



Communications

In Q2 of 2018, CAHNRS Communications published **84** online articles that highlight accomplishments in academics, research, and Extension; continued to increase engagement and reach on social media; and produced multimedia projects to engage various audiences.

TOP NEWS STORIES

- [Two salmon enter, one survives in stormwater runoff](#) - By **Scott Weybright** | Published 4/17/2018 | In Washington Stormwater Center, Science News Online, Environmental News Network, Surfrider Foundation, other outlets
- [WSU-bred barleys delivering unique Northwest beer flavors](#) - By **Seth Truscott** | Published 5/15/2018 | In WSU Insider, WA Grain Commission social media, Sustainable Seed Systems Lab
- [Monarchs ride west coast winds: Proof of butterfly migration from WSU & citizen scientists](#) - By **Scott Weybright** | Published 6/21/2018 | In Science Daily, EurekAlert, Notizie Scientifiche (Italy), Tech2, IndyWatch, Pullman Radio news, blogs, social media

OTHER NOTABLE PROJECTS

- Generated new Food Safety website, 30 Extension publications, and the Grain Endowment Annual Report

SOCIAL MEDIA

Facebook	62 Posts	2,926 Likes	82,155 Reached	3,265 Fans (+1.6%)
	Top Post: WSU student Katie Doonan featured in USA Today			
Twitter	370 Tweets	363,237 Impressions	8,845 Engagements	4,753 Followers (+1.3%)

Faculty Highlights

- **Benjamin Cowan's** (SES) work on the effects of graduation requirements on risky health behaviors of high school students (published in American Journal of Health Economics) was featured in The New York Times and an interview on NPR's Here & Now ([here](#)).
- **Marcia Ostrom** (SoE, CSANR) was named the President of the Agricultural, Food, and Human Values Society (AFHVS) at their annual meeting held at the University of Wisconsin-Madison, June 13-16, 2018.
- **Thomas Marsh** (SES) was an invited participant and facilitator for a planning workshop on the Global Burden of Animal Diseases (GBADS) hosted by the World Organisation for Animal Health (OIE) and convened by the Bill and Melinda Gates Foundation in Paris, France (March 2018). Dr. Marsh is a co-author of an invited comment entitled "INITIATION OF THE GLOBAL BURDEN OF ANIMAL DISEASES (GBADS)" forthcoming in *The Lancet*.
- **Amy Salazar's** (HD) paper presentation, "Assessing Non-Inferiority in an Adapted Communities That Care Model Aiming to Prevention Child Maltreatment," was chosen as an Abstract of Distinction at the Society for Prevention Research's annual meeting in Washington DC.
- **Markus Keller** (VE) gave an invited keynote presentation entitled "Water and Grape Ripening: Facts and Fiction" at the Enoforum conference in Zaragoza, Spain, on May 31, 2018. Enoform is Europe's largest wine industry conference and is held annually in different countries.
- **Per McCord** (Hort., IAREC) joined WSU as the university's new cherry and stone fruit breeder. Dr. McCord was featured in video interviews by Good Fruit Grower magazine ([here](#)) and CAHNRS Communications ([here](#)).
- **Bruce Barritt** (emeritus professor, Hort.) was interviewed for a piece in Popular Science entitled "I developed a sturdier, crisper, and yummiier apple," describing the creation of the much-anticipated COSMIC CRISP apple.

