

Hi, I'm Jade. I help researchers tell STEMM stories using narrative, visuals, play and movement. *What stories will we tell together?*

EDUCATION

Oregon State University, Corvallis, OR

M.S., May 2014

College of Agricultural and Life Sciences. Mentors: Julie Pett-Ridge, Bruce McCune

Dual Major M.S in Soil Science and Botany & Plant Pathology

Thesis: *Interactions between nitrogen, phosphorus, and molybdenum in forest soils and cyanobacterial lichen in the Oregon Coast Range*

Indiana University Bloomington, Bloomington, IN

B.Sc., May 2011

Bachelor of Science in Environmental Science Program. Mentor: Lisa M. Pratt

Minors: English and Geology

Thesis: *Sulfur isotopes and heavy metal concentrations in lichen species of the Basin Mining District, Bullion Mine, MT*

APPOINTMENTS & ROLES

Science Communication Manager

Sept. 2019 – present

University of Michigan Museum of Natural History - Ann Arbor, MI

- Leads undergraduate-level science communication experiences for up to 2,000 students per year; provides guest lectures in undergraduate courses; facilitates semester-long training programs with student-led public engagement.
- Co-facilitates the Science Communication Fellows Program for 65 faculty and graduate students/year.
- Supports the museum's National Science Foundation Broader Impacts initiative by collaborating with 2-5 faculty per year on science communication and public engagement programs.
- Organizes events for both university and public audiences, including an annual endowed lecture and the Women in Science & Engineering "Night @ the Museum," which attract between 100 - 200 participants each.
- Facilitates the museum's monthly Science Café program at Conor O'Neill's Irish Pub.
- Collaborates with the local nonprofit 826 Michigan to bring 300+ Detroit 3rd graders on "Writing Like a Scientist" field trips each year; students meet U-M researchers and learn inquiry and observation skills.
- Promotes the communication of science through the visual and performing arts in partnership with the Penny Stamps School of Art & Design and the School of Music Theater and Dance.
- Applies for funding to pilot new initiatives (see *Fellowships, Grants & Awards*)

Adjunct Lecturer, Science Communication

April 2020 – present

University of Michigan, College of Literature, Science and Art - Applied Liberal Arts Division

- Designs curriculum for a skill-building course in science communication.
- Instructs students on informal learning pedagogy, community based participatory research, storytelling, K-12 outreach, inquiry-based-learning and multimedia engagement.
- Prepares undergraduates for equitable partnerships beyond academia through collaborations with local organizations and the Michigan Engaging Communities through the Classroom Initiative.

- Supervises community engagement projects with partners including the Ann Arbor District Library, City of Ann Arbor Office of Sustainability & Innovation, We the People Opportunity Farm, and The Huron River Watershed Council
- Coordinates guest lecturers with freelance science writers and science communicators from Michigan Medicine, NPR, and the U-M Libraries.

Site Specialist, Naturalist & Educator

May 2018 – September 2019

Florida Department of State, The Grove Museum - Tallahassee, FL

- Designed and implemented 2 recurring monthly STEM education programs; assisted with 3 recurring monthly programs about local history.
- Collaborated with 3 municipal partners (Florida Department of Transportation, Tallahassee-Leon County Planning Department, and Leon County Office of Sustainability) to host an event about building sustainable communities through historic preservation and alternative transportation.
- Promoted the natural and cultural history of The Grove Museum at outreach events and Scout workshops.
- Oversaw educational plantings, invasive species removal, on-site composting, and community garden.
- Supervised 2 volunteers and 1 intern.

Environmental Consultant

August 2015 – April 2018

Ecology & Environment, Inc. - Tallahassee, FL

- Updated 6 comprehensive Surface Water Improvement and Management Plans for major watersheds of the Florida Panhandle; integrated Technical Advisory Committee feedback and public comments.
- Helped develop Multi-Year Implementation Plans for restoration efforts in Gulf and Franklin Counties (FL) following the Deepwater Horizon Oil Spill.
- Wrote Critical Issues Analyses and Environmental Site Assessments for 23 proposed energy facilities for 6 independent solar developers in 6 different states.
- Conducted water quality, hydrogeologic, and ecological surveys for state, federal, and industrial clients to establish baseline conditions and investigate contamination events.
- Determined the source and preferential flow path of 1,4-dioxane in public water supply wells using discrete interval sampling and subsurface lithology characterization.
- Investigated chlorinated solvent contamination at 9 dry-cleaning facilities across Florida and South Carolina using groundwater profiling and time-weighted indoor air sampling.

eStudies Instructor, Fundamentals of Chemistry

June 2017 – August 2019

Duke Talent Identification Program - Remote

- Taught 3 summers of inquiry-based chemistry lessons to 20 middle schoolers per year in a fully-remote virtual learning environment.
- Facilitated student-led discussion boards and asynchronous projects in the Canvas Learning Management System.
- Composed 2-page personalized academic evaluations for each student at the end of the term.

Adjunct Instructor, Principles of Soil Science

August 2015 – December 2015

Florida State University - Tallahassee, FL

- Developed curriculum on pedogenic and depositional processes, organic-matter/mineral interactions, nutrient cycling, and soil mineralogy, as well as the social, economic, and environmental importance of soil.
- Instructed students on NRCS Soil Classification and oversaw independent field projects.

Teaching Assistant, Paleobiology

June 25 – July 18, 2015

Johns Hopkins Center for Talented Youth, Loyola Marymount University - Los Angeles, CA

- Co-taught college-level Paleobotany to 18 seventh and eighth graders at an immersive residential summer program.
- Facilitated two field trips: Field Geology of Torrey Pines State Beach and Megafauna of the La Brea Tar Pits
- Led nightly study hall sessions, graded assignments, and co-wrote academic evaluations for each student.

Florida Geological Survey Post-Graduate Intern

May – July 2015

Department of Environmental Protection - Tallahassee, FL

- Assisted with data management, transcription, and archiving of historic well logs.

Graduate Research Assistant

September 2012 – September 2014

Oregon State University, Dept. of Crop and Soil Science - Corvallis, OR

- Sampled litter-layer from 24 soil profiles throughout the Oregon Coast Range
- Performed sequential metal extractions on soil, litter, and lichen specimens according to clean room protocol; prepared solid and liquid samples for ICP-MS and ICP-OES analysis

Graduate Teaching Assistant & Curriculum Designer

September 2012 – September 2014

Oregon State University, Dept. of Crop and Soil Science - Corvallis, OR

- Led weekly lab sections and field trips for 60 students per year in SOIL 205: Introduction to Soil Science
- Co-coordinated a Student Service Learning Poster Symposium, featuring the work of 250 students.
- Assisted faculty in two different departments with the reorganization of the SOIL 205 curriculum into separate soil science and forestry tracks, generating 2 unique syllabi.

Laboratory Manager

December 2010 – August 2012

Indiana University - Sulfur Biogeochemistry Laboratory - Bloomington, IN

- Oversaw daily operations in a shared laboratory supporting 10 students and senior scientists.
- Performed sequential sulfur extractions on soil, sediment, and water samples; prepared samples for isotopic analysis; assisted with data management.
- Enforced lab safety, coordinated equipment usage, maintained standard protocols, and trained new lab members.

Field Assistant for the Vision Impaired

July - August 2010

Indiana University Judson Mead Geologic Field Station - Cardwell, MT

- Prepared and organized special learning materials, maps, and assignments for a student with vision impairments.
- Assisted rock and mineral identification, geological mapping, and stratigraphy.
- Provided additional field safety and navigation in the undeveloped wilderness of the Tobacco Root Mountain Range.

Teaching Assistant: GEOL - G329 Field Methods in Environmental Science

July - August 2009

Indiana University Judson Mead Geologic Field Station - Cardwell, MT

- Aided students in tree, grass, and herbaceous plant identification, geologic mapping, soil and surface-water sampling techniques; instructed students on taking clear, concise, and reproducible field notes.

FELLOWSHIPS, GRANTS & AWARDS

Measurement of Museum Social Impact Study (MOMSI)

October - May 2022

Utah Division of Arts and Museums, Thanksgiving Point Institute

\$850 (participant incentives)

Institute of Museum and Library Services (IMLS)

- Participated in a national study to establish best practices for measuring social impact within the museum field.
- Submitted IRB and fulfilled reporting requirements.

- Worked closely with internal marketing and development teams to recruit participants and publicise the study.
- Coordinated with MOMSI staff to ensure visitor participation and incentive distribution.

Public Interest Technology Community Innovation Fellowship Program

February 2019 - March 2021

The Association of Science and Technology Centers (ASTC)

\$18,200

- Developed an online forum to bring together voices and resources across southeastern Michigan in a conversation about how cultural heritage institutions can support local environmental justice work and facilitate better access to environmental data.
- Participated in 9 interactive 1-hour webinars on public interest technology, public engagement in science, and participatory technology assessment.
- Facilitate a public forum at the Museum of Science in Boston to gain experience with the ASTC form model.
- Completed IRB application and managed participant incentive distribution.
- Drafted a comprehensive 30-page project report for ASTC and the U-M Museum of Natural History.

PRESENTATIONS, PANELS & POSTERS

Stevens, Abbie, Bruno Takahashi, **Jade Marks**, Kara Gavin, Rishi Masalia. Mythbusters:MythBusters: Truths of Science Communication. **Panel Discussion**. ComSciCon-MI-2024, Lansing, Michigan. October 26 - 27, 2024.

Marks, Jade A. Breaking the 4th Wall: Secrets of science communication from museums, movies and memory. Ecological Society of America, Great Lakes Chapter Conference. **Special Session Workshop**. April 6, 2024.

Michelle Mileham, **Marks, Jade A.**, Christy Barlow. Measuring Social Impact; Making Strategic Changes. Association of Academic Museums and Galleries Conference. **Oral Presentation**. June 16, 2022.

Sittenfeld, David, Mahmud Farooque, **Marks, Jade. A.**, Justin Schell, Anja Scholze, Corinne Takara, Cindee Millard, Melissa Mullins, Rachel Quimby, Stefanie Covino. 2020. Public Interest Technology Community Innovation Fellowship: Innovations from Shifting to Virtual Public Dialogue Forums. ASTC Virtual 2020 Annual Conference. **Oral Presentation**. October 21, 2020.

Marks, Jade. A., Kira Berman. *Recoupling Science and the Humanities: Examples from two American Museums*. Public Communication of Science and Technology Conference. 2020. **Abstract accepted. Withdrawn due to Covid-19.**

Marks, Jade. A., Steve Perakis, Julie Pett-Ridge. Distribution of soil molybdenum across a soil N gradient. Goldschmidt Geochemistry Conference. Abstract 1593. **Oral Presentation**. Thursday, June 12, 2014.

Marks, Jade. A., Steve Perakis, Julie Pett-Ridge. Molybdenum as a Micronutrient in Coast Range Soils. Oregon Society of Soil Scientists Winter Meeting. Bend, Oregon. **Poster**. February 27-28, 2014.

Young, Seth A., **Marks, Jade A.**, Gill, BC, and Saltzman, MR. 2012. Middle–Late Ordovician (Darriwilian–Sandbian) paired sulfur and carbon isotope stratigraphy: links to pulses of ocean oxygenation, weathering, and biodiversity. Geological Society of America, Annual Meeting and Exposition. **Abstracts with Programs** 44 (7).

Marks, Jade. A., Lisa M. Pratt, Seth A. Young. Sulfur Content and Isotopic Composition of Lichen Species, Bullion Mine; Basin, MT. IU Women in Science Research Conference. **Poster**. 2011.

PUBLICATIONS

Ayana Chauvin, **Marks, Jade. A.**, Comer, Alicia. Sugar Buzz: An Interactive Science Discovery Comic. 2022. University of Michigan Museum of Natural History on behalf of the Regents of the University of Michigan.

Northwest Florida Water Management District, Ecology & Environment, Inc. 2017. Surface Water Improvement and Management (SWIM) Plan Updates.

Marks, Jade. A., Steve Perakis, Elizabeth King, and Julie Pett-Ridge. 2015. Soil organic matter regulates molybdenum storage and mobility in forests. *Biogeochemistry*. 125:2 p.167-183

Marks, Jade. A., Julie Pett-Ridge, Steven Perakis, Jessica Allen, and Bruce McCune. (2015). Response of the nitrogen fixing lichen *Lobaria pulmonaria* to phosphorus, molybdenum, and vanadium. *Ecosphere*.

<https://esajournals.onlinelibrary.wiley.com/doi/10.1890/ES15-00140.1>

PRESS

LSA Magazine. 2023. *Dreams*. [Dance, Dance, Cell Division](#).

Lyn F. Hawks. 2018. Teachers Workshop Blog. Entrances and Exits: So What Do You Know Now?

SERVICE AND OUTREACH

Diversity Equity & Inclusion (DEI) Liaison

December 2023 – present

University of Michigan Museum of Natural History

- Attends monthly Inclusive Culture Liaison meetings and annual DEI workshops.
- Leads internal DEI meetings and initiatives within the U-M Museum of Natural History.
- Helps the DEI Office track DEI programs and initiatives happening at the U-M Museum of Natural History.
- Shares best practices (e.g., committees, ongoing agenda items, inclusive work space) with museum staff.

Letters to a Pre-Scientist

September 2019 – present

- Composes personal letters to middle school science students from under-resourced communities each month.
- Responds to students' questions about college, STEMM career trajectories, and professional pathways.
- Uses personal stories to help inspire students to pursue careers in STEM fields, improve students' reading and writing skills, and expand their understanding of the world culturally and geographically.

M3 Monarch Migration Challenge

Summer field seasons 2020, '21, '23

University of Michigan Department of Ecology & Evolutionary Biology

- Carried a sensor collecting environmental data (light, pressure, temperature) on three 150 - 400 mile bike tours that could be used to train and test machine-learning algorithms predicting monarch butterfly migration routes.
- Programmed sensor and downloaded data to share with research scientists.

Write-a-Thon Editor

October 27, 2024

ComSciCon-MI-2024 - Lansing, Michigan

- Read and critiqued writing samples for six STEM graduate students from different academic backgrounds.
- Facilitated group discussion and provided guidance and strategies for writing STEM content for non-technical audiences.

Wolverine Express**September 2019***University of Michigan Center for Educational Outreach*

- Prepared an interactive presentation on careers in STEM for students in under-resourced high schools.
- Designed an autobiographical comic to promote higher education and cross-disciplinary scholarship.

Non-academic Careers Panel**August 2016***Department of Ecology and Evolution, Florida State University*

- Served on a panel providing undergraduate students with advice and recommendations on non-academic career tracts in STEM.

Oyster Reef Habitat Restoration Project**August 2015***Florida Fish and Wildlife Conservation Commission*

- Constructed artificial reefs from biodegradable coconut fiber mats and recycled oyster shells in St. Andrew Bay, Florida. Reefs were designed to increase oyster populations, protect the shoreline, improve water quality, and create favorable conditions for seagrass recovery.

Discovery Days Science Outreach Program**November 2011***Oregon State University*

- Designed an interactive activity and posterboard highlighting the ecological roles of lichens.
- Facilitated two hours of hands-on engagement for local school children (grades K- 5).

REFERENCES**Justin Schell, Director of the Digital Scholarship and Creative Spaces**, University of Michigan Library.Email: jmschell@umich.edu**Jill Myers, Senior Research Lab Specialist**, University of Michigan College of Literature Science and Arts Department of Ecology & Evolutionary BiologyEmail: jimyers@umich.edu**Morgan DeSantis, Assistant Professor**, University of Michigan College of Literature Science and Arts Department of Molecular, Cellular, and Developmental Biology.Email: mdesant@umich.edu