

Academic Report for 2014-2015

College of Agricultural Sciences

Oregon State University

September 2015

Introduction

The College of Agricultural Sciences (AgSci) connects people and the environment, helping communities and industries thrive by finding real-world solutions that are both economically and ecologically sustainable. With about 2500 students, 241 professorial faculty, \$49.4 million in sponsored research funding, and close to \$500,000 in scholarships, AgSci is integral to OSU's standing as a top-tier land-grant university and its ranking as 9th in the world for agriculture and forestry.

Note: All underlined headings are hyperlinks. Hold Ctrl and click to access more information.

The Student Experience

AgSci provides a transformational educational experience for all learners by:

Enhancing the learning environment to raise and equalize student success:

- [Provost Initiative Funds provide experiential learning opportunities](#): Funds helped AgSci hire faculty and staff to promote experiential learning opportunities at our 11 Branch Experiment Stations.
- [Graduation rates are rising](#): AgSci's 6-year graduation rate from the 2007 cohort is 67.8%, above the university rate of 61.5%, for 2013-14.
- [Total number of degrees awarded is increasing](#): In 2014, AgSci awarded a total of 564 degrees, up from 332 five years ago.
- [Bioenergy Program teaches alternatives to fossil fuel](#): OSU now offers an undergrad minor, master's scholarship, and pre-college programs in this USDA-funded biofuels development program.

Making high-impact learning a hallmark of undergraduate education:

- [Leadership Academy prepares students for career success](#)
AgSci's Leadership Academy connects undergraduates with faculty mentors for leadership and communication training. The Academy has established two endowed scholarship funds totaling over \$225,000 and engaged more than 20 industry professionals as guest speakers and mentors.
- [NSF Grant helps engage undergraduates in STEM learning](#)
AgSci is collaborating on a novel, two-credit U-Succeed First Year Experience course that prepares students for STEM undergraduate research, with peer mentors to provide support.

Advancing learning through course design, assessment, and faculty development:

- [Ecoinformatics Summer Institute provides career development](#) to underserved student populations within the natural resources, partnered with resource management agencies throughout the region.
- [Student entrepreneurs learn real-world career skills:](#)
 - [Fermentation students win International Gold Award](#)
Food Science and Technology students collaborated with Bridgeport Brewing Co for a special 30th anniversary release. Their resulting ale won the gold medal at the European Beer Star competition in Germany, beating over 1400 *commercial* entries.
 - [Student cheesemakers win national Blue Ribbon](#)
At last summer's American Cheese Society competition, the mozzarella variety of Beaver Classic Cheese—made and marketed by AgSci students—won first place in its category, beating out *commercial* entries from all over the United States.
- [Living laboratories offer hands-on experience in life sciences](#)

In 2014, the College completely revamped the OSU Dairy to reflect contemporary management and research relevant to Oregon's 3rd largest agricultural industry. AgSci maintains campus-based living laboratories for research in horticulture, crops, botany and plant pathology, and animal sciences.

Growing online education and exploring new pedagogical models:

- [AgSci expands Ecampus to serve nontraditional demographic](#): Four new online degree programs— Fisheries & Wildlife, Agricultural Sciences, Horticulture, and Environmental Economics & Policy—expand the college's ability to serve non-traditional students globally.
- [Online enrollment doubles in five years](#): Online enrollment in AgSci courses has more than doubled over the past five years, growing from 506 in 2009 to 1,184 in 2014.

Enhancing our comprehensive Healthy Campus Initiative:

- [DPD values now integrated into non-DPD courses](#): Instead of segregating elements of Difference, Power and Discrimination into dedicated courses, AgSci is now integrating DPD curricula into standard, non-DPD-specified courses, in order to increase cultural fluency in our graduates.

