

Macy K. Ricketts

Colorado State University | 1619 Campus Delivery, Fort Collins, CO, 80523, United States |
macy.ricketts@colostate.edu | www.macyricketts.com

I am a research scientist with strong scientific experimentation, science writing, and analytical skills. I am passionate about collaboration, education, and science communication.

EXPERIENCE

COLORADO STATE UNIVERSITY DEPARTMENT OF MICROBIOLOGY, IMMUNOLOGY AND PATHOLOGY

Fort Collins, Colorado | Research Scientist I, 2022-Present
Research Scientist, Microbial Ecology and Bioinformatics

FLATHEAD LAKE BIOLOGICAL RESEARCH STATION

Yellow Bay, Montana | Adjunct Instructor, Alpine Ecology, 2022-Present
University of Montana Summer Session Field Course Instructor

UNIVERSITY OF WYOMING MICROBIAL ECOLOGY COLLABORATIVE

Laramie, Wyoming | Graduate Researcher, July 2017 – December 2022
Experimentation, Education, and Outreach

MONTANA INSTITUTE ON ECOSYSTEMS

Missoula, Montana | Undergraduate Researcher, May 2016 - May 2017
Independent Microbiology Research in Glacier National Park

THE ECOLOGY OF BIRD LOSS PROJECT

Mangilao, Guam; Garapan, Saipan; Songsong, Rota | NSF Research for Undergraduates Scholar, June 2015 - August 2015
Independent Plant Ecology Research, Project Botanical Surveys

MONTANA TECHNOLOGICAL UNIVERSITY STUDENT NEWSPAPER THE TECHNOCRAT

Butte, Montana | Editor-in-Chief, January 2014 – May 2017
Journalism, Copy Editing, Hiring, Staff Management

MONTANA TECHNOLOGICAL UNIVERSITY DEPARTMENT OF BIOLOGICAL SCIENCES

Butte, Montana | Undergraduate Research Assistant, July 2014 – May 2015
Botany and Plant Ecology research, Apple Lab

THE UNIVERSITY OF KENTUCKY DEPARTMENT OF BIOLOGICAL SCIENCES

Glacier National Park, Montana | Undergraduate Research Assistant, August 2014
Cold Genomes Project, Hotaling Lab

DISTINCTLY MONTANA MAGAZINE

Kalispell, Montana | Freelance science writer and contributor, March 2015
Nature and climate change beat

THE LIVINGSTON ENTERPRISE

Livingston, Montana | General Assignments Reporter, June 2013 – August 2013

Investigative Journalism, Community Beat, Copy Editing

EDUCATION

UNIVERSITY OF WYOMING

Laramie, Wyoming

Ph.D. Ecology, November 2022

Microbial Ecology and Data Science

MONTANA TECHNOLOGICAL UNIVERSITY

Butte, Montana

B.S. Cellular and Molecular Biology, minor in Technical Communication

Highest honors

SELECTED PUBLICATIONS

Ricketts, M., 2025. Echoes of Tourism: Exploring the Ecological Effects of Habituation in Alpine Wildlife. Food, Energy, and Water (FEW) FMN, QUBES Educational Resources. doi:10.25334/ZWEC-WS97

Ricketts, M., Mackie, M., Kornfeld, M., Surovell, T., Minkley, T., Kelly, R., Shuman, B., and Ward, N., 2025. Variable microbial taxa importance in buried sediments at three archaeology sites in Wyoming. *In prep.*

Ricketts, M., 2022. Go Down in History: Variable Microbial Responses to Past and Present Environmental Conditions in Archaeological Soils. University of Wyoming.

Ricketts, M., Mackie, M., Kornfeld, M., Surovell, T., Kelly, R., and Ward, N., 2021. Structure of Fungal and Bacterial Communities in Archaeological Soils Could Inform Regional Biomarker Analysis and Paleoclimate Reconstruction. American Geophysical Union Annual Meeting, New Orleans, LA.

