

CAHNRS – ERI Internal Seed Funding Program

The Emerging Research Issues in Washington Agriculture (ERI) internal seed funding program has supported 48 projects since its inception as part of the 2007 Industry-Based Unified Agriculture Initiative. Below is a summary of grant titles, along with the Principal Investigator of record.

2018

- Manipulating Lipid Metabolism in Plants as Novel Plant Parasitic Nematode Control Measure
Cynthia Gleason, Plant Pathology
- Identifying Bulb Fennel Cultivars Suitable for Production in Northwest Washington
Carol Miles, Horticulture
- Enhancing Food System Sustainability through Effective Social Media Uses by Small-Scale Food and Farm Businesses
Jihyeong Son, Apparel, Merchandising, Design & Textiles

2017

- Late Maturity Alpha-Amylase, an emerging cause of low falling numbers in PNW wheat
Michael Pumphrey, Crop & Soil Sciences
- Adapting Satellite-Based Methods for Estimating Water Use and Crop-Water Stress to High Resolution Images from Small Unmanned Aerial Vehicles
Troy Peters, Biological Systems Engineering
- Integration of Large-Scale Genomics, Phenomics, and Systems-Level Modeling for Next-Generation Biomarkers in Breeding
Stephen Ficklin, Horticulture
- Plant Microbiome Promotes Soil Disease Suppression in Response to Genotype
Tarah Sullivan, Crop & Soil Sciences

2016

- Elucidating roles of flavin cofactor availability in regulating metabolism in response to environmental cues
Sanja Roje, Institute of Biological Chemistry
- Sensor-Based Precision Orchard Management
David Brown, Crop & Soil Sciences
- Mechanisms beyond Preventive Effect of Fruit Consumption on Colorectal Cancer
Mei-Jun Zhu, School of Food Science

- A Proof of Concept System using Autonomous Unmanned Aerial Systems for Mitigating Bird Damage in Fruit and Berry Crops
Manoj Karkee, Biological Systems Engineering
- Development of procedures and techniques to utilize CRISPR/Cas9 technology in wheat research
Ian Burke, Crop & Soil Sciences

2015

- Characterizing cider apple juice and varietal cider sensory characteristics to support new market development
Carol Miles, Horticulture
- Biodegradable agriculture mulches: Assessing potential for chemical migration in horticultural crops and their role in organic agriculture
Lisa Wasko DeVetter, Horticulture
- Development of foods with modified textures for infants and children with feeding difficulties
Carolyn Ross, School of Food Science
- Using a stable calcium isotope tracer to measure uptake and distribution of calcium in deciduous tree fruit
Lee Kalcsits, Horticulture
- Encapsulating micronutrients for developing functional foods
Shyam Sablani, Biological Systems Engineering
- A single-step method to map genes underlying phenotypes in multiple environment
Zhiwu Zhang, Crop & Soil Sciences
- Multi-scale Assessment of Phosphorus Pollution Potential in the Increasingly Urbanized Puget Sound Region
Joan Wu, Biological Systems Engineering
- Implications of Increased Northern Corridor Oil and Coal Movement on Washington Agriculture
Jeremy Sage, School of Economic Sciences

2014

- How will the Affordable Care Act Affect Health Coverage and Employment in the Agricultural Industry in the State of Washington
Bidisha Mandal, School of Economic Sciences
- Modeling the Recycle of Treated Wastewater as Dilution Water for a More Sustainable, Water-Balanced Anaerobic Digestion Process
Craig Frear, Center for Sustaining Agriculture & Natural Resources
- Exploring the Next Generation of Manure Treatment Technologies for Sustainable Animal Agriculture and Enhanced Environmental Quality
Pius Ndegwa, Biological Systems Engineering

- Deep Irrigation to Conserve Water and Advance Vineyard Management
Pete Jacoby, Crop & Soil Sciences
- Developing high-throughput sensor technologies to screen water use efficiency in model crops
Sindhuja Sankaran, Biological Systems Engineering
- Commercialization of New Crop Varieties
Jill McCluskey, School of Economic Sciences
- Protective effects of apple against obesity and associated complications through modulation of gut microbiota
Giuliana Noratto, School of Food Sciences
- Understanding of Food and Microbiological Properties at Elevated Temperatures to Improve Low-moisture Food Safety
Juming Tang, Biological Systems Engineering
- Introducing Organic Quinoa Production Systems in the Palouse
John Reganold, Crop & Soil Sciences
- Modulation of Rhizosphere Ecology and its Impacts on Crop Productivity
Joe Poovaiah, Horticulture
- In-field Sensing and Decision Support System to Prevent Cherry Fruit Cracking due to Rainwater
Lav Khot, Biological Systems Engineering
- Microbial Contribution to Organic Carbon Sequestration in Mineral Soil
Zhenqing Shi, Crop & Soil Sciences
- Using biochar to sequester antibiotic residues during food animal production
Doug Call, Veterinary Microbiology & Pathology

2013

- Estimating Wheat Yield through Image Analysis and Spectral Estimation of Juvenile Plants
Arron Carter, Crop & Soil Sciences
- Functional Foods Targeting AMPK and Sirt1 to Reduce Adiposity
Min Du, Animal Science
- Phylogeography to Improve Resistance Breeding Against Columbia Root-Knot Nematode
Axel Elling, Plant Pathology
- Bio-oil Stabilization and Blending with Vacuum Residual Oil for the Production of Aviation Fuels in Petroleum Refineries
Manuel Garcia-Perez, Biological Systems Engineering
- Investing in Agricultural Sustainability through the Creation of Novel, Low Cost, Smart System to Measure Fluxes of Methane, Nitrous Oxide and Ammonia from Agricultural Ecosystems
Kristen Johnson, Animal Science
- The Genetic Characterization and Field Utility of a New Indeterminate Species of Cool Season Grain
Stephen Jones, Crop & Soil Sciences

- Grafting Watermelon: A New Sustainable Management Practice for Soilborne Disease and A New Value-added Enterprise for Washington
Carol Miles, Horticulture
- Field Phenomics Platform Development
Michael Pumphrey, Crop & Soil Sciences
- Survey of the Pacific Northwest for Incidence of Gumming Disease of Wheat and Grasses: Isolation of the Casual Agents and Vectors
Brenda Schroeder, Plant Pathology
- Identifying Molecular Markers for Insecticide Resistance in Arthropod Pests
Doug Walsh, Entomology
- Role of Flavin in Rhizobium-Legume Association
Sanja Roje, Institute of Biological Chemistry
- Stress Resistance and Cross Protection in Foodborne Pathogens
Mei-Jun Zhu, School of Food Science

2009

- Development of Novel Crop Varieties to Battle Wind and Water Erosion in the Palouse
Scot Hulbert, Plant Pathology
- Cover Crops to Enhance Soil Productivity and Nitrogen Management In Organic and Transition Vegetable Production Systems
Craig Cogger, Crop & Soil Sciences
- Influence of Nitrogen Fertility on the Susceptibility of Rhododendrons To Phytophthora Ramorum
Rita Hummel, Center for Sustaining Agriculture & Natural Resources