Expanding strategies to recruit diverse and high-achieving students:

- [AgSci has developed a set of metrics and goals for the next 3 and 5 years](#) to advance equity and student success for graduate and undergraduate students. The metrics will be reviewed annually and a forum held each year for general discussion of the metrics.
- [BioResource Research has 100% job placement](#): (BRR), one of the nation's top research-based undergraduate programs, places 100% of graduates in jobs or graduate/professional school within three months of graduating, with 60% continuing toward advanced degrees. In 2014, 29% of BRR students were Underrepresented Minority, in contrast to 17% university-wide. The 6-year graduation rate for BRR students averages 85%.
- [Multicultural Scholars Program has 100% graduation rate](#): (MSP) offers scholarships to undergraduate students of diverse cultural backgrounds and first-generation college students. To date, 22 BRR students have been awarded these prestigious NIFA-funded scholarships. The six-year graduation rate of the 2009 cohort was 100%, with 87.5% graduating in a STEM major.
- [Minorities in Agriculture, Natural Resources, and Related Sciences ranks among top in nation](#)
The OSU MANRRS chapter has received the Region VI Outstanding Chapter Award each year since 2007, twice named as the National Chapter of the Year, and ranked 2nd in the nation for the last 4 years. Membership is open to *all* students, but most of its members are from AgSci programs.
- [Society for Advancement of Chicano and Native Americans in Science begins 3rd year at OSU](#)
(SACNAS) fosters the success of Hispanic/Chicano and Native American scientists. The OSU SACNAS Chapter was recently re-established by AgSci faculty to fill a growing campus need.
- [College Assistance Migrant Program builds leadership](#)
(CAMP) continues to provide educational and support services, including outreach efforts, to migrant and seasonal farm workers during their first year of college. Two examples:
 - Clarisa Caballero, BRR junior, received an OSU PROMISE Internship and USFWS Conservation Careers Symposium Scholarship. She is incoming president of OSU SACNAS Chapter.
 - Crystal Carrillo, BRR senior, is a USDA NIFA Multicultural Scholar and an EOP Alumni Scholarship recipient. She is past-president of the OSU SACNAS Chapter.
- [AgSci supports Louis Stokes Alliance for Minority Participation](#) (LSAMP)
In 2014, AgSci provided tuition assistance to 9 underrepresented students and covered fees for 20 students to participate in the LSAMP Summer Scholars Bridge Program. BEE student, Randi Mendes, won best engineering poster at the 2014 PacNW LSAMP Conference.

Creating programs that support lifelong learning:

- [Bilingual education strengthens agricultural industry workforce](#)

Plant pathologist Luisa Santamaria teaches plant disease prevention to agricultural workers. Since 2011, Santamaria has reached about 500 Spanish-speaking workers from 25 nurseries through a grant awarded by the USDA and NIFA, helping to keep Oregon's \$745m nursery industry healthy.

- [Master Gardeners extend sustainable programs statewide](#)
The OSU Extension Master Gardener Program, taught by AgSci faculty, offers 10-week courses on natural resources and horticulture in 28 counties and online. AgSci faculty continue to support 3,800 Master Gardeners statewide as they provide public instruction in sustainable landscapes.
- [Summer Ag Institute educates the educators](#)
SAI provides hands-on pedagogical experience in agriculture and natural resources to Oregon educators. Each year, two programs (in eastern and western Oregon) offer site-based science instruction and graduate credit to about 30 teachers, who in turn engage hundreds of school children with new ideas for science learning.

Leaders in Research and Innovation

Integrating scholarship, creativity, and collaboration throughout learning and discovery by:

Attracting and retaining high-quality faculty:

- [Provost Hiring Initiative](#) funding provided the College with 5 new faculty positions in addition to 7 new positions funded by AgSci to strengthen programs across the state. Among the new hires are:
 - [Leigh Torres](#), studying geospatial ecology of marine megafauna, directed toward improving conservation management of protected species.
 - [Sergio Arispe](#), studying rangeland plant communities, directed toward how grazing affects revegetation following wildfire.
 - [Valtcho Jeliakov](#), the new Director of the Columbia Basin Agricultural Research Center, focusing on improving the sustainability of winter wheat production in the region.
- AgSci faculty secures \$49.4 million in sponsored research grants and contracts in FY2015. A few examples:
 - [John Selker](#) will use NSF funding to collect thermal data using drones in atmospheric zones that have been hard to study until now.
 - [Michael Behrenfeld](#) will lead a NASA-funded research project investigating phytoplankton blooms—the foundation of the marine food web. He will test the idea that warming oceans will have previously-unforeseen impacts on marine ecosystems.
 - [Bruce Mate](#) is leading a new U.S. Navy-funded research project investigating the movements of whales and how marine life will be affected by current El Nino conditions.
 - [Robert Tanguay](#) received an EPA grant to conduct the first-ever comprehensive in vivo toxicity studies of flame retardants.
 - [Hong Liu](#) collaborated with Widmer Brewing to use fuel cells to clean wastewater and produce electricity. Her research, which began as a BEST award, is being extended with an NSF grant.
 - [Pankaj Jaiswal](#), with NSF funding and international co-investigators, is developing a common semantic framework for the ever-expanding array of sequenced plant genomes and phenotype data, called the Planteome Project.
 - [Jeff Chang and colleagues](#) received funding from USDA-NIFA-SCRI to work on gall-forming bacterial diseases that cause nurseries up to \$1 million in lost revenue annually.
- [AgSci offers in-depth faculty orientations and trainings to increase faculty success](#)
The College sponsors ongoing research discussion groups and professional development workshops for new and mid-career faculty. Recent topics: grant-writing workshops and specific grant intensives; Paul Axtell trainings for new faculty and administrators; mentoring workshops; networking events to build collaborative research, including one integrating research on the topic of water.

Increasing the quality, capacity and impact of graduate programs:

- [To strengthen supported graduate programs](#), AgSci created a new policy to provide units with a clear and defined model for predicting graduate tuition remission.

- [Doctoral students are recognized for Noteworthy Advance in Bioinformatics](#): Zhian Kamvar and Javier Tabima (Botany and Plant Pathology) were featured in *PeerJ* for their novel statistical software to analyze data on clonal populations of microbes, fungi, and oomycetes.
- [Graduate student groups are active in collaborative outreach and research](#), for example:
 - [Team-Tox](#), in Environmental and Molecular Toxicology, provides professional development beyond the formal EMT curriculum. In 2014, Team-Tox set up grade-school level demonstrations, experiments, and resources for teachers, reaching over 700 K-12 students.
 - [Hatfield Student Organization](#) works to expand educational experiences and increase professional development through fundraising and research activities. They raised over \$3,600 for the Samaritan Foundation Patient Support Fund.
 - [Fisheries and Wildlife Graduate Student Association](#) actively engages online students with campus-based colleagues in activities, symposia, and professional development opportunities.
 - [BUDS \(Bolstering Undergraduate Development and Success\)](#), created by graduate students in Botany and Plant Pathology to mentor undergraduates and strengthen academic excellence.

Expanding high-profile programs in the arts and humanities:

- [Art About Agriculture connects urban and rural culture for 40 years](#)
Space within the remodeled Strand Ag Hall will serve as a rotating gallery for this 250-piece art collection, which was recently appraised at more than \$300,000. This collection has been purchased exclusively with private funds, gifts, sponsors, and special grants.
- [Faculty combine Art and Science](#)
Jay Noller, one of several AgSci scientists/artists, uses soils as a subject and a medium for his paintings, which are exhibited internationally, including a large permanent display at the Allison Inn in Newberg. He uses visual art as a way for students to see the world beneath their feet.

Cultivating transdisciplinary research to advance the science of sustainable earth ecosystems:

- [OSU reduces pesticide usage worldwide](#)
The Integrated Plant Protection Center has built free online tools that link nearly 16,000 weather stations across the country to the biology of over 100 pests and plant diseases. This allows farmers to spray at precise times, making pesticide usage more efficient and less taxing on the environment.
- [OSU expands pesticide info program](#)
A five-year, \$5 million grant, funded by the EPA, has enabled OSU's National Pesticide Information Center to expand its online services. Last year the website had 1.8 million visitors, with 32 million overall hits, and the hotline handled 17,000 phone calls, offering information in over 170 languages.
- [OSU breeds drought-resistant wheat varieties](#): This year, AgSci researchers released two new high-yield, disease-resistant wheat varieties, "Rosalyn" and "Bobtail," that show resistance to drought, important to growers in the face of a changing climate.
- [REACCH assesses impact of changing climate on NW cereal crops](#)
Regional Approaches to Climate Change is a 5-year, \$20 million project funded by NIFA. John Antle is leading the Modeling component of the project, which will use climate data and crop simulation models to assess impacts and adaptation in Pacific Northwest wheat-growing systems.
- [New research shows how climate change impacts disease vectors](#)
A new study, led by Taal Levi (Fisheries and Wildlife), suggests that changing climate patterns may be altering the transmission of certain pathogens, including the bacterium that causes Lyme disease.
- [Marine Studies Initiative builds on 75 years of research](#)
MSI, a new model created to address critical issues facing Oregon and the globe, is strengthened by long-term, highly interdisciplinary research conducted by three AES research units: the Seafood Laboratory in Astoria (established in 1940), the Coastal Oregon Marine Experiment Station, and the Marine Mammal Institute.
- [Study finds reduction in harmful emissions](#)