Ricketts, M., Ward, N., Mackie, M. and Surovell, T., 2021. Evaluating potential time signatures within extant microbial communities in stratified soils at the La Prele Mammoth site. Society for American Archaeology Annual Meeting, San Francisco, CA

Ricketts, M., Ward, N., Mackie, M., and Surovell, T., 2020. Microbial community structure within stratified soils at the La Prele Mammoth site. Society for American Archaeology Conference, Austin, TX

Ricketts, M., Ward, N., and Surovell, T., 2019. Analysis of microbial community structure in archaeological soils from the La Prele mammoth site. NSF-EPSCoR Annual Meeting, Columbia, SC

Ricketts, M., and Ward, N., 2019. DNA-based determination of microbial community structure in soils from the La Prele Mammoth site. Society for American Archaeology Meeting, Albuquerque, NM

Ricketts, M., Bayless, C., Black, M., and Pedulla, M., 2017. Structural differences between tape measure proteins of unique Actinobacteriophage clusters and two novel Montana Mycobacteriophages. SEA-Phages National Meeting, Howard Hughes Medical Institute, Sterling, VA

Apple, M. E., **Ricketts, M. K.**, Martin, A. C., & Moritz, D. J. (2022). Distance from Retreating Snowfields Influences Alpine Plant Functional Traits at Glacier National Park, Montana. In *Mountain Landscapes in Transition* (pp. 331-348). Springer, Cham.

Apple, M.E., **Ricketts, M.**, and Martin, A., 2019. Plant and microbial functional types at the snowfields and periglacial patterned ground of Glacier National Park. *Journal of Geographical Sciences*, 29(7): 1127-1141.

Ward, N., and **Ricketts, M.**, 2019. Genetic analysis of microbial community structure in soils from the Hell Gap Witness Block. Society For American Archaeology Conference, Albuquerque, NM

Apple, M.E. and **Ricketts, M.**, 2019. What drives the variation of plant functional traits on periglacial patterned ground and along elevational gradients? International Mountain Conference, Innsbruck, Austria

Apple, M.E., **Ricketts, M.**, and Carlson, L., 2015. Rhizomes and Roots of Rare Arctic-Alpine Snowfield Plants on the Edges of Retreating Snowfields at Glacier National Park, Montana. *Microscopy and Microanalysis* **21**(S3): 709-710.

TEACHING EXPERIENCE

Colorado State University Microbial Sequencing, MIP 270
Instructor, Fall 2023

Flathead Biological Research Station Alpine Ecology, BIO 416
Instructor, Alpine Ecology Field Course, Glacier National Park, ongoing

University of Wyoming Microbial Diversity and Ecology, ECOL 5540
Graduate Teaching Assistant | Instructor, Analysis and Programming Laboratory

University of Wyoming Introduction to Research and Analysis, LIFE 2100
Graduate Teaching Assistant | Assistant Instructor

Ellbogen Center for Teaching and Learning
Teaching and Learning Seminar Completion

University of Wyoming Learning Actively Mentoring Program (LAMP) Fellowship
Fellow, December 2020 – May 2022 | Teaching Certification

Undergraduate Research Mentor, Ward Lab
Aided undergraduate students in completing research at the University of Wyoming

COMMUNITY OUTREACH

COLORADO STATE UNIVERSITY CODING CLUB
Microbiology, Immunology and Pathology Department | Participant and Staff Advisor

PROGRAM FOR RESEARCH IN IMMUNOLOGY AND MICROBIOLOGY EDUCATION
Colorado State University | Network Member and Award Recipient

WYOMING BIODIVERSITY INSTITUTE COMMUNITY OUTREACH PROGRAM FOR STEAM
ENGAGEMENT (COPSE)

Wyoming | Resident Science Communicator, August 2021 – August 2022

Planned and carried out outreach programs for students and the public throughout the state

