



## CAHNRS COMMUNICATIONS

In the month of December, CAHNRS Communications Office published **13** Online Articles that highlight accomplishments in Academic Programs, Research and Extension. A selection is given below:

### Top News Stories

- [Researchers feed, breed, protect bees to survive winter](#) by Seth Truscott | Published November 29  
Appeared in Associated Press, Pinterest, East Oregon Times, KREM, KOMO, My Northwest, AgInfo.net, other outlets
- [Study finds people willing to pay more for new biofuels](#) By Scott Weybright | Published December 8  
Appeared in Biofuels International Magazine, Biomass Magazine, Science Daily, Chem.Info
- [WSU professor to testify before Congress about foster care](#) by Scott Weybright | Published Dec. 5  
Appeared in the Columbian, Foster Care Daily, WSU Vancouver Google Plus
- [WSU organic farm offers food banks fresh choices](#) By Seth Truscott | Published December 7  
Appeared in Lewiston Morning Tribune, WSU Center for Civic Engagement, Vegetable Growers News
- [Students show designs for Coeur d’Alene Tribe Tribute site](#) By Seth Truscott | Published December 6  
Appeared on School of Design and Construction Blog WSU News and Voiland College homepage

### Social Media

<a href="#">Facebook</a>	20 posts	315 likes	30,664 reached	2,734 fans (up 1.2%)
Top Post: <a href="#">CAHNRS Holiday Party photos</a>				
<a href="#">Twitter</a>	104 tweets	59,927 impressions	1,525 engagements	4,099 followers (up 0.3%)
Top Tweet: <a href="#">Student photo of first snow</a>				

## RESEARCH – FACULTY HIGHLIGHTS

- **Mark Lange** (IBC) represented the Phytochemical Society of North America as **President-Elect** at a public forum and live webcast – organized by the **National Academies of Sciences, Engineering and Medicine** – on experiences with and prospects of genetically engineered crops ([here](#)).
- **Jill McCluskey** (SES) represented the Agriculture and Applied Economics Association as **Past-President** at a public forum and live webcast – organized by the **National Academies of Sciences, Engineering and Medicine** – on the economics of the value chain for genetically engineered crops from research and development to application in consumer markets, among others ([here](#)).
- **Lindsey du Toit** (PP) gave an invited talk “Spinach Fusarium wilt: Management of a tenacious, soilborne pathogen based on Achilles’ heel” at the **International Spinach Conference**, 29 Nov.–1 Dec. 2016, San Antonio, TX.2016. Dr. du Toit also spoke at the **National Onion Association Convention and National Allium Research Conference**, 30 Nov. – 3 Dec. 2016, Savannah, GA, “Assessing the potential value of mycorrhizal inoculants in onion production in the Columbia Basin of Washington, USA”.
- **John Stark** (Entomology) announced his transition to full-time leadership of the Washington Stormwater Center (WSC) effective July 1, 2017. Dr. Stark will guide a five-year, \$3.5 million WSU Grand Challenge project developing green stormwater infrastructure to save energy and provide clean water for people and fish.

- **Marcia Ostrom** (CSNAR, SOE) will receive a **Fulbright Award** to serve as a visiting scholar at the Danish Centre for Rural Research at the University of Southern Denmark in February. Dr. Ostrom's research is part of a 13 country EU-US collaboration to identify and document innovative methods for scaling up organic and sustainable agriculture while maintaining core environmental and social values.
- **Jim McFerson** (TFREC Director) has been appointed by the **USDA Secretary of Agriculture** to serve a three-year term as a **Scientific Member** on the **National Genetic Resources Advisory Council**. The Council advises USDA on actions and policies for collection, maintenance, and utilization of genetic resources of agriculturally important organisms.

## RESEARCH – GRANT FUNDING

*In the month of December, CAHNRS faculty received **\$2M<sup>+</sup>** in extramural support in the form of new/ongoing grants, contracts, agreements and services rendered. A selection of new awards (with award total) is given below:*

- **Kiwamu Tanaka** (PP) led a team of CAHNRS and SBS scientists who received a grant from the **Murdock Foundation** to acquire a state-of-the-art, \$800K high-throughput phenotyping platform from LemnaTek.
- **Mei-Jun Zhu** (SFS) was awarded a \$290K grant from the **Center for Produce Safety** for Control of *Listeria monocytogenes* on apple through spray manifold-applied antimicrobial intervention.
- **Mike Pumphrey** (CSS) and **Arron Carter** (CSS), O.A. Vogel Endowed Chairs in Wheat Breeding are Co-PIs on a new \$1.696M NIFA grant led by UC Davis and part of the **AFRI International Wheat Yield Partnership** program. Drs. Pumphrey and Carter will receive \$500K of the award for work to develop genetic markers to improve wheat yield. Additional details can be found [here](#).
- **Naidu Rayapati** (PP) was awarded \$1.2M from **USDA-APHIS-NCPN** for production and distribution of foundation planting stock for tree fruit, hops and grapes.

