to human health.

Faculty research assistant Adelaide Rhodes, who works with Kashyap, noted that hands-on learning experiences like this are incredibly valuable for undergraduates.

"It gives them such a head start in the job market. And if they go on to medical school, they'll already have been published that's a huge advantage," she said.

The beaver genome will be studied by many future student and faculty researchers at OSU and beyond.

"Research is always about pushing the limits of knowledge. But in this case, the field really is wide open," Kashyap said. "Whatever you choose, you're absolutely the first person to do it. That's really exciting." 🗩

#### **COMPLETION GUARANTEE:** A CLA degree in 4 years

OSU's College of Liberal Arts seeks to prove that a great way to encourage students' success is to guarantee they'll earn a bachelor's in four years, beginning with 2017's freshmen.

The college is the first at OSU to offer a degree completion guarantee. Under the program, if students meet their obligations but still cannot get through all of their needed courses in four years, the college will pick up the cost of OSU tuition for the remaining required classes.

The goal is to encourage more students to complete their degrees in a timely fashion, which also helps reduce overall college costs for students.

"The guarantee we are offering CLA students exemplifies our dedication to their success," said Larry Rodgers, dean of the College of Liberal Arts. "We are offering students who sign up for the degree all the support they need to graduate in four years. We are happy to be the model for the rest of the university and our hope is that eventually a program like this will be available at other colleges at OSU."

CLA is the second largest college at OSU, with 17 undergraduate degree options, 3,917 undergraduates enrolled in fall 2016 and

972 undergraduate degrees awarded in 2016. However, of those students who entered college in 2011, only about 43% graduated in four years, substantially lower than the OSU average.

College leaders hope the new degree guarantee will boost that rate significantly. The changes also should lead to higher sixyear graduation rates (a national standard) and help the campus-wide Student Success Initiative reach its goal of 70 percent of students graduating within six years by the year 2020.

To participate in the four-year graduation guarantee program, new students must:

- » Declare a major in the College of Liberal Arts by the end of the first quarter of freshman year.
- » Meet with a designated adviser at least twice a year and follow their progress recommendations.
- » Each year, earn at least 45 credits that fulfill degree and college requirements.
- » Stay on track with financial obligations such as tuition.

Learn more about the College of Liberal Arts four-year degree guarantee at bit.ly/cla4year.

#### **GIANT KILLER SCHOLARSHIP: Rewarding effort**

By Rich Preheim Fifty years ago Mike Haggard '68 helped turn the Beaver football team into the Giant Killers. Now he's making another giant contribution to Oregon State, and demonstrating that donors can support the Student Success Initiative in many ways.

Through his estate, the walk-on (non-scholarship) player who kicked the Beavs to victory is establishing two endowed funds — including one to support former walk-on student-athletes who are now eligible for scholarships.

At Parkrose High School in Portland, Haggard played both offense and defense but kicked in only two games. When he arrived at Oregon State, he figured his football career was over. But after making a field goal to help his fraternity win the intramural championship during his freshman year, he responded to head coach Dee Andros' campus-wide invitation for students to try out for the Beavers. Andros liked what he saw, and Haggard joined the team.

"Coach Andros could pull so much out of his players," he recalled. "A tremendous individual, a Marine."

For the next three seasons Haggard was the first-string kicker, including with the 1967 team, forever remembered as the Giant Killers. In the span of four weeks, Oregon State defeated the second-ranked team in the country, Purdue; tied the new No. 2 squad, UCLA; then upset the top team, USC, on a cold, windy day in ankle-deep mud.

In the game against USC, Haggard's second-quarter field goal accounted for



Mike Haggard, right, went from kicking a field goal for his fraternity in an intramural game to kicking this one for Oregon State's famous Giant Killers squad to beat the top-ranked Trojans of USC, 3-0. (Photo courtesy OSU Archives)

all of the points. A photo of his kick appeared in countless newspapers and even Look magazine, World Book Encyclopedia and Stars and Stripes. OSU finished the year 7-2-1 and ranked seventh in the nation, its best season until 2000.

Haggard said Andros taught dedication, determination and character. Those qualities, not simply athletic ability or achievement, will be selection criteria for choosing recipients of the Mike Haggard Endowed Scholarship for Walk-On Student-Athletes. Participants in all men's and women's sports will be eligible.

"I hope the scholarship supports the minor sports as well as the major sports," he said. This year OSU has 176 walk-ons, of more than 500 student-athletes on 17 intercollegiate teams.

After graduating in 1968 with a bachelor's degree in production technology, Haggard earned a second degree in business administration. Now a Seattle resident, he spent much of his career with Boeing, designing and improving its manufacturing plants. Provisions in his estate plans also will create an endowment supporting engineering programs to develop manufacturing methods for new advanced materials.

"This is a sort of payback," he said, "to repay all the goodness I got from athletics and Oregon State University."

#### **ECAMPUS COUNSELORS:** Partners for success

Oregon State Ecampus — a national leader in online education — has offered student success counseling services for nearly four years and is bolstering those services as OSU's Student Success Initiative goes forward.

The services focus primarily on newly admitted students, many of whom are transitioning to online learning or returning to college after taking time off.

Since summer 2016, the OSU Ecampus student success team has reached out to nearly 1,200 students, providing academic counseling services at the point of admission to ease the transition into their online program.

Beginning last fall, the Ecampus success team ramped up its efforts by offering first-term coaching to new students who exhibit potential academic risk factors.

The team tailors appointments to meet a student's individual needs, covering topics such as stress management, work-life balance, goal-setting and identifying support resources. The aim is to help students identify resources, improve academic skills and address obstacles so they can be successful in their academic journey at Oregon State.

Learn more about the OSU Ecampus student success team at ecampus.oregonstate.edu/success.



## CASSIE,

an upright robot developed at OSU, takes a walk in the woods with Mikhail Jones '11 '15, a faculty research assistant in mechanical engineering and chief engineer at Agility Robotics, a spinoff firm offering the robot for sale.

The rapidly expanding, nationally ranked robotics program in the College of Engineering helped incubate the company, which focuses on legged locomotion that let robots go where people go.

Agility Robotics is based in Albany and in Pittsburgh, Pennsylvania. A goal is for Cassie's first sales to be to other academic and research institutions, to help grow the research community and teach a new generation of engineers in mobility robotics.

At the State of the University address in Portland in February, a hushed, then applauding crowd of nearly 800 watched as a Cassie prototype joined Oregon State president Ed Ray and alumni director Kathy Bickel on stage. Developers of the robot say package delivery could be an early specialty for Cassie's technological descendants.

"This technology will simply explode at some point, when we create vehicles so automated and robots so efficient that deliveries and shipments are almost free," said College of Engineering Dean's Professor Jonathan Hurst, robotics teacher, chief technology officer at Agility Robotics and an international leader in the development of legged locomotion. (Photo by Chris Becerra) 🗩

A more complete version of this story is available online at bit.ly/2kr8yPo. A video of Cassie in action is available at bit. ly/2kwD5xV. To inquire about buying a Cassie of your own, visit agilityrobotics.com.





# Redefining the B-School Experience In her second year as dean of OSU's College of Business, Mitzi Montoya has a tall order: Empower

In her second year as dean of OSU's College of Business, Mitzi Montoya has a tall order: Empower and prepare business students to have a meaningful and transformational impact on economic growth in Oregon and beyond. But in today's rapidly evolving business landscape, only about half of hiring managers think that graduates are prepared to enter the workforce. So how can business schools respond to the change quickly enough to graduate the kind of professional that employers crave?

We sat down with Dean Montoya to talk about how the College of Business is doing just that: anticipating the skill set and innovation mindset that the future business ecosystem will require.



#### Is the pace of business changing more rapidly than it has in the past?

It is; all data shows that it is. The absolute number of new product introductions and the obsolescence of new platforms has been accelerating over the last 20–25 years relative to the prior 100 years. The internet opened up greater access to knowledge, leading to more talent and more capital — new starts are happening faster, failures are happening faster, and you're seeing a higher churn rate.

#### What does that mean for our students?

The keywords, I think, are "adaptable" and "resilient." A downside of the increasing rate of technological change is flameout. So, the calm in the storm of technological change is a talent that is cultivated through experience — it's not actually something that students can read about or learn about. They have to live in it, and get into the mess of it, and figure out order from that chaos and drive forward.

#### How does that translate into what you are doing in the College of Business?

We've revamped our first-year experience by introducing Innovation Nation, a living-learning community where business and design students live with each other and participate in common classes, activities and events with their peers, faculty and alumni. It blurs the lines between campus and community — and it is mandatory for freshmen.

We first tested the Innovation Nation concept with a pilot program and a select group of student participants. We found that our pilot program participants returned to OSU for a second year to continue their degree pursuit at much higher rates than College of Business students overall (97 % versus 81 %). Known as a college's retention rate, this percentage is a strong predictor of degree completion. Research also shows that students in living-learning communities are more academically successful in college, engaged in the campus community, and profession-ready.

#### Seems like being an OSU business student is a 24/7 experience.

Exactly! But it does not end in the first year. Though we're committed to engaging with our students and embedding them in business from day one, we have cocurricular threads that run throughout the entire four-year experience of a business student at OSU. Our framework for our students is built around three pillars — personal, professional and leadership-skill development.

#### How is this different from what b-schools did 25 years ago?

Typically, hands-on business courses might not begin until the third year, and traditionally, b-schools that haven't evolved with the times tend to be a little more theoretical and divorced from the practical. Most business schools currently use case studies. But case studies aren't enough. Sure, students can read about a realistic situation that a company faced, which is better than a made-up story found in a textbook. But what is even better is for students to work in a team where they

(Continued on the following page)

#### Interview with Dean Montoya

(Continued from the previous page)

can experience things like conflict with teammates, delegating roles, and making decisions — and guess what ... that's what happens when you join the workforce. It's the difference between being purely theoretical and being experiential. For a professional school, it is going back to our roots. We have an obligation to embed practice as part of our educational process.

#### So considering the pace of change, is the classroom the best place to make these experiences happen?

We're taking the idea that education is just an accumulation of credit that you earn in the classroom and flipping it on its head.

The terrific thing for us is that we are not doing this alone in a classroom with a few great ideas. We have an entire network of industry professionals from around the region visiting campus and speaking to students as part of our Fridays in Austin professional development programming, or offering internships and jobs. We have alumni who are acting as mentors or running professional skills workshops or

inviting a group to visit their company. We have partners from around campus that have a stake in improving the economy of the state, and the region as a whole.

Every opportunity we have falls back onto the notion that "we're not done yet." The pursuit of excellence is never-ending. It isn't a stable bar; it constantly moves, and we have to stay at that edge.

business.oregonstate.edu/studentsuccess.

