



## Communications

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In Q3 of 2018, CAHNRS Communications published **100 online articles** that highlight accomplishments in academics, research, and Extension; continued to extend the college’s reach on social media; and upgraded a number of websites to increase engagement and enhance user experience.

### TOP NEWS STORIES

- Should I stay or should I go? Host plants tell insects when to migrate—By **Scott Weybright** | Published July 2, 2018 | Featured in Laboratoire Évolution et Diversité Biologique, Science Daily, WSU News, Uncommon Descent, Central Plains Coop, others
- Student Deploys tiny, feisty Samurai wasps to fight sink bug invader—By **Seth Truscott** | Published August 10, 2018 | Featured in Seattle Times, Yakima Herald, Wenatchee World, WSU Foundation, Whatcom Master Gardeners, Northwest Wine News, Daily Chronicle, other outlets
- Cougar donations feed momentum to build a world-renowned pollinator center—By **Scott Weybright** | Published Sept. 17, 2018 | Featured in Capital Press, Washington Ag Network, Moscow-Pullman Daily News, Washington Association of Conservation Districts, alumni social media, other outlets.

### OTHER NOTABLE PROJECTS

- CSANR website; Prosser IAREC website; CAHNRS Town Hall

### SOCIAL MEDIA

<a href="#">Facebook</a>	53 Posts	3,060 Likes	61,883 Reached	3,372 Fans (+1.0%)
Top Post: Cougar donations feed momentum to build world-renowned pollinator center				
<a href="#">Twitter</a>	353 Tweets	277,924 Impressions	7,369 Engagements	4,753 Followers

## Faculty Highlights

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- **Jill McCluskey** (SES) was named a Fellow of the Agricultural & Applied Economics Association. Dr. McCluskey is only the sixth faculty member in the history of WSU to receive the honor of AAEA Fellow.
- **John Browse** (IBC) was named to the Washington State Academy of Sciences for his sustained and groundbreaking discoveries as a plant lipid biochemist, including the identification and characterization of genes that control the biosynthesis of membrane and storage lipids.
- **Karina Gallardo** (SES) was elected the incoming President of the Food Distribution Research Society. Dr. Gallardo was also appointed Editor of the Journal of the Food Distribution Research Society (FDRS), and received the FDRS Patrick J. Byrne Award for Emerging Leadership.
- **Qin Zhang**’s (BSE, CPAAS) work on the intelligent in-orchard bin managing system for tree fruit production was featured in USDA-NIFA’s *Fresh from the field* newsletter. His data indicate that the productivity of fruit picking could be improved by 50% if the collection bins within harvesting sites could be better managed.
- **Lindsey du Toit** (PP), **Hanu Pappu** (PP) and **Tim Waters** (ANR) received the USDA’s Agriculture’s Western Region 2018 Excellence in Multistate Research Award for their efforts addressing disease management in onions.
  - **Dr. du Toit** (PP) was also named the Alfred Christianson Distinguished Professor of Vegetable Seed Science.
- **Faculty from BSE/CPAAS/Hort.** Were featured on the USDA NIFA website for their work on nanocrystals to protect honeybees from pesticides.
- **Brandon Hopkins** (Ent.) and **Steve Sheppard** (Ent.) were the subject of a featured article by Smithsonian Magazine, “Is the key to saving pollinators...honey bee semen?”

