7th Annual Earth & Environmental Sciences Student Research Symposium

February 16, 2024
9 am – 4 pm
Generator Room (Room 2110)
STEM Teaching & Learning Facility

Southwest Pacific Ocean
Yurong Zhang, Shawn Wei, & Fan Wang
Agenda

9:00 – 9:45  Bagels & Coffee
9:45 – 10:00 Welcoming Remarks
10:00 – 11:00 Oral Session I
11:00 – 12:00 Poster Session I
12:00 – 12:45 Lunch
12:45 – 2:00 Oral Session II
2:00 – 3:00 Poster Session II
3:00 – 3:45 Outreach Demos
3:45 – 4:00 Closing Remarks
5:00 – 7:00 Department Social (HopCat)
Oral Session I 10:00 – 11:00 am

Using a ModEx Approach to Investigate Nitrate Legacies in Groundwater
Brent Heerspink

Towards Understanding the Megathrust Earthquake Slip Behavior and Postseismic Mechanisms
Zechao Zhuo

Experimental Techniques in High Pressure Research and our Recent Findings
Allison Pease

STEM Success at CAMP: Peer Mentoring to Increase Interest and Persistence in STEM and Research Among Michigan State University’s CAMP Students
Andrea Saavedra

Vertical Motions of the Hawaiian Islands and Other Pacific Sites Compared to Models of Global Ice and Ocean Loading
Katarina Vance

Recording Arctic Change Through a River’s Lens
Amelia Grose

Iodine Redox Species Distribution and Mass Balance from GEOTRACES Pacific Meridional Transects
Alexi Schnur

Mackinaw, Michigan
Graduate student camping trip
Poster Session I 11:00 – 12:00 pm

Exploring the Depths: Unveiling the Secrets of the Tonga-Samoa Region with SaLOON
Yurong Zhang

Hybrid Approach Combining Machine Learning with Remote Sensing and Process-Based Models Data to Predict Nitrous Oxide Flux in a Cropping System
Prateek Sharma

Rates and Pathways of Euphotic Iodine Redox Transformations Across the Atlantic Meridional Transect (AMT-30)
Kirsten Fentzke

Tracing Nitrogen and Phosphorous Routes Among Lakes and Coastal Wetlands
Samin Abolmaali

Earthquake clustering and statistics at the Alaska Peninsula
Yaqi Jie

A New Low-Cost CO$_2$ Measuring System for Streams and Rivers
Sage Stockdale

Art-Geoscience Intersections in the Geoscience Classroom
Emily Pasek

How a Nuanced Model of Habitability Can Inform the Search for Life Beyond Earth
Césarine Graham

Stable Isotope Evolution during Multi-Stage Core Formation
Gabriel Nathan

Thermal conductivity of MgO using FD-PBD technique
Devika Padmakumar
Oral Session II 12:45 – 2:00 pm

Transboundary Basin: Building Groundwater Modeling Accuracy for the Great Lakes Region
Madeline Sigler

Redistribution of Marine Oxygen Deficient Zones During the Mid-Miocene
Jana Burke

The Direct Formation of Contact Binary Planetesimals
Jackson Barnes

Stuck in the Muck: Challenges and Lessons for Working in Wetlands
Caroline Weidner

Assessing Velocity Deviations from GPS Stations in the Great Lakes Region
Helio L Guerra Neto

Place-Based Education Engages Geoscience Students, Faculty, and Communities in Collaboration
Cheyenne Kleiner

Novel & Traditional Methods for Quantifying Ontogenetic Heterodonty in Recent & Fossil Sharks, Including Carcharodon carcharias, megalodon, & angustidens, and their Application in the Identification of Paleo-Nurseries
Ryan McKeeby

Slab Morphology, Dehydration, and Sub-Arc Melting beneath the Alaska Peninsula Revealed by Body-Wave Tomography
Fan Wang

Exploring the Role of Groundwater in Creating and Maintaining Thermal Refugia in Cold-Water Streams
Noah Bohl
Poster Session II 2:00 – 3:00 pm

Structure of Liquid Iron and Iron-Nitrogen Alloys up to 7 GPa and 2100 K
Jack Piper

An Integrated Seismic and Geodetic Perspective on Tectonic Deformation in the Northern Canadian Cordillera
Connor Drooff

Are There Differences in Microbial Community Composition Within the Saginaw Aquifer, the Predominant Source of Drinking Water for Mid-Michigan?
Mio Hogan

Sodium in the Earth’s Lower Mantle: Role of Iron in Ferropericlase
Luisa Chavarria

Constraining the Redox State of the Mesoproterozoic Ocean
Keyi Cheng

Jake Stid

Along-Strike Variations in Sub-Arc Melting Beneath the Alaska Peninsula Revealed by Body Wave Attenuation
Zhuoran Zhang

Using Community Science to Address a Proposed Mine in Andros, Bahamas
Sophie Huss

Superpiles: A Low Density Explanation for LLSVPs
Heidi Krauss

Field Boundary Segmentation Using Artificial Intelligence (AI) in Harnessing Accurate Yield Stability Map
John Salako
Outreach Demos 3:00 – 3:45 pm

Rocky and The Magic of Mineral Based Paints

Journey Beneath the Waves: Demonstrating Ocean-Bottom Seismometer (OBS) Deployment and Dredging during a Cruise

Go with the Flow: Exploring the Movement of Water!

DIYnamics: Rotating Convection

Testing the Electrical Conductivity of Minerals
The Symposium Committee would like to thank the following organizations for their generous sponsorship of this event: