

# Jackson R. Strand

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Early career professional and PhD student in Ecology & Environmental Sciences at Montana State University, with a background in entomology and agroecology. My work integrates chemical ecology, host-herbivore interactions, and invasive species management, currently focusing on the biological control of yellow and Dalmatian Toadflax. Experienced in volatile analysis, life table studies, and community ecology, with a strong record of publications, presentations, and scientific leadership.  
More information is available at [www.jackson-strand.com](http://www.jackson-strand.com)

## EDUCATION

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PhD	<b>Montana State University</b> Ecology & Environmental Sciences Department of Land Resources & Environmental Sciences Committee: Dr. Robert Peterson, Dr. David Weaver, Dr. Sharlene Sing, Dr. William Wetzell	2025 - present
MSc	<b>Montana State University</b> Entomology Department of Land Resources & Environmental Sciences Committee: Dr. David Weaver (co-chair) Dr. Tracy Sterling (co-chair) Dr. Robert Peterson	2021 - 2024
BSc	<b>University of Minnesota, Twin Cities</b> Major: Biology Minor: Marine Biology	2013 - 2017

## PUBLICATIONS

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1. Strand JR, Peterson RKD, Sterling TM, Weaver DK. 2025. Sensory and behavioral responses of braconid parasitoids to changes in volatile emissions induced by wheat stem sawfly (Hymenoptera: Cephidae) larval feeding in winter wheat and smooth brome. *Journal of Insect Science*. 25(2). DOI: [10.1093/jisesa/ieaf016](https://doi.org/10.1093/jisesa/ieaf016)
2. Strand JR, Peterson RKD, Sterling TM, Weaver DK. 2024. Agroecological importance of smooth brome in managing wheat stem sawfly (Hymenoptera: Cephidae) via associated braconid parasitoids. *Journal of Economic Entomology*. 1-11. DOI: [10.1093/jee/toae246](https://doi.org/10.1093/jee/toae246)

## HONORS & AWARDS

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<b>Extreme Biofilms NRT Program SEED Grant (\$1,500)</b> Extreme Biofilms NRT, Montana State University Awarded for the proposal “ <i>Mapping Biocontrol Success: Drone NDVI Monitoring of Invasive Toadflax in Post-Fire Montana Ecosystems</i> ”	2025
<b>Angus and Anne McMillan Family Agriculture Scholarship (\$1,200)</b> Montana State University	2025
<b>Open Access Author Fund (\$1,736)</b> Montana State University Library	2025

Funded the publication of <i>Strand et al. 2025</i>	
<b>NFBC 2025 Student Scholarship</b>	2025
National Forum on Biological Control, Annapolis, MD	
<b>Graduate Land Grant Excellence Award</b>	2024
Montana State University	
<b>Open Access Author Fund (\$3,296)</b>	2024
Montana State University Library	
Funded publication of <i>Strand et al. 2024</i>	
<b>President's Prize – 2<sup>nd</sup> Place Speaker (\$50)</b>	2023
Entomology 2023, National Harbor, MD	
Entomological Society of America	
<b>Student Scholar Travel Award (\$500)</b>	2023
College of Agriculture, Montana State University	
<b>1<sup>st</sup> Place Speaker</b>	
2023 LRES GSO Colloquium	2023
LRES Graduate Student Organization, Montana State University	
<b>Montana Grains Foundation Scholarship (\$2,500)</b>	2022
Montana Grain Growers Association	
<b>Professional Advancement Grant (\$500)</b>	2021
The Graduate School, Montana State University	

## SEMINARS & PRESENTATIONS (underline = presenter)

### Contributed presentations at scientific meetings

1. SE Sing, **Strand JR**, Peterson RKD, Weaver DK. 2025. Evaluating Host Preferences in Biological Control: Behavioral and Electrophysiological Responses of *Mecinus janthinus* and *M. janthiniformis* to Invasive Toadflax Species. National Forum on Biological Control Conference. Annapolis, MD.
2. **Strand JR**, Peterson RKD, Sterling TM, Weaver DK. 2024. Agroecological importance of smooth brome in managing wheat stem sawfly (Hymenoptera: Cephidae) via its associated braconid parasitoids. Session: Grad Competition, Plant-Insect Ecosystems: IPM – General and Field Crops. Annual Meeting of the Entomological Society of America, Phoenix, AZ.
3. **Strand JR**, Weaver DK, Sterling TM, Peterson RKD. 2024. The role of chemical ecology and agroecological importance of smooth brome in biological control of the wheat stem sawfly by native parasitoids. Masters of Entomology Defense. Montana State University, Bozeman, MT.
4. Sing SE, Ward SM, Peterson RKD, **Strand JR**, Friesenhahn E, Hofland M, Hubbard CE, Randall CB, Weaver DK. 2024. *Biological control of hybrid toadflax: insights from chemical ecology*. National Forum on Biological Control Conference. Annapolis, MD.
5. **Strand JR**, Weaver DK, Sterling TM, Peterson RKD. 2023. Using organic volatile compounds to assess the relationship between wheat stem sawfly, parasitoids, and smooth brome. Session: Grad Competition, Plant-Insect Ecosystems: Chemical Ecology 2. Annual Meeting of the Entomological Society of America, National Harbor, MD. **Second place in section.**
6. **Strand JR**, Weaver DK, Sterling TM, Peterson RKD. 2023. The importance of smooth brome and parasitoids in wheat stem sawfly biocontrol. 2023 Land Resources and Environmental Sciences Graduate Student Organization Research Colloquium. Montana State University, Bozeman, MT. **First place overall.**
7. **Strand JR**, Weaver DK, Sterling TM, Peterson RKD. 2022. Using organic volatile compounds to assess the relationship between wheat stem sawfly, parasitoids, and smooth brome. Session: Grad Competition, Plant-Insect Ecosystems: Chemical Ecology 1. Annual Meeting of the Entomological Society of America. Vancouver, BC, Canada.