- **Manoj Karkee** (BSE, CPAAS) gave an invited seminar “Automation and Robotics in Agriculture - Global Perspective and Local Context” at the First Experts’ Conference in San Francisco on June 16. Dr. Karkee was also interviewed for a piece in Connected World entitled “IoT: The Next Farming Frontier” ([here](#)).
- **Doug Walsh** (Ent., IAREC) was awarded the IPM team award from the Pacific Branch of the Entomological Society of America for his work in IPM Pest & Pollinator Management for Alfalfa Produced for Seed. Dr. Walsh and the team have been nominated for the National ESA award.
 - **Dr. Walsh** also directs the USDA Center of Excellence for Crop Protection and Pest Management for the Rapidly Expanding US hop industry, and was featured in two articles in the Spokesman Review: Hop Science Driven By Flavor Trends ([here](#)) and Washington Hops Bring the Flavor to Booming Craft Beer Industry ([here](#))
- **Debbie Handy** (HD) received the national Family, Career and Community Leaders of America 2018 State Adviser of the Year Award. Presentation of the award will take place during the Opening General Session at the 2018 National Leadership Conference in Atlanta, Georgia.
- **David Granatstein** (TFREC, CSANR) gave a series of invited lectures in northern Italy from May 16-18 on orchard floor management and organic tree fruit trends at two universities, a fruit cooperative, and a grower field day. He also hosted two Evergreen College classes on May 4 and May 29 studying sustainable ag systems to explain current challenges to tree fruit growers and WSU research and extension activities to deliver solutions.
- **Philip Bates** (IBC) will join the IBC as an assistant professor. Dr. Bates currently holds the position of Nina Bell Suggs Endowed Assistant Professor in the Department of Chemistry and Biochemistry at University of Southern Mississippi. His research group utilizes biochemical, genetic and molecular biology approaches to understand the metabolic pathways that allow different plants to produce oils with unique fatty acid compositions, and how we can engineer plants to produce designer oils to meet our nutritional or industrial needs of the future.
- **Naidu Rayapati** (Plant Path, Prosser IAREC), was named the new CAHNRS assistant dean at WSU Tri-Cities and Director of the IAREC. Dr. Rayapati is a world-renown plant pathologist that studies viral diseases in a variety of crops, with an emphasis on wine grapes. He has worked in vineyards and farmers’ fields to help fight off pathogens that could have massive effect on crops in Washington and around the world.
- **Qin Zhang** (BSE, CPAAS) participated in the CIGR 2018 World Congress from April 21st to 26th at Antalya (Turkey), finishing a 6-year term as the Chair of CIGR Section III (Crop Production Equipment) and a CIGR Technical Board Member. Dr. Zhang was appointed the Lifetime Honorary Vice President of CIGR at the Congress. CIGR is the International Commission of Agricultural and Biological Engineering.
 - Dr. Zhang was also invited to give a talk on “Farming with Robots” at the 9th Asian Leadership Conference in Seoul (Korea) from May 14th to 17th. The conference is very prestigious, with Former Vice President Dick Cheney; Former Chancellor of Germany Gerhard Schroder; and many other world leaders in attendance.
- **Norman Lewis’s** (IBC) NASA-funded research “Final Frontier Plant Habitat” made headlines during the launch of the U.S.-based Orbital ATK’s Cygnus spacecraft, which travelled to the International Space Station to investigate how the growth and development of plants is affected by microgravity. Dr. Lewis leads the \$2.3M NASA-funded initiative that includes partners from University of New Mexico, and the Los Alamos and Pacific Northwest National Laboratories.
- **Lav Khot** (BSE, CPASS) gave an invited presentation, “Field grown apple nursery tree plant counting based on small UAS imagery derived elevation maps” at the 14th International conference on Precision Agriculture, Montreal, Canada. June 24-24, 2018. **Dr. Khot** also lead and organized the “WSU Drone Data Analytics Workshop 2018”, CPAAS, Prosser, WA; May 24, 2018 (Attendees: 32 from WA, ID & OR Agri-business industry, growers and researchers.

Grant Funding

CAHNRS Office of Research faculty received **\$9.6⁺M** in extramural support in the form of new/ongoing grants, contracts, agreements and services rendered. A selection of federal awards (with award total) is given below:

New Grants Include:

- **Shulin Chen** (BSE) was awarded a \$500K AFRI from USDA-NIFA for valorizing agricultural by-products with a novel hydrothermal liquefaction process.

