

# College of Agricultural Sciences

*Oregon State University  
September 2014*

## Introduction

---

The College of Agricultural Sciences, its statewide Oregon Agricultural Experiment Station, and the Extension Agricultural Sciences and Natural Resources Program, are integral to Oregon State University's standing as a top-tier land grant university. This report provides a point-in-time snapshot of the outstanding work of faculty, staff, and administrators, and the College's contributions to students, residents, and stakeholders regionally, nationally, and globally.

In 2014, QS World University Rankings ranked OSU 7<sup>th</sup> in the world among more than 200 institutions engaged in agriculture and forestry teaching and research. This speaks to the high level of professionalism of our faculty and to the vision and transformative nature of the College to provide research and education that meets global demands in the information age. And our global rankings continue to climb. In 2014, the College ranked 15th in QS World's Academic Survey (up from 28th in 2013); 5th in Employer Survey (up from 6th in 2013); 23rd in Citations (up from 39th in 2013); and tied for 4th in H-index, a measure of productivity and impact of published work.

## Key initiatives undertaken and noteworthy outcomes achieved

---

### ***Experiential learning for student engagement and success***

The College's vision and strategic intent are to inspire mastery of STEM fields with evidence-based, experiential learning for a generation of leaders facing complex problems. We are committed to recruit, mentor, and retain faculty within a culture of student success and to reflect this culture in faculty position descriptions and in the hiring process. This commitment to student success is integrated into student recruitment, advising, teaching, and support activities.

Experiential learning, a key component of our degree programs, takes the form of research, independent projects, community service, internships, practicums, or international studies. Six of the twelve undergraduate degrees require internships or research as part of the undergraduate curriculum. During the 2013-14 academic year:

- 616 credits of international study were earned by College undergraduates;
- 38 undergraduates were enrolled in the International Studies Double Degree;
- 418 students participated in credit bearing internship experiences;
- 124 earned research credit;
- 37 undergraduate students in the Department of Fisheries and Wildlife completed research projects in 25 countries, including Antarctica, Bahamas, Chile, Honduras, Kenya, and Tanzania;
- 11 undergraduate internships in the Department of Botany and Plant Pathology supported student research at a Smithsonian Tropical Research Institute, Panama City, Panama;
- 21 students in the Department of Biological and Ecological Engineering assessed options with onion farmers in Treasure Valley to bring irrigation water quality into compliance with the Food Safety and Modernization Act; and
- 22 undergraduates from seven College units were supported by the E.R. Jackman Internship Support Program; five of these were international internships.

**Provost's Hiring Initiative created four new positions to support student success.** Each position is part of a larger strategy of cluster hires, relevant to one or more of the University's signature areas, and will be housed in departments with significant enrollment increases. The position descriptions for each lists *a record of or commitment to work with underrepresented and underserved students* as a preferred qualification.

**Provost Initiative funds created undergraduate internships at the branch experiment stations.** A new Experiential Learning Program will be offered at AES branch experiment stations in the summer of 2014 with ten students participating. Students will work with a faculty mentor and local stakeholders on a research project addressing regional issues specific to the station. Beginning in fall 2014 a new two-credit course, open to lower division students in any college, provides an overview of emerging issues in agriculture and natural resource industries.

**The College has become a strong partner in the development of the First Year Experience Initiative.** Several faculty, advisors and administrators have served on committees to develop programming, student services, and a targeted first year advising syllabus. In addition, each department has identified a First Year Advisor for entering freshman, with targeted skills and access to resources created especially for first-year student success.

**Oregon lawmakers approved \$1.2 million to enhance the college's fermentation science program.** Funding supports research in all aspects of the production of high-value wine, beer, cheese, breads and distilled spirits.

**Achievement Rewards for College Scientists (ARCS®) Foundation<sup>1</sup> approved seven units to forward applicants for three unrestricted awards.** Seven programs have been approved by the ARCS Foundation National Board and are eligible to receive ARCS Scholar Awards to recruit top applicants to PhD programs. ARCS supports U.S. graduate students judged to be most capable of innovative pursuits in science, engineering, and medical research with private donations.

**Branch experiment stations engage graduate students in hands-on research and learning.** AES branch stations across the state host graduate students each year. For example, eight graduate students worked with six researchers at the Hermiston Agricultural Research and Experiment Center, located 250 miles from campus. In addition to their campus-based course work, students explored regionally-specific issues in agriculture while they established, monitored, and evaluated their on-station trials.

**Student-created science talk show wins national recognition.** *Inspiration Dissemination*, a weekly radio talk show created by two graduate students in the Department of Botany and Plant Pathology, was recognized as Most Innovative Radio Program by the Intercollegiate Broadcasting System.

**Minorities in Agriculture, Natural Resources and Related Sciences chapter sweeps national competitions.** OSU's Chapter of MANRRS scored in the top three nationally for outstanding leadership, community service, and professional development activities. The chapter placed second for the National MANRRS Chapter of the Year Award. The Louis Stokes Alliance for Minority Participation (LSAMP) awarded the College a Campus Cooperator Award from for their involvement and support of the LSAMP Bridge Program.

<sup>1</sup> <https://www.arcsfoundation.org/>

## **Research and its impact**

The College is a primary source of knowledge relating to agriculture, food, environmental quality, and human health across Oregon and worldwide. The College's research focuses on finding solutions to contemporary challenges of developing sustainable, bio-based products from renewable resources; sustainable production of food, feed, fiber, horticultural and bioproducts; developing a safe, wholesome, high value and quality food supply; enhancing ecosystem services; providing sustainable and enhanced water resource management; and improving economies, social vitality, and quality of life of rural communities and individuals.

The College of Agricultural Sciences led all other colleges in sponsored research with \$53 million of external funding from federal agencies, industry, foundations, and the state of Oregon for 2013.

The College of Agricultural Sciences successfully competed for an additional five years of funding under the Sun Grant Program and will continue to host the Sun Grant Western Regional Center. The Center oversees research grants to enable production of biofuels and bioproducts that can enhance rural economies.

## **Living sustainably within the framework of natural systems**

**New research examines reproductive challenges of hatchery salmon spawning in the wild.** A 10-year study of Coho salmon assessed reproductive fitness from three types of spawning pairs: wild x wild, wild x hatchery-reared, and hatchery-reared x hatchery-reared. Offspring with at least one wild parent have increased genetic diversity in immune genes; more of these offspring returned to spawn as adults. Immune gene diversity of offspring of hatchery-reared pairings alone did not correlate with increased adult returns to spawn, and may explain their lower reproductive success. The Marine Fisheries Genetics Program is housed at the Coastal Oregon Marine Experiment Station; this was a collaboration with the Oregon Department of Fisheries and Wildlife.

