

2nd Annual Earth and Environmental Sciences Student Research Symposium

February 22nd, 2019
Lake Huron Room
MSU Union



Trevor Creek, Alaska
Joy Zarnetske

Agenda

9:30 – 9:50

Sign-In & Coffee

9:50 – 10:00

Welcoming Remarks
*Brent Heerspink, Chair of
Symposium Committee*
David Hyndman, Chair

10:00 – 11:00

Oral Session I

11:00 – 11:15

Refreshment Break

11:15 – 12:15

Oral Session II

12:15 – 1:00

Lunch

1:00 – 1:45

Poster Session

1:45 – 2:45

Oral Session III

2:45 – 3:00

Refreshment Break

3:00 – 4:00

Oral Session IV



Oral Session I 10:00 – 11:00

Thermal equation of state of ferric iron-rich post-perovskite: Implication for the redox heterogeneity at the lowermost mantle

Mingda Lyu

Phyllosilicate Diagenesis in Mississippian Sandstones of the Michigan Basin

Brian Ares ⚡

Investigating the effects of hydropower development, deforestation and climate change on the hydrology of the Brazilian Amazon

Brent P. Heerspink

Refining the Tonga slab surface with converted and guided waves

Fan Wang ⚡

Tracking the geochemical evolution of low-Ti continental flood basalts: NW Ethiopian Plateau

Susan R. Krans

Refreshment Break 11:00 – 11:15

Oral Session II 11:15 – 12:15

Modeling the impact of the “warming hole” on maize yield in the US Midwest

Lin Liu

Connecting Watershed Factors to Plant Invasion within the Coastal Wetlands of the Great Lakes Basin

Bailey Hannah ⚡

Slab strength influences lowermost mantle flow directions

Jiixin Zhang

Global variations of the 520-km discontinuity

Dongdong Tian 

What happens when 250 years of rapid ice loss induces one of the world's fastest crustal uplift rates directly above one of its fastest-slipping faults? Cryosphere-solid earth interactions in the Glacier Bay region, southeast Alaska

Chris Rollins

Lunch 12:15 – 1:00

Poster Session 1:00 – 1:45

Carbon and nutrient dynamics during storm events in Arctic watersheds with varying landscapes

Sam Cairns and Megan Duda

Experimental Techniques and Analysis of Post-Perovskite to obtain a Thermal Equation of State

Garrett Diedrich

Water, Energy, and Carbon Emissions from Irrigation over the Central High Plains Aquifer, USA

Benjamin McCarthy

Magma and volatile composition of South Island, Turkana

Mary Grace Owens

Evolution of Transcrustal Distillation Columns: Evidence from Andesites of the Taupo Volcanic Zone

Christopher Svoboda

Spatially Explicit Modeling of Nutrient Transport in the Great Lakes Basin

Luwen Wan

Oral Session III 1:45 – 2:45

Beyond Land Use: Mapping Nutrient Sources in the Great Lakes Basin

Quercus Hamlin

Digitization of Soviet Era Peaceful Nuclear Explosion Seismograms From Regional Stations

Kaitlynn Burkhard ⚡

New Constraints on Volcanic Inflation and Trench Behavior around Mt. Veniaminof, Alaska from GPS Campaign Measurements

Connor Drooff

Disentangling microbial community responses to drilling in a serpentinization-influenced aquifer

Lindsay Putman ⚡

Quantitatively describing modern neonate white shark (*Carcharodon carcharias*) teeth to aid in fossil tooth identification

Ryan L. McKeeby

Refreshment Break 2:45 – 3:00

Oral Session IV 3:00 – 4:00

Variable Rate Nitrogen Application for Increased Nitrogen Use Efficiency

Olivia Davidson

A data assimilation framework for volcano geodesy based on unscented Kalman filter

Xueming Xue ⚡

Modeling the impact of forest succession on site-scale water and thermal dynamics

Alexandria Kuhl

The Dynamic Greater Caucasus Mountains

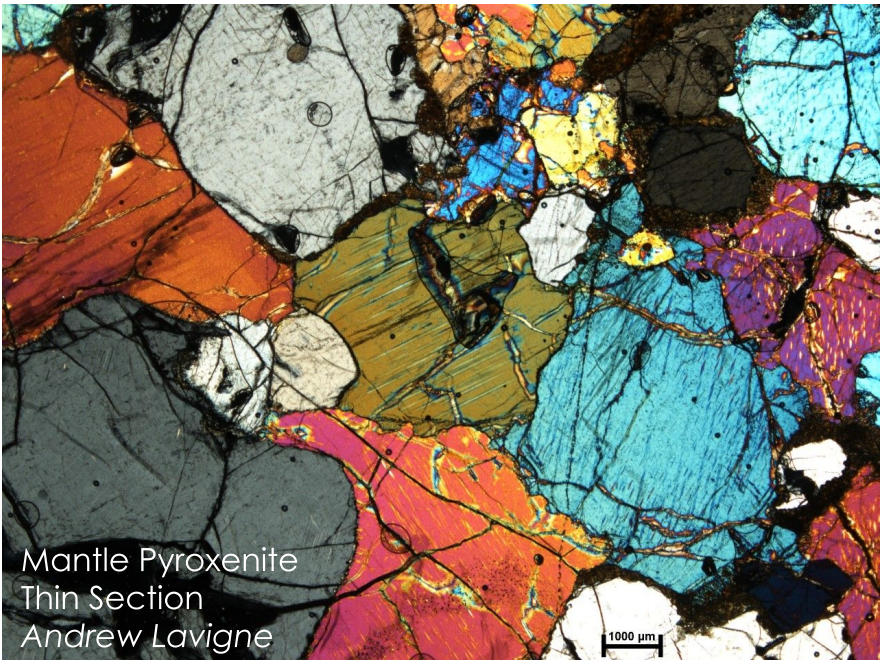
Luis B. Martinetti ⚡

Improving landscape models of stream chemistry: Assessing use of a groundwater watershed versus a surface watershed approach

Joe Lee-Cullin



Mt. Kazbek, dormant stratovolcano
in the Greater Caucasus
Luis B. 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



Samuel Dam, Rondonia, Brazil
Brent Heerspink