- **Ana Espinola-Arredondo** (SES) was appointed co-Editor of academic journal *Economic Inquiry*, which is published on behalf of the Western Economic Association International.
- **Tim Waters** (ANR) and **Markus Keller** (VE) were interviewed for a piece in National Public Radio's *the salt*, "As Wildfires Rage, Smoke Chokes Out Farmworkers And Delays Some Crops."
- **Manoj Karkee** (BSE, CPAAS) delivered multiple invited talks to international audiences, including:
  - "Recent Innovations in Automated Fresh Market Tree Fruit Harvesting," at the 6<sup>th</sup> IFAC Conference on Bio-Robotics, China Agricultural University, and North West Agriculture and Forestry University.
  - "Agricultural Automation and Robotics - Global Perspective and Local Context," at the Nepali Agricultural Engineering Society and Far Western University.
- **Naidu Rayapati** (IAREC Director and Asst. Dean) was highlighted by multiple news outlets for his work in successfully cloning the grapevine leafroll-associated virus 3, which causes one of the most destructive diseases of wine grapes. The work was published in the journal *Virology*.
- **Lori Carris** (PP) was made a Fellow of the Mycological Society of America at the International Mycological Congress (IMC11) in San Juan, Puerto Rico held July 16-21, 2018.
- **Stefano Musacchi** (TFREC, Hort.) organized and presented at a workshop on "Microclimate Modification Effects on Fruit Physiology and Production" for the American Society for Horticultural Science" annual meeting Aug. 2 in Washington, DC.
- **Meijun Zhu, Faith Critzer** and **Stephanie Smith** (SFS) each led sessions at the International Association of Food Protection meeting held in Salt Lake City.
- **Doug Walsh** (Ent) was interviewed for a piece in National Public Radio's *the salt*, "Native Bees And Alfalfa Farmers – A Seedy Love Story."
- **Debbie Handy** received the 2018 National FCCLA State Advisor of the Year Award and the Washington Association for Career and Technical Education (WA-ACTE) 2018 Teacher Educator of the Year for her work in Family and Consumer Sciences.
- **Qin Zhang** (BSE, CPAAS) delivered multiple invited talks to international audiences, including a Keynote Address at the 6<sup>th</sup> IFAC Conference on Bio-Robotics (Beijing, China), "Agricultural Robotics – Special Challenges & Possible Solutions," and an Invited Talk at the 2<sup>nd</sup> International Festival of the Robotics (Pisa, Italy), "Agricultural Robotics – The Needs, Challenges and Perspectives."

## Grant Funding

CAHNRS Office of Research faculty received **\$17<sup>+</sup>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:

- **Hanu Pappu** (PP) was awarded a \$3.3M SCRI from USDA-NIFA to develop and deliver integrated management packages for the most serious pest and diseases threatening the U.S. allium industries.
- **Michelle Moyer** (VE) was awarded a \$2.4M SCRI from USDA-NIFA to develop a fungicide resistance assessment, mitigation and extension network for wine, table and raisin grapes.
  - **Dr. Moyer** and **Dr. Pappu** were both featured in *NIFA News* for their work to target pests and fungus.
- **Jon Yoder** (SES) was awarded a \$5M grant from the USDA-NIFA AFRI Water Challenge program to improve water use and allocation in agriculture and beyond. The project collaborates with multiple CAHNRS faculty, including **Chad Kruger, Kirti Rajagopalan, Georgine Yorgey, Lav Khot, Claudio Stöckle, and Troy Peters**.
- **Brittany Cooper** and **Laura Hill** (HD) were awarded a \$540K grant from DHHS Substance Abuse and Mental Health Services Administration to operate the Region 10 Prevention Technology Transfer Center.

- **Lindsey du Toit** was awarded a \$250K SCRI from USDA-NIFA (U. Florida lead) to develop integrated technologies to improve sweet corn production and marketability.
- **John Stark** and **Ani Jayakaran** (Puyallup REC) received a \$525K gift from Boeing for work on Stormwater and Low-impact Development.
- **Sara Waters** (HD) received a prestigious Robert Wood Johnson Foundation “Interdisciplinary Research Leaders” program. This will provide \$350,000 over 3 years to support her team’s project of developing a trauma-informed culturally grounded parenting intervention for the Colville Tribes.
- CAHNRS faculty continue to be successful in garnering support through the Washington Dept. of Agriculture Specialty Crop Block Grant Program. Awards for 2018 topped \$2.9M and included multiple faculty:
  - **Kirti Rajagopalan, Steve Sheppard, Kiwamu Tanaka, Meijun Zhu, Girish Ganjyal, Hanu Pappu, Tobin Peever, Manoj Karkee, Faith Critzer, Lisa DeVetter, Bernardita Sallato-Carmona, Steven Seefeldt and Beverly Gerdeman**