**Satellite measurements of ocean color quantify ocean productivity on a global scale.** Variability in ocean color, related to phytoplankton productivity, now can be linked to environmental factors. Reductions in ocean productivity since a 1999 warming trend provide insight into changing marine food webs with the advance of climate change. Faculty in the Department of Botany and Plant Pathology led the multi-institutional, multi-disciplinary team conducting the project. The National Aerospace Science Administration is a major funder of this research.

**Marine Mammal Institute refines electronic- and satellite-mediated monitoring of marine mammals for conservation and indication of global ocean health.**

- Comparison of foraging by endangered sperm whales in the Gulf of Mexico before and after the 2010 Deepwater Horizon oil spill may indicate alteration of food webs. The Institute has collected data prior to the disaster that may enable identification of longer-term environmental impacts in the Gulf.
- Bones of blue whales harvested in the Antarctic more than 70 years ago allow a comparison of the genetic diversity of present-day populations with historic populations. Preservation of genetic diversity promotes survival in a changing environment and is a component of the Endangered Species Act.
- In a NASA-funded project, satellite tracking has identified when and where blue whale and humpback whale migratory patterns conflict with west coast shipping lanes. Six international shippers have agreed to slow their passage through the Channel Islands north of Los Angeles to minimize collisions and conserve west coast

populations of blue whales. Similar competitive interactions between the endangered Alaskan Steller sea lion and the largest U.S. commercial fishery will be clarified by data from a similar life-long history tag.

**Molecular markers for desirable traits in wheat** have been identified by faculty in the departments of Botany and Plant Pathology and Crop and Soil Science. The 500,000 reference set will provide candidate genes to plant breeders, geneticists, biochemists, and plant biologists seeking to improve wheat.

**Sequencing the genome of one of the world's most widely planted hardwood trees provides a powerful tool to accelerate resources for renewable fiber and energy.** More than 94 percent of the *Eucalyptus grandis* genome has been sequenced and assembled by faculty in the Center for Genome Research and Biocomputing, in collaboration with colleagues from around the globe.

**College researchers track invasive species in high value crops and in tsunami debris.** Faculty at the Coastal Oregon Marine Experiment Station track marine debris from the 2011 Japanese tsunami arriving on the Pacific shores of North America. More than 200 taxa have been identified, including known invasive species. The continued arrival of debris with living species is an opportunity to advance understanding of invasion biology.

Brown marmorated stink bug and spotted wing *Drosophila*, introduced insect pests, are the subjects of ongoing, intense research as College faculty throughout the state seek to identify sustainable management strategies for up to 200 crops now at risk. The USDA-Agricultural Research Service, the Oregon Department of Agriculture and private industry are contributing partners in these endeavors.

**CAS project to reduce invasive species inspires syndicated comic Stone Soup<sup>2</sup>.** Faculty in the Department of Fisheries and Wildlife provided leadership to help prevent the spread of invasive species used in K-12 biology lessons. As a result, suppliers of science animals to U.S. and Canadian classrooms now provide documentation of species provided and instructions for disposal. A curriculum now in use by 30 percent of U.S. school districts inspired the Stone Soup comic to highlight the effort.

## Living to ensure health, wellness, and quality of life

**At the direction of Governor Kitzhaber, Dean Dan Arp is serving as co-convener of a task force to identify issues surrounding genetically engineered (GE) agricultural products.** The task force will report on conflicts and points of agreement between growers of GE crops and other agricultural producers, and relate what has been done elsewhere to address these conflicts. The College established its own committee to develop fact sheets pertaining to the use of genetically modified organisms in agriculture, and to provide objective, science-based information to inform public opinion about food safety, marketing considerations, human values, and environmental concerns.

**New Center for Small Farms and Community Food Systems**, an outgrowth of the Extension Small Farms program, provides a platform for integration of sustainable production, processing, distribution, and consumption. The program is housed in the Department of Crop and Soil Science and has national recognition for innovative applied research and educational programming.

<sup>2</sup> <http://www.gocomics.com/stonesoup/2013/09/03#.U8cElbHCDEZ>

**A simple silicone wristband can now monitor human exposure to more 1,000 chemicals** producing quantifiable data, detecting more compounds, and overcoming limited battery life of other technologies. This novel application by researchers in Environmental and Molecular Toxicology is used to detect carcinogens, pesticides, and flame retardants.

**Toxicity standards do not exist for thousands of chemicals in the human environment.** The largest systematic in vivo toxicological study to date can rapidly and cost-effectively evaluate the effect of a large number of chemicals on living systems. Researchers in the Department of Environmental and Molecular Toxicology used zebrafish embryos to analyze 1,060 unique compounds for 22 possible developmental impacts, advancing prediction of the effects of groups of chemicals with similar mechanisms of toxicity. Zebrafish share 84 percent of human genes involved in disease.

**The National Pesticide Information Center (NPIC) received 15,000 inquiries last year and several million website visits, responding to 40 percent of them with a risk reduction action to protect public health and the environment.** A cooperative agreement between the University and the U.S. Environmental Protection Agency renewed NPIC funding for an additional five years at \$5 million. NPIC, administered through the Department of Environmental and Molecular Toxicology, provides objective information in multiple languages to a diverse national audience.

## **Advancing economic and social well being**

**A new Partnership for Agricultural and Resource Policy Research assesses the impact of the Farm Bill on agricultural economies, rural communities, the environment, and consumer access to healthy, affordable food and nutrition.**

JunJie Wu, Department of Applied Economics, directs this collaboration with the University of California, Davis. The partnership, supported by USDA funding, has become a respected source of objective analysis of policy issues.

**Ranchers in wolf country lose more than just a calf or two to predation.** A controlled study showed that cows repeatedly exposed to wolves become difficult to handle, are slower to gain weight, experience lower conception rates, and give birth to lower-weight calves. These stress-related losses were valued at \$261 per head. The studies by field faculty in the Department of Animal and Rangeland Science are on-going studies of the behavior of cattle in the presence of wolves.

**Behavioral problems account for nearly half of dogs relinquished to shelters.** Functional analysis of domestic dog training identifies the variables controlling problem behaviors. Research-based evidence developed by faculty in the Department of Animal and Rangeland Science adds to the understanding of canine behavior and their role in animal-assisted therapies, and contributes to the literature on their role in human health and development.

**Pioneering methods for improving ocean salmon management will reduce fishery closures, increase harvest of hatchery stocks, and rebuild wild stocks.** Researchers at the Coastal Oregon Marine Experiment Station use genetic information, real time information systems, and oceanographic data to improve ocean salmon management in electronic information systems collectively known as FishTrax. A FishTrax Marketplace app has been licensed for commercialization.

