



**MONTANA**  
STATE UNIVERSITY

College of  
**AGRICULTURE &**  
**MONTANA AGRICULTURAL**  
**EXPERIMENT STATION**

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**NOTICE to ALL faculty:** If you haven't yet submitted content for the #IAmAg campaign, [please do so here](#).



We are so very proud of our Fall 2019 College of Ag graduates! We celebrated the grads on Friday, December 13, with a reception before the commencement ceremony on Saturday, December 14.

**A Message from Dr. Bajwa**

Dear COA/MAES Family,

It is the end of the semester and the end of 2019 already. I hope you all had a

wonderful semester. We have a lot to celebrate and be thankful for this season! In November, we celebrated agriculture with the 20th annual Celebrate Ag event. Buzz Mattelin was honored with the 2019 Ag Leadership Award. He was also celebrated for his contributions to Montana agriculture with newest variety released from our barley breeding program, named Buzz in his honor.

We had another batch of students graduate last week, including our first Hilleman Scholar, who graduated in 3.5 years. Congratulations to all of our graduates: We are proud of your accomplishments and look forward to seeing your many successes as you go through the next phase of life. A special thanks to all our faculty and staff who work tirelessly to ensure our students succeed in their classes and graduate to become successful professionals and people. Scholarship is one important means of helping our students through college. We awarded \$650,000 in scholarships to 300 students this semester, thanks to our generous alumni and friends. We have an outstanding group of students, and these scholarships change the lives of the recipients, especially those who may not be able to pursue their dream of a college degree without this support.

Lastly, I am close to completing my first year at Montana State University, and it has been a wonderful journey so far. Your support, dedication and hard work were instrumental in making my first year at MSU successful for me and for the college/MAES. I want to take this opportunity to thank you all for the great work you do, and the value you place in the people around you. Our people are our most important and valuable resource, and you show every day what exceptional professionals, educators, researchers and friends you are. I am so thankful and proud to work with you all. Stay safe and warm this holiday season.

Wishing you all a wonderful holiday season with family and friends,  
Sreekala Bajwa

A handwritten signature in blue ink, appearing to read 'Sreekala Bajwa', with a stylized flourish underneath.

### **Upcoming Events**

- **December 13-January 13:** MSU Winter Break. Happy Holidays!
- **January 7-9:** Crop and Pest Management School, Bozeman Homewood Suites

- **January 9:** Winter Crop Production Update Meeting, NWARC
- **January 16:** "Every Semester Needs a Plan," 12-1:30 p.m. on the online [National Center for Faculty Development and Diversity](#).

### Recent Grants in the COA and MAES

- **Jane Boles, ARS:** "Dry ageing of lamb to improve flavor consistency," Bair Ranch Foundation.
- **Eric Boyd and Seth Walk, MBI:** "Microbial mechanisms of methylmercury metabolism in humans," University of Rochester.
- **Frankie Crutcher, EARC:** "Variety selection and intercropping strategies for disease management in conventional and organic chickpea production," MTDA.
- **Stephanie Ewing, WSARE:** "Fostering resilient plant-soil interactions on working ranches in semi-arid steppe ecosystems of north-central and eastern Montana," USDA NIFA.
- **Michelle Flenniken, PSPP:** "Impact of nutrition on the outcome of honey bee virus infections," MTDA.
- **Qasim Khan, SARC:** "Variety selection and intercropping strategies for disease management in conventional and organic chickpea production," MTDA.
- **Bruce Maxwell, WSARE:** "Effects of habitat heterogeneity on crop yield and biodiversity," and "Precision agriculture applied to organic systems," USDA NIFA.
- **Dustin Perry, DATE:** "Agricultural Education Safety Initiative," Utah State University.
- **Raina Plowright, MBI:** "Ticks, climate and moose in the Greater Yellowstone Ecosystem," USGS.

