E. Ashley Shaw

Address: Institute of Ecology and Evolution
University of Oregon
Eugene, Oregon 97403-5289

Website: https://ashleyshaw.netlify.app
Phone: +1 (502) 468-6540
Email: ashleysh@uoregon.edu

EDUCATION

2018 PhD, Ecology, Colorado State University, Fort Collins, Colorado
Dissertation: Trophic relationships in soil communities: How abiotic stress affects biotic interactions in the McMurdo Dry Valleys, Antarctica

2013 MSc, Ecology, Colorado State University, Fort Collins Colorado
Thesis: Fire management effects on C flow from root litter to the soil community in a tallgrass prairie

2010 BA (magna cum laude), Biology, Bellarmine University, Louisville, Kentucky

PROFESSIONAL EXPERIENCE

2018-present Postdoctoral Scholar, Institute for Ecology and Evolution, University of Oregon
2010-2018 Graduate Research Assistant, Colorado State University
2010, 2015, 2016 Graduate Teaching Assistant, Colorado State University
2010 Microbiology Intern, Skidaway Institute of Oceanography

PEER-REVIEWED PUBLICATIONS (*denotes student mentee author)

14 published articles, 1 article in press, 2 articles in review
~740 citations; h-index = 11; i10 index = 11
ORCID: https://orcid.org/0000-0002-4768-3465

15. **Shaw, EA,** CT White*, WL Silver, KN Suding, and LM Hallett. In press at *Journal of Ecology*. Intra-annual precipitation effects on annual grassland productivity and phenology are moderated by plant community responses.

14. Hernández, E*, **EA Shaw**, L Aoyama*, A Brambila*, C Niederer, SB Weiss, and LM Hallett. 2021. *Restoration Ecology*. Fire versus grazing as tools to restore serpentine grasslands under global change.

13. Ankrom, KE, ALC Franco, SJ Fonte, LA Gherardi, CM de Tomasel, WS Andriuzzi, **EA Shaw**, OE Sala, and DH Wall. 2020. Ecto- and endoparasitic nematodes differ in response to precipitation across a temporal, but not a spatial gradient in western US grasslands. *Oecologia*. https://doi.org/10.1007/s00442-020-04708-7

12. **Shaw, EA** and DH Wall. 2019. Biotic interactions in experimental Antarctic soil microcosms vary with abiotic stress. *Soil Systems*. 3 (3). https://doi.org/10.3390/soilsystems3030057

11. Franco, ALC, LC Gherardi, CM de Tomasel, WS Andriuzzi, KE Ankrom, **EA Shaw**, EM Bach, OE Sala, and DH Wall. 2019. Drought suppresses soil predators and promotes root herbivores in mesic, but not in xeric grasslands. *PNAS*. https://doi.org/10.1073/pnas.1900572116

10. **Shaw, EA,** CM Boot, JM Moore, DH Wall, and J Baron. 2019. Nitrogen addition affects the soil nematode community structure and maturity in a subalpine forest. *Soil Biology and Biochemistry*. 130: 177-184. https://doi.org/10.1016/j.soilbio.2018.12.007

9. **Shaw, EA,** BJ Adams, JE Barrett, WB Lyons, RA Virginia, DH Wall. 2018. Stable C and N isotope ratios reveal soil food web structure and identify the nematode Eudorylaimus antarcticus as an omnivore-predator in Taylor Valley, Antarctica. *Polar Biology*. https://doi.org/10.1007/s00300-017-2243-8

8. García-Palacios, P, **EA Shaw**, DH Wall, S Hättenschwiler. 2017. Contrasting mass-ratio vs. niche complementarity effects on litter C and N loss during decomposition along a regional climatic gradient. *Journal of Ecology*. 105: 968–978. doi:10.1111/1365-2745.12730

7. **Shaw, EA**, K Denef, C Milano de Tomasel, MF Cotrufo, and DH Wall. 2016. Fire affects root decomposition, soil food web structure and carbon flow in tallgrass prairie. *SOIL*. DOI: 10.5194/soil-2-199-2016

6. Andrés, P, JC Moore, RT Simpson, G Selby, F Cotrufo, K Denef, ML Haddix, **EA Shaw**, C Milano de Tomasel, R Molowny-Horas, DH Wall. 2016. Soil food web stability in response to grazing in a semi-arid prairie: the importance of soil heterogeneity. *Soil Biology and Biochemistry*. DOI: 10.1016/j.soilbio.2016.02.014

5. García-Palacios, P, **EA Shaw**, DH Wall, S Hättenschwiler. 2016. Temporal dynamics of biotic and abiotic drivers of litter decomposition. *Ecology Letters*. DOI: 10.1111/ele.12590

4. Soong, JL, ML Vandegehuchte, AJ Horton, UN Nielsen, K Denef, **EA Shaw**, C Milano de Tomasel, W Parton, DH Wall, and MF Cotrufo. 2016. Soil microarthropods support ecosystem productivity and soil C accrual: evidence from a litter decomposition study in the tallgrass prairie. *Soil Biology and Biochemistry*. 92: 230 – 238. DOI: 10.1016/j.soilbio.2015.10.014

3. García-Palacios, P, M Vandegehuchte, **EA Shaw,** M Dam, KH Post, KS Ramirez, ZA Sylvain, C Milano de Tomasel, and DH Wall. 2015. Are there links between responses of soil microbes and ecosystem functioning to elevated CO2, N deposition and warming? A global perspective. *Global Change Biology*, 21: 1590–1600. DOI: 10.1111/gcb.12788

2. Ramirez, KS, JW Leff, A Barberan, ST Bates, J Betley, TW Crowther, EF Kelly, EE Oldfield, **EA Shaw**, C Steenbock, MA Bradford, DH Wall, and N Fierer. 2014. Biogeographic patterns in below-ground diversity in New York City's Central Park are similar to those observed globally. *Proceedings of the Royal Society B*. http://dx.doi.org/10.1098/rspb.2014.1988

1. Cotrufo, MF, T Nguyen, J Soong, ML Vandegehuchte, K Denef, UN Nielsen, **EA Shaw**, Z Sylvain, C Milano de Tomasel, and DH Wall. 2014. Napthalene addition to soil surfaces: an effective method to suppress soil microarthropods with negligible direct effects on soil C dynamics. *Applied Soil Ecology*, 74: 21-29. DOI: 10.1016/j.apsoil.2013.09.008

Manuscripts in review (full text available):
Lee JR, A Terauds, J Carwardine, JD Shaw, RA Fuller, HP Possingham, SL Chown, P Convey, N Gilbert,KA Hughes, E McIvor, S Robinson, Y Ropert-Coudert, D Bergstrom, EM Biersma, C Christian, D Cowan, Y Frenot, S Jenouvrier, L Kelley, MJ Lee, H Lynch, B Njåstad, P Ortuzar, R Roura, **EA Shaw**, D Stanwell-Smith, M Tsujimoto, A Quesada, DH Wall, A Wilmotte, I Chadès. In review. Threat management priorities to conserve Antarctic biodiversity.

Shaw, EA and LM Hallett. In review. Drought seasonality drives plant functional diversity's effects on productivity and alters the retention of soil carbon and nutrients.

Manuscripts in preparation (full draft available):
Shaw, EA and DH Wall. Soil food web complexity varies with carbon source across the McMurdo Dry Valley landscape.

Muehleisen, AJ, CT White*, LS Shoemaker, K Suding, **EA Shaw,** LM Hallett. Fitness differences override variation-dependent coexistence mechanisms in California grasslands.

EA Shaw, H Stover, CT White*, W Silver, K Suding, and LM Hallett. Rangeland compost amendments increase forage production and improve resilience to drought**.**

GRANTS AND AWARDS

(Total amount awarded to date: $184,782)

Pending. USDA National Institute of Food and Agriculture, program area priority: Soil Health (written by Shaw; Co-PDs Lauren Hallett, Whendee Silver and Rebecca Ryals). "Do Soil Biotic Communities Mediate The Effect Of Compost Amendments On Rangeland Soil Carbon?" *$750,000*

UO Biology Department's Diversity, Equity and Inclusion Grant (written and lead by Shaw; Co-PI Lauren Hallett). "Ensuring safe, inclusive, and equitable field work experiences through field safety training" *$1,000*

USDA National Institute of Food and Agriculture Postdoctoral Fellowship (2020) *$164,131*
"Effects of land management on belowground ecosystem functions: A soil ecology approach"

AntEco Committee Travel Award for meeting attendance at the Scientific Committee for Antarctic Research (SCAR) meeting in Belgium (2018) *$1000*

Antarctic Science International Bursary to early career researchers; international collaboration to spatially model soil habitat & prioritize Antarctic dry valleys' conservation areas. PIs: **EA Shaw** & J Lee, Univ. Queensland, AUS (2017) *$4855*

National Science Foundation Travel Awards to attend Scientific Committee for Antarctic Research (SCAR) meetings in Switzerland, Belgium, Malaysia, & New Zealand (2018, 2017, 2016, 2014) *$6888 total*

Graduate Degree Program in Ecology Travel Awards at CSU for science meetings (2018, 2017, 2016, 2013) *$2025 total*

Natural Resource Ecology Laboratory Graduate Student Travel Award; Awarded at Colorado State University for SCAR meeting in New Zealand (2014) *$500*

Best Student Paper, runner-up; Society of Nematologists Annual Meeting, Knoxville, Tennessee (2013)

Department of Biology Graduate Student Travel Award, CSU (2012) *$633*

Programs for Research and Scholarly Excellence Fellowship; Natural Resource Ecology Lab, CSU (2011) *$2500*

Graduate Fellowship; Graduate Degree Program in Ecology, Colorado State University (2011) *$750*

ACADEMIC SERVICE AND LEADERSHIP

2021 Certified Prevention Trainer, Building a Better Fieldwork Future (BBFF): Preventing Sexual Harassment and Assault in Field Settings workshop

2019-2020 Application Reviewer, Inspiring Girls Expeditions

2018-2019 Seminar Speaker Selection Committee Member, Institute for Ecology and Evolution
University of Oregon

2015-2017 Graduate Student Representative for the McMurdo Dry Valleys, Antarctica LTER site
NSF Long Term Ecological Research (LTER) program

2016, 2017 Lead organizer, McMurdo LTER Annual Graduate Student Showcase
- Launched an annual virtual meeting for McMurdo LTER graduate students to discuss their research; this annual meeting is currently ongoing
- Organized 19 speakers from 8 universities (2016) & 18 speakers from 9 universities (2017)

2016 Organizing committee member, McMurdo Dry Valleys Environmental Stewardship Workshop
- NSF funded workshop on human impact in McMurdo Dry Valleys, Antarctica
- Final report: https://mcmlter.org/sites/default/files/Priscu_MDV_2016_workshop_FINAL.pdf

2013-2016 Ecology committee student representative, Society of Nematologists

2011-2013 Student committee co-chair, Society of Nematologists

2010-2012 Outreach committee member, Front Range Student Ecology Symposium, Colorado State Univ.

2011 Student Volunteer, Ecological Society of America Annual Meeting, Austin, TX

PROFESSIONAL DEVELOPMENT

2019 Diversity Training Workshop and Research Symposium, University of Oregon Postdoctoral Association, University of Oregon

2019 Scientific Literacy Journal Club, Scientific Literacy Program, University of Oregon
- *Teaching Undergraduate Science: A Guide to Overcoming Obstacles in Student Learning*

2019 Lab Lit Book Club, Scientific Literacy Program, University of Oregon

2019 Teaching Engagement Program classroom discussion workshop series, Center for Academic Learning, University of Oregon
- Strategies for Discussion Leaders
- Advanced Strategies for Discussion Leaders: Difficult Dialogues
- Critical Inquiry and Ethical Dialogue

2018 UC Sierra Foothills Research and Extension Center, Workshop and Demonstration on Rangeland Compost Research Trials

2017 **Invited participant**, Priority Threats Management Workshop, Leuven, Belgium
- Assessed impacts on Antarctic biology under climate change scenarios; SCAR funded

2016	Getting to know geographic data, GIS Workshop, Geospatial Centroid, Colorado State Univ.
2016	Move beyond simple R scripts: an introduction to R Markdown workshop, Colorado State Univ.
2015	Story mapping workshop, Geospatial Centroid, Colorado State University
2014	Science Communication Workshop, Association for Polar Early Career Scientists Scientific Committee for Antarctic Research conference Auckland, New Zealand
2011	Nematode identification course (Instructor: T. Bongers), Wageningen Univ., The Netherlands • Learned terrestrial soil/plant nematode species' morphology and taxonomy

INVITED AND CONTRIBUTED ORAL PRESENTATIONS (*denotes student mentee author)

EA Shaw, H Stover, CT White*, W Silver, K Suding, and LM Hallett. 2021. The effects of compost amendments on rangeland ecosystem services. Ecological Society of America annual meeting.

Muehleisen, AJ, CT White*, LS Shoemaker, K Suding, **EA Shaw,** LM Hallett. 2021. Fitness differences override variation-dependent coexistence mechanisms in California grasslands. Ecological Society of America annual meeting.

EA Shaw. 2020. Resource Availability and Soil Trophic Interactions: The Role of Nematode Communities in Soil Carbon Storage. Soil Science Society of America. **Invited**. Symposium: Unsung Heroes of the Underworld: How Viruses, Biocrusts, and Nematodes Contribute to Nutrient Cycling and Carbon Sequestration

EA Shaw, E Hernández*, L Aoyama*, A Brambila*, C Niederer, SB Weiss, and LM Hallett. 2020. Fire and grazing as restoration tools in a California serpentine grassland impacted by global change: Evidence from long-term monitoring data. Ecological Society of America annual meeting. **Invited**. Organized Session: Leveraging Monitoring Data to Improve Restoration Forecasts.

Shaw, EA, JR Lee, A Terauds, and DH Wall. 2018. Habitat suitability and conservation of McMurdo Dry Valley soil biodiversity. POLAR 2018: Scientific Committee for Antarctic Research Open Science Conference, Davos, Switzerland.

Shaw, EA, BJ Adams, JE Barrett, RA Virginia, and DH Wall. 2017. Does the stress gradient hypothesis apply to soil food webs? Testing the biotic interactions of soil nematodes along a salinity gradient at the McMurdo Dry Valleys Long Term Ecological Research site. Ecological Society of America annual meeting, Portland, OR.

Shaw, EA, BJ Adams, RA Virginia, and DH Wall. 2016. Identifying the carbon sources of the soil food webs in the McMurdo Dry Valleys, Antarctica, Scientific Committee for Antarctic Research Open Science Conference, Kuala Lumpur, Malaysia.

Shaw, EA, BJ Adams, RA Virginia, and DH Wall. 2016. Identifying the carbon sources of soil food webs in the McMurdo Dry Valleys, Antarctica, Ecological Society of America annual meeting, Fort Lauderdale, FL.

Shaw, EA, MF Cotrufo and DH Wall. 2013. Biomass estimates of nematode energy channels indicate carbon flow for decomposition studies. Society of Nematologists Annual Meeting, Knoxville, TN.

Shaw, EA, K Denef, MF Cotrufo, DH Wall. 2012. Tracing Carbon Flow through the Soil Nematode Food Web: Do Long-Term Burning Practices Affect Carbon Trophic Dynamics in Grasslands? Society of Nematologists Annual Meeting, Savannah, GA.

Shaw, EA, K Denef, MF Cotrufo, DH Wall. 2012. Following Carbon through the Soil Food Web: Do Long-Term Burning Practices Affect Carbon Trophic Dynamics in Grasslands? Ecological Society of America Annual Meeting, Portland, OR.

Vandegehuchte, ML, UN Nielsen, **EA Shaw**, JL Soong, ZA Sylvain, CM Tomasel, MF Cotrufo, DH Wall. 2012. Variation in abundance of soil mesofauna trophic groups with depth, season, and litter quality: Implications for the study of decomposition. Ecological Society of America Annual Meeting, Portland, OR.

Shaw, EA, K Denef, MF Cotrufo, DH Wall. 2012. Following Carbon through the Soil Food Web: Do Long-Term Burning Practices Affect Carbon Trophic Dynamics in Grasslands? Front Range Student Ecology Symposium, Fort Collins, CO.

CONTRIBUTED POSTER PRESENTATIONS (*denotes student mentee author)

Shaw, EA, and DH Wall. 2018. Elevated soil salinity alters biotic interactions in the McMurdo Dry Valleys. POLAR 2018: Scientific Committee for Antarctic Research Open Science Conference, Davos, Switzerland.

Shaw, EA, A Thompson, Z Aanderud, BJ Adams, and DH Wall. 2017. The nematode, *Scottnema lindsayae*, rapidly incorporated a new source of carbon in a microcosm experiment in Taylor Valley, Antarctica. Scientific Committee for Antarctic Research Biology Meeting, Leuven, Belgium.

J Baron, SM Advani, J Allen, C Boot, K Denef, S Denning, E Hall, JC Moore, H Reuth, MG Ryan and **EA Shaw**. 2016. A Long-term Forest Fertilization Experiment to Understand Ecosystem Responses to Atmospheric Nitrogen Deposition. American Geophysical Union, San Francisco, CA.

Shaw, EA, BJ Adams, RA Virginia, and DH Wall. 2015. Exploring the soil food web structure and carbon dynamics of the McMurdo Dry Valleys LTER, Antarctica. Long Term Ecological Research All Scientist Meeting, Estes Park, CO.

Shaw, EA, BJ Adams, RA Virginia, and DH Wall. 2014. Dry valley soil food web structure and complexity is related to decadal trends in climate variation. Scientific Committee for Antarctic Research Open Sc. Conference, Auckland, NZ

Cox, DJ*, CM de Tomasel, **EA Shaw**, and DH Wall. 2013. Laboratory culture of nematode *Panagrolaimus davidi* from Cape Royds, Antarctica. Celebrate Undergraduate Research and Creativity, CSU, Fort Collins, CO.

de Tomasel, CM, KL Ivanovich*, DJ Cox*, **EA Shaw**, DH Wall. 2012. Establishing Standardized Methods For Analysis of Carbon in Soil Nematodes and Mites. Society of Nematologists Annual Meeting, Savannah, GA.

Shaw, EA, DH Wall, MF Cotrufo, JL Soong, and UN Nielsen. 2011. Do long-term burning practices affect carbon and nitrogen flow dynamics from grassland root litter through the soil food web? Ecological Society of America Annual Meeting, Austin, TX.

Shaw, EA, DH Wall, MF Cotrufo, JL Soong, and UN Nielsen. 2011. Do long-term burning practices affect carbon and nitrogen flow dynamics from grassland root litter through the soil food web? Grasslands in a Global Context Symposium, Konza Prairie Biological Station, Manhattan, KS.

TEACHING AND MENTORING EXPERIENCE

University of Oregon, Experiencing Science Practices through Research to Inspire Teaching (ESPRIT) 2019 & 2021
Project Mentor for two undergraduate summer interns

- Helped train highly qualified science teachers by mentoring summer science research experiences for two interns, supporting overall program goals to recruit and develop innovative and inclusive K-12 science teachers
- 2019 mentee won ESPRIT's competitive full-tuition M. Ed. and is currently teaching in a high need district

University of Oregon, Environmental Studies Program, Eugene, OR Fall 2018 & 2019
Guest Lecturer for course, "Introduction to Environmental Studies" (Prof. Lauren Hallett)

- Gave lectures about global population and the nitrogen cycle

Colorado State University, Biology Department, Fort Collins, CO Fall 2014 & 2015
Graduate Teaching Assistant for course, "Animal Biology: Invertebrates" (Prof. Janice Moore)

- Taught two laboratory sections (~20 students per section) each fall on invertebrate diversity*;* designed and determined weekly curricula, wrote and graded laboratory exams, quizzes, and assignments

Colorado State University, Soil and Crop Sciences Department, Fort Collins, CO 2012, 2014, 2015
Guest Lecturer for course, "Soils and Global Change: Science and Impacts" (Prof. Francesca Cotrufo)

- Gave lectures about global changes' impacts on soil biodiversity and their functions

Colorado State University, Fort Collins, CO 2010 & 2013
Honors Thesis Co-advisor for two undergraduate students on their senior honors theses

- Guided from study design to thesis write-up on soil fauna isotope project and nematode culturing project; both presented results at "Celebrate Undergraduate Research and Creativity Showcase"

Colorado State University, Biology Department, Fort Collins, CO Fall 2010
Graduate Teaching Assistant for course, "Biology of Organisms, Animals and Plants"

- Taught two laboratory sections (~20 students per section) on animal and plant taxonomy and physiology; wrote and graded laboratory exams, quizzes, and assignments

Galen College of Nursing, Louisville, KY 2009-2010
Assistant Lab Instructor for Anatomy and Microbiology courses

- Prepared all laboratory materials; made sterile agar plates, maintained laboratory cultures; set up laboratory for student activities; edited assignments, proctored and graded exams

Mentees at Colorado State University (all undergraduates): Deanna Cox (Honors Thesis), Kyrie Ivanovich (Honors Thesis), Diana Granados, Emily Bernier, Amber Cavin, Nisha Gill, Abby Jackson, Willa Beaton, and Dominique White