**Electronic sensors provide real-time data on bumblebee behavior and may provide insights for promoting habitats conducive to bee colonization in agricultural settings.** Reduced pollination services is a threat to the human food supply; bumblebees pollinate berries, orchard fruits and crops produced for seed. Sensors developed in collaboration between faculty in the Department of Crop and Soil Science and the School of Electrical Engineering and Computer Science collect data about foraging, pollination, and communication behaviors of bumblebees.

**Organic alternatives control a bacterial disease that rapidly kills apple and pear trees as growers anticipate ban on previously-permitted antibiotics.** A researcher in the Department of Botany and Plant Pathology has demonstrated the effectiveness against fire blight of alternatives to antibiotics used in orchard crops.

## ***International outreach and engagement activities***

### *Africa*

**Africa leapfrogs to one of the best-monitored continents in the world with Trans-African Hydro-Meteorological Observatory.** Crop productivity, food security, and malaria are highly weather dependent; hydro-meteorological data records do not exist for much of Africa. A collaborative effort<sup>3</sup> among the Department of Biological and Ecological Engineering, Boise State University, and Delft University of Technology is developing and installing a network of low-cost weather stations across Africa, with ongoing work in Senegal, Ghana, Chad, Uganda, Tanzania, Kenya, and South Africa. Stations provide critical high-quality real-time data freely to governments, scientists, and farmers via the Internet. Stations are sited at schools and universities; science teachers receive stipends for station caretaking. The project is sustainable and self-funded; commercial partners pay for the use of the data.

**The Consultative Group on International Agricultural Research<sup>4</sup> works to reduce rural poverty, increase food security, improve human health and nutrition, and ensure sustainable management of natural resources.** Department of Applied Economics faculty, in collaboration with hundreds of partner organizations, participate in an international Alliance for Climate-Smart Agriculture, co-sponsored by the World Bank. The Alliance accelerates implementation of climate-smart agriculture through practices that enhance productivity, improve resilience, and reduce greenhouse gas emissions.

**Workshops in Ghana and Tanzania presented pond production management to more than 300 promising young scientists and researchers** who learned to efficiently feed fish, manage effluent and water quality, and manage the production cycle to support marketing. This AquaFish Innovation Lab project is supported by a Strategic Investment in Rapid Technology Dissemination award.

**College invests in Integrated Pest Management capacity building for Oregon, mirroring successful Integrated Plant Protection Center (IPPC)-led international program.** IPPC staff initiated a task force in West Africa to assess and communicate to the public the risks associated with pesticide use. In partnership with the Food and Agriculture Organization of the United Nations, IPPC faculty conducted an international course in IPM as part of a global pilot project in extension capacity building. College faculty joined participants from West Africa, Central America, and South East Asia in a program hosted on campus.

### *Asia*

**Strengthening relationships and conducting seminars in China and Taiwan supports the University's Asia Strategy.** Faculty from the Coastal Oregon Marine Experiment Station met with representatives of the National Kaohsiung Marine

<sup>3</sup> <http://www.ktvb.com/video/featured-videos/Boise-students-set-up-weather-station-at-school-helps-kids-in-Africa-256625211.html>

<sup>4</sup> <http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:22731715~pagePK:64257043~piPK:437376~theSitePK:4607,0.html>

University, the National Pingtung University of Science and Technology, and the National Taiwan Ocean University. The station hosted nine visiting scientists from China, Korea, Chile, and Spain last year as well as three visiting graduate students from Korea and China. Faculty from the Department of Food Science and Technology met with administrators from Shanghai Jiao Tong University in Shanghai, Zhejiang University in Hangzhou, and Jiangsu University in Zhenjiang to establish exchanges and research collaborations. Each of the universities has a highly-ranked school of food science.

### *Latin America*

**Organization for Economic Cooperation and Development member countries study policies that affect rural communities and urban-rural relationships.** Participants from Europe and North America compared effects of local, regional, and national policies on rural poverty, rural-urban interdependence, migration, and gender. Faculty in the Department of Applied Economics contributed to a workshop at the *Universidad Autónoma Nacional de México* in Toluca, Mexico as part of the International Comparative Rural Policy Studies program. Oregon State University is recognized for its expertise in rural studies and rural policy and was a founding member in 2005.

**Promoting value-added food products, product development, and agri-business in Chile.** The nonprofit Regional Centre for Studies in Food and Health in Valparaíso, Chile is aligned with regional universities to promote economic development through research and technology transfer to private industry; the Centre invited Food Innovation Center Director Michael Morrissey as a visiting scientist and lecturer. Morrissey further worked with a Mexican tuna processor to produce low-cost seafood products for domestic markets.

### **Notable domestic outreach and engagement activities**

**First graduate of OSU Open Campus recognized at Klamath Community College's (KCC) spring 2014 commencement.** A dual-enrollment initiative with KCC allowed Rebecca Brooksher to earn two years of credit at KCC before completing her degree online through OSU. Classes are augmented by weekly meetings of the Open Campus cohort with a faculty mentor at the Klamath Basin Research and Extension Center. The program serves time- and place-bound students. Seven students made up the cohort of the pilot program that began in the fall of 2013; a similar number is anticipated to begin in the fall of 2014.

**Food safety practices extended to more than 6000 field workers in a train-the-trainer model.** A 2011 *E. coli* outbreak traced to Willamette Valley strawberries raised public awareness of fresh food contamination and mobilized the industry. Faculty at the North Willamette Research and Extension Center adapted materials from the California strawberry industry to provide field workers with food safety and food handling best practices in a workshop offered annually since 2011. Luisa Santamaria, who works principally in the nursery sector, provides knowledge in microbiology and food handling practices.

**Organic vegetable farmers direct project to explore construction, maintenance, and pest management value of on-farm beetle banks.** Faculty in the Integrated Plant Protection Center coordinated learning exchanges in the form of field classes, farm walks, bugscaping fairs, and interactive habitat planning sessions. The Northern Organic Vegetable Improvement Cooperative is another example of successful collaborative research. Interested growers work with the vegetable breeder to advance their skill, and gain insights about guiding breeding efforts. A strength of participatory research is the direct experience contributed by the farmers.

**Market demand drives plant breeding.** Commercial brewers and hop producers evaluate experimental hop selections and provide valuable feedback as to which selections should be moved toward release. Participatory plant breeding also

has produced 'Streaker', a food barley soon to be released. Additional new releases based on market, industry, and other stakeholder demand include 'Yukon Nugget' potato, 'Red Sunset' potato, 'Bobtail' wheat, 'Rosalyn' wheat, 'Owyhee 1' soybean, and 'Full Pint' barley as well as 'McDonald' hazelnut, 'Wepster' hazelnut, 'Gem' pear, and 'Snowflake' ornamental red current.