### Upcoming Funding Opportunities

- NSF Biology Integration Institutes: LOI due **December 20**, proposal due **February 6**

- Research to Action: Assessing and Addressing Community Exposures to Environmental Contaminants (NIH): Agency LOI due **December 23**, full application due **January 21**.
- DARPA Detect It with Gene Editing Technologies (DIGET): Proposal abstract due **January 7**, full proposal due **February 25**.
- Understanding the Rules of Life: Microbiome Theory and Mechanisms (NSF): Agency LOI due **January 17**, full proposal due **March 2**.
- NIH Graduate Research Training Initiative for Student Enhancement: Internal LOI due **January 28**, full application due **May 21**.
- WSARE Graduate Students Grants in Sustainable Agriculture: MSU submission due **February 6**, full proposal due **February 11**.
- EPA National Priorities: Research on Per- and Poly-Fluoroalkyl Substances (PEAS) Impacts in Rural Communities and Agricultural Operations: Application due **February 11**.
- USDA Integrated Research, Education and Extension Competitive Grants Program: Organic Transitions: Application due **February 27**.
- NSF EarthCube: Developing a Community-Driven Data and Knowledge Environment for the Geosciences: Proposal due **March 12**.
- USDA Agriculture Innovation Demonstration Center Program: Application due **March 20**.

## Recent Publications

- **Mark Quinn** et al.: "A patenting perspective on human neutrophil elastase (HNE) inhibitors (2014-2018) and their therapeutic applications," Expert Opinion on Therapeutic Patents.
- **Robert N. Stougaard, Mike Giroux** et al.: "Allelic Impacts of TaPHS1, TaMMK3, and Vp1B3 on Pre-harvest Sprouting of Northern Great Plains Winter Wheats," Crop Science.
- **D. Mark Anderson** et al.: "Association of Marijuana Laws with Teen Marijuana Use: New Estimates from the Youth Risk Behavior Surveys," JAMA Pediatrics.
- **Margaret Branine, Anna Bazzicalupo, Sara Branco**: "Biology and applications of endophytic insect-pathogenic fungi," PLoS Pathogens.

- **Edward E. Schmidt** et al.: "Cholestatic liver disease results increased production of reactive aldehydes and an atypical periportal hepatic antioxidant response," *Free Radical Biology and Medicine*.
- **Anton Bekkerman, Gary W. Brester**: "Don't Judge a Wine by its Closure: Price Premiums for Corks in the U.S. Wine Market," *Journal of Wine Economics*.
- **Subodh Adhikari, Laura A. Burkle, Kevin M. O'Neill, Casey M. Delphia, David K. Weaver, Fabian D. Menalled**: "Dryland Organic Farming Partially Offsets Negative Effects of Highly Simplified Agricultural Landscapes on Forbs, Bees and Bee-Flower Networks," *Environmental Entomology*.
- **Collin J. Preftakes, David K. Weaver, Robert K.D. Peterson** et al.: "Effect of insecticide formulation and adjuvant combination on agricultural spray drift," *Environmental Contamination and Remediation*.
- **Whitney C. Stewart, Jane A. Boles, Thomas W. Murphy** et al.: "Effects of feeding juniper as roughage on feedlot performance, carcass measurements, meat sensory attitudes, and volatile aroma compounds of yearling Rambouillet wethers 1,2," *Journal of Animal Science*.
- **Frankie K. Crutcher** et al.: "Effects on hyphal morphology and development by the putative copper radical oxidase *glx1* in *Trichoderma virens* suggest a novel role as a cell wall associated enzyme," *Fungal Genetics and Biology*.
- **Renee Reijo Pera** et al.: "Efficacy and safety of Immuno-Magnetically sorted smooth muscle progenitor cells derived from Human-Induced pluripotent stem cells for restoring urethral sphincter function," *Stem Cells Translational Medicine*.
- **Kevin McPhee** et al.: "Exploring the genetics of lesion and nodal resistance in pea (*Pisum sativum* L.) to *Sclerotinia sclerotiorum* using genome-wide association studies and RNA-seq," *Plant Direct*.
- **Hayes B. Goosey, Kevin M. O'Neill** et al.: "Ground-Dwelling Arthropod Community Response to Livestock Grazing: Implications for Avian Conservation," *Environmental Ecology*.
- **Kevin King, Huang Li, Jinling Kang, Chaofu Lu**: "Mapping quantitative trait loci for seed traits in *Camelina sativa*," *Theoretical and Applied Genetics*.

