



## 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 42 undergraduate students, 9 Thesis M.S. and 38 Professional M.S. students, and 4 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 and Staff



Anna Schweiger  
Assistant Professor  
*Remote Sensing*



Joao Souza  
Assistant Professor  
*Soil Nutrient Management*

Land Resources and Environmental  
Sciences  
P.O.Box 173120  
Bozeman, MT 59717-3120  
[landresources.montana.edu](http://landresources.montana.edu)



Department of  
Land Resources & Environmental Sciences



William Wetzel  
Associate Professor  
*Plant-Herbivore Interactions*

## **LRES Outstanding Senior Award - Brennan Gaffney**

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It is my pleasure and privilege to nominate Brennan Gaffney for our 2024 Outstanding Graduating Senior Award. I have known Brennan for a few years, he took my sophomore plant class, I have supervised him on a couple research projects, and he has worked with my group for the last couple years. Brennan is majoring in our department with dual minors in water resources and Hispanic studies. Brennan is an excellent candidate for this scholarship for a range of reasons and I will highlight a few of those reasons.

Brennan has tremendous potential as a scientist and practitioner in environmental science. He has identified an interest in working as an environmental consultant or research field assistant. Brennan has worked with my group on several research projects over the past two years, leading two of them. One was part of a national data collection on cheatgrass lead by University of Utah. There was a set protocol and after he and I set it up he did the rest of the data collection and collation through last summer and fall. The other project is concerning germination and competitive ability of alyssum species. He has run and contributed to the design of those experiments which are in the final stages of completion. Brennan is a delight to work with because he is interested in science and asks smart and thoughtful questions, his work is accurate and precise, he is very reliable, has initiative: he is the best undergraduate researcher and worker for well over a decade. Brennan Gaffney is an outstanding student in our department and MSU and I believe we will be proud in the future to point to him as one of our graduates.

Sincerely,  
Dr. Lisa J. Rew

## **Exceptional Service Award - Bryce Pease**

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Bryce Pease graduated in December 2023 with an Environmental Science degree and a Land Rehabilitation option, along with a minor in English Writing. When I first met Bryce for an advising meeting (online, because of the pandemic), I was immediately impressed with her presence, organization, motivation, and capacity for clear and direct communication. During her years at MSU, Bryce has combined those qualities with a passion for writing, for environmental science, and for building community to become an exemplary leader on campus. For Bryce, it is not about just showing up, it's about putting 110% into it, challenging oneself to excel independently, and working with others to make sure that everyone is successful. Bryce was a TA for B100230 Seed Plant ID for two years, the first year as an assistant to a grad student TA and the second year teaching a lab section of her own. Bryce worked as a tutor at the Writing Center for four years, helping students with their writing in individual tutoring sessions, and leading workshops for groups of students. Besides excelling in her own studies, Bryce contributed to the success of hundreds of students across campus.

Sincerely,  
Dr. Cathy Zabinski

## **Congratulations on your retirement Bruce Maxwell**

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Dr. Bruce Maxwell retired from MSU on December 31, 2023 after a long and distinguished career as a professor of weed ecology and agroecology in LRES.



# Stacie Rath was recognized as an Everyday Hero of Research and Innovation by VPR Harmon

It Takes a Great Fiscal Operations Manager to Do Great Research

Stacie Rath is the Fiscal Operations Manager (FOM) for the Department of Land Resources & Environmental Sciences (LRES). When it comes to thinking about everyday heroes in research and innovation, we don't often think about the FOM role. However, the research ability and output of LRES would be severely compromised if not for Stacie's exceptional help. She proactively and without hesitation is always available to assist faculty with all their fiscal needs so that they can do outstanding research. She consistently and creatively comes up with solutions so we can accomplish MSU's mission. For example, LRES has been fortunate to be able to hire eight new faculty since 2022. Our eight new faculty each require start-up funding, and Stacie has worked tirelessly and innovatively to ensure that they are off to a great start purchasing research equipment and supplies and hiring students and staff. LRES would not be nearly as productive without Stacie as our Everyday Hero.