**Food entrepreneurship programming serves up as many as 300 activities, projects, workshops, and conferences yearly at the Food Innovation Center (FIC).** Emerging entrepreneurs engage in topics ranging from ingredient formulation, nutritional labeling, packaging concepts, shelf-life testing and food safety. One program in support of the connection between entrepreneurs and potential buyers was a "Time to Market" event; 23 start-up companies met with regional institutional and retail purchasers. New products were similarly showcased from among the 200-plus alumni of a popular "Getting Your Recipe to Market," class. The FIC is a partnership between the University and the Oregon Department of Agriculture.

**The Oregon Department of Agriculture adopted *How to Reduce Bee Poisoning from Pesticides* into its pesticide applicator license trainings.** The 2014 revision by faculty in the Department of Horticulture attracted national and international acclaim and is used by beekeepers, growers, Extension personnel, the crop protection industry, regulatory agencies, and non-governmental organizations to protect pollinators from pesticide exposures. Other state departments of agriculture have expressed interest in adopting this information.

## Community and diversity enhancement initiatives

---

*Diversity and inclusiveness are central values in the College. Faculty and staff work with all students to ensure their success. In addition to student activities, clubs, internships, and other experiential engagement, the College has redoubled its efforts to recruit and retain a diverse faculty that can model personal and professional success for our students. To this end, more than 50 of the College's employees have completed the search advocacy training; multiple trainings at off-campus locations are planned. Each search committee for priority-staffed positions is now headed by a trained advocate, and includes a trained member from outside the hiring unit.*

**Culturally appropriate Spanish language podcasts, radio shows, and visuals incorporate relevant learning styles based on oral- and relationship-based traditions.** These formats are in lieu of mere publication translations. Extension and Experiment Station Communications produces research-based educational materials for Spanish-speaking agricultural workers that are useful to their work and families. This work is supported by a grant from the National Immigrant Farming Initiative.

**Five graduate and three undergraduate students from under-represented communities** received support from the Coastal Oregon Marine Experiment Station that partners with the NOAA-funded Living Marine Resources Cooperative Science Center.

**Agricultural Extension translates vital information for Russian Old Believers.** This group produces an estimated 15 percent of the Willamette Valley's blackberry crop, but language and cultural differences were significant barriers to outreach. Insect pest and nutrition issues went unaddressed until Clackamas County service district funds provided translations and a translator who collaborated with the Extension Berry Specialist to optimize programming. Members of this once-isolated community now adopt research findings, technological advances, and improved practices.

## Other initiatives

**Master Gardener volunteer service is valued at \$4.2 million annually, and translates into an additional 61.2 FTE.**

Focusing on underserved populations, the Extension Urban Horticulture program fills the information needs of diverse Oregonians, including native peoples, non-English speakers, low-income families, youth at risk, and the disabled. For example, young people at a residential facility for incarcerated youth earn the opportunity to work in Wasco County Master Gardener greenhouse project, a highly sought-after learning and activity opportunity that provides youth with a social model for the communication and behavioral patterns of functional adults. Also, county-based chapters throughout the state combine gardening activities with social and language enrichment, nutrition and meal preparation skills, often in collaboration with clinics, the Oregon Food Bank, or Extension's SNAP-Ed program.

## Status of key initiatives undertaken

---

### What worked

**Development efforts secured more than \$6.7 million in gifts and pledges during FY 2013-2014.** The College has raised \$114.5 million within the Campaign for OSU, exceeded only by the College of Engineering and the Athletics Department. The College received the second highest number of million-dollar-plus gifts within the campaign.

**New resources support risk management and safety compliance efforts.** A new position has been filled to facilitate information exchange with University-level administrative units on safety matters, to ensure training policy compliance, chemical hygiene planning and inventories, and hazardous waste disposal. The compliance officer will maintain a high level of safety awareness and participation through collaborative creation and continued review of emergency operations and evacuation plans.

**New Global Experiences Fund supports students and faculty in global food and agriculture experiences.** Alumnus Hiram Larew, director of International Programs in the USDA's National Institute of Food and Agriculture, established the fund to increase international opportunities in teaching, extension, and research programs. Up to five annual awards will enhance student programs of study; presentations to students enrolled in *World Agriculture* by recipients will enrich that popular course.

### Agricultural Experiment Station initiatives

- **Oregon's Agricultural Experiment Station system celebrates its 125<sup>th</sup> anniversary in 2014.** Its accomplishments are highlighted in *Oregon's Agricultural Progress*.<sup>5</sup>
- **Permanent service district for the Southern Oregon Research and Extension Center established** to support the Extension 4-H, Master Gardener, and Agricultural and Natural Resources programs. Service districts fund base operations that support research, outreach, and engagement. Seventy-five percent of voters agreed to increase their property taxes; a 51 to 60 percent approval rate is more common for service districts.
- **Three comprehensive pest handbooks for the Pacific Northwest have been put online for easier reference and updating.** Handbooks include 2,000 pages of up-to-date information on regional pests, weeds, and plant diseases that affect Oregon landscapes.

<sup>5</sup> <http://oregonprogress.oregonstate.edu/>

- **Potato endowments support research for key industry.** An endowed scholar is housed at the Klamath Basin Research and Extension Center. A second endowment supports research and extension at the Hermiston Agricultural Research and Extension Center (HAREC).
- **Experimental administrative structure places operations director as leader of the Central Oregon Agricultural Research Center,** rather than a director from the professorial ranks. Fiscal and day-to-day station management has been combined with an opportunity to benefit from the skills of a professional business administrator.
- **Solar City installed 640 kilowatt solar arrays for farms** on campus, at the North Willamette Research and Extension Center, and at HAREC at no cost to the university. The farms buy electricity produced at a fixed rate reduced in comparison to standard grid rates.
- **Modernized laboratories promote research at the Columbia Basin Agricultural Research Center.** Upgrades include essential analytic equipment, some of which is shared with the Department of Crop and Soil Science.

### ***Areas for improvement***

The assignment of student credit hours to the organizational code of the course creates a significant disincentive to the development of courses taught within or across divisions and is particularly relevant to the College given our participation in interdisciplinary programs. The current manual calculation and transfer of student credit hours increases administrative hours to confirm that the transfer has occurred. We recommend assignment of credit hours to the academic homes of faculty who actually teach the courses.

### ***Major barriers***

- Development of a more predictable budget allocation model could decrease complexities of responding to change. Recent changes to Ecampus, returned overhead, and academic program funding, categorized as one fund type made it difficult to associate revenues directly with programs. These could be reduced with a modernized budget system capable of efficiently developing and communicating budgets and financial outcomes.
- Adequate resources to support our network of branch Agricultural Experiment Stations remains a challenge. A 25 percent local funding model has been initiated by some branch stations; others continue to adapt that model to local conditions.
- College researchers conduct 21<sup>st</sup>-century science in 19<sup>th</sup>- and 20<sup>th</sup>-century facilities. The college works with capital planning and the research office to better address infrastructure needs of units on and off the main campus. Deferred maintenance and absence of basic services such as back-up power and air conditioning for research spaces remain serious limitations.