Large Grants that Received Yearly Renewals Include:

- **Juming Tang** (BSE), Center of Excellence for Food Safety Technologies using Microwave Energy, USDA-AFRI, \$1M
- **Stephen Ficklin** (Hort), CC*Data: National Cyberinfrastructure for Scientific Data Analysis at Scale (SciDAS), NSF, \$248K
- **Michael Neff** (CSS), The ATAF2 Transcription Factor, Brassinosteroid Catabolism and Plant Development, NSF, \$155K

Commodity Commissions:

- Nearly \$5M was awarded to CAHNRS faculty from multiple commodity commission, including: WA Grain Commission, WA Tree Fruit Research Commission, WA Wine Commission, WA Potato Commission, OR Sweet Cherry Commission, WA Hop Commission, WA Mint Commission, WA Blueberry Commission, WA Red Raspberry Commission, OR Strawberry Commission, and OR Raspberry/Blackberry Commission.

Publications

CAHNRS faculty published **149** articles in peer-reviewed journals and conference proceeding: these are catalogued in our Weekly Published Research Archive ([available here](#)). A selection of these publications, which appeared in journals that rank in at least the 90th percentile in their respective fields, as determined by Thomson Reuters InCites, is provided below with their 5-year impact factor.

DISCOVERY

- **John Peters** (IBC), "Structure of an ancient respiratory system," *CELL* – Impact Factor 33.8 – 99th percentile in Biochemistry & Molecular Biology
- **Zhihua Jiang** (AS), "Whole-genome resequencing reveals signatures of selection and timing of duck domestication," *GIGASCIENCE* – Impact Factor 10.6 – 91st percentile in Multidisciplinary Sciences
- **Cynthia Gleason** (PP), "The root-knot nematode effector MiPFN3 disrupts plant actin filaments and promotes parasitism" *PLOS PATHOGENS* – Impact Factor 7.5 – 96th percentile in Parasitology
- **Lisa Shipley** and **Daniel Thornton** (SoE), "Unmanned aerial systems measure structural habitat features for wildlife across multiple scales," *METHODS IN ECOLOGY AND EVOLUTION* – Impact Factor 8.6 – 92nd percentile in Ecology
- **Christopher Blodgett** and **Jane Lanigan** (HD), "The Association Between Adverse Childhood Experience (ACE) and School Success in Elementary School Children," *SCHOOL PSYCHOLOGY QUARTERLY* – Impact Factor 3.3 – 91st percentile in Educational Psychology
- **Linda Thomashow** and **David Weller** (USDA, PP), "Long-Term Irrigation Affects the Dynamics and Activity of the Wheat Rhizosphere Microbiome," *FRONTIERS IN PLANT SCIENCE* – Impact Factor 4.7 – 91st percentile in Plant Sciences
- **Lisa Shipley** and **Daniel Thornton** (SoE), "Habitat structure modifies microclimate: An approach for mapping fine-scale thermal refuge," *METHODS IN ECOLOGY AND EVOLUTION* – Impact Factor 9.9 – 95th percentile in Ecology
- **David Gang** (IBC), "Biosynthetic Pathway and Metabolic Engineering of Plant Dihydrochalcones," *JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY* – Impact Factor 3.5 – 97th percentile in Multidisciplinary Agriculture

- **Min Du** (AS), “Reduced satellite cell density and myogenesis in Wagyu compared with Angus cattle as a possible explanation of its high marbling,” ANIMAL – Impact Factor 2.2 – 92nd percentile in Dairy & Animal Sciences
- **Zhihua Jiang** (AS), “The role of ppar gamma in embryonic development of *Xenopus tropicalis* under triphenyltin-induced teratogenicity,” SCIENCE OF THE TOTAL ENVIRONMENT – Impact Factor 5.1 – 91st percentile in Environmental Sciences
- **Caren Goldberg** (SoE), “Degradation and dispersion limit environmental DNA detection of rare amphibians in wetlands: Increasing efficacy of sampling designs,” SCIENCE OF THE TOTAL ENVIRONMENT – Impact Factor 5.1 – 91st percentile in Environmental Sciences
- **B.W. (Joe) Poovaiah** (PP), “Quantitative Phosphoproteomic and Metabolomic Analyses Reveal GmMYB173 Optimizes Flavonoid Metabolism in Soybean under Salt Stress,” MOLECULAR & CELLULAR PROTEOMICS – Impact Factor 6.8 – 95th percentile in Biochemical Research Methods
- **Caren Goldberg** (SoE), “ANDe (TM): A fully integrated environmental DNA sampling system,” METHODS IN ECOLOGY AND EVOLUTION – Impact Factor 9.9 – 95th percentile in Ecology
- **Mei-Jun Zhu** (SFS) “Butyrate Inhibits Indices of Colorectal Carcinogenesis via Enhancing alpha-Ketoglutarate-Dependent DNA Demethylation of Mismatch Repair Genes,” MOLECULAR NUTRITION & FOOD RESEARCH – Impact Factor 4.5 – 95th percentile in Food Science & Technology
- **Daniel Thornton** (SoE), “Asymmetric cross-border protection of peripheral transboundary species,” CONSERVATION LETTERS – Impact Factor 7.9 – 97th percentile in Biodiversity & Conservation
- **Peter Larson** (SoE), “Origin of the high-grade Early Jurassic Brucejack epithermal Au-Ag deposits, Sulphurets Mining Camp, northwestern British Columbia,” ORE GEOLOGY REVIEWS – Impact Factor 4.2 – 97th percentile in Geology