## LRES Crosscut Ski Social

Our 10th annual ski social took place at Crosscut Mountain Sports Center on President's Day, February 19th. 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

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**Celie Meier** received a MSU Graduate Excellence in Teaching Award from the Graduate School

**Lilly Sencenbaugh** took firstplace in the Range, Forestry and Natural Areas graduate student oral competition at the Western Society of Weed Science meeting

**Erin Teichroew** took second place in the Range, Forestry and Natural Areas graduate student oral competition at the Western Society of Weed Science meeting

**Madisan Chavez** presented on mentoring Native American graduate students at the NIH NIEHS Centers of Excellence Conference at NIEHS headquarters

**Haley Oakland** received a College of Agriculture Student Scholar Travel Award from the Koebel Foundation Fund, and a LRES Student Travel Award

**Colter Mumford** received a Land Grant Excellence Award, awarded to students who are highly effective in engaging with the community, by sharing and applying new knowledge that is locally relevant and mutually beneficial

**Caitlin Mitchell** was recognized with the American Geophysical Union Outstanding Student Presentation Award, as well as the School of Plant and Environmental Sciences Outstanding Recent Undergraduate Alumni Award from Virginia Tech

**Melissa Maggio** received an award from the Montana Weed Control Association for her dedication and continued support of weed management in Montana using biological control organisms

**Lochlin Ermatinger** received honorable mention for his presentation at the Montana Wheat & Barley Committee Pitch Competition

## William Kleindl received an Excellence in Open Education Award

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The Excellence in Open Education Award is presented to William Kleindl, an instructor in the Department of Land Resources and Environmental Sciences. This award recognizes a faculty member who has made a significant impact in affordable and accessible educational resources for students. The award includes a \$2,000 honorarium.

Kleindl teaches courses related to wetland ecology and water resources to hundreds of students each academic year. Across sections of those courses, students collectively saved more than \$12,000 during the 2023 fiscal year thanks to Kleindl's efforts to capitalize on open-access resources, said department head Bob Peterson.

Kleindl provides students with freely available reports and materials to help them understand how we use, protect, impact and restore water resources as part of semester projects, wrote Peterson. Kleindl's commitment to open education minimizes student debt and ensures equal access in the pursuit of learning outcomes.

Kleindl has also produced six instructional videos about water resources with more in production, which are available for free online and used in several MSU courses across the land resources and environmental sciences curriculum.

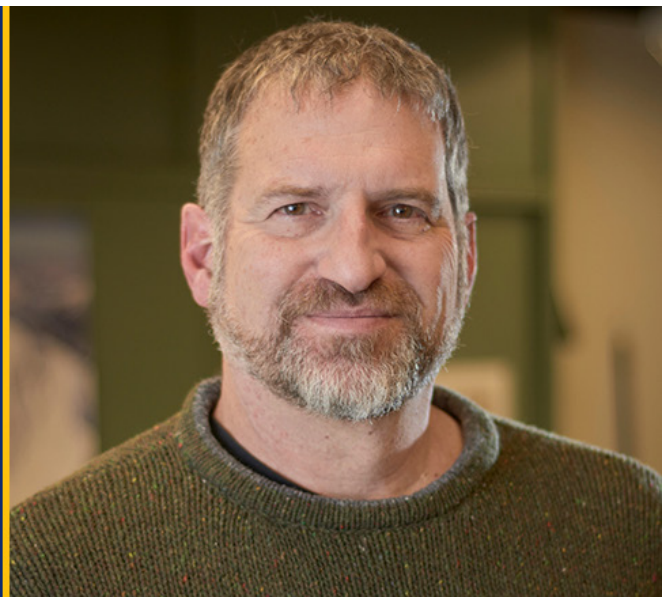
Excellence in Open  
Education Award

**William Kleindl**

Land Resources and  
Environmental Sciences

*Founders Day Faculty Awards*

SPRING 2024





## LRES Recognition

Dr. Adam Sigler received the College of Agriculture Award of Excellence – Impactful Outreach and Community Engagement Award



Tim Seipel's research on Herbicide Resistance & Weed Management in Montana was featured in GROWIWM



