

**8th Annual Earth &
Environmental
Sciences
Student Research
Symposium**

February 21, 2025

10:45 am – 3:45 pm

Room 2130

STEM Teaching & Learning Facility

MICHIGAN STATE
UNIVERSITY

Department of Earth and
Environmental Sciences

Agenda

8:30 – 10:00 Coffee & Bagels at NatSci
(Room 206)

10:45 – 11:00 Welcoming Remarks

11:00 – 12:00 Oral Session I

12:00 – 1:00 Lunch

1:00 – 1:45 Poster Session I

1:45 – 2:45 Oral Session II

2:45 – 3:30 Poster Session II

3:30 – 3:45 Closing Remarks

4:30 – 6:30 Department Social at NatSci
(Room 116)



Oral Session I 11:00 – 12:00 pm

The KBS Agisolar Laboratory: Towards building a first-of-its-kind solar energy and agricultural research facility at MSU

Jacob Stid ⚡

Understanding biological adaptations to Ocean World analog conditions by studying the proteomic response of *Maridesulfovibro hydrothermalis* to high pressure

Ella Cardoza ⚡

From Base Camp to Breakthroughs: Applying EES Expertise to Foster Gender Equity in Mountain Tourism

Sophie Llenos

Water Temperature: A Fluid Story

Noah Bohl ⚡

Investigating water chemistry across a low-relief, wetland-dominated catchment in southwestern Michigan

Caroline Weidner

Improving Simulations of Nitrous Oxide (N₂O) Emissions in Agricultural Systems Using a Hybrid Modeling System

Prateek Sharma



Poster Session I 1:00 – 1:45 pm

Vertical and Horizontal Carbon Fluxes in Michigan's Kalamazoo River Watershed: Preliminary Results from the 2024 Field Season

Abby Beilman

Identifying Environmental and Community Issues in the Greater Lansing Area from Community Partner Interviews

Cheyenne Kleiner

Groundwater Age and Biogeochemical Function in Shallow Aquifers of the Michigan Basin

Katie Quinlan

Constraints on dolomite as an archive of seawater sulfate from high temperature dolomitization experiments

Watts Dietrich

Thermal Conductivity of Ilmenite at Lunar Mantle Pressures

Devika Padmakumar

The long-term evolutions of primordial binary planetesimal systems

Jackson Barnes

Microbial Biofilms and their Implications for Life Detection in Serpentinizing Systems

Alexandra Grabowski

Varying solar system formation scenarios can successfully build the Earth's mantle

Gabriel Nathan

Oral Session II 1:45 – 2:45 pm

Basin-Scale Groundwater Flow Modeling of the Great Lakes Region

Madeline Sigler ⚡

Characterizing Source Spectra and Stress Drops of Earthquakes in the Pampean Flat Slab and Overriding Plate

Yurong Zhang

Exploring Habitability and Life Detection: Insights from Microbial Biofilms in Serpentinizing Mars Analog Environments

Sarah Gonzalez Henao

Superpiles: A Dynamic Explanation for the Shape of Large Low Shear Velocity Provinces

Heidi Krauss ⚡

Hydrologic lessons learned throughout 4 field seasons in Arctic Alaska

Amelia Grose

Poster Session II 2:45 – 3:30 pm

A Comparison of Modeled and Observed Crustal Deformation to Validate Glacier Mass Change Datasets

Katarina Vance

Mapping Microbes and Minerals for Sustainable Energy

Charley Russell

Using Environmental DNA to Study Microbial Diversity in Great Lakes Sediments

Margaret Dobry

Identity, belonging, inclusion, and creativity in the geoscience classroom

Emily Pasek

Identifying gaps in engineering ethics education: The need to engage community-based ethics

Jilayne Love

Towards a Holocene record of the biogeochemical evolution of the Laurentian Great Lakes: establishing a correlative framework from new sediment cores

Paige Kohler

Flocculent Organic Sediments in Shallow Freshwater Ecosystems: Characteristics, Ecological Functions, and Research Opportunities

Nudrat Fatima

The Symposium Committee would like to thank the following organizations for their generous sponsorship:

