

COLLEGE OF AGRICULTURAL SCIENCES

# Year in Review 2022




**Oregon State**  
University










**For more than 150 years**, we have stood at the crossroads of conservation and production, innovating new ways to advance the future of agriculture and natural resources.

We partner with industries and communities each day to help the economy and all people thrive.

2022 marked a number of significant milestones, including a new dean, Dr. Staci Simonich. It also marked our highest-ever year of research expenditures and marked the public launch of Oregon State University's capital campaign.

As we lean into these accomplishments and opportunities, we recognize that now more than ever we remain steadfastly committed to make tomorrow better for everyone.





## 2022 AT A GLANCE

\$106M

In research expenditures

930

Total faculty and staff

3233

Students

\$900K

In available scholarships

#2

Agricultural College in the U.S.\*

\*ranked by alumni opinion via Universities.com





The accomplishments of the College of Agricultural Sciences during 2022 continue to demonstrate the passion, grit and deeply real commitment of our faculty, staff and students to serve a purpose greater than themselves.

We continued to set record research expenditures, securing over \$106M — our highest year ever! We expanded student experiential learning opportunities, building upon a campaign to renovate Wiegand Hall to expand our learning in food science and sustainable food production and launched the start of a program to add a state-of-the-art Plant Innovation Complex to campus.

For more than 20 years the College of Agricultural Sciences has been my home. And this past year, it was my distinct privilege to be named Dean and Director of the Oregon Agricultural Experiment Station. I continue to be amazed and humbled by the remarkable talent and determination of our people.

I am particularly proud of our growing efforts to advance our firm and growing commitment to a culture of diversity, equity and inclusion with the expanded use of our Community Agreements for Real Engagement [CARE] Commitment, the development of the College's first Strategic Plan for Inclusive Excellence, and the establishment of guidelines for our Culture, Equity, Diversity, and Inclusion (CEDI) taskforce to hold us accountable to our DEI goals.

It is an honor to serve as the leader of the College of Agricultural Sciences, not only because of the breadth of our accomplishments, but also because of the character of our people. It is nearly impossible to shine a light on the vast interdisciplinary and impactful work of our faculty, staff and students. We continually find new ways to innovate and transform challenges into opportunities in our unrelenting commitment to make tomorrow better for everyone.

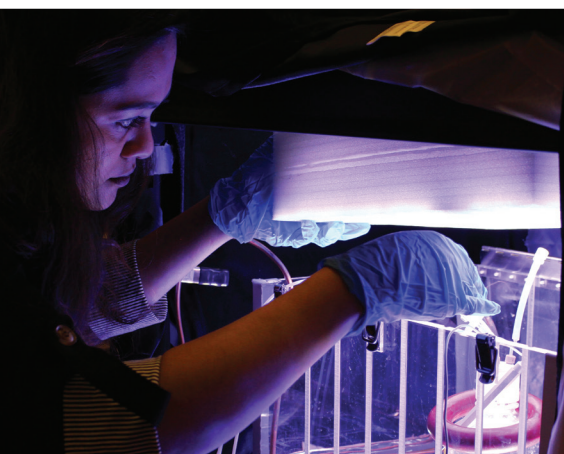
A handwritten signature in black ink that reads "Staci Simonich". The script is fluid and cursive.

Staci Simonich, Ph.D., M.B.A.  
Dean and Reub Long Professor, College of Agricultural Sciences  
Director of the Oregon Agricultural Experiment Station



## TEACHING

The College of Agricultural Sciences has always been deeply committed to offering our students diverse educational opportunities. In the classroom, online, in the lab, in the field and around the world.



This past year, our students were able to broaden their educational experiences with internships and research opportunities that made them more competitive in the job market as they start their professional careers. Many students conducted research that led them to consider a career in scientific research for the first time. Others found mentors in Extension who gave them opportunities to help serve communities.

Students also took part in more than 30 College clubs and took home national

honors from organizations including MANRRS (Minorities in Agriculture, Natural Resources and Related Sciences) and SACNAS (Society for Advancement of Chicanos/Hispanics & Native Americans in Science).

In our continued effort to improve access to education for everyone, we also increased the total amount of scholarships awarded by 25% to \$780,000. And at the start of the 2022-2023 academic year, first-year student enrollment was up nearly 10%, including both in-person and Ecampus students.

\$780K  
Scholarships awarded

483  
Bachelor's Degree graduates

89  
Certificates

89  
Master's Degree graduates

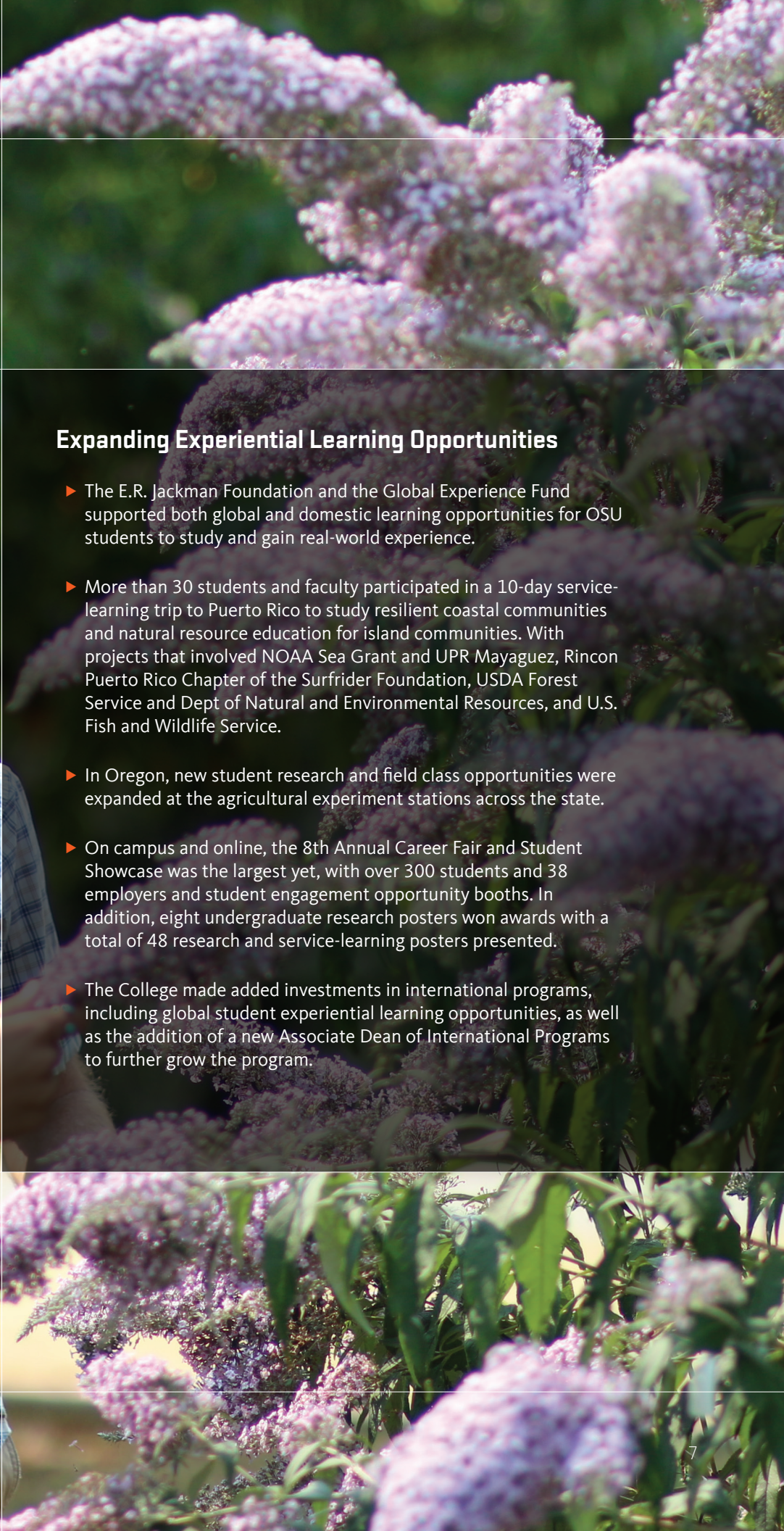
40  
PhD graduates





## Expanding Experiential Learning Opportunities

- ▶ The E.R. Jackman Foundation and the Global Experience Fund supported both global and domestic learning opportunities for OSU students to study and gain real-world experience.
- ▶ More than 30 students and faculty participated in a 10-day service-learning trip to Puerto Rico to study resilient coastal communities and natural resource education for island communities. With projects that involved NOAA Sea Grant and UPR Mayaguez, Rincon Puerto Rico Chapter of the Surfrider Foundation, USDA Forest Service and Dept of Natural and Environmental Resources, and U.S. Fish and Wildlife Service.
- ▶ In Oregon, new student research and field class opportunities were expanded at the agricultural experiment stations across the state.
- ▶ On campus and online, the 8th Annual Career Fair and Student Showcase was the largest yet, with over 300 students and 38 employers and student engagement opportunity booths. In addition, eight undergraduate research posters won awards with a total of 48 research and service-learning posters presented.
- ▶ The College made added investments in international programs, including global student experiential learning opportunities, as well as the addition of a new Associate Dean of International Programs to further grow the program.





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## CULTURE, EQUITY, DIVERSITY AND INCLUSION

**Expanding access to all areas of our teaching, research and outreach mission.**

Increasing diversity, equity and inclusion in agricultural and natural resource science is essential to meet the complex demands facing our economy, environment, and our communities. While we recognize that there is a great deal of work to be done to remove barriers that remain in our pursuit to make tomorrow better for everyone, we have made critical and concrete steps in service to this vision.





## Culture, Equity, Diversity and Inclusion [CEDI] Taskforce.

2022 marked the second year of the College of Agricultural Sciences CEDI taskforce. Launched in 2020, its goals were three-fold:

- ▶ To improve how we reflect the population we serve.
- ▶ To create opportunities for respectful and constructive dialogue between people and viewpoints.
- ▶ To eliminate bias in our policies and procedures so they are as supportive as possible for all people.



In its first year, the CEDI taskforce focused on assessment with a commitment to invest in defined priorities. This year, those efforts resulted in the development of a Strategic Plan for Inclusive Excellence (SPIE) which included input from more than 700 faculty, staff, students, alumni, and other relevant groups. Strongly rooted in our Community Agreements for Real Engagement [CARE] Commitment developed in

2021, the SPIE defines concrete action rooted in the principles and practices centered on our defined vision to make tomorrow better for everyone.

At the same time, we have identified areas across our College where advances are being made and honest dialogue is encouraged to create measurable and meaningful change.



The Strategic Plan for Inclusive Excellence will launch in 2023, but the College is not waiting until then to lean into the work we know we have to do. Some examples of that work from this past year include:

#### **Expanding Access for Master Gardeners**

Working to form, grow and strengthen relationships with longtime community partners who work with a broad diversity of Oregon gardeners, the Metro Regional Master Gardener Program reported that 45% of its 2022 trainees recruited in 2021 are from underrepresented communities.

#### **Leadership in the College of Agricultural Sciences are Invested in DEI Work**



“The future of the College of Agricultural Sciences is rooted in the shared belief that the path to scientific discovery and meaningful impact only happens when we embrace our differences, find common ground, and create space for historically underrepresented and marginalized voices to participate.”

#### **Staci Simonich**

Dean and Director of the Oregon Agricultural Experiment Station

#### **Expanding Faculty Diversity, Equity, and Inclusion (DEI) Education**

Seventy-four members of the College of Agricultural Sciences faculty attended a professional development course focused on Diversity, Equity and Inclusion. The highest number of participants to attend any professional development program in 2022.

#### **Sharing Research that Identifies Inequities in Science**

Dr. Brittany King, a 2021 PhD graduate from the Department of Fisheries, Wildlife and Conservation Sciences and current Environmental Scientist at NOAA, published research in the American Fisheries Society on “Social Identities, Intersectionality, and the Experiences of Women and Women of Color in Marine, Aquatic, and Fisheries Science.”



“I’ve received a great deal of support in my time at OSU and see this as a chance to advance the future of the College around principles of inclusion and academic excellence that serve the diverse identities and aspirations of faculty at all levels.”

#### **Yanyun Zhao**

Associate Dean of Faculty of Affairs



### **Integrating Perspectives in Traditional Research**

Traditional Ecological Knowledge (TEK) is the accumulation of Indigenous science, including information, practices and beliefs about relationships and environmental functions, including all elements, species and processes within ecosystems.

We received a \$4.2M grant last year to study the stressors facing Dungeness crab and other marine life under climate change in partnership with Tribal members to better understand changes to shellfish populations and ocean patterns that have been orally documented over multiple generations.

In addition, we are also collaborating with farmers and Native American Tribes on cropping practices that can enhance soil health and reduce the carbon footprint of the Pacific

Northwest potato industry as part of a \$50 million grant to advance climate-smart potatoes.

### **Collaborating to Share Histories**

Supporting the Oregon Black Land Trust, Oregon Black Pioneers and the Linn-Benton NAACP chapter in preserving and sharing the history of Letitia Carson, the only Black woman in the state to claim a homestead under 1862's Homestead Act and who won two lawsuits against a white neighbor who sold her property, located on land currently occupied by the OSU Beef Ranch.



“Teachers provide a light that is more than just a passing of knowledge – it is a seed that increases access to opportunity that grows exponentially over time. It’s kind of like magic. Increasing the diversity of our student body and our faculty is one of my highest priorities. It means the world to me.”

**Ricardo Mata-Gonzalez**  
Associate Dean of Academics



“The professional culture I embody is rooted in my personal core values of inclusivity and equity – I believe that productivity and success are more cherished when these elements are the core foundational bodies of work.”

**Sam Angima**  
Associate Dean of Extension



## RESEARCH

2022 was a record-breaking year for research at the College of Agricultural Sciences with more than \$106M in research expenditures – up nearly 30% over last year.



In 2022, our researchers found ways to expand opportunities for new agricultural markets while advancing equity and opportunity in both rural and urban communities across the state. New advances in sustainable food packaging demonstrated exciting potential for reducing our reliance on plastics. Expanded research related to climate change helped deepen understanding of its impact on marine life while identifying new ways to combat its continued impact on both agriculture and natural resources.

Our researchers continued to be tapped for national and international collaborations, including partnerships in mitigating risks of wildfires and reducing their residual impacts on agricultural commodities such as wine grapes and hemp.

In addition, we saw a number of faculty recognized for their scholarly achievements, including Dr. Elizabeth Tomasino, who received Wine Enthusiast's Wine Star Award for Scientific Investigation and Discovery. Both Dr. Lisa Ballance and Dean Staci Simonich were named American Association for the Advancement of Science (AAAS) fellows. Three scientists in the College were selected as Fulbright U.S. Scholars: Dr. Kelly Biedenweg, Dr. Stephen Good and Dr. Jerri Bartholomew. In addition, Dr. Jim Myers received recognition as the 2022 Fellow of the American Society for Horticultural Science and Dr. Jennifer Field received the Swiss Chemical Society Lectureship Award for 2022.







- ▶ Oregon State and partners received a \$50 million grant to develop climate-smart potatoes
- ▶ Researchers demonstrated the 40% drop in Pacific gray whale population is likely related to that climate change
- ▶ New research in sustainable packaging using dissolvable cranberry film was shown to have the potential to replace plastic packaging
- ▶ New innovations in reducing Salmonella risks for bulb onion were developed
- ▶ \$4.2 million was awarded to study stressors facing Dungeness crab and other marine life under climate change
- ▶ Cattle grazing with virtual fencing showed potential to create wildfire fuel breaks and protect habitat in riparian zones
- ▶ Early results from researchers exploring hemp byproducts showed they could be a good alternative feed for lambs
- ▶ For the first time, scientists found the elusive Sato beaked whale, previously only known from whalers' reports and carcasses
- ▶ Pacific whiting, one of the largest fisheries on the Oregon coast, was found to have components in its skin that reduce the signs of aging
- ▶ Oregon State researchers discovered compounds contributing to smoke taint in wine and grapes to combat impacts of future wildfire events



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## EXTENSION

### **Our Extension efforts in 2022 continued to enhance opportunities for communities in all of Oregon's 36 counties.**


**M**ore than 531,000 jobs are associated with the agriculture, food and fiber industry with a total farmgate production of \$5.5 billion and overall economic impact from the food system of \$42 billion. It is a part of our culture and our values in Oregon. 95% of our farmland is family held and 60% of all private land in Oregon is used for farming. In addition, the global reach of our agricultural system continues to grow, with exports up 25% since 2015.

