

Last Updated: Nov 11, 2025

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Education

PhD Ecology & Environmental Science | Montana State University

2025 - present

- Graduate Committee: Dr. Robert Peterson (co-chair), Dr. David Weaver (co-chair), Dr. Sharlene Sing, Dr. William Wetzel

MS Entomology | Montana State University

2021 - 2024

- Graduate Committee: Dr. David Weaver (co-chair), Dr. Tracy Sterling (co-chair), Dr. Robert Peterson
- Graduate Certificate in Applied Statistics

BS Biology | University of Minnesota - Twin Cities

2013 - 2017

- Minor: Marine Biology

PhD Ecology & Environmental Science

Montana State

University 2025–present \ Graduate Committee: Dr. Robert Peterson (co-chair), Dr. David Weaver (co-chair), Dr. Sharlene Sing, Dr. William Wetzel

Publications

Check out my Publications page

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

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*. 117(6): 2344–2354. DOI: 10.1093/jee/toae246

Honors & Awards

Extreme Biofilms NRT Program SEED Grant (\$1,500)

2025

- Extreme Biofilms NRT, Montana State University
- Awarded for the proposal “*Mapping Biocontrol Success: Drone NDVI Monitoring of Invasive Toadflax in Post-Fire Montana Ecosystems*”

Angus and Anne McMillan Family Agriculture Scholarship (\$1,200)

2025

- Montana State University

Open Access Author Fund(\$1,736)

2025

- Montana State University Library
- Funded the publication of *Strand et al. 2025*

NAISMA 2025 Student Scholarship

2025

- National Forum on Biological Control, Annapolis, MD

Graduate Land Grant Excellence Award

2024

- The Graduate School, Montana State University

Open Access Author Fund(\$3,296)

2023

- Montana State University Library
- Funded the publication of *Strand et al. 2024*

President’s Prize - 2nd Place Speaker

2023

- Entomology 2023, National Harbor, MD
- Entomological Society of America

Student Scholar Travel Award (\$500)

2023

- College of Agriculture, Montana State University

1st Place Speaker

2023

- 2023 LRES GSO Student Research Colloquium
- LRES Graduate Student Organization, Montana State University

Montana Grains Foundation Scholarship (\$2,500)

2022

- Montana Grain Growers Association

Graduate Professional Advancement Grant (\$500)

2022

- The Graduate School, Montana State University

Seminars & Presentations

Check out my Talks & Presentations page

Contributed presentations at scientific meetings

SE Sing, Strand JR, Peterson RKD, Weaver DK. 2025. Understanding Host Preference in *Mecinus janthinus* and *M. janthiniformis*: Implications of Hybridization for Effective Biological Control. National Forum on Biological Control Conference. Annapolis, MD.

Strand JR, Sterling TM, Peterson RKD, Weaver DK. 2025. Agroecological Importance of Smooth Brome in Hosting Braconid Parasitoids Associated with the Insect Pest Wheat Stem Sawfly. Annual Meeting of the Western Society of Weed Science. Seattle, WA. (poster)

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.

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.

Sing SE, Ward SM, Peterson RKD, Strand JR, Friesenhahn E, Holland 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.

Strand JR. 2024. How smooth brome and parasitoids can aid in the biological control of wheat stem sawfly. Montana Wheat and Barley Committee - March Madness. Montana State University, Bozeman, MT.

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.**

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.**

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.

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.

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

Strand JR. Can Bugs Help Us? ENSC 210: Role of Plants in the Environment. Montana State University. Instructor: Will Wetzell. March 2025.

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.

Strand JR. Integrated Pest Management. ENSC 110: Land Resources and Environmental Sciences. Montana State University. Instructor: Frank Dougher. October 2025.

Workshops

Understanding Wheat Stem Sawfly. 2022 Integrated Pest Management Workshop, “MSU Extension IPM Workshop: Diagnosing Plant Health Problems” Montana State University, Bozeman, MT.

Teaching

Teaching Assistant

Integrated Pest Management (AGSC 401)

Fall 2023, 3 credits, 20 undergraduates, 10 graduate students

Online course taught by Dr. David Weaver

Montana State University

Integrated Pest Management (AGSC 401)

Fall 2025, 3 credits, 25 undergraduates, 10 graduate students

Online course taught by Dr. David Weaver

Montana State University

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

Peer Review Journal Activity

Journal of Environmental Entomology

2024 - present

Journal of Environmental Toxicology and Chemistry

2025 - present

Society Memberships

Montana State University Graduate Employee Organization (LRES Steward)

2025 - present

LRES Graduate Student Organization (Co-chair)

2022 - present

LRES Graduate Student Organization (Treasurer)

2021 - 2022

Entomological Society of America

2021 - present

Montana Grain Growers Association

2022 - present

Active Community Volunteer

Southwest Montana Mountain Bike Association

2021 - present

Gallatin Watershed Council

2021 - present

Gallatin Valley Land Trust

2021 - present

Co-Hosted Events

LRES Graduate Student Organization Annual Symposium

LEPS 2025 Role: Chair

Location: Montana State University, Bozeman, MT

Date: April 7, 2025

Event website: LEPS 2025

2024 LRES-PSPP Student Research Symposium Role: Chair & event emcee Location: Montana State University, Bozeman, MT Date: April 18, 2024 [Hyperlink: 2024 Symposium](#)

2023 LRES Colloquium Role: Treasurer Location: Montana State University, Bozeman, MT Date: April 13, 2023

2022 LRES Colloquium Role: Treasurer Location: Montana State University, Bozeman, MT Date: April 29, 2022

Employment History

Pace Analytical - Onsite at 3M - Regulatory IT Analyst

2017 - 2021

(Maplewood, MN)

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 - Seasonal Mosquito Technician

2017

(Oakdale, MN)

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 Equin Center - Barn Maintenance Crew

2015 - 2017

(St. Paul, MN)

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.

Minnesota Youth Soccer Association - Youth Soccer Referee

2010 - 2021