Despite the challenges, the College advances with optimism, and continues to secure extramural funding that exceeded \$50 million in new awards for a fifth straight year.

### **Major faculty and student awards**

The College maintains lists of faculty, staff, and student awards on its website under the “Our Best” tab<sup>6</sup>. For a sampling of major awards, please see Appendix 1.

<sup>6</sup> <http://agsci.oregonstate.edu/our-best>

## **Initiatives to leverage resources and introduce efficiencies**

---

The Agricultural Experiment Station tracks external funds leveraged per dollar of state funding; for fiscal year 2014, this metric was 1 to 2.1. State appropriations increased for the third straight year to \$27.0 million, and were leveraged to generate \$56.8 million in non-state expenditures by faculty. Principal base resources are state funds directed to the Agricultural Experiment Station for its research mission and to the Extension Program through the OSU Extension Service. Secondary base resources are Hatch and Smith-Lever federal formula grants.

The Klamath County Extension office was consolidated with the Experiment Station. Tax districts were established in Malheur and Jackson counties to support research, outreach and engagement.

The City of Hermiston annexed the Hermiston Agricultural Research and Extension Center into the city limits, allowing the station to purchase irrigation water from the regional water system. This will expand research onto land that had lacked sufficient water for irrigation. The Hermiston Reversionary Lands Act (H.R. 3366), written by Rep. Greg Walden (R-Hood River) and approved by the U.S. House of Representatives, will place all 290 acres under local control, allowing research to continue in the present, while providing flexibility for future economic development.

Focus at the dairy has shifted to a forage-based feeding system, in keeping with regionally appropriate practices, making the Department of Animal and Rangeland Science laboratories fully aligned with Oregon livestock industries. The dairy is broadly used in research of ruminant nutrition, reproduction, animal behavior, animal health and herd management, and crop and grass production.

The James E. Oldfield Animal Teaching Facility and the Hogg Animal Metabolism Laboratory are examples of leveraged fund raising and internal resources to improve teaching and research facilities. The Oregon Agricultural Experiment Station partners with other University units, including the construction of a data management center.

Finally, the College has worked closely with its business center and the Office of Budget and Fiscal Planning to implement financial management systems to ensure that principal investigators and unit heads have sufficient information to effectively manage their resources. In the next phase, personnel from many units are working with representatives of the Cooperative Open Reporting Environment Initiative to beta-test information delivery systems.

## Appendix 1: Major faculty and student awards

---

### Faculty

As a result of the 2013-2014 promotion and tenure process, four College faculty were promoted to full professor, six were promoted to associate professor and granted indefinite tenure; one was promoted to associate professor, senior research; and one to associate professor of extension. Two faculty were promoted to senior faculty research assistant II; seven were promoted to senior faculty research assistant I; and one was promoted to senior instructor one and granted indefinite tenure.

- Jennifer Alexander, Erik Simmons, Extension and Experiment Station Communications, Edward Jensen and David A. Zahler, College of Forestry, and Graphic Design student Zakery Eidsvoog, received a Gold Award for Publishing for Shrubs to Know in Pacific Northwest Forests.
- Jennifer Alexander, Extension and Experiment Station Communications, received an Early Career Service and Achievement Award from Association for Communication Excellence in Agriculture, Natural Resources, and Life and Human Sciences.
- John Antle and Laurie Houston received the Agricultural and Applied Economics Association's prestigious Outstanding Choices Article Award for A Regional Look at the Distribution of Farm Program Payments and How It May Change with a New Farm Bill.
- Massimo Bionaz, Department of Animal and Rangeland Sciences, was invited to address the Third International Symposium on Dairy Cow Nutrition and Milk Quality in Beijing, China on the *topic Genomic Regulation of Milk Fat and Protein*.
- Mike Borman, Department of Animal and Rangeland Sciences, received the PNW Section Society for Range Management Trail Boss Award. This is the highest award presented to those whose outstanding work contributes to better understanding, use, or development of range resources of the Pacific Northwest.
- Carolyn Breece, Department of Horticulture, was selected as the University Outstanding Faculty Research Assistant of the Year for her work with in establishing and coordinating the training and efforts of the Oregon Master Beekeeper Program.
- Steve Buccola, Department of Applied Economics, is a member of a National Research Council Board on Agriculture and Natural Resources committee to assess the USDA Agriculture and Food Research Initiative, including the quality and value of research funded by the program and the prospects for its success in meeting established goals and outcomes.
- Susan Capalbo, Department of Applied Economics, is a member of the National Research Council Board on Agriculture and Natural Resources. This board oversees and guides activities on issues of agricultural production and matters related to natural resources, including forestry, fisheries, wildlife, and land and water use. The 23 advisors meet biannually to anticipate emerging issues and concerns at the interface of science and policy.
- Gita Cherian, Department of Animal and Rangeland Sciences, hosted visiting scientist Dr. A.K. Panda of the Indian Council of Agriculture Research, Hyderabad, Andhra Pradesh, India and mentored him on research of early growth oxidative stress in poultry. Dr. Panda presented some of this work at the 2013 Poultry Science Association annual meeting (San Diego, CA) and at the 2014 Global Animal Nutrition Conference, Bangalore, India. Dr. Cherian received a competitive USDA National Needs Fellowship award that will support training for three doctoral candidates in the Systems Biology of Animal Production. She also has been invited to serve on the USDA 1890 Capacity Research Panel. Reinaldo Cooke, Department of Animal and Rangeland Sciences and adjunct faculty at Sao Paulo University in Brazil, presented at SIVAR, Italian Veterinary Society in Cremona, Italy on the management of transported cattle.
- Research faculty at the Columbia Basin Agricultural and Research Center have been awarded the 2013 Distinguished Service Award by the Oregon Wheat Growers League in appreciation of the faculty's dedication to the wheat industry.
- Penny Diebel, Department of Applied Economics, received a Western Agricultural Economics Association Award for Excellence in Undergraduate Teaching, 10 years or More.
- Christina DeWitt, Department of Food Science and Technology and Seafood Research and Education Center, was acknowledged for outstanding service by the Aquatic Food Products Division of the Institute of Food Technologists.
- Hillary Egna, Director of the AquaFish Innovation Laboratory, received an Honorary Life Award by the World Aquaculture Society for her significant contributions to the field of aquaculture. She is the first woman since the award's inception in 1963 to receive this award. She also received a Merit Award from the Asian Fisheries Society in recognition of her contributions to aquaculture and development.