Funded by the OSU Superfund Research Program and led by environmental chemist Staci Simonich, a recent study discovered that emission control systems added to a Portland General Electric plant in 2011--which targeted mercury--inadvertently lowered dangerous airborne PAHs.

Strengthening Impact Throughout Oregon and Beyond

Positioning OSU's outreach and engagement programs as learning laboratories that:

Promote high-impact learning and effectively utilize university research:

- [Branch Experiment Stations \(BES\) open doors to their communities](#): AgSci's 11 branch experiment stations hosted more than 50 Field Days, open houses, and community events in 2014, engaging communities across Oregon with issues of environmental quality, life sciences, and rural economics.
- [BES Experiential Learning Initiative offers hands-on education](#): Nine branch stations now offer learning experiences to students working with faculty mentors in fields ranging from entomology in agroecosystems to product development at the Food Innovation Center. In addition, internship programs at North Willamette and several other stations offer research experience to high school students.

Grow rural and urban regional centers to advance social progress:

- [OSU center assesses impact of national policies](#): The new Center for Agricultural and Environmental Policy helps decision makers make sense of complex policies such as the Farm Bill, and assess the impacts such policies have on agricultural economies, rural economies, and the environment. JunJie Wu is the director of the center and editor of the *American Journal of Agricultural Economics*.
- [New center establishes endowment in first year](#): In its first full year, the Center for Small Farms and Community Food Systems established an endowment and raised \$230,000 for specific projects through grants, gifts, foundations, and private donations.
- [OSU supports fast-growing local meat industry](#): Lauren Gwin, a food systems specialist, helps ranchers assess economic viability and navigate regulations for small-scale meat production. Gwin co-founded the Niche Meat Processor Assistance Network, which now has over 1,000 members.

Drive economic development:

- [OSU's Plant Breeding Programs](#) provide much of the research and development for the state's signature crops. In 2014, improved varieties of wheat, barley, hazelnuts, tomatoes, and ornamental shrubs were among the new releases from the college's plant breeding programs.
- [OSU seaweed makes international headlines](#): AgSci researchers have developed a commercially viable strain of dulse, a fast-growing, highly nutritious seaweed, that incidentally, can be sautéed to taste like bacon. The story was picked up by more than 1,000 news outlets globally, building momentum for culinary seaweed as a new industry for coastal Oregon. In January, dulse was recognized as a "specialty crop" by USDA, which has led to new grants to fund further research.
- [Oyster farming improved through genetics](#): Chris Langdon (Coastal Oregon Marine Experiment Station) continues his research to help protect Oregon's \$70 million oyster industry by breeding oysters that are more resistant to increasingly acidic oceans.
- [Hazelnut industry thrives, thanks to OSU research](#): OSU researcher Shawn Mehlenbacher continues to breed new varieties of hazelnuts that are resistant to disease. Oregon grows 99% of the nation's hazelnut output—a \$129 million industry. New plantings are increasing at a rate of 10%, or 300 new acres a year of OSU-bred varieties. OSU plans to license Wepster, the newest hazelnut variety, for a royalty of 50 cents per tree.
- [Pendleton scouts barley growth](#): AgSci plant geneticist Pat Hayes is testing 44 different lines of fall-planted barley to offer wheat growers an option for crop rotation.
- [AgSci research continues to partner with Oregon wine industry](#), providing much of the R&D that has helped grow the industry from a handful of iconoclastic entrepreneurs to more than 400 wineries and an annual economic impact approaching \$3 billion.