TRANSLATIONAL

- **Brittany Rhoades Cooper** (HD), “The Sustainability of Evidence-Based Interventions and Practices in Public Health and Health Care,” ANNUAL REVIEW OF PUBLIC HEALTH – Impact Factor 10.5 – 99th percentile in Environmental and Occupational Health
- **Zhiwu Zhang** (CSS), “iPat: intelligent prediction and association tool for genomic research,” FRONTIERS IN PLANT SCIENCE – Impact Factor 8 – 97th percentile in Mathematical & Computational Biology
- **Troy Peters, Lav Khot**, (BSE), “Thermal-RGB imager derived in-field apple surface temperature estimates for sunburn management,” AGRICULTURAL AND FOREST METEOROLOGY – Impact factor 4.8 – 99th percentile in Forestry
- **Kirti Rajagopalan** (CSANR), **Chad Kruger** (CSANR), **Georgine Yorgey** (CSANR), **Michael Brady** (SES), **Claudio Stöckle** (BSE), “Impacts of Near-Term Climate Change on Irrigation Demands and Crop Yields in the Columbia River Basin,” WATER RESOURCES RESEARCH – Impact Factor 4.7 – 98th percentile in Limnology
- **Hanwu Lei** (BSE), “Production of renewable alkyl-phenols from catalytic pyrolysis of Douglas fir sawdust over biomass-derived activated carbons,” APPLIED ENERGY – Impact Factor 7.5 – 97th percentile in Chemical Engineering
- **Shaojin Wang** (BSE), “Identifying possible non-thermal effects of radio frequency energy on inactivating food microorganisms,” INTERNATIONAL JOURNAL OF FOOD MICROBIOLOGY – Impact Factor 3.8 – 90th percentile in Food, Science & Technology
- **Barbara Rasco** (SFS), “Gold Nanorods as Surface-Enhanced Raman Spectroscopy Substrates for Rapid and Sensitive Analysis of Allura Red and Sunset Yellow in Beverages,” JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY – Impact Factor 3.3 – 97th percentile in Multidisciplinary Agriculture

- **Hanwu Lei** (BSE), “Renewable High-Purity Mono-Phenol Production from Catalytic Microwave-Induced Pyrolysis of Cellulose over Biomass-Derived Activated Carbon Catalyst,” ACS SUSTAINABLE CHEMISTRY & ENGINEERING – Impact Factor 6.1 – 94th percentile in Chemical Engineering
- **Manuel Garcia-Pérez** and **Shulin Chen** (BSE), “Hydrothermal Catalytic Deoxygenation of Fatty Acid and Bio-oil with In Situ H₂,” ACS SUSTAINABLE CHEMISTRY & ENGINEERING – Impact Factor 6.1 – 94th percentile in Chemical Engineering
- **Juming Tang** (BSE) and **Mei-Jun Zhu** (SFS), “Enterococcus faecium as a Salmonella surrogate in the thermal processing of wheat flour: Influence of water activity at high temperatures,” FOOD MICROBIOLOGY – Impact Factor 4.0 – 94th percentile in Food Science & Technology
- **Hanwu Lei** (BSE), “Microwave-assisted co-pyrolysis of pretreated lignin and soapstock for upgrading liquid oil: Effect of pretreatment parameters on pyrolysis behavior,” BIORESOURCE TECHNOLOGY – Impact Factor 6.1 – 96th percentile in Agricultural Engineering
- **Girish Ganjyal** (SFS), “Novel micronized woody biomass process for production of cost-effective clean fermentable sugars,” BIORESOURCE TECHNOLOGY – Impact Factor 6.1 – 96th percentile in Agricultural Engineering
- **Hanwu Lei** (BSE), “A techno-economic evaluation of anaerobic biogas producing systems in developing countries,” BIORESOURCE TECHNOLOGY – Impact Factor 6.1 – 96th percentile in Agricultural Engineering
- **Barbara Rasco** (SFS), **Juming Tang** and **Shyam Sablani** (BSE), “Electrolyzed water and mild-thermal processing of Atlantic salmon (*Salmo salar*): Reduction of *Listeria monocytogenes* and changes in protein structure,” INTERNATIONAL JOURNAL OF FOOD MICROBIOLOGY – Impact Factor 3.8 – 90th percentile in Food Science & Technology
- **Shulin Chen** (BSE), “Role of soil in improving process performance and methane yield of anaerobic digestion with corn straw as substrate,” ENERGY – Impact Factor 5.2 – 96th percentile in Thermodynamics
- **Amber Adams-Progar** and **Larry Fox** (AS), “Effect of atmospheric carbon dioxide concentration on the cultivation of bovine *Mycoplasma* species,” JOURNAL OF DAIRY SCIENCE – Impact Factor 2.9 – 96th percentile in Dairy & Animal Science
- **Juming Tang** (BSE) and **Barbara Rasco** (SFS), “Combination effects of salts and cold storage on the formation of protein-bound N-epsilon-(carboxymethyl)lysine and N-epsilon-(carboxyethyl)lysine in raw and subsequently commercially sterilized ground pork,” FOOD CHEMISTRY – Impact Factor 4.5 – 95th percentile in Food Science & Technology

REVIEWS/BOOKS

- **Laura Lavine** (Ent.), “Endocrine regulation of a dispersal polymorphism in winged insects: a short review,” CURRENT OPINION IN INSECT SCIENCE – Impact Factor 3.7 – 95th percentile in Entomology
- **Shaojin Wang** (BSE), “Computer simulation for improving radio frequency (RF) heating uniformity of food products: A review,” CRITICAL REVIEWS IN FOOD SCIENCE AND NUTRITION – Impact Factor 6.7 – 98th percentile in Food, Science & Technology
- **Helmut Kirchhoff** (IBC), “Thylakoid Membrane Dynamics in Higher Plants,” PHOTOSYNTHESIS AND BIOENERGETICS, Book Chapter
- **B.W. (Joe) Poovaiah** (Hort.) and **Kiwamu Tanaka** (PP), “Calcium Signaling in Plant Autoimmunity: A Guard Model for AtSR1/CAMTA3-Mediated Immune Response,” MOLECULAR PLANT – Impact Factor 7.4 – 98th percentile in Plant Sciences
- **John McNamara** (AS), “Metabolic and Endocrine Role of Adipose Tissue During Lactation,” ANNUAL REVIEW OF ANIMAL BIOSCIENCES – Impact Factor 5.6 – 99th percentile in Zoology

- **Juming Tang** (BSE), “Radio-Frequency Applications for Food Processing and Safety,” ANNUAL REVIEW OF FOOD SCIENCE AND TECHNOLOGY – Impact Factor 7.4 – 99th percentile in Food Science & Technology
- **Marcelo Diversi** (HD), “*Between Autoethnographies: A Path Towards Social Justice*” – Book published by Routledge Press.
- **Kathleen Rodgers** (HD), along with College of Communication collaborator **Stacey Hust**, “*Scripting Adolescent Romance*” – Book published by Peter Lang publishing.

Research & Extension Events

- Lind Field Day – Lind, WA – June 14, 2018. WSU and USDA researchers shared the latest information on winter and spring wheat breeding efforts, glyphosate and soil microbes, winter pea varieties, agronomy, markets, weed control, and production of winter triticale versus winter wheat. WSU administrators, state legislators and wheat industry leaders all provided updates during the program. The Lind Field Day continues to attract the largest attendance of any university field day in the PNW. Contact: **Bill Schillinger**, Director Lind Station
- Potato Field Day – Othello, WA – June 21, 2018. Washington state grows more potatoes per acre than any other state, and its \$4.6 billion industry produces some of the best potatoes in the world. During this field day, WSU potato experts shared the latest in disease defense, production advances and new varieties. WSU provided research and extension support to developing new disease- and pest-fighting techniques, and sustainable potato varieties to meet consumer and industry needs. WSU hosts the Potato Field Day every year in partnership with the Washington State Potato Commission and Washington State Potato Foundation. Contact: **Mark Pavek** (Hort.)
- Nutrient Recovery Technology Field Day – Lynden, WA – April 20, 2018. Seventy (70) Participants learned about operation and management of nutrient recovery systems, resulting products and their agronomic use, and the economics of incorporating nutrient recovery technology on a dairy. The field day focused on two different types of nutrient recovery technology: a dissolved air flotation (DAF) unit operating at Edaleen Dairy removes fine solids from manure wastewater; and WSU Extension’s mobile struvite system to demonstrate struvite fluidized bed technology, which captures phosphorus in liquid dairy manure in the form of struvite, an easy to handle fertilizer source. Contact: **Chad Kruger**, Director CSANR, REC Puyallup, REC Mt. Vernon
- Queen Rearing and Bee Breeding Workshop – Pullman, WA – June 15-16, 2018. This sold-out event is designed to improve participants’ understanding of queen rearing, bee breeding systems and selection methods through a combination of presentations and hands-on demonstrations. More advanced techniques were also introduced such as instrumental insemination and cryopreservation. Contact: **Steve Sheppard** (Ent.)
- Next Generation Tree Fruit Network Field Visit, Topic Irrigation – Orondo, WA – June 13 2018. The Next Generation Tree Fruit Network supports the future faces of farming by offering educational opportunities for young and next generation growers, managers and industry professionals. Forty (40) participants at this field day learned about irrigation systems with automated valves and a phone/computer friendly platform to view information from multiple soil moisture monitoring stations. **Lee Kalscits** (Hort. TFREC) discussed the results of recent research with deficit irrigation in honeycrisp apple. Contact: **Tianna DuPont** (TFREC, ANR)
- This quarter SFS offered: the 32nd **Advanced Cheese Making** Short Course (3 day) in Pullman and the WSU Creamery **Pasteurization** workshop (3 day) in April. This is in addition to our active food safety outreach program that provided 2 Preventive Controls for Human Foods (2.5 days each), 3 **Produce Safety Classes** (1 day each), **Sanitation** (2 days) and the six-week (2 nights per week) series: **Innovations in Quality Assurance for Seafood Processing**, plus a 2-day program in **Aquaponics** and a 4 day hands-on **Food Microbiology** class in Caldwell. This is in addition to a number of on-line offering in food quality and safety. Contact: **Barbara Rasco** (SFS)
- Pear IPM Discussion Group – Cashmere WA – June 14 2018. Twenty-two (22) participants joined WSU faculty to discuss summer management of psylla and mites. This is a recurring event with follow-up discussions in August and November. Contact: **Tianna DuPont** (TFREC, ANR)

WSU Extension Highlights

FACULTY HIGHLIGHTS

- The Tree Fruit Extension Team [**Karen Lewis, Tianna DuPont, David Granatstein, Ines Hanrahan, Gwen Hoheisel, Wendy Jones, Jim McFerson, Tory Schmidt (TFREC)**] received the 2018 CAHNRS Interdisciplinary Team Award for their contributions to addressing extension needs of the state's tree fruit industry.
- Multiple faculty were recipients of the 2018 American Society for Horticultural Science Extension Materials Awards, including:
 - **Michelle Moyer** (VE, IAREC), **Joan Davenport** (CSS), and **Gwen-Alyn Hoheisel** (ANR) for their extension publication "Vineyard Nutrient Management in Washington State."
 - **Markus Keller** (VE, IAREC) and **Michelle Moyer** for their extension publication, "On-Farm Vineyard Trials: A Grower's Guide."
- A team from WSU Extensions' Community and Economic Development (CED) program unit received the National Association of Community Development Extension Professionals 2018 Cross-Program Team award at both the regional and national levels for their Local Food Systems "Northeast Washington Hunger Coalition" and "Peninsula Food Coalition" projects. This award is for extension projects which integrate extension, economic development and community resources. Team members include **Debra Hansen, Clea Rome, Rebecca Sero, Laura Ryser, Laura Lewis, Nils Johnson, Shannon Rowley, and Karlena Brailey**.
- The National Association of Community Development Extension Professionals awarded the 2018 regional and national Team Innovation and Creativity Awards to the WSU Extension Metropolitan Center for Applied Research and Extension (Metro Center). According to the award citation: "Washington State University is redefining how Extension works in urban areas with the Metropolitan Center for Applied Research and Extension. The Metro Center engages non-traditional Extension audiences using an innovative business model that focuses on short-term projects instead of long-term programs. Outcome driven, client centered and solution oriented, the Metro Center works to develop practical, place-based solutions by being a conduit between metropolitan decision makers and WSU faculty expertise across the state." Team members include **Brad Gaolach, Anthony Gromko, Martha Aitken, Jose Garcia-Pabon, Maria Anguiano, Haley Hughes, and Justin Smith**.

GRANT FUNDING – CAHNRS Extension faculty received **\$5.9*M** in extramural support in the form of new/ongoing grants, contracts, agreements and services rendered. A selection of awards (with award total) is given below:

New Grants Include:

- **Douglas Collins** (CSANR) was awarded a \$300K AFRI from USDA-NIFA for sustainable high-value horticulture and processing systems in Washington state: research and extension experiences for undergraduates
- **Marcia Ostrom** (CSANR) was awarded a \$500K AFRI from USDA-NIFA for improving orchard profitability through developing regional craft ciders
- **Stephen Bramwell** (ANR) was awarded a \$100K grant from USDA Western SARE to study, the ecological and economic benefit-cost comparison of grazed and ungrazed prairie land for critical species protection in western Washington.
- **John Stark** (WA Stormwater Center) was awarded a \$142K grant from WA Ecology to host the 2019 Washington Statewide Municipal Stormwater Conference.

Large Grants that Received Yearly Renewals Include:

- **James Jensen** (WSU Energy Program), Stillaguamish Conservation Innovation Grant Project, USDA NRCS, \$400K
- **Louise Parker** (HD), Engaging Online Videos in Conjunction with New Feeding Content to Enhance a Current EFNEP Program in the Prevention of Childhood Obesity, USDA-AFRI, \$367K
- **Michael Kern** (Ruckelshaus Center), Flood Hazard Mitigation, WA Department of Enterprise Systems, \$733K

- **Brittany Rhoades Cooper** (HD), Evaluation for the Communities Prevention and Wellness Initiative, WA DSHS, \$177K