Mentees at the University of Oregon: Maya Treder (undergraduate, ESPRIT intern), Marlea Goulet (undergraduate), Natalie Kataoka (undergraduate), Joey Decker (undergraduate), Anna Brown (undergraduate), Justin Day (undergraduate, ESPRIT intern and scholarship recipient), Jesse Yang (undergraduate), Lina Aoyama (PhD student), Eliza Hernandez (masters student), Alejandro Brambila (PhD student), and Caitlin White (PhD Student, UC-Boulder)

OUTREACH ACTIVITIES

Radio interviewee
AgNet West Radio Network. Discussed soil health and beneficial invertebrates in rangeland ecosystems. 2021

Presenter and Participant
UC Sierra Foothills Research and Extension Center, Ranching and Range Management in a Drying Climate Workshop. "Emerging understanding of rangeland management under a drying and more variable climate" 2019

Blog contributor
"How do nematodes help plants and soil?" written for the Soil Science Society of America's blog, *Soil Matters* https://soilsmatter.wordpress.com/2021/05/15/how-do-nematodes-help-plants-and-soils/ 2021

"Are there predators in Antarctic soil?" written for the Global Soil Biodiversity Initiative's blog, *Beneath our feet* www.globalsoilbiodiversity.org/blog-beneath-our-feet/2018/2/6/are-there-predators-in-antarctic-soils 2018

Diana Wall's lab and Antarctic fieldwork blog, https://nemablog.wordpress.com/ 2013-2017

Antarctic Lecture Series speaker 2016
Invited speaker, gave lecture entitled, "The toughest creatures in the world: Soil life in the Antarctic Dry Valleys" at the Fort Collins Public Library, Fort Collins, CO

Antarctic Lecture Series coordinator 2013
Organized three public lectures through the School of Global Environmental Sustainability, Colorado State University and the Fort Collins Public Library, Fort Collins, CO

FIELD EXPERIENCE

Nutrient Network sites, Cascades, Oregon (2019 – 2021): collected plant community data, plant biomass and soil samples, and applied fertilizer treatments following Nutrient Network experimental protocols at 2 sites in the Cascades

Sierra Foothills Research and Extension Center, California (2018 – 2021): tested the effects of compost amendments on rangeland ecosystem functions across precipitation treatments (drought, ambient, irrigated/wet)

McMurdo Dry Valleys Long Term Ecological Research site, Antarctica (2013, 2015, 2016, 2017): studied soil food web distributions in Antarctica, relationships with C sources, climate change effects

Loch Vale Watershed, Rocky Mountain National Park, Colorado, USA (2014, 2015): investigated the impact of elevated nitrogen deposition on soil nematode community function in a subalpine forest of Rocky Mountain National Park

Central Park, New York City, New York, USA: characterized the soil microbiome of Central Park

Shortgrass Steppe, Colorado: Above-belowground project (led by Drs. Osvaldo Sala and Diana Wall): plant community and soil community responses to drought

Konza Prairie, Manhattan, KS (2010, 2011, 2012, 2013) traced stable isotopes 13C and 15N from decaying grasses into soil microbes and fauna and collected all data from published papers for lab group meta-analysis on soil biota and global changes

Atlantic Ocean Research cruise, Skidaway Institute of Oceanography, Savannah, Georgia, USA (2010); surveyed pelagic upwellings to study effects on doliolid populations in the Atlantic Ocean

PROFESSIONAL MEMBERSHIP

- Ecological Society of America (ESA)
- American Association for the Advancement of Science (AAAS)
- Association of Polar Early Career Scientists (APECS)
- Global Soil Biodiversity Initiative (GSBI), Participant
- Society of Nematologists (SON)
- Soil Ecology Society (SES)
- Soil Science Society of America
- 500 Women Scientists

POSTDOCTORAL ADVISOR

Dr. Lauren Hallett, University of Oregon

PHD ADVISORS

Advisor: Dr. Diana Wall, Colorado State University
Committee: Drs. Mary Stromberger (CSU), Jill Baron (USGS), Michael Gooseff (CU-Boulder)

MS ADVISORS

Advisor: Dr. Diana Wall, Colorado State University
Committee: Drs. Francesca Cotrufo, Gene Kelly (CSU)