- **Paul C. Stoy, Guta Wakbulcho** et al.: "Maximum carbon uptake rate dominates the interannual variability of global net ecosystem exchange," *Global Change Biology*.
- **Igor A. Schepetkin, Liliya N. Kirpotina, Ganesh Balasubramanian, Mark T. Quinn** et al.: "Neutrophil Immunomodulatory Activity of Natural Organosulfur Compounds," *Molecules*.
- **Medora M. Lachman, Amy Baeza, Molly Butler, Emily Gates, Julie Buono Geddes, Patrick Hatfield, Carl J. Yeoman** et al.: "Pelleted-hay alfalfa feed increases sheep wether weight gain and rumen bacterial richness over loose-hay alfalfa feed," *PLoS One*.
- **Carl J. Yeoman** et al.: "Plasticity in the Human Gut Microbiome Defies Evolutionary Constraints," *mSphere*.
- **Raina K. Plowright, Daniel J. Becker, Daniel E. Crowley, Alex D. Washburne** et al.: "Prioritizing surveillance of Nipah virus in India," *PLoS Neglected Tropical Diseases*.
- **Igor A. Schepetkin** et al.: "Protective Effects of a new C-Jun N-terminal Kinase Inhibitor in the model of Global Cerebral Ischemia in Rats," *Molecules*.
- **Dengfeng Liu, Hongyi Li** et al.: "Temporal and Spatial Signatures of Sediment Transport at the Watershed Scale: An Approach to Understand the Behavior of the Watershed," *Tecnologia Y Ciencias del Agua*.
- **Wei Li, John C. Priscu** et al.: "The Antarctic psychrophiles *Chlamydomonas* spp. UWO241 and ICE-MDV exhibit differential restructuring of photosystem I in response to Iron," *Photosynthesis Research*.
- **Prashant Jha** et al.: "The response of glyphosate-resistant and glyphosate-susceptible biotypes of junglerice (*Echinochloa colona*) to mungbean interference," *Weed Science*.

**Note:** Authors in bold are not necessarily primary authors, but MSU-affiliated authors.

## Notices

The **NCAT Soil Innovations Conference** will be held at MSU March 30-31 and submissions for student and professional posters are being accepted! Learn more [here](#).

The Department of Research Centers is currently **recruiting three tenure track faculty positions** at the NWARC, SARC and WTARC. Please forward these links to anyone you feel may be interested.

- **NWARC, Kalispell:** [Assistant/Associate Professor - Cropping Systems Agronomist](#)
- **SARC, Huntley:** [Assistant Professor - Weed Science](#)
- **WTARC, Conrad:** [Superintendent & Professor \(open rank\) of Agronomy](#)

Do you have new research, awards or honors, or know someone who does and might be too shy? Email [reagan.colyer@montana.edu](mailto:reagan.colyer@montana.edu) with news and developments!

### **COA/MAES in the News**

[MSU's Schutter Diagnostic Lab releases first in educational video series](#)

[MSU College of Agriculture to host annual pest management workshop](#)

[MSU economist's paper named journal's outstanding publication](#)

[Interdisciplinary program leads MSU student to research, business success](#)

[MSU research center to explore small fruit opportunities through new grant](#)

[Longtime MSU wheat breeder named AAAS fellow](#)

[MSU's Mamie Hertel becomes first woman from Montana selected as national FFA officer](#)

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