#### Giving back and sharing experiences with students is a win-win. College of Business alumni and faculty weigh in on how connecting with students can add value to their campus experience:



Former Weyerhaeuser chief financial officer Patty Bedient '75 spoke to a group of College of Business students at the Susan J. McGregor Lecture on Women's Leadership. The discussion centered around the importance of gender-diverse boardrooms and charting your own unique professional journey.

Bedient said she feels energized and inspired after sharing life experiences with students. "They are always eager to hear real-life stories and experiences from alumni and professionals who have 'lived it.' Everyone's story and background is different, and it's never how it plays out in a textbook."



As senior vice president for Adidas America, Inc., Nic Vu '95, has seen the benefits that applied, cross-functional experiences have on business students.

"Experiences matter. The more hands-on projects, internships or student organizations a student participates in, the more well-rounded and successful that student will be as a graduate and then as an employee," said Vu. He feels this is one reason collaborating with the College of Business is so rewarding.

"I have a deep appreciation for how the professors and mentors helped me succeed at OSU, and now I'm paying that forward by partnering with the college so that I can help make a difference for students at my alma mater."



Anthony Klotz, assistant professor at the College of Business, said when the college creates a culture of high engagement, students will thrive and become lifelong learners.

"We want to instill the skills in students to succeed in their first job as highly engaged employees," said Klotz. "That means it is up to us to go above and beyond to provide opportunities outside of the classroom that keep them interested and excited."

For the past three summers Klotz took a group of business students to London to meet with executives from Experian, Unilever and Aston Martin.

"They were able to see first-hand how international business relates to what they've learned in class and how a global career could be a very viable option for their future."

#### **Innovation Nation:**

#### Four Years of Business Experience Starts on Day One

t's 8:30 p.m. in Weatherford Hall, the all-freshmen, all-business and design student residence hall, and it is a scene of dorm-life "new normal" for OSU's College of Business.

Technology figures prominently, as students press through assignments, working with their team to put the final touches on their business plans, and decompressing with their headphones and social media.

The new generation is here, Gen Z — the first cohort in the College of Business' "Innovation Nation" first-year experience — and they're wired into a new and intentional curriculum experience, writing business plans and launching their own micro-businesses all before they call themselves sophomores. They're practicing from day one how to be the next generation of innovators, entrepreneurs and business leaders.

For Dmytro Shabanov, this was a pleasant surprise. Shabanov — who works with six other entrepreneurs to launch a new product, a bicycle turning signal — finds his first year as a business student far from average.

"To be honest, I expected the first year of business school to be all book work — just reading about business without much doing — with junior and senior year being when we'd write business plans," Shabanov said. "So for us to be working together as freshmen to start our own business and launch a real product is pretty exciting. Not to mention, our product could really take off, which makes this much more motivating than your average team project."

Innovation Nation revolves around coursework that introduces fundamental theory and promotes practical and hands-on skills across all areas of business studies. By the end of the

first year, students also have tapped into the experience of alumni, business leaders and CEOs who visit the College of Business to share stories of hard work, success and surviving failure.

"This is the kind of experiential learning that positions students to be more engaged in the broader community and with their faculty and peers," said Sandy Neubaum, director of student engagement at the College of Business. "Our philosophy behind Innovation Nation is to prepare students to be profession-ready with the skill set and mindset that today's 'nano fast' business environment requires."

For Sydney Brentano, her first year at OSU has already exceeded her expectations of what business school would be like.

"Going through the process of starting our own business has given us the opportunity to explore our creative sides as we think through big ideas for our product, but also through the challenges that come up when working with a team or running a business," said Brentano. "In my opinion, it is really something special."

Neubaum said it's the sense of community among students, faculty and college alumni that makes this such a unique experience for business students.

"If we cultivate an engaged business student starting on day one and continue to support them throughout their time at OSU, we know that they're more likely to persist, more likely to graduate and more likely to be a successful and engaged employee when they land their first job," said Neubaum.



## THE BRINK OF DISCOVERY



And that's where we go. From mountain peaks to ocean depths to the very edge of what's known, Oregon State University is working to find solutions to the world's toughest problems.

We're up for the challenge and in it for a better world. oregonstate.edu





## **APPLIED RESEARCH**

Applied research seeks to answer real-world questions and solve real-life challenges.

## Engaging coastal communities in wave energy development

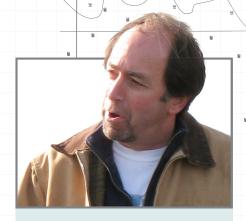
About 40 percent of the U.S. population currently lives in a coastal county. Harnessing wave energy has the potential to supply these millions of Americans with electricity, and create jobs in the process. But it also has the potential to disrupt the livelihood of other ocean users, put marine ecosystems at risk, and diminish the beauty of Oregon's coastal communities.

The complexity of the issues has caused wave energy discussions to take decades as the state seeks to balance economic diversity, rural vitality, and energy independence, and also build trust between constituents.

Commissioners in Lincoln County, the site of the Northwest National Marine Renewable Energy Center\* (NNMREC), were not opposed to wave energy research, but they also wanted to acknowledge and address community concerns. To find a workable balance, the Fishermen Involved in Natural Energy (FINE) advisory committee was created in 2007.

Oregon Sea Grant Extension played a critical role as liaison between the community, FINE, and wave energy researchers and developers. "Community collaboration does work," observed Kaety Jacobson, Oregon Sea Grant Extension. "It makes it possible for off-shore energy, fishing, and marine habitat to coexist."

FINE members were the voice of the fisheries and were essential to finding workable solutions to wave energy site placement by applying their knowledge of marine fisheries and the coastal environment. They became partners in collaborative research, picking up buoys that strayed, monitoring devices, and deploying equipment.



not great crabbin

Bob Eder, original member of Fishermen Involved in Natural Energy (FINE). Photo by Kaety Jacobson



Problematic

Continued on back page

## Better-fed honey bees fight off harmful effects of parasite

Many Oregon beekeepers worry that preventive antibiotic treatments—the conventional way to combat two serious parasites—might be doing their bees more harm than good.

At high levels, Nosema ceranae and a related parasite disrupt protein metabolism, weaken immune systems, and cause malnourishment in the next generation of bees. A severe infestation can deplete the population of bees within a colony and may eventually cause it to collapse.

A study of European honey bees by Ramesh Sagili, a professor and honey bee Extension specialist, and Cameron Jack, a doctoral student in horticulture, found that well-nourished honey bees are better at fighting off the parasite.

The finding suggests that giving honey bees access to a greater quantity and variety of pollen—their only source of protein—could make them more resilient against parasites and other pests, and help to stem worrisome declines in bee populations.

Bee experts have worried for some time that "working" honey bees with access only to monocultural crops are not getting enough nourishment to thrive. Some are giving their bees a few weeks' break from work and letting them forage in uncultivated areas.

"It's a limited menu for them," Sagili said. "It's as if you or I were to eat nothing but chicken for two months. We think a polyfloral diet can definitely enhance bee nutrition by providing a variety of amino acids and other nutritional elements."

Many beekeepers already feed their bees extra rations of protein in early spring when they're rearing new brood, and in the fall when they're preparing to overwinter. Sagili cautions that too much protein can also be harmful to bees. "It appears that there is an optimal balance of nutrients needed for best survival," he said. "We now need to do some trials in the field to determine how much protein is optimal."





## 30-day lifestyle intervention lowers risk factors for chronic disease

Heart disease, stroke, cancer, diabetes, obesity and arthritis are all preventable forms of chronic disease. Diet and lifestyle contribute to—or prevent—these conditions.

**LEAP (Lifestyle Eating Activity Progress)** is a 30-day, community lifestyle management program created and delivered by OSU Extension Family & Community Health faculty and volunteers for residents in Coos and Curry Counties, two counties at the bottom of Oregon's health rankings.

The gold standard of lifestyle management programs—referred to as CHIP—was developed and tested by Dr. Hans Diehl of Loma Linda Lifestyle Medicine Institute beginning in 1986. LEAP achieved similar results as CHIP at a greatly reduced cost—46 percent less—making it more affordable for lower resourced individuals.

After two pilots programs, LEAP was offered in Bandon, Ore., in June 2015, to 19 participants.

Continues on page 3

The LEAP immersion lifestyle management program provides participants with the knowledge and skills to purchase, store, prepare and consume the types of foods that can prevent, or reverse, chronic diseases over their lifetime.

**LEAP** is built around plant-based meals, science-based nutrition education sessions, and includes pre-and **post-health screenings.** In just 30 days, participants saw the results of their actions, which encouraged them to continue on the path of healthy eating for optimal health.



All participants showed significant improvement in at least one health risk factor, with most reducing four or more. The greatest results were seen in those with the highest risk, including three that decreased or eliminated medications for blood sugars, blood pressure and/or cholesterol. One

participant even boasted about a sprained elbow caused while playing basketball, a sport he thought he would never enjoy again after the heart attack he suffered before attending LEAP.



\*The research was supported by the U.S. Department of Agriculture's National Institute of Food and Agriculture; Agricultural Research Service; the Oregon Beef Council; the Oregon Agricultural Experiment Station; the University of Idaho; and the International Center for Agricultural Research in the Dry Areas.



Using precise tracking technology, a five-year study by OSU Extension Service found that cattle spend less time in streams than most people think—the average is between 1 and 2.5 percent of their time on the range.

John Williams, an Extension rangeland expert based in Wallowa County, Ore., and his colleagues used affordable GPS collars on beef cows allowing the researchers to map their positions over the paths of rangeland streams across five spring-to-fall grazing seasons. They discovered that the cows went down to the water when they needed to drink or cross, but did not typically linger there. They spent most of their time grazing on higher ground or resting on dry areas away from the stream.

The collars recorded the cows' locations about every five minutes, yielding more than 3.7 million data points over the five-year study. "With this GPS technology, we can get a body of data we can really analyze, and we can start answering controversial questions with confidence," Williams said.

Cattle grazing, especially on public lands, has been controversial at least since the 1980s, when ecological studies started to document the environmental damage done to rangelands from a 150-year history of livestock grazing. These findings and public pressure led to the adoption of grazing management practices aimed at protecting streams while still allowing livestock use.

The cows only used about 10 to 25 percent of the stream area, avoiding steep and slippery banks and inaccessible areas. Williams noted that all the study areas also contain non–stream sources of water, such as developed springs and ponds. In some months, cattle drank exclusively from these manmade sources, suggesting that they are useful range management tools that encourage decreased use of streams and riparian areas.

SPRING 2017

## **Coastal Communities** Continued from front

Strong community stakeholder support and engagement distinguished a successful NNMREC grant proposal—worth up to \$40 million—from competitor sites. The Department of Energy grant, announced in December 2016, is for the design, permit, and construction of an open-water, grid-connected national wave energy testing facility.

"I'll never forget watching the FINE committee draw on a National Oceanic & Atmospheric Administration chart with a Sharpie pen," Jacobson said. "The space would eventually become NNMREC's open ocean test berth."

\*NNMREC was established in 2008 by the U.S. Department of Energy to facilitate the development of marine renewable energy technologies via research, education, and outreach. University partners include Oregon State University, University of Washington, and University of Alaska Fairbanks.



I work with many different people who care about the ocean and coastal communities.

Bringing these people together helps OSU make decisions about where and how to test devices with little displacement of others.





Grant funding for outreach and engagement work grew significantly in 2016, building OSU's capacity to respond to social, economic and environmental challenges.

\$44,223,292

Total Grants Received in 2016 for Outreach and Engagement Work.

and engagement mission.



#### Download the Free Book

Coping with Caregiving: How to Manage Stress When Caring for the Elderly

"Community-engaged research starts with identifying a social, economic or environmental challenge." Then OSU faculty, staff, students and community members go to work—bringing expertise and existing knowledge together to add value and fill gaps through collaborative discovery of solutions. Applied research makes an immediate difference and builds a pool of useful information for other communities to tap."

- Dr. Scott Reed, Vice Provost, University Outreach and Engagement







## Aligning for a brighter Beaver future

This fall we join the university community for a yearlong celebration leading up to Oregon State's 150th anniversary in October 2018. Much has changed since the Oregon Legislature "designed and adopted" the then Corvallis College "as the Agricultural College of the State of Oregon" on Oct. 27, 1868.

As with any milestone anniversary, there will be opportunities to reflect on the university's past and progress. It's important to honor our history. Knowing where we came from gives us purpose and passion. But that's not the full story. That's why OSU150 will also include a look ahead to a future of innovation and excellence. I saw that future for myself at the recent State of the University address. Cassie, a bipedal robot, got up and walked across the stage, mimicking human motion. (See photo, page 28.) Remarkable as it was, it is just the tip of the proverbial iceberg.

Through the years, the university has made great strides as it adapts its programs and research to current needs. The same is true for the alumni association. We continually strive to find new ways to engage all alumni, connecting you to each other and this great university. I'm excited to announce the next step in our evolution. In January, our members approved a measure that will allow us to move forward with strategic alignment with the OSU Foundation.

Aligning with the foundation allows us to strengthen services for alumni and friends and deepen their connection in support

of OSU. The arrangement preserves the association's separate 501(c)(3) status and board, which will continue to oversee our programming and budget operations. By merging alumni association and foundation HR and finance functions, we will be able to redeploy staff in outward-facing roles.

In light of the change, I want to assure you that we have not forgotten our mission. The OSUAA will still serve all alumni. We will still have events, travel, career services and membership. We will continue to make our home in the CH2M HILL Alumni Center. The Oregon Stater will still be sent to all graduates.

Through alignment, the OSUAA is better positioned to develop innovative engagement opportunities to reach all Oregon Staters for generations to come. Who knows, maybe we'll come up with something just as cool as Cassie the robot.

Sincerely,

Kathy Bickel Kathy Bickel

P.S. — I look forward to sharing more about the progress and benefits of alignment in future columns. In the meantime, please visit osualum.com/alignmentfaq. 🗩



Kathy Bickel, executive director of the OSUAA and OSU vice president for alumni relations, greets guests at a Dinner for 12 Beavers event, which brings together students, faculty, staff and often alumni for informal conversations. (Photo by Hannah O'Leary)



## He's learning to seek a balanced life

Editor's note: This is part of an ongoing series of profiles of students involved in the Student Alumni Ambassadors, a group jointly sponsored by the OSU Alumni Association and the OSU Foundation.

Meet Jordan Anderson:

#### Where did you grow up?

I grew up in Beaverton and graduated from Sunset High School but I spent most of my high school years at the International School of Beaverton. It was a highly diverse place to grow up so I got to try a lot of different things from a lot of different places, like learning to use the abacus and doing taekwondo for practically my whole time there. Beaverton seems to be close enough to so many outdoor things, too, so I was quite lucky to be able to experience a lot of Oregon.

#### Why OSU?

OSU seemed like a naturally good choice. My grandparents and both parents spent the majority of their college lives at Oregon State. I'm a science major and it has quality programs and seems like a great feeder into the dental program at OHSU, my future plan. I considered other schools like Montana, where snowboarding would be close, but OSU just seemed to entice me.

#### How close are you to graduating, and what do you plan to do after that?

I am a junior and am on a four-year path so I plan on graduating after spring term of 2018. Following that I plan on going to a

dental school on the West Coast, and I am hoping to stay in my home town and go to OHSU. If I don't get in my first year, I plan to stay at OSU for the majority of another year, doing dental-related internships as well as completing a second major. I would like to spend some time traveling as well if I can get the funds to explore.

#### What has been your favorite class at OSU, and what did you learn in it?

This is a relatively difficult question because I learn so much from all of my classes and they all seem to interconnect with one another, although I think I have been most influenced by my organic chemistry class. Not only by the content in itself, which is quite fascinating and beautiful to me, but by the connections I have been able to make between the small scale of chemistry and relationships between people. It is all comparable and truly deserving of the word beautiful.

## What's the most important thing you've learned outside the

Relationships. According to Erickson's 8 stages of life, the 20s are all about intimacy. Living with five different people (four currently) and meeting an incredible number of other people, I have learned just how important intimate relationships are to my happiness. Realizing that school and grades are important, I have put far too much of my effort into academics so I could get into dental school. However, more recently I have embraced the importance of human connections. So I have been spending more time with friends making memories than before. This balance is the most important thing I am learning, period, deciding what is important in the long run.

#### What's your favorite place to hang out on campus?

Dixon Recreation Center. If I am on campus, it is either for school or to go to the gym. The gym is my stress relief and the way I can direct my feelings, since I don't have sports as an outlet anymore.

#### What's your favorite place to hang out in Corvallis?

I really like seeing views. So going to the river or going to some of the hills up north is really nice. I am in search of new places to visit when I have spare time.

#### What kind of support do you get from scholarships?

I haven't received many scholarships for school with my 3.6 GPA. I did get a College of Science scholarship, which helped me this year a good deal. The way I pay for college is mostly through working in the summer and during freshman year. One thing I regret is not applying for more scholarships.

#### Of all the things you could choose to get involved in on campus, why the Student Alumni Ambassadors?

SAA is great. I didn't know that when I applied, it was more by chance, thanks to a friend inviting me. However, once I joined, it was quite fun. The group is great people, and the events are fun to help out at. I have been able to make connections to alumni and stay connected with what is going on at the university. There are no downsides to being a part of it, but many upsides, so why not stay.

For more information on joining the SAA, or if you'd like to refer a student you know, visit osualum.com/saainterest.

## Eight alumni and friends selected for high honors

At two galas — one held in March in Dana Point, California, and the other scheduled for April 21 at the CH2M HILL Alumni Center on campus — OSU Athletics, the OSU Foundation and the OSU Alumni Association are bestowing their highest honors upon eight distinguished recipients. The honorees include:

LARRY GIUSTINA '71, Eugene, is this year's recipient of the OSU Foundation's highest



honor, the Lifetime Trustee Award. He has carried on both the timber company established by his late father, Natale "Nat" Giustina,

and the family tradition of supporting OSU through philanthropy and leadership.

His service to the university spans more than 30 years, beginning with the OSU Alumni Association, where he served as president. He also served on the OSU Foundation Board of Trustees and continues to provide valuable counsel on foundation initiatives. He serves as board chair for Trysting Tree Golf Club. (See story, page 44.)

MARIAN & STEPHEN BAILEY '70, Hillsboro, are this year's recipients of the Martin



Chaves Lifetime Achievement Award, presented by OSU Athletics.

Athletics is a central part of life for the Baileys, from OSU to lifestyle activities and the sports of their daughters and their daughters' families. Their favorite OSU memories stretch back from Terry

Baker to last year's women's basketball Final Four. They generously contributed to the Valley Football Center renovation and OSU Basketball Center, and are strong supporters of OSU and the College of Business. He is retired senior vice president of finance and chief financial officer at FLIR Systems, Inc., an OSU Foundation Trustee and a founding member of the Oregon Wine Research Institute. The Baileys were founding partners in Grand Cru Estates and Bailey Estate Vineyards.

JO ANNE TROW of Corvallis is this year's recipient of alumni association's Dan



Poling Service Award, given in honor of an influential dean of men who served the university for more than five decades.

In three decades at

OSU, Vice Provost Emeritus Trow served in leadership positions including vice president of student affairs, associate dean of students and dean of women.

Oregon State's first female vice president, she led efforts to address inequalities faced by women, helping to establish the OSU Women's Center and the Faculty Women's Network. Since her retirement in 1995 she has been active in many community and university organizations. She and her husband, Cliff Trow, have supported the Presidential Scholars program since its inception.

REBECCA CAMDEN, Gig Harbor, Washington, is this year's recipient of the Joan



**Austin Honorary** Alumni Award, the alumni association's highest honor for those who are not Oregon State alumni. The honor is named

for the late Newberg philanthropist, who was the first to receive it in 2005.

An enthusiastic and generous supporter of the College of Veterinary Medicine, Camden is retired chief accounting officer of CHC Helicopter, a Vancouver, British Columbia-based commercial operator of medium and heavy helicopters. She graduated from Stanford in 1979. Her late husband, Steve, was a 1977 OSU graduate. She is a board member and treasurer of New Beginnings, a nonprofit serving those affected by domestic violence. She's also on the Girl Scouts of Western Washington Council Alumnae Advisory Committee.

She is an OSU Foundation trustee and has served on the College of Veterinary Medicine Dean's Advisory Council since 2009.

**DICK FOSBURY** '72 is this year's recipient of OSUAA's highest honor, the E.B. Lemon



Distinguished Alumni Award, named for a legendary alumnus, teacher, dean and volunteer leader.

Fosbury, of Ketchum, Idaho,

is most famous for his invention of the "Fosbury Flop" technique of high jumping, which helped him win a gold medal in the 1968 Summer Olympics. His technique was so revolutionary that when he used it to jump for the Beaver track team as a freshman, doctors were summoned to make sure it wasn't too dangerous to be used.

He works as a civil engineer and serves as president of the U.S. Olympians and Paralympians Association.

PAT EGAN '92, Las Vegas, Nevada, is this year's recipient of the Jean & C.H.



"Scram" Graham Leadership Award. Named for a former alumni director and his wife, the award honors individuals who give exemplary

service to the alumni association.

A past president of the OSU Alumni Association and a past member of the OSU Foundation Board of Trustees, he is senior vice president for renewable energy and smart infrastructure for NV Energy.

**CHARLENE MCGEE** '04, Portland, is this year's recipient of the OSUAA Young Alumni Award.



She is deputy refugee health coordinator for Multnomah County. She has been a commissioner for the City of Portland

Human Rights Commission and is a past president of the Portland NAACP branch, having been the youngest person ever, at 24, to hold that position.



Participants in the 2016 Golden Jubilee Reunion enjoy a tour of OSU athletic facilities led by former Beaver quarterback Scott Spiegelberg '75, director of Varsity OSU and alumni engagement for OSU Athletics. This year's reunion is set for June 8 and 9, welcoming the jubilee class of 1967 and the classes of 1962, 1957, 1952, 1947 and 1942. For more information visit osualum.com/reunions. (Photo by Hannah O'Leary)



MAY 3

STATE OF THE UNIVERSITY

**BEND** | Riverhouse on the Deschutes

Join Oregon State University President Edward J. Ray for a compelling institutional update with a focus on OSU-Cascades.

osualum.com/soubend

20

OSU COMMUNITY DAY OF SERVICE

**NATIONWIDE** 

Give back to your community by participating in a service project. We are currently seeking lead volunteers and service sites.

osualum.com/service

JUNE 8-9

**GOLDEN JUBILEE REUNION** 

CORVALLIS | CH2M HILL Alumni Center

The classes of 1967, 1962, 1957, 1952, 1947 and 1942 are coming back for camaraderie, campus tours and Classes Without Quizzes.

osualum.com/reunions

AUG 12

**GOLF WITH BEAVER NATION** 

**BOISE** | TimberStone Golf Course Hit the links with Oregon State alumni and friends. osualum.com/boisegolf

For more events, visit osualum.com/events.







# Golfers support university as they play Trysting Tree

"I love to wander on the pathway Down to the Trysting Tree, For there again I see in fancy, Old friends dear to me." Named after the iconic gray poplar near Benton Hall, the one memorialized by Homer Maris '18 in Oregon State's alma mater, Trysting Tree Golf Club opened in 1988. Owned by the OSU Foundation and extending along the east side of the Willamette River, it's home to the Beaver golf program and a continuing source of philanthropic support for the university.

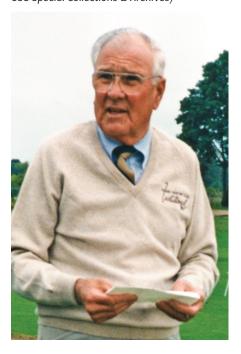
But mostly it's a regional gem of a public course, and it's being spruced up as its 30th birthday approaches.

"It is just a really good public facility available to any type of golfer who wants to enjoy the game," said Sean Arey '88, the course's golf professional for the past 26 years. "That's what the most valuable asset of Trysting Tree is — that it does cater to all levels of golfers. It can challenge the very best and it can provide an opportunity for the beginning golfer, who won't be intimidated by it."



Natale "Nat" Giustina in 1960

Giustina spoke at Trysting Tree Golf Club's 1988 dedication, at which OSU president John V. Byrne hit the first tee shot. (Photos courtesy OSU Special Collections & Archives)



The seed that would become the course was planted during the tenure of former university president A.L. Strand in 1951, when the university purchased 175 acres with the intent to build the course. However, it wasn't until Natale B. "Nat" Giustina, a 1941 OSU engineering graduate, joined the cause in the 1970s that the project began to gain momentum.

"Nat Giustina was the one who was a driving force behind the golf course," Arey said. "He had this vision of this golf course for this university and did everything to make it happen. He put the blueprint down for it to be a success and continue to stay a success — even in his passing, through his family."

A legendary OSU lumberman and philanthropist who died in 2005 at the age of 87, Nat Giustina provided the lead gift for the course and oversaw much of its construction. Designed by golf course architect Ted Robinson, it was built to provide an affordable, quality public course for the Corvallis area and to generate funds that would benefit Oregon State.

Nat's son, Larry Giustina '71, is chairman of the board that oversees the course.

Philanthropy has always been at the core of Trysting Tree's mission as an OSU Foundation affiliate. Profits from the course go back to the foundation to support various initiatives and programs at the university.

"To date we have given about \$4.5 million back to the school since Trysting Tree opened," Arey said.

Proceeds have supported OSU's turfgrass management program, the CH2M HILL Alumni Center, programs in agricultural sciences, business, engineering, music, the Valley Library and several athletic programs.

"That was the idea of the founder," Arey said. Giustina carefully set up the course as a facility that not only would give golfers a beautiful place to play, but would truly be a gift that kept on giving

As Trysting Tree nears its 30th birthday, and after nearly a decade of planning, the course is once again under construction. Oregon Department of Transportation changes in the right-of-way that borders the course have helped spur a remodel.

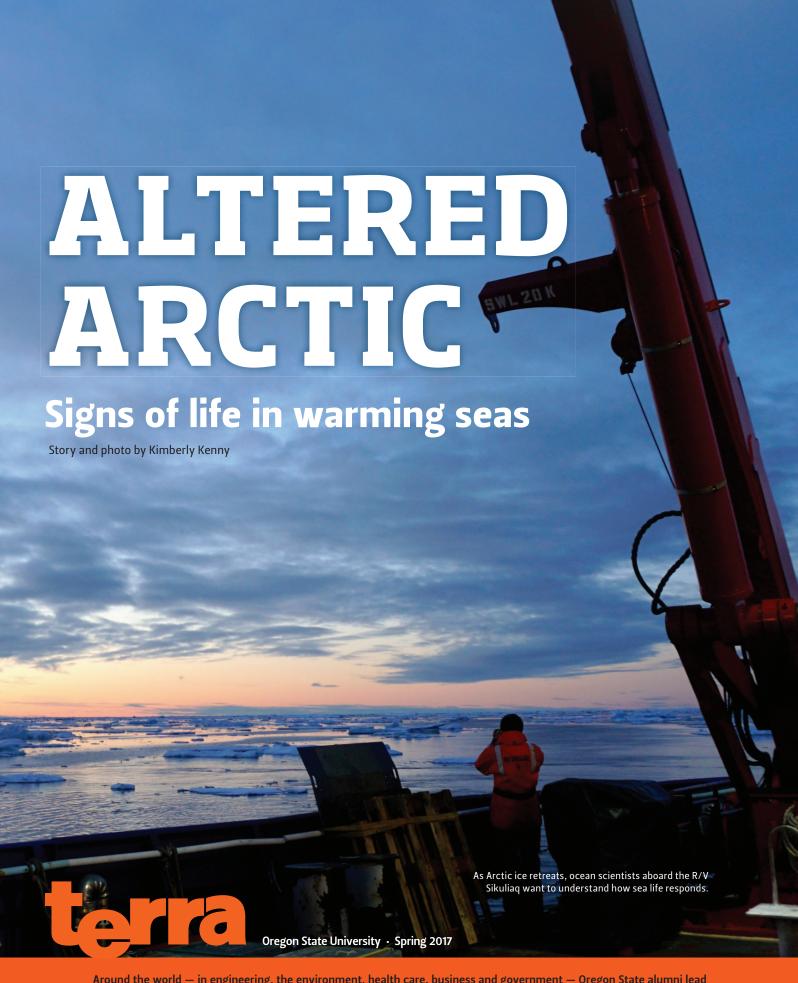
With donors' help, Trysting Tree acquired 26 acres off the 13th hole on the northern edge of the course to accommodate changes that should improve play. The project also will upgrade the facility's aging irrigation system.

Work began last September, and Arey a former Beaver golfer — expects to open new 13th and 14th holes in June and then begin construction on the front nine, an extended driving range and a dedicated practice facility for the Beaver men's and women's golf teams.

"The best part is that it gives us a chance to refresh the golf course," Arey said. "It gives the golf course a new look.

"Seven holes will be different from the course golfers know today. That's like playing a new course again. It gives the course the chance to be ready for the next 30 years in business."

Hannah O'Leary '13 is the Oregon Stater's associate editor for photography, history and traditions.



Around the world — in engineering, the environment, health care, business and government — Oregon State alumni lead partnerships to solve problems. See their stories at **terra.oregonstate.edu**.

The ship glides through the frigid stillness of the Arctic Ocean. On this September night, the Chukchi Sea off the northwest Alaska coast is a quiet, snow-globe world. A maze of ice sculptures screeches along the hull. Radio chatter mixes with banter between scientists and the gurgle of brewing coffee.

Laurie Juranek worriedly taps her long fingers on her thermos. Sea ice threatens her carefully laid plan to sample water from pre-determined spots. The map in front of her shows large swaths of ice directly over the ocean patches where she'd like to deploy equipment.

Where should Juranek direct the ship? Which science should be prioritized? The cost to operate this vessel is about \$50,000 per day. Teams from Oregon State, the Virginia Institute of Marine Science and the University of Alaska Fairbanks all need time to collect data.

Juranek is a chemical oceanographer at Oregon State University and the chief scientist on a 28-day expedition aboard the research vessel Sikuliaq ("young sea ice" in the native Iñupiaq language). She is soft-spoken, humble, deliberate. She is also tough. Her early sea-going days were spent as the only female researcher on Ukrainian cargo carriers. Her faith in persistent work propelled her through a Ph.D. at the University of Washington and research trips in the South Pacific, the Pacific Northwest and the Arctic.

## Hot Zone for Climate Change

If you want to see the effects of climate change right now, look no further than the Arctic. According to the National

Snow and Ice Data Center, Arctic sea ice is declining at an increasing rate in all months of the year. In September alone, when sea-ice coverage normally reaches its annual mini-mum, NASA satellites indicate a decline of about 13 percent per decade.

This trend matters for many reasons. Sea ice acts as a reflective blanket on top of the ocean. Without it, water absorbs more sunlight and warms more quickly. Warmer seasons stretch longer; animal species adjust their behavior; indigenous communities that have thrived for thousands of years struggle to adapt; and scientists scramble to keep up.

During the Arctic summer, whales, seals and birds flock here to reap the bounty of plankton "blooms," tiny sea plants that are so important to the food chain that scientists call it primary productivity. News that primary productivity in the Arctic has increased almost 50 percent since 1997 made headlines last fall. Individual blooms are getting larger and occurring earlier in the year.

But what hasn't been well studied is whether or not this trend is continuing later in the season, after summer passes and sunlight starts to wane. That's the issue that concerns Juranek and her team on the Sikuliaq. With funding from the National Science Foundation, they are investigating primary productivity during the barely studied late season from August to November.

"What we're trying to figure out is how biology is impacted by the lack of sea ice," Juranek says, "In general, there's less ice coverage later in the season than there has been historically. And that is likely to impact how things grow and live and die."

#### Return to Corvallis

Juranek and her colleagues are still analyzing their data, but a preliminary look suggests that the trend of increasing primary production is indeed continuing late in the season. By tracking dissolved oxygen, carbon dioxide and other gases in the water throughout the cruise, scientists were able to see hot spots of biological activity. To her, the evidence is compelling but by no means the end of the story.

"I'm interested in what I'm doing on a day-to-day basis," says Juranek, an assistant professor in OSU's College of Earth, Ocean, and Atmospheric Sciences. "But I see it as a small piece of a bigger whole. As a community, scientists are trying to figure out the way our Earth works. And we're making this incremental progress. Nobody gets the answers in one go.

"I feel like I'm contributing to the understanding of the way our planet works, and hopefully that will bring knowledge and some insight into courses of action."

As the altered Arctic continues to unfold, scientists are focusing on more than the extent of seasonal ice or a change in productivity. What's at stake is a fundamental shift in a massive ecosystem. Primary productivity adds fuel to the fire of life, from whales to polar bears, in a place that is still draped in darkness half the year. By studying a region so clearly positioned at the forefront of climate change, scientists are gaining valuable clues about the likely future of the planet.

Editor's note: Kimberly Kenny received honors baccalaureate degrees in biology and international studies from Oregon State in 2015 and a master's in journalism from Stanford University in 2016. Her participation in the Sikuliaq cruise in September 2016 was supported by the National Science Foundation.



Jerri Bartholomew directs the John L. Fryer Aquatic Animal Health Laboratory at Oregon State.

## **Small Beauties**

#### The art and science of the microbiome

By Nick Houtman

In a bathtub-sized kiln at the back of her art studio, Jerri Bartholomew stacks layers of glass, one on top of each other like an oversized deck of cards. She closes the lid, flips a switch and waits for the temperature to climb. When the glass begins to glow red-hot, it melts and fuses into a single object, becoming a translucent collage of form and pattern.

As an artist, Bartholomew applies favorite images to her pieces — the graceful arch of a tree, a memorable camping spot on Mount Adams, a dragon fly's wing, a Chinook salmon. "Most of what I do comes from nature," Bartholomew says. "A lot of my pieces tell a story about a place. But I enjoy the process of collage, taking random images and putting them together and trying to get the feeling of place. It's as much about the composition as it is about the subject matter."

Layers of meaning also concern Bartholomew in her day job, head of the microbiology department and the John L. Fryer Aquatic Animal Health Laboratory at Oregon State University. She and her research team pursue clues about cause and effect — how a parasite kills fish, how a pulse of river water changes the risk of infection, how a worm no bigger than an eyelash forms a vital link in a deadly cycle.

"In some ways, science is stripping away the layers to see what's beneath," says Bartholomew, "and art is the opposite, building up the layers to create something new." Both draw from the same creative impulse, a desire to ask questions, to experiment and to learn from trial and error.

In a collaboration with The Arts Center in Corvallis, Bartholomew is bringing her two worlds together, culminating in a show — *Microbiomes: To see the unseen* — April 13 to May 27. The scientist and her colleagues have hosted artists in their lab to explore life forms as diverse as they are micro.

## Meadowlands

### Can beavers restore these eroded stream channels?

By Nick Houtman

When beavers build dams, streams slow down, sediment accumulates and ponds grow. Meadows are born. Water nurtures new vegetation, a boon for wildlife and livestock. But without beavers, streams speed up, scour channels and turn into gullies. Meadows dry out. Willows, sedges and other wetland vegetation give way to drought-tolerant shrubs.

At least that's the theory. In the arid valleys of Eastern Oregon, Caroline Nash is learning that the truth may be a lot more complicated.

The Oregon State University Ph.D. student in Water Resources Engineering is testing the idea that beavers are key to restoring streams that have cut their way down into the soil and left their floodplain meadows high and dry.

Across the West, landowners and organizations interested in meadow restoration are taking cues from nature and installing artificial beaver dams on small streams. Working with Gordon Grant, hydrologist in the U.S. Forest Service and Oregon State's College of Earth, Ocean, and Atmospheric Sciences, Nash is digging into the origins of a meadow in the floodplain of Cottonwood Creek on the Silvies Valley Ranch north of Burns.

She hopes to complete her study in 2018.

In turn, the artists conducted their own observations by collecting microbes from surfaces — a door knob, a slice of bread, a pet's hair, their own skin — and seeing what would grow on standard laboratory agar plates.

The goal is simple: to bring scientists and artists together and to spur

a conversation. "I think that's going to really change the creative process," says Bartholomew, the Emile F. Pernot Distinguished Professor. "The artists are going to start asking questions that are compelling, that we haven't thought of, because they're looking at the microbiome in a different way."



Bartholomew captures her science in Specimen 53, Ceratonova shasta



Across parts of the West, green meadows have given way to eroded banks like this creek near Izzy, Oregon. (Photo: Gordon Grant)

## **ALSO IN TERRA**

### A Sense for Starch

Food scientists discover new taste candidate

The five known categories of taste include salty, sweet, bitter, sour and savory. Juyun Lim has potentially discovered a sixth: starchy. At first, she thought it was a mistake, but the associate professor and her collaborators in Food Science and Technology are learning that taste is about more than preferring bananas to strawberries or being a picky eater.

## The Sustainability Grind

Karl Haapala applies academic theory to industrial practice

Turning a steel-alloy bar into a gear is not glamorous or poetic; process flowcharts are not the stuff of dreams. Yet it's here, in the elegantly rational trenches of industry, that Karl Haapala, an associate professor of manufacturing engineering, thrives and hones a better way to build things. Sustainable manufacturing balances social responsibility, economic competitiveness and environmental impact.

## What Do We Love Too Much to Lose?

A Call to Life gathers international momentum

"A Call to Life: Variations on a Theme of Extinction" combines music with spoken word. When Rachelle McCabe (OSU professor of music) and Kathleen Dean Moore (OSU distinguished professor of philosophy emeritus) performed to a packed house at the Corvallis-Benton County Public Library, they were nervous about the reception. Since then, they have taken it to Alaska, Calgary, Illinois and Hawaii. Everywhere, the response has been enthusiastic and emotional.

## New AD had his eye on OSU

By Kip Carlson

Pursuing the top athletic job at Oregon State wasn't a spur-ofthe-moment thing for Scott Barnes.

"Believe it or not, I had my eye on it for some time," said Barnes, 54, OSU vice president and director of intercollegiate athletics. "Because of the fit, and the Pac-12 piece, the fit of the town, and seeing a good fit for our family."

Barnes knew OSU president Ed Ray from Ray's work as chairman of the NCAA Executive Committee and from conversations with those who know Ray.

"Having a president that really understands the value of a vibrant, excellent athletic program and what it can do to advance the mission of the university is important," Barnes said.

Ray announced the hire in December.

"We need someone at this point in time to help us move this program to the next level," he said of Barnes. "I honestly believe he can do that."

Barnes had been athletic director at the University of Pittsburgh. The Spokane, Washington, native set four goals for OSU Athletics:

- » Academic success, during and after college.
- Successful, winning teams that earn championships.
- » New resources and new partnerships.
- » Listening to fans to improve their experience, and unifying fans, coaches and student-athletes in a common goal.

"As we start to craft a vision at Oregon State, it has to be about winning championships and going to the postseason," Barnes said. "It has to be about graduating your student-athletes and succeeding in the various metrics among the highest level in the Pac-12 ... and then the other piece is every bit as important as the first two, in making sure we're providing an excellent student-athlete experience.

"That means support for student-athletes in the areas of life skills, academics, mentorship, nutrition, training, medical care and all the other things that help round out a student's experience and get them ready for the next level," Barnes said, noting that quality coaches are crucial.

"When you have excellent leadership in your coaching staff, that's the best way for a student-athlete to have a good experience — to be coached and taught by a great leader."

Barnes had been at Pittsburgh since April 2015. Prior to that, as athletic director at Utah State, he worked with OSU football head coach Gary Andersen, who was then the Aggies' head coach.

Barnes also worked at Washington, Eastern Washington, Humboldt State, Iowa State and University of the Pacific. He played basketball at Fresno State in the early 1980s and professionally in Germany. He also managed the Fresno Flames of the World Basketball League.

Barnes has created a fan experience committee, in which 20 donors, ticket holders, students, alumni and community members will discuss issues.

"At different places you have different priorities," Barnes said. "But there's any number ... of issues at the table to help provide that fan experience. ... We'll learn what the hottest and biggest winds might be when we huddle up with the committee and start the process."

He said some of OSU's facilities — including the Valley Football Center, the OSU Basketball Center and Goss Stadium at Coleman Field — are in great shape, while others need some work.

"We'll use a facilities master plan process to identify across every sport the needs and wants of our coaches, and try to prioritize those," Barnes said. "Then we'll pull out a couple and dig deep on those and roll those into our campaign with the university's and the OSU Foundation's planning."



New OSU vice president and director of intercollegiate athletics Scott Barnes is interviewed courtside by Beaver broadcaster Mike Parker. (Photo by David Nishitani)

## Technically speaking, no spring football

By Kip Carlson

Oregon State decided to do without spring football practice in 2017. Instead, the Beavers went with winter football.

The team-wide offseason drills allowed by the NCAA usually take place in March and April, culminating in a "spring game" or scrimmage between mid-April and early May. This year, OSU head coach Gary Andersen opted to open the practices Feb. 17 and finish with a spring game March 18; by comparison, the Beavers' past five spring games have been on dates ranging from April 16 to May 3.

"You know, when you spend a lot of time on airplanes flying around the country recruiting, sometimes you have a lot of time to think," Andersen said. "And you look at a lot of things every single year with the team, and the way we did it last year isn't necessarily the best way to do it for the team this year."

The Beavers finished the 2016 season strong, beating Arizona 42-17 and Oregon 34-24; OSU bumped its overall win total by two and its Pac-12 victory total by three from Andersen's first season. The 4-8 overall record, though, wasn't enough to qualify the Beavers for a bowl game, so there were no bowl preparation practices into December.

Given that earlier-than-desired finish, Andersen thought he might start "spring football" early while players still had the lessons of the previous season fresh in their minds. There was also the matter of the university's academic calendar: An earlier practice schedule could be done in time for the Beavers to have the entire spring quarter to devote to academics.

"I know we have a lot of young men who could gain some real academic advantage where they have a quarter where they don't have morning football obligations, and they can lift when they need to lift," Andersen said.

Running back Ryan Nall echoed that sentiment.

"Exactly, exactly," Nall said. "It takes a little bit of stress off that last quarter of the year so we can really focus on our school and load up and take care of business.

"It has its positives and negatives to it. For one, you're done with spring ball before spring break so you can go and enjoy that time, go home. But also, it doesn't give your body enough time, or as much time, to recover as other schools maybe doing it after spring break or whenever it may be. But overall I think it's a good thing."

The early finish to practice also allows for a longer session nine weeks — of the summer strength and conditioning program.

The Beavers might go back to a more traditional spring schedule next year if they make it to a December or January bowl game, depending on the academic calendar. But, Andersen said, "for this team, this year, it was the right thing to do."

The Beavers return 15 starters for 2017 — seven on offense and eight on defense — and open the season Aug. 26 at Colorado State. 🗩



Football head coach Gary Andersen talks with tight end Noah Togiai during one of the Beavers' winter practices. (Photo by Karl Maasdam)



## DEPRESSION: Among the fiercest of foes

By Lanesha Reagan, English; volleyball | Photo by Hannah O'Leary

As a student-athlete the community often views you as a hero. Whether it's kids coming up to you after games, your parents talking to their friends about how proud they are, or other students telling you how amazing you did at your game over the weekend — people look at you differently.

You don't simply represent yourself, you represent your school, teammates, coaches and supporters. We have an amazing environment to thrive in at Oregon State, but just because we have a great community supporting us doesn't mean we don't have problems that are below the surface. That is why I'm writing this column.

My struggles with depression have affected me my whole life: on the court, in the class-room and with my friends. Reaching out and asking for help was harder than I could have imagined. I understand the embarrassment and shame that comes with not being the "perfect" student-athlete. I don't want anyone else to feel the same way and the only way for that to change is to change how we, as student-athletes, look at mental health.

There is a stigma surrounding student-athletes that because we have this incredible opportunity and are given so much, we must be happy and healthy all the time. There is no doubt that we get opportunities that others could only dream of, but along with that comes the stress and difficulties of handling the hectic schedules and the pressures that come with them.

A story that has stuck close with me since it was released in 2014 is of Madison Holleran, a runner at the University of Pennsylvania, who jumped to her death off the ninth floor of a parking garage on her campus. Prior to that, Holleran had been seeking help from a therapist in her hometown of Allendale, New Jersey, but barely any of her friends from college knew how severely she had been suffering. Her death shook the collegiate athletic world: How could a young girl who looked so perfect from the outside end her life? The problem with judging how someone feels is that looks don't show all the underlying stress that being a student-athlete brings.

While Oregon State does have Counseling and Psychological Services (CAPS) on campus, a lot of students brush it off as something not relevant, that you just don't talk about. If I were to bring up visiting CAPS to teammates there would be an uncomfortable feeling surrounding the topic. A sad truth is that we athletes are our own harshest critics.

We see ourselves as strong and independent. As student-athletes we try to fight through most things on our own because there is a strong belief within our community that asking for help shows weakness. But in reality, asking for help shows maturity and growth.

There is nothing wrong with seeking and receiving help. Help in the form of coaching taught us the sport we love and get to play at Oregon State. For some, that help gave us the opportunity to get a scholarship and go to school thousands of miles away from home.

In 2013, NCAA chief medical officer Dr. Brian Hainline named mental health as the number one health and safety concern for the NCAA. In 2016, the NCAA released its list of mental health best practices, which describes how coaches can support student-athletes during their career. The next step is on us as student-athletes and the amazing, supportive people who surround us.

We all have to start breaking down the stigma that makes asking for help and struggling with mental health issues things about which we should be embarrassed. It seems obvious, but if you see someone struggling or are concerned by something they say, talk to them. Don't feel uncomfortable or as though you shouldn't say anything because it's not your place. Reaching out to help before it's too late is something to be immensely proud of.

Thank you for all your love and support, Beaver Nation! Go Beavs! 🗩

Editor's note: In "Athletes' Journal," Oregon State student-athletes address Beaver Nation on topics chosen by them. The pieces might be edited for length and clarity (true of all pieces in the Stater), but the goal is to let these young people — who represent all of us in the OSU community as they compete — speak in their own voice.



# Baseball starts strong with players back from injuries

By Kip Carlson

When Oregon State baseball took the field for the 2017 season, it was as though head coach Pat Casey had two classes of incoming players on hand: one from high schools and junior colleges, and the other from the training room.

The Beavers opened the season ranked in the top 10 in major national polls and were picked by Pac-12 coaches to win the conference. They looked to benefit in the spring from the return of almost a half-dozen players who missed some or all of 2016 because of injury.

Pitcher Sam Tweedt and outfielder Elliott Cary had "Tommy John" elbow surgery before the season began. Pitcher Mitch Hickey and outfielder Trevor Larnach were hurt prior to opening day and saw limited action. In March, pitcher Drew Rasmussen — the ace of the staff, who in 2015 hurled the only perfect game in OSU history — was also lost to an elbow injury.

In 2016 the Beavers went 35–19 overall and tied for third in the Pac–12 but were passed over by the NCAA selection committee for the first time since 2008. Now, with most of those players back at full strength and Rasmussen a possibility to return at midseason, the Beavers opened the season Feb. 17 looking not just to return to the postseason, but to get back to the College World Series for the first time since 2013.

"We can be the best," said Cary, a sophomore who was a part-time starter in 2015. "We have to get better every day, for sure. But the sky's the limit for this team ... I know the coaches are excited. They don't act like it, but I know we're excited."

For Cary and most of the others injured in 2016, it was the first time they'd been out of action for any extended time. The Beavers made sure they weren't left out.

"You just keep them around the guys, keep them around the team," Casey said. "They were in the dugout, they were around. Just those things — make them feel like they're still part of the

club, which they are. And just help them understand there's a day when they're going to be back on the field."

Still, Cary said, it was a different feeling, especially on weekends when the Beavers were on the road and Cary stayed home.

"It felt like they were gone for almost a month when they were gone for only a three-day series," said Cary, who had hoped to return during the 2016 season. "When they came back, they were still wanting me to get my body ready to play, so it wasn't like I was missing much — it was just I had to work out three times on the weekend while they had to go play three times on the weekend.

"But they did a phenomenal job keeping us involved the whole time."

Tweedt pointed out another benefit.

"You learn how to become a student and not just a baseball player. It was nice, in a sense, to get away from baseball, focus on school, get ahead in school and be a normal person for once," the finance major said with a chuckle.

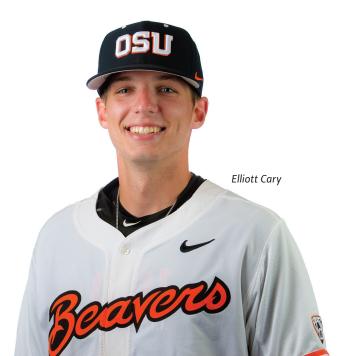
The injured Beavers kept each other on track in their recovery work. It was, Cary said: "How straight can you get your arm? How much can you lift? Two pounds with your arm yet?

"That's just the competitive nature of the team. No matter who would have gone down with me, I think we would have pushed each other to come back as strong as we are now. We made sure even though we weren't on the trips, we still had each other, and 10 months later we're back on the field. You just have to make it through those 10 months."

And as the Beavers went through one of their final preseason workouts on a sunny February day at Goss Stadium at Coleman Field, Cary was able to smile at the result.

"It's the greatest feeling in the world," Cary said, "being able to play every day again."







## **NEW LIFE MEMBERS**

The OSU Alumni Association welcomes alumni and friends who have become life members since the list was last published in the winter Stater. Thank you for showing your support with a lifetime commitment to Oregon State. Learn more at osualum.com/membership.

Dale Kevin Atkinson '78 Sophia S. Atkinson '92 Eric Stephen Ball '86 Curt A. Baney **Robin Baney** John A. Battilega '73 Nancy A. Battilega Donna Becker Kristina Bellock Timothy L. Benesh '93 Erik M. Berglund '10 Kate Berglund Anne Vogt Bialous '64 Dr. Barbara Jane Bond '84 Susan Bourgeois Daniel Joseph Bradach '06 Heidi L. Brooks '00 Ann L. Burrows '71 Lynne E. Clark Michael V. Clark '68 Lisa Cleary Martin E. Cloe '82 James Anthony Coats, Jr. '92 Melinda Charity Coats '92 Vicki Leininger Comer '68 William F. Comer '68 Kvle J. Conrad Erin Cook '07 Kristoffer Martin Cook '07 Travis Cooley '16 Tanya S. Crane '86 Kenton G. Cummins '73 Margaret Joachims Cummins Bob W. Dietz '82 Carolyn Emmerson Dietz '82 Phillip K. Doud Sharon Doud '69 Gretchen N. Dysart '81 John Thomas Dysart '83 Grant Carl Eastland '01 Donald G. Enstrom '76 Linda J. Ethington '65 Carrie Holman Fagan '86 John C. Fagan '87 Donald D. Fales '65

Norma K. Fales Kelsey James Fisher '12 Marguerite Fitzpatrick '70 James A. Flynn '68 Christopher George Fracasso Melvin Elroy Fuller '74 Nancy Gharib Paul N. Goodmonson, Jr. '69 Herky J. Gottfried '97 Shikha Ghosh Gottfried '97 Gwendolyn W. Gowing '67 Philip S. Hammitt '94 Andrew Charles Hammond '71 Reid Hellbusch Carl H. Hellis '67 Lori A. G. Hellis Diane Kim Henderson '83 Derald J. Herinckx '93 Todd Edward Hess '80 Michael C. Hogan '05 Stephanie Ann Hogan '05 Deborah Hollingsworth '80 Patricia Linn Horton '91 Craig A. Howlett '75 Gregory K. Hulbert '71 Sallie L. Hulbert Ernest N. Huyett '64 Shirley Ann Huyett '76 Karen L. Hyman Mark J. Hyman '65 Carol Infrança Bill Jackson '81 Sandra D. Jameson '79 Marsha Kurath Jaske '71 Michael R. Jaske '72 Mark Robert Johnnie '86 Mardine Johnson '89 Shaunna K. Junge '97 James L. Kennison Loretta Kriens '67 Andy LaFrazia '87 Michael David Lane '00 Jennifer Louise Lauder '10 William T. Leslie '74 Karen Lott '79

Elizabeth Jeanne Mace '13 Kenneth Mace Victoria J. Martin '72 Donald E. Mathews '75 Donna Matsushita Krista Maurer Hartman '83 Cha Mayner '12 Mary Anne McConnel '81 Robert J. McDonald '84 Judith Marie McDonald Janet Christy McKensey '79 Vicki McQuillen Becky McRae Patrick McRae '67 Cheryl Leah Miller '96 Justin Allen Miller '99 Cherie L. Miller George Edward Miller '77 Gary M. Miner '73 Gayle Owen Miner '73 Allen J. Morgan '80 Marilee Marshall Morgan '80 Frances Sanders Neeley '65 Erin Albertson Neuman '13 Justin James Neuman '13 Donna Lee Nevin '80 Curt Steven Nitschelm '80 Ed Nordquist '76 Kathleen M. Nordquist Jon A. Odenthal '86 Kathleen Odenthal '86 Jere Yada Okada '69 Katherine L. Okano Robert Okano '71 Karen Leanne Parkman '78 Thomas Charles Parkman '78 Brian M. Thomas Kelsey Pauxtis-Thomas '04 David Peng '76 Ying Peng Calista Meade Pifher '91 R. Mathew Pifher '92 Michael Joseph Pohl '09 James Steven Powell Mary Ann Powell Denver H. Pugh '97

Leshaya Pugh Dayna Rainier Bruce C. Reinmuth Dianne Landforce Reinmuth G. Louis Roberts '72 David Robinson '05 **Garett Rux** Joe Schafbuch '83 Kate Tricia Scheideman '14 Leland R. Schlenker '68 Dr. Kenneth O. Simpson '64 Kevin W. Sitz '12 Darryl Wayne Smith '92 James Smith '88 Paula Eubanks Smith '68 Stephen S. Smith '69 James R. Snodgrass '67 Gay Berry Snyder '75 James L. Snyder '73 Courtney Kay Solem '13 Julie Shepherd Staten '73 Michael D. Staten '73 Dallas Stovall Susan Stovall Mildred Jernigan Talbot '43 Thomas C. Talbot '43 Jennifer Jewell Thomas Neil Evan Vickstrom '94 Shari Jo Vickstrom Carol L. Weckesser Mark E. Weckesser '69 Karl Eric Wells '78 Barbara J. Whitmore Jill L. Whitmore '00 Roy Stanley Francis Wilson Jamie Diane Winthrop '93 Trey Winthrop, III '93 Jeffrey L. Wissler '69 Patricia Harlan Woolsey '59 Ann Marie Young '84 Christopher D. Young '84 Gregory T. Young '73

#### **CHANGES**



Kirk Maag '06, Portland, has been named a partner in Stoel Rives, one of the largest national firms focused on energy, natural resources, environmental

law and climate change. Maag, who grew up on a farm in eastern Oregon, focuses on natural resources and environmental law, advising clients in natural resource industries, including water suppliers, forest products companies, agribusinesses and manufacturers.



Joth Ricci '91, Portland, has been selected as CEO of Newberg-based Adelsheim Vineyard, taking the reins from David Adelsheim, founder and president. Ricci

has held several leadership positions in the beverage industry, most recently as president of Portland's Stumptown Coffee Roaster. He has served as president of the OSU Alumni Association and as a trustee of the OSU Foundation.



**Christian Zimmerman** '96 '00, Anchorage, Alaska, is the new director of the U.S. Geological Survey's Alaska Science Center in Anchorage. The center

provides objective and timely information to support federal management decisions regarding natural resources, natural hazards and ecosystems.

#### RECOGNITIONS

Heather Anderson '00, Bend, was Oregon's 2016 Teacher of the Year, received a 2017 Teaching Excellence award from the National Education Association and served as grand marshal of Bend's Christmas Parade. For the past five years she has taught fourth grade at Juniper Elementary School.

Clyde Forney '62, Auburn, Washington, received a 2016 Lifetime Achievement Award from the International Titanium Association at its international meeting in Scottsdale, Arizona. He had a distinguished 45-year career in the industry and was instrumental in the development and commercialization of the Ti-3Al-2.5V

alloy as the material of choice for aircraft hydraulic tubing and many other industrial and commercial applications.

Julio Omier '99 '01 was named a California regional secondary co-administrator of the year for 2017. He is an assistant principal at Rancho Mirage High School in Palm Springs.

### **PUBLISHED**

K.C. Cowan '79, Portland, has published Journey to Wizards' Keep along with two friends, Sara Cole and Nancy Danner. A fantasy novel suitable for ages 13 and up, it explores whether three very different girls can join forces to defeat an evil

Ben Korgen '69, Hope Valley, Rhode Island, has produced several fiction and nonfiction e-books. Information is available at www.benkorgen.com. DeVonne Wayne Linn '55, Ashland, has with his family — published Letters from the Linns of Lilongwe: A Peace Corps Volunteer Family Odyssey, Malawi 1973–1975. It uses excerpts from letters to capture the story of the family of five during their Peace Corps residency in the central African nation.

Dick Shellhorn '66, Cordova, Alaska, has written Time and Tide: Adventures on

Alaska's Copper River Delta. It offers a history of exploration and fisheries, plus the impact of the 1964 earthquake, and chronicles a lifetime of adventure based on 54 years of family duck cabin journals. Karen Van de Water '88, Foxboro, Massachusetts, has published The Cancer Card: Dealing with a Diagnosis. A recent lung cancer survivor who shares the story of her personal journey from diagnosis through surgery, chemotherapy, hair loss and recovery.

Steven K. Wagner '75, Claremont, California, has published his second baseball biography. Seinsoth: The Roughand-Tumble Life of a Dodger discusses the life and tragic death of the Los Angeles Dodgers' Bill Seinsoth. Wagner's first book, released in 2015, was Perfect: The Rise and Fall of John Paciorek, Baseball's Greatest One-Game Wonder.

## Honor the memory of a best friend.

Donate to veterinary student scholarships and you can post a photo and story about a beloved pet on the Pet Memorial website.

## osupetmemorial.org



## PASSINGS | ALUMNI

Donald S. Rearden '39, Portland Chi Phi Margaret Wiese Thompson '39, Stockton, CA Gamma Phi Beta

Henry Oman '40 '51, Normandy Park, WA Corinne Pfeiffer Tuttle '40. Gresham Margaret Lance Dresbach '41, North Bend Alpha Xi Delta

Vera Todd Elmgren '41, Medford Delta Zeta Janet Chase Harper '41, Junction City Miles C. Bubenik '42, Portland John P. Cole '42, Wayzata, MN Kappa

Thomas A. Hardy '42, Portland Kappa Sigma

Harry P. Hill '42, Bend Chi Phi Jack E. Cavender '43, Monument Sigma Phi Epsilon

Wadean Rohner Holcomb '43, Richland Bernard B. Klonoff '43, Portland Nancy C. Morrow '43, Portola Valley, CA Frances Downing Murphy '43, Redmond Edward "Ned" M. Potter '43. Wilsonville Sigma Chi

Herbert C. Coleman '44, McMinnville Robert N. Dichtel Sr. '44, Portland Vivian Nourse LaBonte '44, Issaguah, WA Alpha Chi Omega

Winifred Kickbusch Spencer '44, Beaverton

Kenneth M. Walker '44 '49 '55, Monmouth O. C. Yocom Jr. '44, McMinnville Sigma Chi Patricia Avrit Felthouse '45, Red Bluff, CA Sigma Kappa

Velma Lubich Kuzmanich '45, Portland Alpha Delta Pi

Robert P. Morfitt '45, Corvallis, Ore Alpha Tau Omeaa

Eleanor Swift Angulo '46, Novato, CA Delta

Lorena Ferguson Dornfeld '46, Corvallis Jean Hill Findlay '46, Roseville, CA Alpha Delta Pi

James C. Meece Jr. '46, Port Townsend, WA Delta Tau Delta

Verna Skinner Moore '46, Unity Alpha Gamma Delta

Beryle "Bud" W. Wright '46, Bend Lambda Chi Alpha

Helen Jones Young '46, Coquille Donald L. Alderton '47, Portland Delta Sigma Phi

Richard "Dick" M. Arenz '47, Salem Robert H. Carlson '47, Las Vegas, NV Sigma Phi Epsilon

Barbara Wood Dunham '47, Seaside Kappa Alpha Theta

Imogene Ridgeway Hemstreet '47, Woodland Hills, CA Alpha Delta Pi Elmer C. Johnson '47, Kenmore, WA Lyle T. Lindsay '47, Los Altos, CA Kappa Delta Rho

Theresa M. Wise '47, Portland Alpha Chi **Omega** 

Jane MacLachlan Armpriest '48, Salem Fred R. Flory '48, McMinnville

Georgie Lamar Holsheimer '48, Scappoose Alpha Xi Delta

Jean Elder McNamar '48, North Bend John "Jack" R. Ross '48, Medford Forest "F." G. Scott '48, Albany Barbara Cotta Semmelmeyer '48, Santa Rosa, CA Alpha Chi Omega

George VanLeeuwen '48, Halsey Alpha Tau

O. "Reed" R. Vollstedt '48, Seattle, WA Kappa Sigma

Malvena Evenson Allen '49, Springfield Kappa Alpha Theta

Miles L. Brubacher '49, Pismo Beach, CA George "Geo" E. Chambers Jr. '49, Albany Theta Xi

Arthur G. Chenoweth '49, Paia, HI Phi Sigma Kappa

Jeremiah "Jerry" F. Cotter '49, Dallas Pi Kappa Phi

Robert J. Fisher '49, Meridian, ID Lyell B. Gardner '49, Gaston Alpha Tau

Herbert J. Hill '49, Orem, UT Alpha Tau 0mega

Katherine Holcomb Jackson '49, Albany Pi Beta Phi

Gordon K. Jernstedt '49, Carlton Sigma Phi

Beverly Collins Marquess '49, Medford Robert L. McKinney '49, Longview, WA Beta Theta Pi

Jerald O. McRae '49, Dutton, MT John R. Nelson '49, Austin, TX Joanne Lindberg Parker '49, Albuquerque, NM Pi Beta Phi

Starr W. Reed '49, Issaguah, WA **Loren A. Shoemaker** '49, Happy Valley Owen H. Tessman '49, Portland Fred D. Thoman '49, Tualatin Pi Kappa Phi Robert C. Van Deusen '49, Portland Gordon N. Zimmerman '49, Yamhill Leora Bowman Burr '50, Bend Robert W. Cooney '50, Salt Lake City, UT Beta Theta Pi

John H. Davidson '50, Seattle, WA Marvin L. Davis '50, Mishawaka, IN Sigma Alpha Epsilon

Murrey A. Dumas '50, Medford Acacia Norman G. Horning '50, Maple Grove, MN R. N. Hukari '50, Hood River Buriel A. Johnson '50, Sacramento, CA Lyle A. Knower '50, Corvallis Acacia

**Lionel Kroner** '50, Portland Leonard E. Kunzman '50 '64, Salem Monty L. Montgomery '50, Portland Charlotte Asplund Palmateer '50, Salem Delta Delta Delta

James "Doug" D. Peterson '50, Brookings Michael O. Rothwell '50 '72, Bellevue, WA

Ernest H. Rudisill '50, Corvallis Edward A. Sabel '50, Orangevale, CA Theta

Willard E. Salmon '50, Portland Theta Chi Robert K. Schunke '50. Salem Clarence "Vern" V. Siegner '50, Los Angeles, CA

Robert C. Tetherow '50, Santa Barbara, CA **Robert E. Thompson** '50, Gleneden Beach Phi Delta Theta

Joanne Zeal Vosberg '50, Corvallis Caroline Owens Wann '50, Portland Pi Beta

Robert E. Webster '50. Albany Siama Chi Ralph Allen '51, Corvallis Lambda Chi Alpha Marilyn Moser Date '51, Greenwood, IN Kappa Alpha Theta

Robert "Bob" L. Duncan '51, Sparks, NV Burt M. Gottwald '51, Corvallis Phi Kappa

Harold M. Hanson '51, Sherwood Phi Kappa

Carl W. Hickerson '51, Glendale, AZ Ruth Corbett Hinson '51, Portland Pi Beta

Colleen Powers Mahon '51, Lancaster, MA Pi Beta Phi

William H. Pohll '51 '56, Longview, WA Theodore Shamshoian '51, San Diego, CA Annie Pastulovich Weathersbee '51, Lake Oswego Sigma Kappa

Mary McCall Buckovic '52, Wilsonville Alpha Delta Pi

Joanne Skelton Kaegi '52, Wilsonville Alpha Chi Omega

Donald O. Knodell '52, Eagle, ID Alpha Sigma Phi

Carl R. Lauersen '52, Salem Alpha Tau

Howard W. Mitchell '52, Medford Leroy G. Moore '52, Portland Richard C. Newell '52

Craig J. Orange '52, San Diego, CA Glenn R. Otis '52, Fircrest, WA Beta Theta

Charlotte Niccolson Williams '52, Salem Sigma Kappa

Richard E. Anderson '53, Vancouver, WA Lambda Chi Alpha

Loriene Hermanson Boyer '53, Portola Valley, CA Kappa Alpha Theta

## Meet people, ask questions, find a job you love

Looking to transition to a new position or know someone who is job searching? The OSU Alumni Association is here to help.

Former OSU student Amy Wheeler called me in my office at the alumni center to talk about how best to position herself for a career change.

"I felt lost," she said, looking back on that day. "With your help and a lot of time and effort put into growing my professional network, I eventually found a position."

She successfully changed careers from accounting to international student advising, providing a great example of how to use resources and connections to transition to a new industry.

"Information interviews are what enabled me to find my new position," she said. "I filled out hundreds of applications and submitted twice that many resumes, but I only began getting responses once I'd started networking and speaking with people in my field."

Connections are critical to expanding job opportunities. Knowing someone who works where you are applying helps tremendously.

"You were the first person I spoke with who gave me an action plan," Wheeler said. "You helped me find people to target in the Portland metro area, made me aware of higher education groups to network with and helped me when fatigue and despair set in."

The alumni association offers career consultations and help with professional development and occupational goals. Using this advice, Wheeler became better at using LinkedIn to bolster her connections, became involved with alumni and conducted informational interviews with potential employers.

We hold many events where job seekers can meet fellow OSU alumni and make connections. These occur in the virtual world, via web links, and at various in-person events such as the Portland Business Roundtable lunches.

These diverse options for meeting new people ensure there is something for everyone. I encourage you to join us at one or more of them.

For a successful job search, we invite you to join the OSU Beaver Careers LinkedIn group, send me your resume for review, book a one-on-one career consultation appointment, and explore the OSU Alumni Association career services webpages at osualum.com/career with a variety of events and services designed to increase your chances to get the job you want.

Good luck out there!

- Yuliya Dennis, director of alumni career services



## Need one-on-one career advice? We're here to help.

Career consultation services include:

- » Job search strategies
- » In-depth résumé review
- » Cover letter review
- » Interview prep
- » Networking approaches
- » Career or continuing education exploration

Confidential appointments can be held in Corvallis, Portland or over the phone.

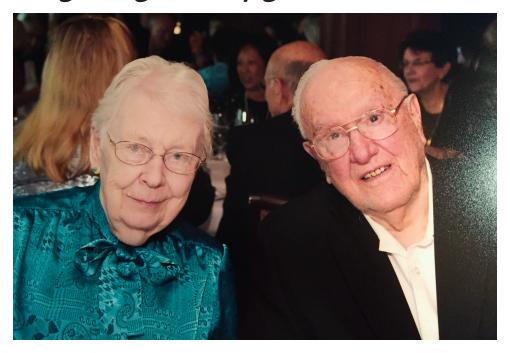
Fees range from \$20 to \$35, depending on graduation year and membership status.

For more information visit osualum.com/careerconsultations.

**OSU Alumni**Association

## Zimmermans brought together by great blind date

For "One of Us," we use a random-number generator to select one member of the OSU Alumni Association to be featured in a mini-profile and photograph.



Orin and Josephine Zimmerman were set up on a blind date during their time at Oregon State, and their roommates did well playing matchmaker.

The couple married Dec. 31, 1943. Four days later, Orin, a member of ROTC, was pulled away from school and sent to officer training. He spent the next three years in Europe and Japan fighting in World War II and then serving with occupation units.

During that time, the couple corresponded, mailing letters and house plans back and forth. Orin returned to Josephine and OSU in 1946, and they finished their senior year together, graduating in 1947, him in electrical engineering and her in home economics. Josephine taught home economics at Linfield College in McMinnville and Orin began what would be a 30-year career with Portland General Electric. PGE eventually moved him and his family to Palo Alto, California, where they still live.

Orin was a founding director of the Electric Power Research Institute's research and development activities, with emphasis on cutting-edge technologies and applications. He served for 16 years on the National Electric Code Committee and was president of the NW Electrical Inspectors. He served on the state of Oregon's Energy Research Committee. In 2003, he was inducted into the Engineering Hall of Fame at Oregon State.

Josephine continued to apply her home economics degree by volunteering with 4-H, judging quilts at the California State Fair and raising their family.

It turned out that their fascination with residential construction didn't stop with their wartime letter writing, as they continued to plan and build houses for their growing family.

"They designed and constructed 11 homes themselves," recalled their daughter, Janet. "I love the smell of fresh cut lumber because of that."

Orin and Josephine have three children: Janet A. Shelton '74, Richard Zimmerman '78 and Scott P. Zimmerman; five grandchildren and seven great-grandchildren.

Josephine said they joined the alumni association because "We went to Oregon State. I just thought, well, it was time we do something to help. We got a good education, so that was the thing to do."

Their generosity to OSU extends to gifts for the College of Engineering, the College of Public Health and Human Sciences and 4-H. The two of them recently celebrated their 73rd wedding anniversary and, in their 90s, remain active and outgoing.

Story by Hannah O'Leary; photo courtesy Zimmerman family

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Veda Matteucci Clark '56, New Braunfels,

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Jack R. Reider '56, Rancho Palos Verdes, CA Delta Tau Delta

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Howard Saucy '57 '63, Salem Sigma Phi

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Chester "Chet" Bennett '59, Hermiston Lowell E. Cooper '59, Desert Hot Springs, CA

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## **ANSWERS** (Questions on page 20)

- Unmanned aerial vehicle. UAS stands for unmanned aerial system.
- **2.** Yes, if it weighs more than .55 lbs.; also, it must not weigh more than 55 lbs. See more details and requirements at www.faa.gov/uas/getting\_started.
- 3. Yes. After many trials and tribulations, the Federal Aviation Administration (FAA) offers a few paths to use this technology legally. Here is how: a) Recreational users still fly under model airplane rules, which cover most student activity at OSU. b) The OSU research community now has over 50 faculty and staff certified to fly under a special FAA waiver provided to OSU by the FAA. c) Anyone can fly drones commercially by obtaining a UAS pilot license under Part 107. See <a href="https://www.faa.gov/uas/getting\_started/fly\_for\_work\_business">www.faa.gov/uas/getting\_started/fly\_for\_work\_business</a>. Professional and Continuing Education (PACE) at OSU plans to offer a series of courses on how to fly drones and start businesses using them.
- 4. Yes. Oregon State is one of the leading academic institutions deploying drones for research, academic and operational activities, and has been recognized as such by the FAA. OSU has a growing fleet of more than 50 drones operating on a regular basis.
- **5.** C. OSU researchers documented more than 200 flights between June 2016 and January 2017. These flights, mostly with consumer-grade quadcopters, were used to capture information on the global environment from the Arctic Circle to New Zealand.

- 6. E. All of the above. But it's really a trick answer. While all of the colleges listed do indeed use drones, drones are also being used in most of OSU's other colleges as well. For example, the College of Liberal Arts uses them for media production and the College of Business uses them to develop marketing plans and shoot promotional videos. One of the coolest recent uses was by Leigh Torres of the Marine Mammal Institute to observe whales doing things never seen by humans before. See some video at www.youtube.com/watch?v=zf16fArdqkw
- 7. D. A 2016 Goldman Sachs analysis sees a cumulative \$100 billion "total addressable market" over the next five years alone. The drone trade association, Association for Unmanned Vehicle Systems International (AUVSI), forecasts more than \$80 billion will be added to the U.S. economy from drone commerce in the coming decade.
- **8.** Absolutely. For example, Brian Whiteside '92 owns VDOS Global (www.vdosglobal.us) and is a partner in Complier Enterprise (www.complierenterprise.com), two Corvallis companies that serve the drone industry. He started his drone career with the military and is now one of the nation's most respected experts on using the technology for commercial purposes. He played a vital role in helping OSU develop its drone program.

Chad Hanson, a research assistant in the College of Forestry, prepares a drone for a research mission above the Metolius River watershed in Central Oregon. (Photo by Jill Rosell)



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**STEPHANIE ZHAO '16** has pushed hard to make sure college is no ordinary experience. She leads the OSU String Quartet. She's conducted research alongside renowned scientists. She's studied abroad. She's written an Honors College thesis on the biochemical pathways of aging. Now, she's on her way to a career in medicine.

Stephanie participated in these life-shaping experiences at OSU with the help of donor-funded scholarships and other support that allowed her to engage fully in learning, in the classroom and beyond. Yet for one-third of our students, these activities are financially out of reach. Our goal is to change that, to ensure all students have opportunities that prepare them to accomplish great things. For themselves. For others. For the world.

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