



Congrats Graduates!

Our yearly newsletter is dedicated to celebrating our outstanding students, staff, and faculty. Please enjoy reading about our department's many education, research, and outreach accomplishments. We recognize those graduating this academic year, which includes 71 undergraduate students, 9 Thesis M.S. and 31 Professional M.S. students, and 2 Ph.D. recipients.

Students, you have each earned a truly impressive degree and with so much important work to be done. It's a remarkable time to be an environmental scientist. We are proud and excited for you to apply the knowledge and critical thinking skills you've mastered to be the leaders who will improve our understanding and management of our natural and agricultural resources, benefitting both people and environments.

New LRES Faculty



John Knowles
Assistant Professor
Land-Atmosphere Exchange, Ecohydrology



Paul Nugent
Assistant Professor
Precision Agriculture, Optical Sensing, Technology Adoption

Land Resources and Environmental
Sciences
P.O.Box 173120
Bozeman, MT 59717-3120
landresources.montana.edu



Department of
Land Resources & Environmental Sciences



Anish Sapkota
Assistant Professor
Precision Agriculture, Irrigation Management, Drones, Crop Production

LRES Outstanding Senior Award - Esther Maina

Esther Maina has been awarded the LRES Outstanding Senior Award. She has served as an undergraduate teaching assistant for the undergraduate soils course, as well as a writing instructor and tutor in the MSU Writing Center for 3 years before graduating last December. Esther's creative contributions earned her the Michelle Eodice Tutor Excellence Award last May.

What distinguishes Ms. Maina from her peers are two things.

First, her obsidian-sharp-focus on an idea that science- or evidence-based insights must be communicated clearly in order to "count." In other words, she voraciously explores ways to apply what she's learned inside the classroom and outside the classroom (in her various teaching roles) to the clear challenges that confront all of our graduating seniors.

Second, Esther's successes have been shaped in part by her intentional embrace of what's hard. Her GPA was the second highest in our department by less than 0.01 GPA points after completing 161 credits. Her non-traditional route through multiple university systems has reinforced her resilience: she graduated high school in Nairobi where she grew up in 2011, taught English as a second language in Warsaw for a couple years, and arrived in Bozeman in 2021. She admitted to me that she embraces what some might call "the dark" or "struggle, the exact same things most likely to deter most other students."

While excelling in the classroom, she managed to engage in at least three research projects that I'm aware of: (i) supporting Scott Creel's Zambian Carnivore Conservation Program in fall 2023; (ii) leading a soil color pedagogic intervention in fall 2024 as part of ENSC458; and (iii) conducting and presenting original research on "Empowering equity: Reducing/sharing emotional labour among BIPOC educators in writing centre environments" at the 2024 National Conference on Writing/Tutoring in Tacoma, Washington.

Based on my inside- and outside-the-classroom interactions with Esther, I believe she is most worthy of being considered our department's Outstanding Senior. She is easily in the top 1% of all the >4000 students I have ever taught. She is studying for the LSAT at this moment, and hoping her score allows her to attend a top law school. I predict we will all be stunned at her impact.

-Tony Hartshorn

Exceptional Service Award - Ryan Lawson

Ryan Lawson has been awarded the LRES Exceptional Service Award given her dynamic roles as an Agriculture Orientation Leader and Resident Assistant (RA), as well as her outstanding service in several research programs in LRES. She graduated from MSU in Fall 2024, and she worked for Drs. Jones, Rew, and Sterling during her past two years, spanning from soils to plant physiology to invasive plant ecology; she continually impressed us with her diligence and inquisitiveness in all areas of environmental science.

Ryan's contributions also made a positive impact on productivity within the Land Resources and Environmental Science department. She demonstrated strong leadership skills in her research assistant roles. Even with multiple supervisors, Ryan has successfully led the incredibly complex undertaking of data collection and sample processing. Ryan consistently exceeded expectations in being organized for field campaigns and following through on complex, detail-oriented tasks independently, while keeping 1000s of samples from two different projects in order. She was quick to learn field and lab techniques alike. Examples include plant and soil collection, weather data analysis, preparing samples for carbohydrate and nutrient analysis, identifying swainsonine content in pollen, and using mapping software to visualize plant distributions. Perhaps even greater evidence of her service is her willingness to teach others how to use equipment and tools in the processing of their samples -- she never hesitated to take time out to effectively instruct graduate students from other programs who need these tools for their research projects. Overall, Ryan's leadership efforts on these research projects make a direct contribution to the goals of our research programs in Montana. These goals are consistent with Ryan's longer-term professional interests in the environmental sciences to make a difference in land restoration and sustainable management arenas.