UNIVERSITY OF WYOMING PROGRAM IN ECOLOGY FINANCE COMMITTEE

Laramie, Wyoming | Committee member, May 2021—May 2022

Managed finances for program

UNIVERSITY OF WYOMING PROGRAM IN ECOLOGY CURRICULUM COMMITTEE

Laramie, Wyoming | Committee member, May 2020—May 2021

Aided professors in developing curriculum and class requirements for program

SCIENCE LOVES ART FERMENTATION FESTIVAL

Laramie, Wyoming | Event Planning Board Member, September 2020 – September 2021

Served as a ‘resident scientist’ and answered fermented-food related questions by the general public as a part of a nonprofit science education organization, Science Loves Art. Also helped to organize the event and secure sponsorships.

UNIVERSITY OF WYOMING CLUB TENNIS TEAM

Laramie, Wyoming | Travel Coordinator, May 2019 – May 2020

Coordinated practices and frequent out-of-state travel for over 150 team members. UW’s club tennis team was voted Club Sport of the Year in 2019 and achieved Tier 1 status that same year

UNIVERSITY OF WYOMING PROGRAM IN ECOLOGY ANNUAL RESEARCH SYMPOSIUM

Laramie, Wyoming | Event Organizer and Presenter, February 2019

Organized catering for lunch and dinner, event space, program of events, and silent auction items for annual research symposium for ~150 staff, students, and members of the public

WYOMING PRESS ASSOCIATION ANNUAL MEETING

Cheyenne, Wyoming | Science Journalism Panelist, January 2019

Discussed questions from area journalists on interviewing scientists, reporting science and developing storylines on science research

UNIVERSITY OF WYOMING PROGRAM IN ECOLOGY MENTORING PROGRAM

Laramie, Wyoming | Program Organizer, May 2018-May 2019

Organized and planned events for mentoring program participants

WYOMING STATE SCIENCE FAIR

Laramie, Wyoming | Science Fair Judge, March 2018

Grades 9-12 Microbiology Division

ECOFLIGHT

Jackson, Wyoming | Participating Journalist, September 2017

Traveled to seven different counties in Wyoming via Cessna prop airplane to speak with county legislators and community members on different issues surrounding the preservation of Wilderness Study Areas in their county. Published an article in a Wyoming quarterly publication.

“PIKAS, POPPIES AND LILIES: IN A CLIMATE OF CHANGE” PHOTOGRAPHY EXHIBITION

Butte, Montana | Photographer and Artist, January 2015

Displayed a collection of 18 original photos about 2014 Glacier National Park research project on campus to illustrate the effects of climate change on alpine flora and fauna in Glacier in order to raise awareness for the issue

AWARDS AND FELLOWSHIPS

** denotes national award*

2016 Barry M. Goldwater Scholarship Honorable Mention*

2018 University of Wyoming Dean's Award Recipient

2018 University of Wyoming Arts & Sciences Seed Grant Recipient

2019 University of Wyoming Botany Department Service Award

2019 Roy J. Shlemon Center for Quaternary Studies Research Award

2020 Aven Nelson Fellowship for Outstanding Research

2020 University of Wyoming Excellence in Teaching Award

2021 Roy J. Shlemon Center for Quaternary Studies Research Award

2021 Aven Nelson Fellowship for Outstanding Research

2024 Colorado State University Discipline-Based Education Research Award

PROFESSIONAL SOCIETY MEMBERSHIPS

American Geophysical Union

Society for American Archaeology

International Society for Microbial Ecology

ADDITIONAL SKILLS AND EXPERIENCE

- 5x Montana State FFA Champion in Native Plant Identification and Range Management 2009-2013
- Experience in scanning electron, transmission electron, phase contrast, and light microscopy
- PADI certified open water SCUBA diver
- Proficient in the use of Adobe Photoshop and InDesign
- Frequently use R, python, C++ and Perl programming language for daily research tasks
- Excellent writing, public speaking and interpersonal skills
- Significant backcountry hiking experience

REFERENCES

Available upon request