Dr. Perry Miller received the College of Agriculture Award of Excellence – Excellence in Research and Discovery

Will Wetzel was published in the journal *Science* and recognized for leading a network of nearly 200 scientists around the world in exploring the variability of plant-insect interactions interactions



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

Dr. Paul Nugent has been selected as the Whitney & Elizabeth MacMillan Chair in Precision Agriculture in the College of Agriculture at MSU

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](mailto:lresfrontdesk@montana.edu)

## In Memorium- Daniel Chichinsky

On Wednesday, January 31, the LRES family lost a valued member when Daniel Chichinsky died in a paragliding accident near La Grave, France.

Daniel received his B.S. in LRES in 2020 and was recognized as LRES Outstanding Senior that year. He was also awarded the 2019/2020 College of Agriculture Outstanding Undergraduate Leadership Award. He began working with the weed ecology and management team in LRES in 2018 and went on to complete his M.S. in 2023 studying Canada thistle biological control. Since March 2023 he was also employed as a research associate with the weed ecology and management team. Over the years, Daniel worked with many faculty, staff, and students within our department and the College of Agriculture.

Dan was celebrated with a memorial at Grand Targhee Ski Resort on March 15.



## Lisa Rew received the Outstanding Research Award from the Weed Science Society of America



Dr. Lisa Rew, Professor of Weed and Invasive Plant Ecology and Management, Department of Land Resources and Environmental Sciences, Montana State University (MSU) in Bozeman, Montana. Lisa was raised on a mixed dairy/arable farm in south-western Britain. She received her BSc (Hons) in Environmental Science, majoring in agro-ecology and ecology from the University of Southampton, UK in 1988; and her PhD in Agroecology from the University of Reading, UK in 1993. Lisa then worked on a project developing site-specific weed management and precision agriculture applications at Rothamsted Experimental Station in the UK. In the mid 1990's she moved to Tamworth, Australia, where she evaluated the potential of airborne imagery for detecting weeds in crops for subsequent site-specific or precision management. In addition, Lisa had projects developing integrated weed management techniques for the northern grain region of Australia and determining the adoption rates of new management approaches and technology by farmers. Since 2001 she has been at Montana State University,

USA. Initially she continued her work on remote sensing and precision weed management, but then applied her sampling skills to detect non-native and invasive plants in rangeland, wildland and mountain ecosystems and now works primarily in these systems. Lisa's overarching research goal is to understand more about the ecology and management of weedy and invasive species under different environmental conditions, with the aim of improving desired vegetation and productivity. Over the last few decades her interests and projects have included integrated weed management, survey and monitoring design, species distribution modeling, plant community diversity, population dynamics, long-distance dispersal as it relates to vehicles and roads, and ecosystem restoration. Most of our work is at the local (population) and landscape scale, but in collaboration with MIREN (Mountain Invasion Research Network) we have been able to evaluate the effect of multiple scales (local, regional and global) on patterns of invasion and relationships with environmental and biotic variables. Lisa's groups currently have studies evaluating a range of different management strategies (herbicide, soil amendments, biofumigation) to manage non-native annual grasses in grassland and sagebrush communities, altering distributions and competition of non-native forbs, different restoration seeding methods, managing recovery of conifer encroached grassland, and, renovating conservation reserve program land. Overall, Lisa along with her colleagues and students have published their management orientated to more theoretical results in a wide range of journals, and as book chapters and extension documents. Lisa has also been an editor for several books.

## Spring 2024 Capstone

“A method for siting a wetland mitigation bank in Gallatin Valley”

Bozeman City Commission is in the process of adopting enhanced regulatory measures for wetland and stream protection and mitigation as a means of improving water quality, climate adaptation, and habitat resiliency. Prioritization of mitigation solutions will be given such that future wetland and stream impacts will be mitigated through a series of options that focus on improvements within the watershed where the impact occurs. In the Spring of 2024, the City of Bozeman requested assistance in the form of high-level planning of future local wetland bank options. Following this request, the SP-24 Capstone Class chose to identify undeveloped land within the lower Gallatin that may be suitable for use as a wetland and stream bank. To accomplish this task, the class developed a GIS-based prioritization tool by combining surface water, hydric soil, land use, and land cover layers.