#### Large Grants that Received Yearly Renewals Include:

- **Junming Tang** (BSE), Enhancing Low-Moisture Food Safety by Improving Development and Implementation of Pasteurization Technologies, USDA-AFRI, \$215K
- **Richard Knowles** (Hort.), Potato Variety Development in the Northwest, USDA-Special Research Grants, \$885K
- **Markus Lange** (IBC), Unraveling the Regulation of Terpenoid Oil and Oleoresin Biosynthesis for the Development of Biocrude Feedstocks, DOE, \$152K
- **John Peters** (IBC), Novel Microbial Based Enzymatic CO<sub>2</sub> Fixation Mechanisms, DOE, \$300K
- **Min Du** (AS), Maternal obesity, AMPK and fetal brown adipogenesis, NIH, \$312K
- **Cameron Peace** (Hort.), RosBREED: Enabling Marker-assisted Breeding in Rosaceae, USDA-SCRI, \$426K
- **Lee Kalcsits** and **Stefano Musacchi** (TFREC, Hort.), Accelerating the development, evaluation, and adoption of new apple rootstock technologies to improve apple grower profitability and sustainability, USDA-SCRI, \$189K
- **Elizabeth Beers** and **David Crowder** (Ent.), Management of brown marmorated stink bugs in US specialty crops, USDA-SCRI, \$464K
- **Laura Hill** (HD), A Randomized Trial of Letting Go and Staying Connected, an Interactive Parenting Intervention to Reduce Risky Behaviors Among Students, NIH, \$502K
- **Laura Hill** (HD), Adaptation of “Letting Go and Staying Connected” for Spanish-Speaking Parents of First-Year College Students, NIH, \$134K
- **Norman Lewis** (IBC), An integrated omics guided approach to lignification and gravitational responses: The final frontier, NASA, \$400K
- **John Browne** (IBC), Systems Biology to Improve Camelina Seed and Oil Quality Traits, DOE, \$130K
- **Norman Lewis** (IBC), The molecular basis of dirigent proteins in plant metabolism: Lignans, neolignans, aromatic terpenoids, stilbenoids and pterocarpans, DOE, \$350K
- **Scott Harper** (PP), Production and distribution of foundation plant material at the Clean Plant Center Northwest, USDA-APHIS, \$1.3M
- **Eric Jessup** (SES), Pacific Northwest Transportation Consortium, DOT, \$358K
- **Helmut Kirchhoff** (IBC), Understanding architectural dynamics in plant photosynthetic membranes, DOE, \$149K

## Publications

CAHNRS faculty published **167** 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 90<sup>th</sup> percentile in their respective fields, as determined by Thomson Reuters InCites, is provided below with their 5-year impact factor.

### DISCOVERY

- **Thomas Marsh** (SES), “Waves of endemic foot-and-mouth disease in eastern Africa suggest feasibility of proactive vaccination approaches.” NATURE ECOLOGY & EVOLUTION – Impact Factor Forthcoming
- **John Reganold** (CSS) “Global assessment of agricultural system redesign for sustainable intensification,” NATURE SUSTAINABILITY – Impact Factor Forthcoming
- **Laura Lavine** (Ent.), “Host quality induces phenotypic plasticity in a wing polyphenic insect,” PNAS USA – Impact Factor 10.4 – 93<sup>rd</sup> percentile in Multidisciplinary Sciences
- **Tim Murray** (PP), “Evolution of the US Biological Select Agent *Rathayibacter toxicus*,” MBIO – Impact Factor 7.1 – 90<sup>th</sup> percentile in Microbiology
- **Michael Pumphrey** (CSS), “The genetic architecture of genome-wide recombination rate variation in allopolyploid wheat revealed by nested association mapping,” PLANT JOURNAL – Impact Factor 6.1 – 95<sup>th</sup> percentile in Plant Sciences
- **Hanwu Lei** (BSE), “New Insight into the Mechanism of the Hydrogen Evolution Reaction on MoP(001) from First Principles,” ACS APPLIED MATERIALS & INTERFACES – Impact Factor 8.3 – 91<sup>st</sup> percentile in Material Science
- **John Browse** (PP), “Development Defects of Hydroxy-Fatty Acid-Accumulating Seeds Are Reduced by Castor Acyltransferases” PLANT PHYSIOLOGY – Impact Factor 6.6 – 95<sup>th</sup> percentile in Plant Sciences
- **Jeff Vervoort** (SoE), “Timescales of collisional metamorphism from Sm-Nd, Lu-Hf and U-Pb thermochronology: A case from the Proterozoic Putumayo Orogen of Amazonia,” GEOCHIMICA ET COSMOCHIMICA ACTA – Impact Factor 5.1 – 95<sup>th</sup> percentile in Geochemistry & Geophysics
- **Thomas Marsh** (SES), “Dynamic regional model of the US apple industry: Consequences of supply or demand shocks due to pest or disease outbreaks and control,” AGRICULTURAL SYSTEMS – Impact Factor 3.8 – 96<sup>th</sup> percentile in Multidisciplinary Agriculture
- **Hanwu Lei** and **Elmar Villota** (BSE), “Process design and economics for the conversion of lignocellulosic biomass into jet fuel range cycloalkanes,” ENERGY– Impact Factor 5.6 – 94<sup>th</sup> percentile in Thermodynamics
- **Holly Neibergs** (SoE), “Low colostrum yield in Jersey cattle and potential risk factors,” JOURNAL OF DAIRY SCIENCE – Impact Factor 3.1 – 95<sup>th</sup> percentile in Dairy & Animal Science
- **Kevan Moffett** (SOE), “Spatiotemporal dynamics of leaf transpiration quantified with time-series thermal imaging,” AGRICULTURAL AND FOREST METEOROLOGY – Impact Factor 5.0 – 99<sup>th</sup> percentile in Forestry
- **Ian Burke** (CSS), **Scot Hulbert** (PP), **Timothy Paulitz** (PP/ARS), “Location, Root Proximity, and Glyphosate-Use History Modulate the Effects of Glyphosate on Fungal Community Networks of Wheat,” MICROBIAL ECOLOGY – Impact Factor 3.7 – 94<sup>th</sup> percentile in Marine & Freshwater Biology
- **Jan Busboom**, **Martin Maquivar**, **Mark Nelson**, **Min Du** (AS), “Vitamin A administration at birth promotes calf growth and intramuscular fat development in Angus beef cattle,” JOURNAL OF ANIMAL SCIENCE AND BIOTECHNOLOGY – Impact Factor 3.2 – 96<sup>th</sup> percentile in Dairy & Animal Sciences

- **Mark Swanson** (SoE), “Global importance of large-diameter trees,” GLOBAL ECOLOGY AND BIOGEOGRAPHY – Impact Factor 7.3 – 93<sup>rd</sup> percentile in Ecology
- **Hanwu Lei** (BSE), “From glucose-based carbohydrates to phenol-rich bio-oils integrated with syngas production via catalytic pyrolysis over an activated carbon catalyst,” GREEN CHEMISTRY – Impact Factor 8.7 – 91<sup>st</sup> percentile in Green & Sustainable Science and Technology
- **Arron Carter** (CSS), “Identification and validation of QTL for grain yield and plant water status under contrasting water treatments in fall-sown spring wheats,” APPLIED AND THEORETICAL GENETICS – Impact Factor 4.1 – 99<sup>th</sup> percentile in Horticulture
- **Deven See** and **Xianming Chen** (PP/ARS), “Combination of all-stage and high-temperature adult-plant resistance QTL confers high-level, durable resistance to stripe rust in winter wheat cultivar Madsen,” THEORETICAL AND APPLIED GENETICS – Impact Factor 4.1 – 99<sup>th</sup> percentile in Horticulture