- [Research at the North Willamette Research and Extension Center](#) and experimental plots near campus continue to provide important R&D for the rapidly growing organic blueberry industry, which increased from 2 percent of Oregon's blueberry market to 20 percent in the past 8 years.
- [Extension teaches Oregonians to raise honey bees](#): AgSci faculty have developed curricula for Extension's new Oregon Master Beekeeper Program. Nearly 500 people have enrolled since 2012, learning to harvest honey, treat for diseases, and help colonies survive the winter. The total value of colonies maintained by participants is estimated to reach \$7 million in the next 5 years.
- [OSU helps Oregon's artisan cheese industry grow](#): Lisbeth Goddik (Food Science and Technology) provides training for Oregon's artisan cheese industry, which grew from just two operations in 1999 to twenty in 2013.
- [OSU studies Camelina as a drought crop](#): Researchers at Malheur Experiment Station are studying Camelina as a source of income for farmers during drought years. Camelina, a source of omega-3 fatty acids and an alternative jet fuel, requires little nitrogen or irrigation.

Increase study abroad and strategic international research partnerships:

- [International internships supports student learning](#)
The Global Experiences Fund has provided \$12,883 of support to 13 students participating in international internships over the past two years.
- [Exploring World Agriculture Program offers international experience](#)
Each year, the EWA program focuses on food systems and natural resources in different parts of the world. In 2014, 10 students immersed themselves in the agricultural industry and economy of Italy.
- [AgSci sponsors the new International Agriculture Club](#)
The club, which is open to all OSU students interested in international agriculture and food production, hosted the International Association of Students in Agricultural and Related Sciences, USA National Summit Meeting.
- [OSU helps install 20,000 weather stations across Africa](#)
John Selker is working with Dutch partners to install hydro-meteorological sensing stations across Africa to provide critical data for farmers accessible by cell phone.
- [OSU study finds widespread pesticide risks in Africa](#)
In a recent study led by Paul Jepson, director of OSU's Integrated Plant Protection Center, researchers surveyed crop production in five African countries, and found a number of health and environmental concerns due to inefficient pesticide usage. The researchers are sharing their findings in an effort to educate the farmers on safe and sustainable application practices.
- [Ecological Engineering students take their design to Ghana](#)
BEE seniors spent a year designing a system for small-scale aquaculture in developing countries. Ganti Murthy will help two students implement successful designs in Africa, with support OSU's AquaFish Innovation Lab.

Engage alumni and other external partners to advance our goals:

- [ER Jackman Program supports OSU student research](#)
The ER Jackman Foundation provides \$99,000 each year for student clubs, research, and internships. For example, Khiem Lam, a Vietnamese-American BRR student, received funding to study the relationship between the human microbiome and cervical cancer. Juliana Masseloux, (Fisheries and Wildlife) received funding to research the conflict of wildlife and urban development in East Africa.
- [HAREC collaborates with Blue Mountain Community College](#)
Hermiston Agricultural Research and Extension Center is the site of a new, bond-funded research and teaching facility, being built in collaboration with Blue Mountain Community College.

Enhancing Diversity

Increasing diversity of faculty, staff, and students:

- [Five AgSci faculty members and top administrators participated in the NSF ADVANCE](#) workshop in 2015, building on the College's commitment to transform the University's climate and to enhance faculty success and job satisfaction in STEM disciplines. Special focus is on women, people of color, LGBT faculty, faculty with disabilities, and faculty from economically disadvantaged backgrounds.

Stewardship of Resources

Enhancing resources through private philanthropy:

- [Fermentation program receives \\$1 million gift](#): Oregon State University's fermentation science program has received a \$1 million gift from a San Antonio-based beer company, making OSU the first university in the nation with a working research winery, brewery, and distillery.

Developing an integrated infrastructure recapitalization plan:

- [The restoration of Strand Agriculture Hall](#) celebrates new facilities for conferences, student learning, and public interaction.
- [AgSci maintains research and teaching facilities throughout the state](#), and shares many buildings on campus. Efforts continue to address deferred maintenance on these facilities and to develop housing on branch stations for graduate students, interns, faculty, or visiting experts.
- [AgSci developed a new set of safety, risk, and compliance resources](#) for on- and off-campus facilities.