This product can help Bozeman and Gallatin County decision-makers prioritize efforts in developing public-private partnerships, full public ownership, or private management of future bank sites. As a result, the document below is the first in several steps needed to site, permit, and develop wetland and stream banks for our rapidly growing home.

-Bill Kleindl





# GSO Research Symposium 2024

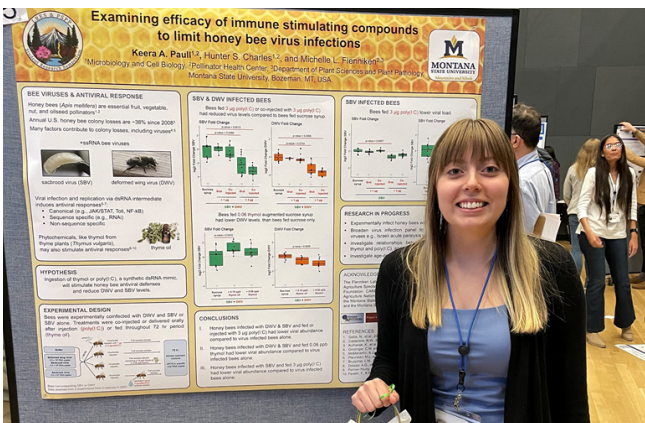
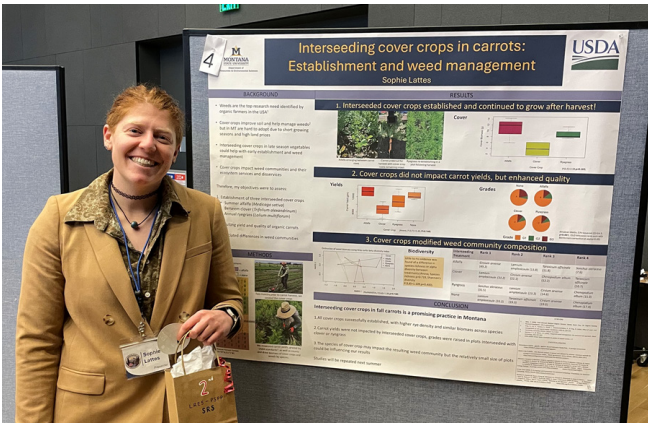
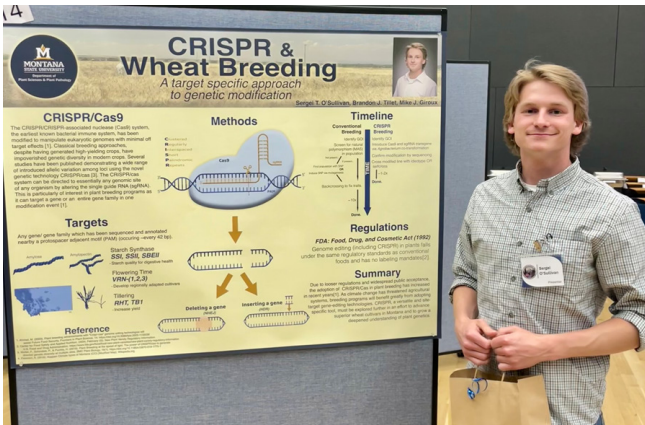
The LRES Graduate Student Organization hosted its 14th annual Student Research Symposium in Inspiration Hall on Thursday, April 18. This year, the GSO was excited to welcome students and faculty from both LRES and the plant sciences department (PSP). Undergraduate and graduate students presented 12 oral presentations and 21 posters on a wide range of subjects from invasive plants to crop breeding. The night also featured a keynote address by Dr. Liz Carlisle titled “Healing Grounds: Climate, Justice, and the Deep Roots of Regenerative Farming”.