## RESEARCH – PUBLICATIONS

*CAHNRS faculty published a total of **52** articles in peer-reviewed journals and conference proceeding, which are cataloged online in our Weekly Published Research Archive ([available here](#)). A selection of these publications, which appeared in journals that rank in at least the 90<sup>th</sup> percentile in their respective fields, is provided below with their 5-year impact factor.*

### Discovery

---

- “Ecology under lake ice” *ECOLOGY LETTERS* – Impact Factor 14.9 – 99<sup>th</sup> Percentile in Ecology, **Stephanie Hampton** (CEREO, SOE) see news stories [here](#) and [here](#)
- “GC-MS Profiling of Triterpenoid Saponins from 28 Quinoa Varieties (*Chenopodium quinoa* Willd.) Grown in Washington State” *JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY* – Impact Factor 3.3 – 95<sup>th</sup> Percentile in Multidisciplinary Agriculture, **Girish Ganjyal** (SFS)
- “Critical considerations for the application of environmental DNA methods to detect aquatic species” *METHODS IN ECOLOGY AND EVOLUTION* – Impact Factor 8.1 – 95<sup>th</sup> Percentile in Ecology, **Caren Goldberg** (SOE)

### Translational

---

- “Toward a national, sustained U.S. ecosystem assessment” *SCIENCE* – Impact Factor 34.9 – 98<sup>th</sup> Percentile in Multidisciplinary Sciences, **Stephanie Hampton** (CEREO, SOE)

- “Women Veterans with Depression in Veterans Health Administration Primary Care: An Assessment of Needs and Preferences” WOMENS HEALTH ISSUES – Impact Factor 2.3 – 91<sup>st</sup> Percentile in Womens Studies, **Cory Bolkan** (HD)
- “Oxidation-reduction potential and lipid oxidation in ready-to-eat blue mussels in red sauce: criteria for package design” JOURNAL OF THE SCIENCE OF FOOD AND AGRICULTURE – Impact Factor 2.2 – 90<sup>th</sup> Percentile in Multidisciplinary Agriculture, **Barbara Rasco** (SFS), **Juming Tang** (BSE), **Shyam Sablani** (BSE)
- “One-pot bioinspired synthesis of all-inclusive protein-protein nanoflowers for point-of-care bioassay: detection of E. coli O157:H7 from milk” NANOSCALE – Impact Factor 7.9 – 91<sup>st</sup> Percentile in Materials Science, **Mei-Jun Zhu** (AS)
- “Use of biological indicators of soil health to estimate reactive nitrogen dynamics in long-term organic vegetable and pasture systems” SOIL BIOLOGY & BIOGEOCHEMISTRY – Impact Factor 5.0 – 95<sup>th</sup> Percentile in Soil Science, **Craig Cogger** (CSS)
- “Denitrifier abundance has a greater influence on denitrification rates at larger landscape scales but is a lesser driver than environmental variables” SOIL BIOLOGY & BIOGEOCHEMISTRY – Impact Factor 5.0 – 95<sup>th</sup> Percentile in Soil Science, **Lynne Carpenter-Boggs** (CSS)
- “Livestock vaccinations translate into increased human capital and school attendance by girls” SCIENCE ADVANCES – Impact Factor Forthcoming in 2018, the article has already been discussed in over 20 news outlets ([here](#)) – **Thomas Marsh** (SES) and **Jonathan Yoder** (SES)

#### Invited Reviews/Books/Articles

---

- “The structural evolution of the deep continental lithosphere” TECTONOPHYSICS, Invited Review, **Katie Cooper** (SOE)
- “Experimental design, data reporting, and sharing in support of animal systems modeling research” JOURNAL OF DIARY SCIENCE – Impact Factor 2.8 – 95<sup>th</sup> Percentile in Dairy & Animal Science, Invited Review, **John McNamara** (AS)
- “Structural and Functional Dynamics of the Thylakoid Membrane System” CHLOROPLASTS: CURRENT RESEARCH AND FUTURE TRENDS, Book Chapter, **Helmut Kirchhoff** (IBC)

## RESEARCH & EXTENSION – EVENTS

WSU Extension Wheat Academy held on Dec. 13-14, 2016 in Pullman, WA. This annual event, which was sold-out, offered two days of comprehensive, hands-on learning for growers and grain industry members from throughout Eastern Washington. Topics were presented in a series of 90-minute lectures, which included the causes of low falling numbers, how spray particle size and nozzle selection affect drift, wheat growth and development, herbicide resistance, and more. Afterwards, participants toured the Washington Grains Plant Growth Facility. Presenters from WSU faculty included: **Ian Burke** (CSS), **Arron Carter** (CSS), **Kevin Murphy** (CSS), **Michael Neff** (CSS), **Michael Pumphrey** (CSS), **Randy Fortenbery** (SES), **Paul Carter** (WSU Ext.), **Aaron Esser** (WSU Ext.), **Ryan Higginbotham** (WSU Ext.), **Timothy Murray** (WSU Ext.), **Haiying Tao** (WSU Ext.), and **Stephen Van Vleet** (WSU Ext.).

Washington State Tree Fruit Association Annual Meeting held on Dec. 5-7<sup>th</sup>, 2016 in Wenatchee, WA. **Kate Evans** (Hort.) and her apple breeding team conducted a consumer preference test at the Washington Tree Fruit Association annual meeting. Over 80 participants rated fruit of advanced selections to help determine which might move forward. Additionally, an entire half-day session featured **Jim Moyer**, **Albert Tsui**, **Stefano Musacchi** (Hort.), and **Evans** updating stakeholders on commercialization of Cosmic Crisp™, the recent WSU release.

## EXTENSION - HIGHLIGHTS

- **Tim Waters** (Franklin Co. Extension) led the Annual Meeting of the W-2008 Multistate Project “Biology and Management of Iris yellow spot virus (IYSV), Other Diseases, and Thrips in Onions”, following the combined meeting of the National Allium Research Conference and National Onion Association in Savannah, GA on 1-3 Dec. 2016. **Lindsey du Toit** (PP) took over as chair of this Multistate Project for the next year.
- Congratulations to **Patricia A. Townsend, Nora M. Haider, Kevin W. Zobrist, Haiying Tao, Don McMoran, Dan Teuteberg, AnaMaria Diaz Martinez, Jenn Crawford, Lauren Hrnirik, Renee Overath** and **Drew Lenore Betz**, all of whom published in The Journal of Extension December 2016 issue.

## STUDENT NEWS

- Congratulations to **Jessica Murray** and **Michael Taylor**, both graduate students in SFS, for their first place win at the American Association of Cereal Chemists national product competition with their quinoa based snack.
- Eighteen **School of Design and Construction** students worked this semester on improvements to the Coeur d’Alene Indian Tribe’s tribute site, a sculpture park at the confluence of the Spokane River and Lake Coeur d’Alene – a historic tribal gathering place. In December, students showed designs to representatives from the tribe, North Idaho College, the city of Coeur d’Alene and interested citizens. WSU news story [here](#).

## FACILITIES, INFRASTRUCTURE & PROGRAMMATIC

The Wenatchee Research and Extension Center was identified as one of seven “**game-changers**” in the “Our Valley Our Future” Action Plan sponsored by a multi-jurisdictional coalition of businesses, government agencies, non-profit organizations and community groups in the Wenatchee River Valley. The Center is targeted as a hub for development of a graduate-level research center that focuses on green technology for agriculture. **Kate Evans** (Hort.) and **Jim McFerson** (TFREC Director) are the Center representatives in this effort.

Notes on the Creamery Expansion. With the holidays, **John Haugen** (WSU Creamery Manager) projects that it will be January before substantial completion although work was moving along in December despite the cold weather and snow. The WSU Creamery will be hosting a variety of courses and events around the state this coming spring, including cheese making short courses and pasteurization workshops.

Holiday sale of WSU Blended Learning wines. There was significant interest in purchasing Blended Learning wines for the Holidays, and close to 50 cases were sold during the month of December through a collaboration with an industry partner (Wine Boss). We are now taking steps to establish an enterprise account with CAHNRS business office so that the VE Program can sell the wines directly to consumers. This is a high priority for the VE Program now that our commercial winery license is in place, as we have vintages in the collection from as far back as 2012. Stored wines need to be turned over before new wines are bottled this year. Blended Learning wines serve as a good source of revenue for the VE Program, provide visibility and build support from our friends and stakeholders.

WSU Mount Vernon NWREC celebrated its 10<sup>th</sup> Anniversary of Revitalization of the Center on December 6<sup>th</sup>. The celebration included an open house complete with a historical timeline, program posters and displays, a reception and a program featuring a video as well as brief talks by **Provost Dan Bernardo**, **Dean Ron Mittelhammer**, and **President Kirk Schulz**.