Agricultural extension specialists continued to work hand-in-hand with both urban and rural communities across the state in support of this critical industry.

OSU Extension's Master Gardener program made contact with 78,700 Oregonians in 2022 – a significant increase from 2021's COVID-influenced 38,000. This includes increases in the Metro Regional Master Gardener Program which reported that 45% of its 2022 trainees were from underrepresented groups.

New advances continued to be made in hemp, Oregon's newest agricultural commodity, with more data supporting the identification of appropriate harvest dates. In addition to new agricultural commodity opportunities, more women continue to become active in the traditionally male-dominated field—44% of the state's farm producers are now women. In response, the Oregon State Extension Service Small Farms Program partnered with the Willamette Women's Farm Network to study the value of bringing women farmers together as a community to expand their knowledge of farming and ranching issues both in the marketplace and in agricultural practices. Eighty percent of those surveyed said their knowledge of farming resources increased since joining the group.





Even broader access to agricultural opportunities were encouraged with new programs launched across the state to help expand interest in agriculture production, such as the “Growing Seed Agripreneurs” program at the OSU Southern Oregon Research and Extension Center (SOREC) aimed at increasing the number, capacity and success of organic vegetable seed producers in the region.



### Other Extension Highlights

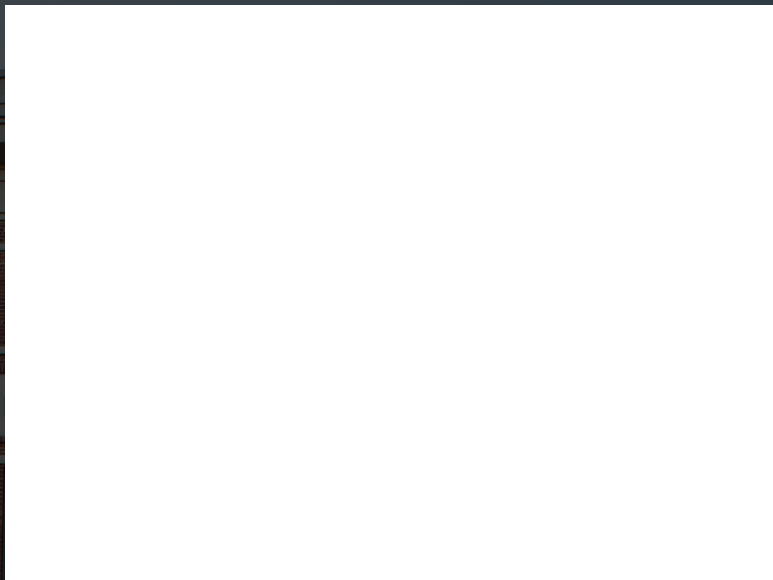
- ▶ A new Garden to Table course reached traditionally underserved residents in Yamhill County where 16% of the population is Latino. Participants reported savings of \$10-\$90 a week in grocery costs, with an average of \$47, resulting in an average savings of \$940 for the season. Further, everyone who responded to the course said they ate more vegetables while using their newfound garden space – anywhere from two to 21 servings a week.
- ▶ OSU Extension crops and livestock experts helped farmers meet OSHA requirements to document plans for fires and medical emergencies. The 40 direct management actions taken by participants in the trainings over the last two years reduced approximately \$700,000 in damages caused by wildfires.
- ▶ On the irrigated farmland of the Lower Columbia Basin, growers rotate their high-value crops of onions and potatoes from field to field to help stave off soil-borne diseases and pests, cut down on erosion, suppress weeds and conserve nutrients. Rotational crops like cereals, however, don't bring much financial value. Oregon State University Extension Service scientists started a research project to reveal opportunities for adzuki beans, nicknamed “small red beans.” With a strong international market, especially in East Asia, adzuki beans can be a high-value crop if properly produced.



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**Oregon State University**  
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