Ryan's contributions to LRES and Montana State University are significant and far-reaching. Through her leadership and service, she not only impacted individual students but also positively influenced the broader university community. Her empathy, dedication, and integrity have left a lasting mark on multiple research programs and the students she influenced and welcomed, making her a deserving candidate for the Exceptional Service Award. She recently started a full-time permanent position with an environmental consulting firm, demonstrating her interest in a career in the environmental sciences. We have no doubt she will continue to serve the field into the future.

-Tracy Sterling, Liz Greenfield, Tony Hartshorn, Clain Jones, Lisa Rew, and Rosie Wallander

CoA Faculty of the Month



Mari Eggers was named the March faculty member of the month.

Dr. Eggers plays a crucial leadership role in MSU's environmental health program and engages in extensive community involvement and public education. She was nominated for going above and beyond as an adviser and teacher, believing in her students and caring for student wellbeing and community.



Will Wetzel was named the April faculty member of the month.

Dr. Wetzel was nominated for his excitement and passion in the classroom and for caring deeply about the engagement of his students.

LRES Crosscut Ski Social

Our 11th annual ski social took place at Crosscut Mountain Sports Center on President's Day, February 17th. Good snow and good company made it a memorable day for the faculty, staff, and students who attended to cross country ski and snowshoe around the beautiful trails.

We thank everyone who joined us, and keep an eye out for future LRES events!

Student Recognition

- Taylor Kennedy won first place in her 10-minute student paper competition session at the Annual Meeting of the Entomological Society of America in Phoenix, Arizona
- Lilly Sencenbaugh received a College of Agriculture Student Scholar Travel Award from the Spragg Foundation Fund
- Erin Teichroew received a College of Agriculture Student Scholar Travel Award from the Spragg Foundation Fund
- Meryl Storb received a Scholarship Excellence Award from the Graduate School
- Jackson Strand received a Land Grant Excellence Award from the Graduate School
- Samuel Koeshall placed 2nd in the PhD poster and oral presentation competition at the 2024 Crop Science Society of America meeting
- Sophia Lattes received a College of Agriculture Student Scholar Travel Award from the Spragg Foundation Fund
- RaqibValli received the Crawford Wildlife Habitat Scholarship
- Jackson Strand received the Angus and Anne McMillan Family Agriculture Scholarship

Achievements in Agriculture Awards

Dr. Jack Brookshire: Excellence in Research and Discovery Award

Mary Farina: NACTA Teaching Award of Merit for Graduate Students

Dr. Clain Jones: Meritorious Service Award

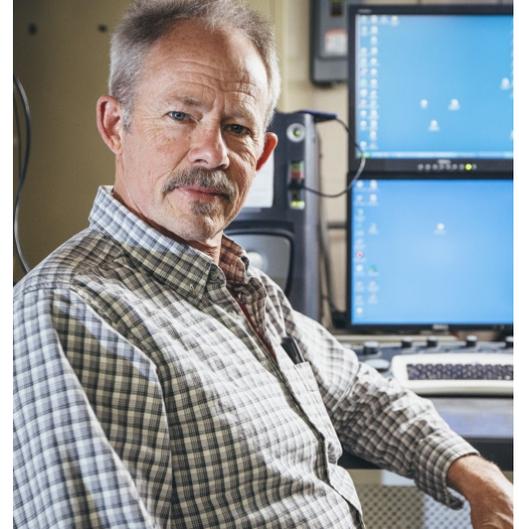
Dr. Rob Payn: Transformational Teaching Award



Congratulations on Your Retirement!



Dr. Kevin O'Neill retired from MSU on December 31, 2024 after a long and distinguished career as a professor of entomology.



Dr. Bill Inskeep retired from MSU on January 24, 2025 after a long and distinguished career as a professor of soil & environmental chemistry.



Dr. Tracy Sterling will retire from MSU on June 30, 2025 after 16 years at MSU (13 years as department head of LRES) as a professor of weed physiology. Before arriving at MSU in 2009, Tracy was a professor at New Mexico State University.

LRES Recognition

Aneliya Cox was named an Everyday Hero of Research by VPR Harmon



Paul Nugent was named the Whitney and Elizabeth MacMillan Endowed Chair in Precision Agriculture



Read more about these accomplishments and what is currently happening in LRES in our scroll

Faculty emeritus John Priscu was featured in a podcast titled “What’s hiding under the Antarctic ice?”



Max Tolstedt lands a competitive national internship through Montana State environmental health program

MSU researchers in Lisa Rew’s lab are working with producers to protect both Montana land and the people who live and work on it



LRES graduate students, Jackson Strand and Lochlin Ermatinger publish new explorations of wheat stem sawfly management



A study led by Andrew Felton lends new insight into Earth’s water cycle



MSU Extension’s Schutter Lab identifies first known black-legged tick in Montana

We’d love to hear from you!
To share your research and/or professional accomplishments in an upcoming newsletter, please contact:

Reilly Tunby, Administrative Associate,
lresfrontdesk@montana.edu

Fall 2024 Capstone

During Fall 2024, LRES Capstone students joined MSU’s interdisciplinary effort to “reimagine” and renovate the College M and its surroundings. Before LRES joined the effort, the university had been focused on engineering solutions; our students were the first to bring ecologically based environmental science solutions to the table. The class formed into six teams based on their interests and expertise, covering wildlife management, invasive plants, wildfire management, trail stability, transportation, and water quality. After careful study and evaluation of issues and potential solutions, the class presented management recommendations to university-wide committee that included the USFS district ranger, personnel from the mayor’s office, the dean of students, and many other community members, representing an important and influential contribution to the management of an iconic and beloved Bozeman landmark.

-William Wetzel

Spring 2025 Capstone

The City of Bozeman is revisiting its Stormwater Facilities Plan. During spring of 2025, LRES Capstone students worked with the City of Bozeman and the Gallatin Watershed Council to conduct projects that generated recommendations for integrating “nature-based solutions” into the design of new and existing stormwater facilities across Bozeman. Students needed to consider balancing the specific functional needs of stormwater management with broader community considerations. Students applied their training in LRES to generate creative ideas ranging from the design of constructed wetlands, new policy recommendations, and education and outreach strategies throughout the city. The detailed reports that this Capstone class put together envision an exciting future of Bozeman, where the management of our most precious resource – water – is improved via leveraging the benefits of natural ecosystem processes.

-Andrew Felton

In Spring 2025, students in the LRES Capstone course analyzed some of the key challenges in Montana’s natural and agricultural ecosystems and proposed management solutions using precision agriculture technologies, emphasizing their role in promoting environmental and agricultural sustainability. They investigated issues such as irrigation management, land degradation, soil health, invasive plant species, and wildfire. Each group explored how precision tools—such as below-ground, proximal, and aerial sensors, as well as satellite data—can enable site-specific, effective management practices. Students also examined barriers to the adoption of these technologies and proposed practical solutions. The final reports from each group present detailed analysis of the identified problems, the precision technologies evaluated, and strategies for implementation

-Anish Sapkota



LEPS 2025: Roots of Resilience

The LRES Graduate Student Organization hosted its 15th annual student research symposium, now known as the Land Resource, Environmental, and Plant Science Symposium, in Inspiration Hall on Monday, April 7. This year marked the second year of collaboration with the Department of Plant Sciences and Plant Pathology (PSPP). The event featured 18 poster and 12 oral presentations, covering topics ranging from invasive plants to crop breeding. The keynote address, titled “Roots of Resilience: Insects as Indicators of Change,” was delivered by Dr. Ellen Welti of the Smithsonian Institution.

More information on the event can be found at <https://leps2025.weebly.com>

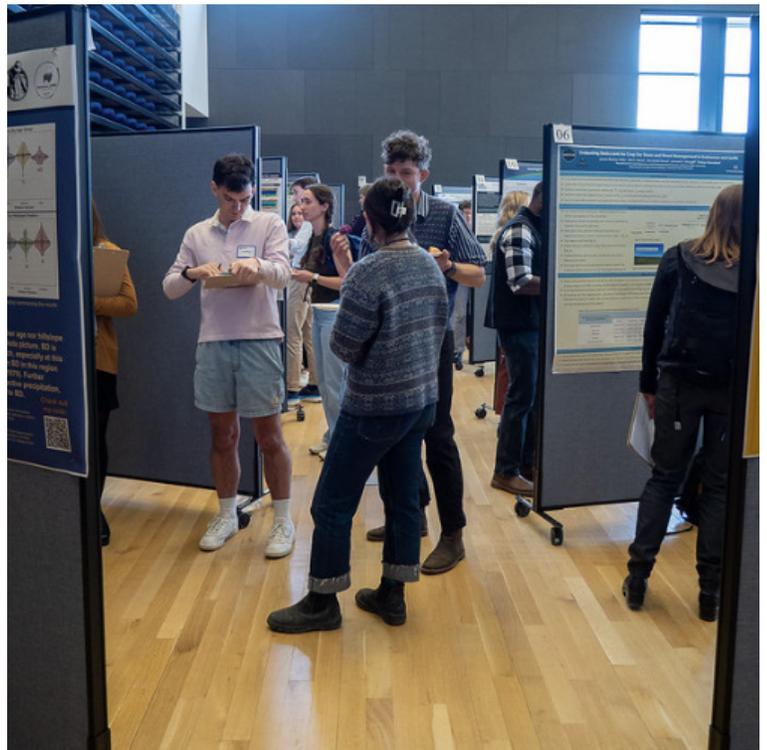


Poster presentation winners

- 1) **Claire Anderson** - Making Amends: Assessing the Influence of Soil Amendments on Invasive and Native Grasses
- 2) **Emma Kubinski** - How Can We Teach Ecological Weed Management? A Lab Exercise on Weed Community Assembly
- 3) **Chloe Hinson** - Heat Stress Tolerance in Spring Wheat through Brassinosteroid induced Antioxidants

10-minute oral presentation winners

- 1) **Lilly Sencenbaugh & Erin Teichroew** - Multi-scale analysis of biofumigation as a management tool for invasive annual grasses in Montana rangelands
- 2) **Sophie Lattes** - Interseeding cover crops for establishment and weed management in organic vegetables
- 3) **Del Hannay** - QTL-mapping utilizing the newly constructed Eurasian watermilfoil genome reveals a non-target site QTL associated with fluridone resistance in an invasive population



LRES Degrees Awarded 2024 - 2025

Bachelor of Science

Environmental Sciences

*Mackenzie Adams
Oliver Anderson
Anna Barton
Campbell Bates
Morgan Berg
Matthew Bess
Claire Bosselmann
Tristan Burlingame
Lydia Bushey
Claire Cassellia
Kylie Cemulini
Carter Christopherson
Ben Churchwell
Ryan Conway
Mia DeGarmo
Mya Dube
Jackson Dufresne
Alexandre Ferland
Jaimie Florent
Chase Fortman
Sophia Franzia
Elliot French
Marshal Galinato
Paige Gardner
Karolyn Hilquist
Matthew Honiker
Shawna Illig
Anja Jackson
Maida Knapton
Mason Knighton
Gabrielle Kuzma
Ryan Lawson
Joseph Leonardo
McKinley Leslie
Lauren Livengood
Olivia Lynch
Matthew Lytle
Aemily Madole
Esther Maina
Kona Meier*

*Anne Miller
Zachary Moore
Isabelle Mullener
Jackson Mundell
Bailey Myatt
Alexander Myxter
Barrett Nichols
Isabelle Pescaia
Wade Rabin
Madison Rice
Phillip Rising Sun
Sawyer Robinson
Meghan Rodriguez
Nathan Rome
Angelee Rose
Macy Schowalter
Parker Sharpe
Connor Simko
Azzio Simontacchi
Christopher Slater
Jackson Spanfelner
Trevor Stewart
Gabriel Tharp
Courtney Ulrich
Madison Vincent
Lindsey Webb
Madisynn Weber
Paige Weigand
Harrison Wilder
Frances Zoloth*

Sustainable Foods & Bioenergy Systems-Agroecology

Jacob Starsky



LRES Degrees Awarded 2024 - 2025

Professional Master of Science Land Resources & Environmental Sciences

Devin Adsit-Morris
Heather Arcediano
Logan Beck
Michelle Berjikian
Scott Bowles
Leya Charles
Carter Clinkenbeard
Christi Crawford
Rachel Cutler
Yaser Dahleh
Allison Dandrea
Mitchell Efaw
Audrey Foster
Tegan Hanson
Cory Hoffman
Casey Hoins
Haven Kindle
Melissa Maggio
Ryan Malmquist
Garett Masin
Jackson Miller
Spencer Ostergaard
Shelby Palasik
Charles Ricketts
Carmela Rourke
Andrew Schwitzgebel
Colin Seebach
Erin Sheridan
Damon Sheumaker
Teal Taylor
Jane Tuthill

Master of Science Land Resources & Environmental Sciences

Ryan Barnes
Tyler Boyd
Lochlin Ermatinger
Ian McRyhew
Jack Poole
Madeline Roberts
Akamjot Singh Brar

Master of Science Entomology

Taylor Kennedy
Jackson Strand

Doctor of Philosophy Ecology & Environmental Sciences

Byron Amerson
Lilly Sencenbaugh

Opportunities to Support LRES

A gift to the department is a great way to support student and faculty endeavors. Donations can be earmarked for student scholarships or internships, graduate fellowships, undergraduate and graduate student programs, endowed professionals, and more.

For information about making a donation to the Department, please contact the MSU Alumni Foundation, College of Agriculture, at 406-994-4508