Promoting sustainable built and natural environments:

- [New Intelligent Sprayer lowers pesticide use on farms](#)
Robin Rosetta (North Willamette Research and Extension Center) has been working with collaborators to develop laser-guided spray equipment that reduces the volume of pesticides used on nursery and orchard crops by up to 77%.
- [Researchers in Applied Economics](#) published a study that assesses the impact of water scarcity and climate on irrigation decisions for producers of specialty crops, wheat, and forage crops.

Balancing economic and environmental improvements in the region:

- [AgSci helped lead the Statewide Public Service Programs'](#) successful bid for \$14 million additional funds to support up to 40 new positions and stimulate new research and extension projects across the state. The new funding package increases the programs' base budget to \$118 million.
- [Oregon counties vote to raise their taxes to support Extension](#)
Klamath, Marion, and Jackson counties voted this year in favor of increasing their property taxes to create new service districts to support Extension and research programs.
- [OSU helps cattle ranchers, environmentalists save sage-grouse](#)
Scientists in the Eastern Oregon Agricultural Research Center are helping landowners draft conservation plans to protect sage grouse and possibly preempt listing of the bird under the Endangered Species Act.

Technology as a Strategic Asset

Sharing relevant information to make effective decisions:

- [Dean Dan Arp co-chaired Governor's Taskforce on Genetically Modified Organisms](#), to identify the main challenges between growers of GE crops and other agricultural producers in Oregon, especially related to information for consumers
- [Ramesh Sagili heads Taskforce on pollinator health](#) that delivered a series of recommendations to the Oregon legislature on how to help the state's honey bees, native bees and other pollinators.
- [Dean of AgSci commissions GMO white papers](#)
Dan Arp, Dean of the College, commissioned a series of white papers to explore issues surrounding genetically engineered (GE) organisms. The papers, drafted by AgSci faculty, provided valuable information to Oregon voters who faced ballot measures in 2014 and 2015.

- [Seafood Laboratory mediates safety regulations](#)
Christina DeWitt, director of the OSU Seafood Lab, mediated a dispute between federal regulators and fishermen over handling procedures of freshly caught tuna. DeWitt traveled to Washington, D.C. and met with the FDA's Office of Seafood Safety, ultimately drafting a set of handling guidelines that satisfied safety concerns, without being economically burdensome on fishermen.
- [Bridges to Prosperity](#) webpage was expanded to include more than 80 success stories geared for use with legislators and decision-makers from around the state.

Investing in information technology to enable educational innovation:

- [AgSci invested \\$60K](#) into the technology infrastructure in the Ag and Life Sciences (ALS), in conjunction with the College of Science and the CGRB. This upgrade will enable the expansion of high speed networking to support numerous research labs within the building.
- [AgSci invested \\$70K](#) on a full video conferencing classroom on the EOU campus to facilitate course delivery to that population.
- [AgSci provided \\$100K](#) match to help facilitate water heating capability at the Fryer Salmon Disease Lab, which will enable scientists to study climate change impacts on diseases of aquatic species.
- [AgSci's flagship research publication](#), *Oregon's Agricultural Progress*, launched two new versions in 2014—an app for tablets and a fully responsive mobile website—to reach an ever-expanding mobile audience with news and features about agricultural sciences.
- [Ganti Murthy \(BEE\) created an e-book](#) for the National Strawberry Sustainability Initiative with 60 digital pages and links to more than 70 videos, tools, and publications to improve the sustainability of U.S. strawberry production.

Enhancing the quality of service in administrative processes:

- [AgSci invested in creating a college-wide web team](#) to develop new, consistent designs, navigation, and content management system that are fully integrated, mobile, and aligned with OSU's branding.

Equity, Inclusion, and Civil Discourse

- [AgSci's Principles and Practices](#) embrace behaviors to increase diversity and inclusivity in faculty, staff and students. These Principles and Practices are actively shared across the university and are a standard part of the culture of AgSci.
- [The College expanded Search Advocacy Training](#) to three off-campus sites (Newport, North Willamette, and Hermiston), where 25 faculty and staff were trained this summer alone.