8. **Strand JR**, Weaver DK, Sterling TM, Peterson RKD. 2022. Importance of parasitoids and smooth brome for integrated pest management of wheat stem sawfly. 2022. Land Resources and Environmental Sciences Graduate Student Organization Research Colloquium. Montana State University, Bozeman, MT.
9. **Strand JR**, Weaver DK, Sterling TM, Peterson RKD. 2021. Importance of parasitoids and smooth brome for integrated pest management of wheat stem sawfly. Session: Plant Insect-Ecosystems: IPM – General. Annual Meeting of the Entomological Society of America, Denver, CO.

### Invited Guest Lectures

1. **Strand JR**. Integrated Pest Management. ENSC 110: Land Resources and Environmental Sciences. Montana State University. Instructor: Frank Dougher. October 2025.
2. **Strand JR**. Introduction to Insect Identification and Sampling. BIOB 260: Principals of Biological Diversity. Montana State University. Instructors: Erin Teichroew and Chris Larson. August 2025.
3. **Strand JR**. Can Bugs Help Us? ENSC 210: Role of Plants in the Environment. Instructor: Will Wetzel. March 2025.

### Workshops

1. Understanding Wheat Stem Sawfly. 2022 Integrated Pest Management Workshop. Montana State University, Bozeman, MT.

## **CO-HOSTED ACADEMIC EVENTS**

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LEPS 2025. Hosted by the Land Resources and Environmental Sciences Graduate Student Organization. April 2025. Montana State University, Bozeman, MT.

- Chair of the organizing group – the LRES Graduate Student Organization
- Showcased graduate and undergraduate research in environmental and plant science
- [Link to website](#)

2024 LRES-PSPP Student Research Symposium. Hosted by the Land Resources and Environmental Sciences Graduate Student Organization. April 2024. Montana State University, Bozeman, MT.

- Emcee of the event and co-chair of the LRES Graduate Student Organization
- Showcased graduate and undergraduate research in environmental and plant science
- [Link to website](#)

2023 LRES GSO Colloquium. Hosted by the Land Resources and Environmental Sciences Graduate Student Organization. April 2023. Montana State University, Bozeman, MT.

- Co-chair of the LRES Graduate Student Organization
- Showcased graduate and undergraduate research in environmental and land resource science

2022 LRES Colloquium. Hosted by the Land Resources and Environmental Sciences Graduate Student Organization. April 2022. Montana State University, Bozeman, MT.

- Treasurer of the LRES Graduate Student Organization
- Showcased graduate and undergraduate research in environmental and land resource science

## **TEACHING**

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### Teaching Assistant

**Integrated Pest Management (TA), 3 credits (AGSC 401)**

Fall 2023, 20 undergraduates, 10 graduate students

Online course taught by Dr. David Weaver

**Integrated Pest Management (TA), 3 credits (AGSC 401)**

Fall 2025, 25 undergraduates, 10 graduate students

Online course taught by Dr. David Weaver

Invited Guest Lecturer

**Role of Plants in the Environment (ENSC 210)**

Spring 2025, 3 credits

“Can Bugs Help Us?”

Course taught by Dr. Will Wetzel

Montana State University

**Principals of Biological Diversity (BIOB 260)**

Fall 2025, 5 credits

“Introduction to Insect Identification and Sampling”

Course taught by Erin Teichroew and Chris Larson

Montana State University

**Land Resources and Environmental Sciences (ENSC 110)**

Fall 2025, 3 credits

“Integrated Pest Management”

Course taught by Frank Dougher

Montana State University

## **SERVICE**

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Peer Review Activity

Journal of Environmental Toxicology

2025 - present

Journal of Environmental Entomology

2024 - present

Society Memberships

LRES Graduate Student Organization (Co-chair)

2022 - 2025

LRES Graduate Student Organization (Treasurer)

2021 - 2022

Entomological Society of America

2021 - present

Montana Grain Growers Association

2022 - present

Active Volunteer

Friends of Hyalite

2025 - present

Southwest Montana Mountain Bike Association

2021 - present

Gallatin Watershed Council

2021 - present

Gallatin Valley Land Trust

2021 - present

Lake Elmo Regional Park Invasive Species Removal

2020 - 2021

## **EMPLOYMENT HISTORY**

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**Pace Analytical- Onsite at 3M – Regulatory IT Analyst**  
(Maplewood, MN)

2017 - 2021

- Provided digital support between 3M employees and the 3M Chemical Data Management System (CDMS).
- Integrated, tested, and supported user and data interface between CDMS and SAP.
- Generated, designed, and communicated unique, detailed reports of material information using SQL, Microsoft Excel, and SAP.

**Metropolitan Mosquito Control District – Mosquito Inspector**  
(Oakdale, MN)

2017

- Worked on a team to collect and analyze mosquito larvae samples from wetland areas across the St. Paul metropolitan area.
- Independently maintained low adult mosquito populations in Oakdale, MN by surveying and treating both adults and larvae.

**Leatherdale Equine Center – Barn Maintenance Crew**  
(St. Paul, MN)

2015 - 2017

- Maintained healthy conditions for equine patients at the University of Minnesota Horse Veterinary Center and Large Animal Hospital.
- Trained and managed new members of the crew.