4th Annual Earth & Environmental Sciences Student Research Symposium

Virtually March 12 & 19, 2021

Zoom Link: https://msu.zoom.us/s/91618480251
Passcode: EESRocks

Mantle Peridotite
Susan Beightol
Trevor Creek, Alaska

Mt. Aragats, Armenia
Luis Martinetti
4th Annual Earth and Environmental Sciences Student Research Symposium

March 12th
Agenda March 12th, 2021

12:30 – 12:40 \hspace{1cm} Welcoming Remarks
Symposium Committee
Mike Gottfried, Graduate Affairs
Director

12:40 – 1:30 \hspace{1cm} Oral Session I
1:30 – 1:40 \hspace{1cm} Zoom Break
1:40 – 2:00 \hspace{1cm} Poster Session
2:00 – 2:40 \hspace{1cm} Oral Session II
2:40 – 2:50 \hspace{1cm} Zoom Break
2:50 – 3:25 \hspace{1cm} Oral Session III

Earth and Environmental Science Graduate Students
Jeremy Rapp
Spatiotemporal identification and characterization of ground mounted solar photovoltaic arrays that are co-located with agriculture

**Jacob Stid**

Elliptical Fourier analysis versus Landmark-based morphometrics: A comparison of two quantitative morphometric techniques applied to vertebrate paleontology

**Ryan McKeebey**

Shear wave speed imaging of the magma-poor western branch of the East African Rift

**Yaqi Jie**

Stable water isotopes suggest hydrological complexity in large Arctic Alaskan rivers

**Amelia Grose**

**Zoom Break 1:30 – 2:40 pm EST**

**Poster Session 1:40 – 2:00 pm EST**

Experimental constraints on biotic and abiotic drivers of near surface-marine iodine redox transformations at the Bermuda Atlantic Time Series

**Alexi Schnur**

Updated iodine cycle constraints and parameters in the cGENIE model: implications for modern iodine redox transformation and paleoredox reconstruction

**Keyi Cheng**
Investigating the Relationship between Image DPI and Digitized Seismograms
Kaitlynn Burkhard

Predatory Trilobites: Combining Morphological and Ichnological Data
Jacob Beasecker

Event discrimination and moment tensors from digitized historic nuclear explosion seismograms
Josie Anderson & Luis Martinetti

Zoom Break 2:40 – 2:50 pm EST
Oral Session III 2:50 – 3:25 pm EST

Isotopic fractionation due to multi-stage core formation
Gabriel Nathan

A Permian actinopterygian fish from the Minnekahta Limestone of South Dakota, USA
Jack Stack

Investigating the landscape and hydrologic controls on nutrient contamination across Michigan’s Lower Peninsula
Brent Heerspink

Alaska
Connor Drooff
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Irrigation Confidence Map
Jeremy Rapp
Oral Session I 12:40 – 1:30 pm EDT

Interseismic Coupling of the Aleutian Megathrust and its Relationship to Slip in the 2020 M 7.9 Simeonof Earthquake
Connor Drooff

Coupling Crop Modeling with Remote Sensing to Estimate Subfield Maize Yield
Guanyuan Shuai

Coseismic Rupture Model of the 2020 Simeonof Earthquake Estimated from GPS, InSAR, and Waveform Data
Zhuohui Xiao

Going with the flow: Using high-frequency water quality data and effective discharge to characterize water and solute transport in two Arctic watersheds
Caroline Weidner

Zoom Break 1:30 – 2:40 pm EDT

Poster Session 1:40 – 2:00 pm EDT

Mantle Heterogeneities Explained Through Element Storage and the Perovskite Unit Cell
Allison Pease

Henyey Solver for Exoplanet Atmospheres
Noah Behm
Deep low-velocity layer in the Tonga slab  
Fan Wang

Modeling groundwater transport of nutrients from the Maumee River Watershed to Lake Erie  
Alexis Lanier

Pharmaceutical concentrations and analysis in rural watershed regions of Michigan  
Addison Pletcher

Au Sable River, MI  
Kyle Cole

Oral Session II 2:00 – 2:40 pm EDT

Zoom Break 2:40 – 2:50 pm EDT
Oral Session III 2:50 – 3:25 pm EDT

Formation of Planetesimals through Gravitational Collapse
Jackson Barnes

Investigating how the cross-sectional shape of ULVZs provides information on the intrinsic viscosity of LLSVPs and ULVZs
Jiaxin Zhang

Taking a look below the surface: Mapping and analyzing Michigan’s chloride groundwater chemistry
Yvonne Krimmel

Greater Caucasus Mountains
Luis Martinetti
The Symposium Committee would like to thank the following organizations for their generous sponsorship of this event.

Department of Earth and Environmental Sciences Alumni Group

Graduate School

Council of Graduate Students