Appendix 1

AgSci faculty members received grants of \$1 million or more:

- Hillary Egna (AquaFish Innovation Lab): USAID grant for Aquaculture and Fisheries Collaborative Research Support Program; \$4,000,000.
- Jeff Chang (BPP): USDA NIFA grant for Unburdening US nurseries: Integrating new technologies and innovative approaches to manage broad host range, gall-forming bacterial diseases; \$2,977,880.
- Jim Myers (HORT): USDA NIFA grant for Northern Organic Vegetable Improvement Cooperative (NOVIC) II; \$1,971,063.
- Pankaj Jaiswal (BPP): NSF grant to study Common Reference Ontologies and Applications for Plant Biology; \$1,306,202.
- Dan Roby (F&W): Grant County Public Utility District grant to evaluate Foraging Behavior, Colony Connectivity, and Predation on ESA-Listed Salmonids from the Upper Columbia River by Caspian Terns Nesting on Goose Island in Potholes Reservoir; \$1,244,000.
- Katie Dugger (F&W): USDA Forest Service grant to study the demography of Northern Spotted Owls in Oregon and Washington; \$1,196,528.
- David Stone (EMT): Environmental Protection Agency grant for the National Pesticide Information Center—NPIC@OSU; \$1,000,000.

AgSci faculty members received grants of \$500,000 or more:

- Garry Stephenson (CSS): USDA NIFA grant for Successfully Navigating the First Ten Years: Education Targeting Farm Developmental Stages to Achieve Profitability and Environmental Sustainability
- Pankaj Jaiswal (BPP): Cold Spring Harbor Lab grant to study Gramene: Exploring Function Through Comparative Genomics and Network Analysis
- Joey Spatafora (BPP): NSF grant for Collaborative Research: The Zygomycetes Genealogy of Life (ZyGoLife) – the conundrum of Kingdom Fungi
- Bruce Mate (F&W): U.S. Navy grant for Baleen (Blue & Fin) Whale Tagging in Southern California in Support of Marine Mammal Monitoring Across Multiple Navy Training Areas
- Robert Tanguay (EMT): EPA grant to study System toxicological approaches to define flame retardant adverse outcome pathways
- Dan Roby (F&W): BPA/DOE grant to study Avian Predation on Juvenile Salmonids in the Lower Columbia River
- Michael Behrenfeld (BPP): NASA grant for Global ocean phytoplankton carbon and physiology with MODIS-Aqua
- Larry Lev (AppEcon): USDA NIFA grant for Beyond fresh and direct: Exploring specialty food market opportunities for small and medium-sized farms
- Susan Capalbo (AppEcon): UIDX grant to study Approaches to Climate Change for Pacific Northwest Agriculture
- Kate Field (BRR): UWXX grant for System for Advanced Biofuels Production from Woody Biomass in the Pacific Northwest

A few additional examples of national and international distinctions:

- [Hong Liu](#) ranked among the top 1% most cited researcher in Environment/Ecology publications, by ScienceWatch.
- [John Antle Wins 2015 American Society of Agronomy Presidential Award for Agro-Modeling](#): Antle co-leads the Economics Team on the AgMIP Project, an international effort that uses cutting-edge information technology to produce climate impact projections for agriculture.
- [Robert Tanguay and co-authors were recognized in an Editor's Highlight](#) in *Toxicological Sciences* for their ground-breaking work using the embryonic zebrafish model to evaluate the 1,060 compounds identified as hazardous by the EPA.

- [Valerian Dolja's work](#), highlighted in Quanta magazine, suggests a viral origin of life from examining a newly discovered giant virus with a large number of unusual genes and the diversity of viruses that far exceeds that found in cellular life.
- [Nik Grünwald Receives APS Ruth Allen Award](#)
Grünwald is widely recognized as a leading international authority on the evolution and population genetics of emerging and reemerging plant pathogens.
- [Joe DeFrancesco Earns National Recognition for IR-4 Program Leadership](#)
DeFrancesco is OSU's liason for the IR-4 program, and was recently recognized by the IR-4 Executive Director as a national leader in the field of small-scale crop management.
- [Ari Friedlaender Featured by National Geographic](#) as the first researcher to successfully tag a minke whale in order to track life history of this elusive species.