Student and Post-Doctoral News

- **Ryne Rohla** (SES) co-authored a publication in SCIENCE, “The effect of partisanship and political advertising on close family ties.” (Mentor: **Gregmar Galinato**). The article was picked up by the CNN, NY Times, US News, Washington Post, New York Magazine, Seattle Times, Spokane Review, and the BBC among total 32 news outlets. This work is path breaking in its use of very large observed data (versus survey data).
- **Lydia Tymon** (PP) was awarded a \$165K Postdoctoral Fellowship from USDA-NIFA to study the connection between pathovar designation and genetic diversity with the epidemiology of *Pseudomonas syringae* genomospecies 1 causing cucurbit fruit disease in the United States. (Mentor: **Debra Inglis**)
- **Charles Bernhard** (SFS) was awarded a \$95K Pre-Doctoral Fellowship from USDA for the development of foods with modified textures for infants and children with feeding difficulties (Mentor: **Carolyn Ross**)
- **Lauren Rooney** (SFS) received the Puget Sound Institute of Food Technologists Outstanding Student Award
- **Ewa Pietrysiak** (SFS) received the International Association for Food Protection 2018 travel award for the July meeting in Salt Lake City.
- **Joy Erlenbach’s** (SoE) research was featured by CAHNRS Communications, “Into the wild to study grizzlies and camp in their midst.”
- **Sarah Kostick** (Hort./TFREC) received a University Leadership Award for her contributions to the unit’s community activities and its rapidly growing Graduate Student Organization. (Mentor: **Kate Evans**)
- A team of Prevention Science PhD students won the Society for Prevention Research Sloboda and Bukowski Cup methodology competition at the national society's annual meeting in Washington DC. At the same conference, PhD student **Gitanjali Shrestha** won an award for Best Graduate Student Poster.
- **Santosh Bhusal** (BSE/CPAAS) received the International Society of Precision Agriculture Outstanding Graduate Student Award.
- **Waled Suliman** (BSE) was awarded an Amazon Catalyst Grant for reducing bee mortality and colony collapse through pesticide fighters.
- Graduate Student **Xiaochi Ma** received the prestigious Mike Vail Scholarship from the American Society of Enology and Viticulture. This scholarship is given annually to only one undergraduate or graduate student in the U.S., Canada, or Mexico. Mr. Ma is studying precision deficit irrigation on wine grapes, with a focus on how to deliver water at the right amount, place and time and how stress affects grape vines at the molecular level. He is jointly advised by Drs. **Karen Sanguinet** and **Pete Jacoby**.
- **Adekunle Adesanya** (Ent.) received the 2018 John Henry Comstock Award, Pacific Branch of the Entomological Society of America (ESA) & 2018 Fellow, Borlaug Summer Institute on Global Food Security
- Entomology graduate students travelled to Reno, NV to attend the annual meeting of the Pacific Branch of the Entomological Society of America, where they collectively received multiple honors, including:
 - 2nd place in the Linnean Game (**Jimmy Hepler, Dane Elmquist, Abbey Hayes, Megan Asche, and Adrian Marshall**). The team will be competing at the national ESA meeting in November.
 - Master's Student paper: 1st place **Dane Elmquist** and 3rd place **Liesl Oeller**
 - Master's Student poster: 1st place: **Megan Asche**, 2nd place **Josh Milnes**
 - PhD Student poster: 1st place **Adrian Marshall**
 - Texting competition: 1st place **Jimmy Hepler**, 2nd place **Adrian Marshall**
 - Elevator Talk: 1st place **Jimmy Hepler**, 3rd place **Dane Elmquist**

Facilities, Infrastructure & Programmatic

- The Entomology Department received a \$1.4 million gift from the **James Hyde Estate**. The funds will be divided among the M.T. James Entomological Collection, new scholarships and the James Hyde Speaker Series. The Hyde Estate also donated Mr. Hyde's personal insect collection for use by the James Museum. A front-page article in the June 23, 2018 edition of the Moscow-Pullman Daily News featured an interview with **Richard Zack** (Ent., Assoc. Dean for Academic Programs) on the generous gift.
- **Qin Zhang** and **Manoj Karkee** visited the University of Technology Sydney (UTS), and set meetings with their Deans, Directors, Chairs, and faculty from the Faculty of Engineering and Information Technology (FEIT), and laid the framework for a joint research center for agricultural robotics, and created a draft collaboration plan for the next 5 years.
- **Stefano Musacchi** (Hort, TFREC) hosted a delegation of 16 tree fruit growers from Spain's Institute of Agrifood Research and Technology (IRTA) at TFREC-Wenatchee from June 18 to June 21st. The group, representing the IRTA Mas Badia research station, the Apple Association of Girona, IGP Poma de Girona, the Agricultural Chamber of Girona and Fruticola Emporda, enjoyed presentations and tours by **Kate Evans** (Hort, TFREC), **Achour Amiri** (PI Path, TFREC), **Tianna Dupont** (Extension, TFREC) and **Jim Mattheis** (USDA-ARS, TFREC).