## TRANSLATIONAL

- **Jean-Sabin McEwen** (BSE), “Modeling the adsorbate coverage distribution over a multi-faceted catalytic grain in the presence of an electric field: O/Fe from first principles,” CATALYSIS TODAY – Impact Factor 4.5 – 92<sup>nd</sup> percentile in Applied Chemistry
- **Shaojin Wang** (BSE), “Thermal inactivation of *Aspergillus flavus* in peanut kernels as influenced by temperature, water activity and heating rate,” FOOD MICROBIOLOGY – Impact Factor 4.4 – 94<sup>th</sup> percentile in Food Science & Technology
- **Mei-Jun Zhu** (SFS), “Survival of *Listeria innocua* on Fuji apples under commercial cold storage with or without low dose continuous ozone gaseous,” FOOD MICROBIOLOGY – Impact Factor 4.4 – 94<sup>th</sup> percentile in Food Science & Technology
- **Mei-Jun Zhu** (SFS), **Barbara Rasco** (SFS) and **Juming Tang** (BSE), “Stability of *Listeria monocytogenes* in wheat flour storage and isothermal treatment,” FOOD CONTROL – Impact Factor 3.9 – 91<sup>st</sup> percentile in Food Science & Technology
- **Jim Harbertson**, (SFS/VE), “Reference samples guide variable selection for correlation of wine sensory and volatile profiling data,” FOOD CHEMISTRY – Impact factor 4.9 – 95<sup>th</sup> percentile in Food Science & Technology
- **Girish Ganjyal** (SFS), “Apple peel morphology and attachment of *Listeria innocua* through aqueous environment as shown by scanning electron microscopy,” FOOD CONTROL – Impact Factor 3.9 – 92<sup>nd</sup> percentile in Food Science & Technology
- **Troy Peters** and **Claudio Stöckle** (BSE), “Climate change reduces water availability for agriculture by decreasing non-evaporative irrigation losses,” JOURNAL OF HYDROLOGY – Impact Factor 4.3 – 95<sup>th</sup> percentile in Civil Engineering
- **Shaojin Wang** (BSE), “Thermal inactivation of fungi in chestnuts by hot air assisted radio frequency treatments,” FOOD CONTROL – Impact Factor 3.9 – 92<sup>nd</sup> percentile in Food, Science & Technology
- **Jean-Sabin McEwen** (BSE), “Water activation by single Pt atoms supported on a Cu<sub>2</sub>O thin film,” JOURNAL OF CATALYSIS – Impact Factor 7.5 – 96<sup>th</sup> percentile in Chemical Engineering
- **Bin Yang** (BSE), “Effects of Sugars, Furans, and their Derivatives on Hydrodeoxygenation of Biorefinery Lignin-Rich Wastes to Hydrocarbons,” CHEMSUSCHEM – Impact Factor 7.6 – 92<sup>nd</sup> percentile in Green & Sustainable Science and Technology

## REVIEWS/BOOKS

- **Markus Lange** (IBC), “Assessing Flux Distribution Associated with Metabolic Specialization of Glandular Trichomes,” TRENDS IN PLANT SCIENCE – Impact Factor 13.2 – 99<sup>th</sup> percentile in Plant Sciences



- **Weidong Chen** (PP/ARS), “Sclerotinia sclerotiorum: An Evaluation of Virulence Theories,” ANNUAL REVIEW OF PHYTOPATHOLOGY – Impact Factor 11.5 – 98<sup>th</sup> percentile in Plant Sciences

### *Research & Extension Events*

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- The School of Food Science offered multiple Short Courses this quarter, which included: **Extrusion Processing, FSMA Produce Safety, FSMA Preventive Controls for Human Foods, Aquaponics and Intensive Hydroponics**, and the **World Cider & Food Pairings Workshop**.
- WA 38 COSMIC CRISP Field Day – Prosser & Rock Island, WA – September 11, 2018. One-hundred seventy individuals participated in this year’s field days. Held in two locations, the field day offered an opportunity for growers to view test blocks and learn about management and development of WA 38. An estimated 5.8 million trees have been planted for the launch of the new variety, which is expected to be available to consumers starting in 2019. Contact: **Stefano Musacchi** (TFREC, Hort.), **Karen Lewis** (ANR) and **Tianna DuPont** (TFREC, ANR).
- Next Generation Tree Fruit Network, August 21-22, 2018. This event featured presentations from WSU faculty **Achour Amiri** (TFREC, PP) to discuss major tree fruit diseases, current organic management tactics and research needs, and an exploration into the use of drones in tree fruit production featured a presentation on utilization of drones for apple insect pest management by **Betsy Beers** (TFREC, Ent.). Organized by **Tianna DuPont** (TFREC, ANR)

### *WSU Extension Highlights*

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#### FACULTY HIGHLIGHTS

- **Andy Perleberg** (ANR), along with USDA and partners Washington State, was highlighted in USDA’s *Fresh from the field* newsletter for teaching a series of classroom-based and “out-in-the-woods” educational lessons that helped 1,500 landowners implement forest health and wildfire hazard mitigation practices across 125,000 acres of their ownerships. The wildfire protection practices are expected to save at least \$26 million for firefighting costs.
- **Trevor Lane** (Director of WSU Ferry County Extension) earned his doctorate from the University of Southern California this spring. His dissertation is titled, “The Promising Practice of Agritourism for Small Farms.” This research has led to regional food systems and economic development research to guide local and regional health coalition strategies. The work continues a partnership with ESFCOM professor Luis Manriquez to assist the health coalition with research, data analysis, and developing medical programs that will benefit youth and the elderly.

#### PUBLICATIONS

- **Brad Gaolach** (Metro Ctr.), “Hot Shots and Project-Based Extension: Setting a National Model by Reinventing Extension in Urban Areas,” JOURNAL OF EXTENSION, SEP 2018
- **Brad Gaolach, Martha Aitken, Anthony Gromko** (Metro Ctr.), “Disruptive Innovation: How Washington State University Is Reaching Urban Audiences,” JOURNAL OF EXTENSION, SEP 2018
- **Brad Gaolach, Martha Aitken, Rebecca Sero** (Metro Ctr.), “A New Regional Model for Increasing Extension’s Capacity to Reach Metropolitan Audiences,” JOURNAL OF EXTENSION, SEP 2018
- **Debra Hansen** (CED), **Monica Babine** (DGSS), “Pathways to Prosperity Conference Blends Technology and Facilitation to Engage Leaders Statewide,” JOURNAL OF EXTENSION, SEP 2018
- **Lauren Hrcirik Scanga** (YFD), **Mary Katherine Y. Deen** (YFD), **Suzanne R. Smith** (HD), **Kevin Wright** (Ext.), “Zoom Around the World: Using Videoconferencing Technology for International Trainings,” JOURNAL OF EXTENSION, SEP 2018
- **Susan Kerr** (Ext.), **Christina Sanders** (DGSS), **Curtis Moulton** (DGSS), **Michael Gaffney** (DGSS), “The Role of Extension in a University’s Response to a Natural Disaster,” JOURNAL OF EXTENSION, AUG 2018
- **Diane Smith** (FCS), “Big hunger: the unholy alliance between corporate America and anti-hunger groups,” AGRICULTURE AND HUMAN VALUES – Impact Factor 3.5 – 99<sup>th</sup> percentile in History & Philosophy of Science

GRANT FUNDING – CAHNRS Extension faculty received **\$6.3<sup>+</sup>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:

- **David Van Holde** (Energy Program) was awarded a \$1.1M EERE from DOE for the Northwest Combined Heat and Power Technical Assistance Partnership.

Large Grants that Received Yearly Renewals Include:

- **Georgine Yorgey** (CSANR), Waste to Fuels Technology Partnership, WA Ecology, \$234K
- **Carol Black** (Ent.), Pesticide Regulatory Education Program, EPA, \$203K
- **Kevin Harris** (Ruckelshaus Center), Developmental Disabilities – Residential Habilitation Center, WA DSHS, \$124K
- **Doug Walsh** (Ent.), Washington State IPM Extension Implementation Program 2017-2020, USDA, \$300K
- **Joseph Harrison** (AS), Capture and recycling of phosphorus from dairy manure as struvite: focus on cost reduction and organic production, WA Conservation Commission, \$187K

*Extension Events*

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Chairman’s Circle Luncheon – Reviving civility: On September 11, 2018. WSU President Emeritus **Sam Smith**, CAHNRS Dean **André-Denis Wright**, Acting Director **Mike Gaffney** and 320 other community leaders from throughout the state joined the Ruckelshaus Center for its eighth annual Chairman’s Circle Luncheon in downtown Seattle. The event featured a conversation on “Reviving Civility” with National Institute for Civil Discourse (NICD) Director Carolyn Lukensmeyer and NICD board members Mickey Edwards (R-OK) and Dan Glickman (D-KS), both former US Congressmen. The dialogue focused on the current state of our public discourse, providing specific suggestions for ways to increase civic engagement and improve the health of the national and local conversation. The event raised valuable external funds for the collaborative public policy work of the Ruckelshaus Center.

Ferry County Sunrise + Broadband = Governor Inslee and Microsoft president, Brad Smith. WSU Ferry County Extension made strong working relationships with the WA Dept of Commerce and Kinross Goldmine. Those efforts led to the Lt. Governor hosting the statewide economic development summit in 2015 in Ferry County by the Legislative Committee on Economic Development and International Relations. From this summit came Ferry County Sunrise, an economic development portal using CRM and machine learning to make strategic data-driven decisions for business recruitment and retention. Ferry County Sunrise is a WSU Extension program funded and operated by the county in partnership with the Tri-County Economic Development District. This program has culminated in technology implementation, public policy development at a local level (grants and broadband), and direct attention from Governor Inslee, who is working directly with County Commissioners, while the governor’s staff work with Extension faculty. Ongoing discussions with the Governor’s office are due to significant changes in the local economy and a distressed county budget from wildfire and other natural disasters like flooding. The governor’s focus is on county economic development and with an emphasis on broadband in tandem with many partners from Microsoft. Ferry County has historically held the State’s highest unemployment and poverty rate. Recently, the county ranked 11<sup>th</sup> in the nation for unemployment according to USA Today and 24/7 Wall Street when they reviewed May 2018 unemployment rates from the Bureau of Labor Statistics. WSU Ferry County Extension faculty and staff are preparing county commissioners and other county staff for a trip to the Whitehouse in October 2018 to discuss the WA economy.

Developmental Disabilities – Residential Options. **Kevin Harris**, Health Policy Facilitator with the William D. Ruckelshaus Center is providing process design and neutral facilitation to a statewide legislative workgroup tasked with developing recommendations around the future use of four state-run Residential Habilitation Centers. These facilities provide a variety of support and care services to adults with developmental/intellectual disabilities, including Down Syndrome, Cerebral Palsy, mental and behavioral health co-morbidities and other issues. Workgroup members include the Governor’s office, four legislators, two unions, four advocacy groups, self-advocates and legislative fiscal staff.

Ferry County Broadband Action Team (BAT). After speaking at and attending the national broadband summit in Austin, TX, elected officials, county leaders, and Extension faculty immediately organized a formal taskforce for broadband, due to the millions from the federal and state government being made available to rural communities. WSU Ferry County Extension is working with the local BAT, BOCC, Governor's Office, Microsoft, and Broadband State Specialist, Monica Babine, to improve access and expansion. The work in Northeastern WA has culminated in statewide efforts to improve rural broadband access and expansion, as well as public policy development at a local level to apply for CERB funding. With leadership from **Monica Babine** and Stevens County Extension director, **Debra Hansen**, the group of Extension faculty have been approved to brand and implement a broadband microsite in order to serve and support communities in their broadband efforts. The team will be presenting in October at the Infrastructure Assistance Coordinating Council (IACC) to help rural communities organize and prepare for a variety of broadband challenges. There is a potential patent with the Office of Commercialization being developed and additional research funding needed, as a result of this work.

Master Gardener Conference in Wenatchee, WA – September 27-30. The event was attended by almost 400 Washington State University Master Gardener volunteers attending 22 educational workshops. The Master Gardener Program has trained volunteers to be effective community educators in gardening and environmental stewardship since 1973.

### *Student News*

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- **Cedric Habiyaemye** (PhD, CSS) was the subject of a follow-up story by National Public Radio's *goats and soda*, "Whatever Happened To ... That Guy Who Wanted To Make Quinoa A 'Thing' In Rwanda?" The piece remarks on the progress that has been made during the last 5 months of his doctoral work. (Advisor: **Lynne Carpenter-Boggs**).
  - **Cedric** was also asked by the Chicago Council on Global Affairs to serve as member of their taskforce on Global Food & Agriculture. He is the youngest member of the group to receive an invitation.
- The **Developing Solutions for Developing Countries team**, composed of graduate and undergraduate students in SFS, won 1<sup>st</sup> place in the Institute of Food Technologist competition at the annual meeting. The team competed against students from Indonesia and Canada.
- **Sasha Barnett** (SFS) was awarded 2<sup>nd</sup> place in her oral presentation in the Sensory Division at the Institute of Food Technologists annual meeting.
- **Kaitlin Miller Hadaway** (MS, PP) was selected as the 2018 Regional Prize Winner of Syngenta Agricultural Scholarship. (Advisor: **Naidu Rayapati**).

### *Facilities, Infrastructure & Programmatic*

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- CAHNRS and Australian Scientists Partner to Form Joint Center for Ag Robotics. The first collaboration of its kind for WSU's Center for Precision and Automated Agricultural Systems (CPAAS), the partnership joins WSU scientists' expertise in innovative automation solutions for farms and orchards with pre-eminent research in robotics at the University of Technology Sydney's (UTS) Centre for Autonomous Systems. Australian scientists toured CPAAS labs this fall and visited partner growers across Washington. WSU Vice President for Research **Christopher Keane**, UTS Associate Dean **Michael Blumenstein**, and WSU Associate Vice President **Dan Nordquist** signed an official agreement launching the center.
- Plant Phenomics Symposium – September 18. The event occurred in celebration of the commissioning of the M.J. Murdock Charitable Trust-supported Phenomics Facility in Johnson Hall (funding for the event was provided by the Campbell Lecture Series Fund). There were six speakers from Donald Danforth Plant Science Center, University of Georgia, LemnaTec, Cornell University, Pacific Northwest National Laboratory, and University of Nebraska. The event was a great success with 60+ attendees and videoconferencing to the remote RECs.
- Auction of Washington Wines. 2018 was a record year, raising \$4.1 million for Seattle Children's Hospital and the Viticulture & Enology Program. The Private Barrel Auction also set a record, raising \$251,000 for Viticulture & Enology research. This total is an 85% increase over last year and nearly doubles the combined total raised over the past three years.