## Poster presentation winners

- 1) **Sergei O’Sullivan** - CRISP & Wheat Breeding: A target specific approach to genetic modification
- 2) **Sophie Lattes** - Interseeding cover crops in carrots: Establishment and weed management
- 3) **Keira Paull** - Examining efficacy of immune stimulating compounds to limit honey bee virus infections

## 8-minute oral presentation winners

- 1) **Jenish Simon** - Pyramiding Resistant Genes for Aphanomyces Root Rot Resistance in Peas
- 2) **Caleb Hale** - Breeding Super Wheat
- 3) **Lilly Sencenbaugh** - Impacts of herbicide, and macro- and micro-nutrients on ventenata and desired species composition in Montana rangelands





# LRES Degrees Awarded 2023 - 2024

## Bachelor of Science Environmental Sciences

*Pamela Astrid Adams  
Jack Allen  
Jadyn May Bellander  
Richard Baumgarten  
Emily Carey  
Lucas James Asgil Colvile  
Robert Alexander Crawford  
Kacie Donaldson  
Jeremy Emmer  
Brennan Vaughn Shaner Gaffney  
Anna Joelle Galipeau  
Logan Lee Jenkins  
Kennedy Ann Kane  
Maya Suzanne Kemp  
Sarah Victoria Kincy  
Wyatt Mershon Kray  
Jonathan Landin  
Santo Mallon  
Grace Danielle Miller  
Kalei Ann Maunder  
Anne Marie Miller  
Grant M Minkoff  
Sophia Nicole Moreno  
Tucker James Mueller  
Collette Elyse Noel  
Savanah Tea Olson  
Bryce Pease  
Paige Elizabeth Perry  
Rebecca Pyles  
Audrey Reynolds  
Jonathan Charles Ritterson  
Matthew Weston Littman Roeder  
Tristan Douglas Roemmich  
Angelee Ann Rose  
Dylan Roide  
Jordyn Renee Solliday  
Jack Swanson  
Davis Walker Taylor  
William Joseph Zaiger*

## Sustainable Foods & Bioenergy Systems-Agroecology

*Jameson Scott Lamoreaux  
Sofia Ann Peller  
Joshua Poole*





# LRES Degrees Awarded 2023 - 2024

## Professional Master of Science Land Resources & Environmental Sciences

*Margaret E.C. Althaus*  
*Andrew Paul Bielakowski*  
*Hannah Boesinger*  
*Nicollette Sherelle Burrows*  
*Craig Russell Davis*  
*Evan Thomas Dunbar*  
*Stephanie Jo Espinoza*  
*Jennifer Gerhart*  
*Kyle B. Gordon*  
*Theresa Yvonne Hajos*  
*Tegan M Hanson*  
*Inga Hawbaker*  
*Shane Adair Heath*  
*Emily How*  
*Denise Huff*  
*Brandon Dwayne McKinley Jessie*  
*Michael Keech*  
*Spenser Owen Edward Kuhn*  
*Allison Law*  
*Erin Lee*  
*Tashi MacMillen*  
*Matthias Mamsch*  
*Jennifer Herrera Marrugo*  
*Celie Lynn Meier*  
*Leah Nicole Robison Skare*  
*Lissette Naomi Rodriguez Medina*  
*Isabella Montoya*  
*Zachary Nelson*  
*Jessica Pavelka*  
*Sydney Pitts*  
*James Quillian*  
*Lissette Rodriguez*  
*Mojdeh Joy Sadeghpour*  
*Mikaila Marie Stinar*  
*Neil Strauss*  
*Tanner Lee Tompkins*  
*Reilly Skye Tunby*

## Master of Science Land Resources & Environmental Sciences

*Zane Ann Ashford*  
*Daniel Chichinsky*  
*Skye Ilan Keeshin*  
*Elizabeth Mohr*  
*Colter Mumford*  
*Henry Stowell*  
*Morgan Keith Suddreth*

## Master of Science Land Rehabilitation

*Richard Herman Schonenberg*

## Doctor of Philosophy Ecology & Environmental Sciences

*Sarah Kathleen Fogg*  
*Caitlin Mayernik*  
*Colter Mumford*  
*Meryl Storb*

## 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