- Kris Elliott and Misty Lambert received a Teaching Award of Merit from the National Association of Colleges and Teachers of Agriculture.
- The College's Department of Fisheries and Wildlife's Distance Education Team received the first OSU Student Learning and Success Teamwork Award.
- Rolf Färe, Department of Applied Economics, received a W. W. Cooper Lifetime Contribution to Data Envelopment Analysis Society Award.
- Stan Gregory, Department of Fisheries and Wildlife, received the 2013-14 Excellence in Teaching Award from the University Professional and Continuing Education Association's West Region.
- Jim Hall, Department of Fisheries and Wildlife, received Lifetime Achievement Awards at the 50th Annual Oregon Chapter of the American Fisheries Society Meeting.
- Howard Horton, Department of Fisheries and Wildlife, received Lifetime Achievement Awards at the 50th Annual Oregon Chapter of the American Fisheries Society Meeting.
- Andy Hulting has been named the fourth Hyslop Professor, title he will hold through 2018. He will use the associated funds to support graduate students, expand his Extension efforts for grass seed growers and agribusiness field personnel, and support experiential learning and research experiences of undergraduates who are members of the Weed Science group.
- Michelle Kutzler, Department of Animal and Rangeland Sciences, lectured at the Veterinary Obstetrics and Gynecology Congress in Antalya, Turkey and lectured to the Veterinary Faculty and at the University of Ankara on canine trophoblast isolation and culture techniques.
- John Lambrinos, Department of Horticulture, was recognized by the Baccalaureate Core Curriculum Committee for his attention to student achievement in the design of his writing intensive course HORT 318 Applied Ecology of Managed Ecosystems, which is now certified for continued inclusion in the baccalaureate core writing intensive category.
- Bryan Mayjor and Tamara Hill-Tanquist, Extension and Experiment Station Communications, received a Gold Award for the Oregon Agricultural Progress Website from the Association for Communications Excellence in Agriculture, Natural Resources, and Life and Human Sciences.
- Robert McGorin, Department of Food Science and Technology, was elected a Fellow of the Institute of Food Technologists, and served USDA-NIFA as a panel manager for Improving Food Quality project proposals.
- B. Starr McMullen, Department of Applied Economics, received a Transportation Research Forum Herbert O. Whitten Service Award.
- Michael Morrissey, Department of Food Science and Technology and Director of the Food Innovation Center was appointed to the Scientific Committee for Technology and Innovation in Agriculture, Food and Nutrition sponsored by the Sackler Institute for Nutrition Science, New York Academy of Sciences. He also served as an invited speaker for the White House Strong Cities Strong Communities Initiative, funded by the German Marshall Fund.
- David Myrold, Department of Crop and Soil Sciences, received an Outstanding Alumnus Award, School of Forest Resources and Environmental Science, Michigan Technological University.
- Bruce McCune, Department of Botany and Plant Pathology, was named Distinguished Professor by the OSU Alumni Association.
- Beau Olen, now Faculty Research Associate, Department of Applied Economics, received the Agricultural and Applied Economics Association's prestigious Outstanding Master's Thesis-Honorable Mention Award.
- Nathan Putnam, Post-doctoral Scholar, Department of Fisheries and Wildlife received substantial media exposure for his research findings on salmon navigation from Science Direct, the NY Times, Wired, and Oregon Public Broadcasting, among others.
- Michael Qian, Department of Food Science and Technology, was elected a Fellow of the Agricultural and Food Chemistry Division of the American Chemical Society.
- Barbara M. Reed, USDA-ARS and Department of Horticulture received a Distinguished Service Award from the Society for In Vitro Biology in recognition of her efforts in securing a joint meeting with the Society for Cryobiology. Dr. Reed is also a Fellow and a board member of both societies.
- Daniel Robison, Extension and Experiment Station Communications, received an Outstanding Professional Skill Award in Writing, a Gold Award in Electronic Media and a Gold Award for Specialty Publication Writing.
- Silvia Rondon, Department of Crop and Soil Sciences, was named a fellow of the Organisation for Economic Co-operation and Development, and received a Pacific Branch of the Entomological Society of America Award for Excellence, as well as a Washington State University College of Agricultural, Human, and Natural Resource Sciences team award from the Pacific Northwest Vegetable Group.

- Dana Sanchez, Department of Fisheries and Wildlife, received The Wildlife Society's Diversity Award for outstanding efforts in promoting ethnic and gender diversity in the natural resource professions among academics.
- Carl Schreck, Department of Fisheries and Wildlife, was recognized by the University for his Excellence in Graduate Mentoring Award. In his career, he has mentored almost 80 graduate students.
- Clark Seavert, Department of Applied Economics, was honored as the Professor of the Year by students in the College of Agricultural Sciences for the positive impact he has had on undergraduate education.
- John Selker, Department of Biological and Ecological Engineering, was elected a fellow of the American Geophysical Union.
- Neil Shay, Department of Food Science and Technology, was appointed to the Scientific Committee for the 2014 Wine Active Compounds Conference in Beaune, France.
- Staci Simonich, Department of Environmental and Molecular Toxicology, received the University's Impact Award for Outstanding Scholarship.
- Clint Shock, Department of Crop and Soil Science and Director, Malheur Agricultural Experiment Station, along with his Western Region colleagues, received a National Excellence in Multistate Research Award for project W-2128 entitled, Microirrigation for Sustainable Water Use.
- Garry Stephenson, Department of Crop and Soil Science, has received the OSU Outreach and Engagement Award for his work in development, growth and maintenance of the OSU Small Farms and Community Food System program; Stephenson has modeled what an insightful team leader with a true vision for what outreach and engagement can be.
- Bernadine Strik, Department of Horticulture, and Joseph Spatafora, Department of Botany and Plant Pathology, are co-recipients of the OSU Alumni Association Distinguished Professor Award.
- Yi-Cheng Su, Department of Food Science and Technology and Seafood Research and Education Center, received the 2014 Chinese American Food Society Distinguished Service Award.
- Greg Thompson received a Lifetime Achievement Award from the Oregon Agriculture Teachers Association.
- Brett Tyler, Department of Botany and Plant Pathology, the Friendship Award of China from the People's Republic of China for a decade of technical assistance and scientific collaboration with researchers at Nanjing Agricultural University and other Chinese institutions. This is the highest civic award given to non-Chinese scientists. Tyler also was elected a Fellow of the American Phytopathological Society.
- Monique Udell, Department of Animal and Rangeland Sciences, was recognized by Animal Behaviour as a feature author for her article *Exploring breed differences in dogs (Canis lupus familiaris): Does exaggeration or inhibition of predatory response predict performance on human-guided tasks?* She was an invited speaker at the Conference on Comparative Cognition and Society for the Promotion of Applied Research in Canine Science. Both of these conferences, held in the continental United States this year, are international in audience and scope.
- Jonathan Velez received a Rising Star award from the Association for Leadership Education.
- Bill Young and John Hart received a Service Award from the Oregon Ryegrass Growers Association. It was jointly awarded because both faculty have provided exceptional extension service to this group over their long careers. The award also recognizes their valuable on-farm research efforts that encompassed alternatives to field burning and nutrient management over the course of their combined 62 years of service to the seed industry in Oregon. Together they have published over 100 extension articles and management guides.

## Student

### Graduate Student Awards and Honors

- Alana Alexander, Department of Fisheries and Wildlife received a Savery Outstanding PhD Student Award.
- Adriana Argoti, Department of Crop and Soil Science won the Senescyt Fellowship, Ecuador.
- Haidar Arkwazee, Department of Horticulture, received a Tex Frazier Memorial Scholarship.
- Brian Atkinson, Department of Botany and Plant Pathology, was awarded an NSF Graduate Research Fellowship. His work addresses the *Phylogeny and Fruit Evolution in Early Diverging Asterids: Initial Radiation of Cornales*. He is focusing on fossil fruits and flowers in order to increase our understanding of the diversification of an important group of flowering plants.
- Kai Deng, Department of Food Science and Technology, won an OSU Graduate Internationalization Grant.
- Gabriel Flick, Department of Crop and Soil Science won an Oregon Society of Weed Science Scholarship.

- Matt Fowler, Department of Food Science and Technology, won the 2013 North Pacific Research Board Graduate Research Award.
- Jade Florence, Department of Botany and Plant Pathology, received a People's Choice Award for effectively presented the significance of her thesis research to a non-specialist audience in OSU's competitive Scholars' Insights, with 40 competitors from across the University. Scholars' She was selected to go forward to the State Competition where she will compete against the top winners from the University of Oregon, Oregon Health & Science University, and Portland State University.
- Mathew Fowler, Department of Food Science and Technology and Seafood Research and Education Center, received the North Pacific Research Board Award. Fowler placed 2nd in a graduate competition at the Pacific Fisheries Technologist meeting, and 3rd in the Aquatic Food Products Division graduate competition at the Institute of Food Technologist Convention.
- Andrew Giguere, Department of Crop and Soil Science, won an Oregon Lottery Graduate Scholarship.
- Maria Gomez, Department of Animal and Rangeland Science, was elected a Member of the National Society of Collegiate Scholars.
- Abi Graham Department of Horticulture, received a Tex Frazier Memorial Scholarship.
- Abigail Huster, Department of Horticulture, received an ARCO-Swallow Fellowship.
- Cameron Jack, Department of Horticulture won the Herman A. Scullen Memorial Fellowship, OSU.
- Jason Kelley, Department of Biological and Ecological Engineering, received a Water Resources Graduate Program Faculty Excellence Award.
- Dustin Keys, Department of Food Science and Technology and Seafood Research and Education Center, placed 3rd in a graduate competition at the Pacific Fisheries Technologist meeting. He was awarded the Oregon Section Institute of Food Technologists Scholarship, the Institute of Food Technologists Feeding Tomorrow Scholarship, and an Achievement Rewards for College Scientists Scholar Award. Keys represented the University at the 66th Pacific Fisheries Technologist conference and at the Institute of Food Technologists Aquatic Food Product Division as a student representative.
- Patrick Kingston, Department of Horticulture, received an ARCO-Swallow Fellowship.
- Jimmy Klick, Department of Horticulture won the Oregon State Federation of Garden Clubs, Inc. Compton Fellowship.
- Trina Lapis, Department of Food Science and Technology, won the Sinnhuber Research Award.
- Jason Lattier, Department of Horticulture, received an ARCO-Swallow Fellowship.
- Anis Lestari, Department of Crop and Soil Science won a Fulbright Fellowship.
- Clint Mattox, Department of Horticulture, received the Whitworth Memorial Scholarship from the Oregon Golf Course Superintendents Association.
- Giovanni Mosquera, Water Resource Science, received third place in the Fresh Ideas Poster Competition at the 2014 Pacific North West Section-American Water Works Association.
- Ganti Murthy, Department of Biological and Ecological Engineering, and his lab group including graduate students Bill Hohenschuh, Ankita Juneja, Hossein Tabatabaie, Deepak Kumar, and undergraduates Thomas Hart, and Austin Anderson were selected during Phase I of the EPA's People, Prosperity and the Planet program to receive funding. The team researched and developed their design project, *Biosorption of Dyes from Textile Industry Effluents Using Macroalgae* and presented their project report and a Phase II proposal to EPA administrators at the National Sustainable Design Expo in Washington DC.
- Aaron McKim, Agricultural Education and Agricultural Sciences, received an Outstanding Graduate Student Award from the Association for Leadership Education and a Distinguished Manuscript Award from the American Association for Agricultural Education.
- Brigid Meints, Department of Crop and Soil Science, was awarded an Oregon Lottery Graduate Scholarship award for the 2013-14 academic year in a university-wide competition. Her research involves development of barley for human nutrition.
- Alija Mujic, Department of Botany and Plant Pathology, received a Mycological Society of America Graduate Student Research Prize for his oral presentation *On living with family: Factors affecting the vertical distribution of the ectomycorrhizal sister species Rhizopogon vinicolor and Rhizopogon vesiculosus in soil.*
- Stephanie Parreira, Department of Horticulture received an ARCO Swallow Fellowship.
- Sureerat Phuvasate, Department of Food Science and Technology and Seafood Research and Education Center, placed 1st in the graduate competition at the Pacific Fisheries Technologist meeting,

- Lin Qin, Department of Applied Economics, has been selected to receive the Agricultural and Applied Economics Association's prestigious Outstanding Doctoral Dissertation Award.
- In a prestigious university-wide fellowship competition, Department of Fisheries and Wildlife graduate students Matthew Ramirez, Rachel Reagan, and Matthew Kaylor received 2014-2015 Oregon Lottery Graduate Scholarships.
- Matthew Ramirez, Department of Fisheries and Wildlife received a Savery Outstanding Masters Student Award.
- Alison Reeve, Department of Horticulture, received the American Wine Society Educational Foundation 2014 Scholarship Award.
- Justin Schulze, Department of Horticulture, received an ARCO-Swallow Fellowship.
- Kim Shearer-Lattier, Department of Horticulture, received the Horticulture Research Institute Spring Meadow Scholarship and the Jay Frank Schmidt Scholarship.
- Greg Turbes, Department of Food Science and Technology, won an International Office Graduate Internationalization Grant and the Beaver Classic Whey Utilization Competition and an Institute of Food Technologists Oregon Section Scholarship.
- Dan Vollmer, Department of Food Science and Technology, won the Beaver Classic Whey Utilization Competition.
- Lyle Wallace, Department of Horticulture, received an ARCO-Swallow Fellowship.
- Andrew Wentworth, Department of Biological and Ecological Engineering, received a Water Resources Graduate Program Alumni Award.
- Sierra Wolfenbarger, Department of Botany and Plant Pathology, has been competitively selected to present her thesis research during the 2014 American Phytopathological Society Meeting. Her work addresses the mating system in powdery mildew of hop, and has resulted in new quarantine rules to protect Pacific Northwest hop production.
- Kara Young Department of Horticulture, received a Tex Frazier Memorial Scholarship.
- Bingxin Zhao, Department of Food Science and Technology, won the President's Commission on the Status of Women Award.
- Xiaojuan Zheng and Jeff Reimer, Department of Applied Economics, and Mark Gehlhar, USDA, have won the Outstanding Journal Article of the Year from the Journal of Agricultural and Applied Economics for their study *Export Demand Elasticity Estimation for Major U.S. Crops*.

#### **Undergraduate Student Awards and Honors.**

- Brytann Busick, Department of Applied Economics, was selected for Agriculture Future of America's National Student Advisory Team for 2014-15. The nine Student Advisory Team members are responsible for planning and facilitating the 2014 AFA Leaders Conference, Nov. 6-9, 2014, in Kansas City, Mo.
- Alexandra Cooper, Department of Food Science and Technology, won a Northwest Food Processors Association Scholarship and an ABT A/B Technologies Intl Outstanding Junior Scholarship and was nominated outstanding Senior in the College.
- Mitchell Evers, Bioresource Research Program, received an E.A. Cummings Outstanding Student Honorable Mention.
- Simon Fraher, Mitch Evers and Ann Bernert, all of Bioresource Research, received Oregon Seed Association Scholarships and were invited guests of OSA at their annual meeting.
- Cory Gerlach, Bioresource Research, received Best Undergraduate Presentation for *Mono-substituted isopropylated triaryl phosphate is an AHR agonist that exhibits AHR-independent cardiotoxicity in zebrafish* at the Pacific NW Association of Toxicologists Annual Meeting in Seattle, WA. Gerlach also was selected as a recipient of the UHC's Honors Promise Finishing Scholarship for 2013-2014.
- Tiffany Harper, Department of Crop and Soil Science, received 1st in Impromptu Speaking, and second in the Interview Competition at the Minorities in Agriculture Natural Resources and Related Sciences Regional Workshop. These are top regional awards given at the Regional Workshop.
- Rebekah Holman, Department of Food Science and Technology, won a Chateau Ste. Michelle Winery Scholarship.
- Dylan Larkin, Department of Crop and Soil Science, won the Oregon Seed Growers League Scholarship, and the James H. Weatherspoon Scholarship.
- Monica Marcus, Bioresource Research Program, won the Pacific Branch, Entomological Society of America undergraduate oral competition, and the Pacific Northwest Insect Management Conference first place undergraduate student competition and the top student award for her presentation entitled Spotted Wing *Drosophila* Preferences: Traps and Food" at the 73rd Annual Pacific Northwest Insect Management Conference.
- Sara Maruyama, Department of Food Science and Technology, won a NorPac Foods Award.

- Sarah Maxfield-Taylor, Department of Crop and Soil Science, won second place in the Pacific Northwest Insect Management Conference graduate student competition.
- Dylan McDowell, Senior in the Department of Fisheries and Wildlife, was a featured speaker at the Ford Family Foundation Scholarship Reception, where he described the impact of the Foundation's support on his academic success.
- Randi Mendes, Department of Biological and Ecological Engineering, received the Best Engineering Poster for his poster entitled *Fish Behavior with Respect to Engineered Log Jams: Log Jam Hydraulics* at the 2014 The Pacific Northwest Louis Stokes Alliance for Minority Participation (PNW LSAMP) Conference at Portland State University.
- Alexandria Mikesell, Department of Fisheries and Wildlife, won a Culture of Writing Award for her paper on for her paper from ichthyology entitled: *The Common Skate: An Unexpected Degree of Genetic Diversity*.
- Zach Miller, Department of Fisheries and Wildlife, was recognized as a Louis Stokes Alliance for Minority Participation Summer Bridge Program Peer Leader.
- Arlyn Moreno Luna, BioResource Research Program, received the an OSU Libraries and Press Undergraduate Research Award for best undergraduate research thesis *Effects of Xanthohumol on Biomarkers of Metabolic Syndrome in Obese Rats*. This marks the fourth consecutive year in which a College student in the Program received this award. She further received 1st in the Interview Competition, a top regional award from the Minorities in Agriculture Natural Resources and Related Sciences Regional Workshop. Moreno Luna also received the Outstanding Leadership Award on behalf of *Movimiento Estudiantil Chicano de Aztlán* (Chicano Student Movement of Aztlán) at Noche de Gala.
- Kyle Neumann, Bioresource Research, received 2nd place poster presentation at the 4th Annual Hydrophiles Water Research Symposium poster entitled: *Development of osmotic sampling systems for high resolution characterization of chemistry and microbiology in hydraulic fracturing fluids*.
- Erin Peterson, Department of Fisheries and Wildlife, received an honorable mention as an Undergraduate Research Student of the Year.
- Abigail Sage, Department of Fisheries and Wildlife, won a Writing Intensive Course Culture of Writing Thesis Award from the University Honors College for her thesis on *Estimating Density of a Black Bear Population in NE Oregon Using Dogs and Genetic Mark Recapture Techniques*.
- Holly Schriever, Department of Crop and Soil Science, won the Western Seed Association Scholarship.
- Jessica Stewart, Department of Fisheries and Wildlife, received a Rocky Mountain Elk Foundation Leadership Scholarship.
- Jocelyn Stokes, Department of Fisheries and Wildlife, advised by Nicole Duplaix, received an Undergraduate Research, Innovation, Scholarship and Creativity grant for her work on *Behavioral Observation Study on Boreean Sun Bears*.
- Jeannie Sullivan, Department of Fisheries and Wildlife, was recognized for Outstanding Campus Involvement.
- Briana Tanaka, Department of Applied Economics, received Western Agricultural Economic Association's Outstanding Senior Award.
- Vince Taylor, Department of Food Science and Technology, won a Chateau Ste. Michelle Winery Scholarship.
- Nick West, Bioresource Research, was named Oregon State University's Graduating Presidential Scholar.
- Navid Ziaie, Department of Microbiology, received an Oregon State University Senior Scholastic Award.