

Geoscience Lab Educator Share Fair

June 15, 2021

Detailed Schedule of Talks

Session 1A – Share Fair		
Time	Presenter	Title
9:00	Crystal Huscroft, TRU	Welcome and Territorial Acknowledgement
9:05-9:20	Terence Day, OC	What is the purpose of physical geography labs?
9:20-9:35	Gillian Krezoski, UVic	Facilitating student observations of local controls on stream form and function using a video blog assignment.
9:35-9:50	Chris Jackson, UNBC	Double submission labs: a structured approach – the good and bad
9:50-10:00	Stuart MacKinnon, UBC	Individualizing lab assessment in large classes (Part 1)
BREAK (15 min)		
Session 1B		
10:15-10:30	Karla Panchuk, UBC	Individualizing lab assessment in large classes (Part 2)
10:30-10:45	Craig Coburn, U Leth	Experiments with on-line learning modalities
10:45-11:00	Nina Hewitt, UBC	Piloting a digital alpine ecosystem tour for online experiential learning in the biogeosciences
BREAK (60 min – grab your food)		
Session 2 Brown Bag Desk Lunch – Sharing Challenges		
12:00-12:15	Craig Nichol	Discussion primer: Planning experiential and accessible lab learning. Do we plan for another pandemic?
12:15-1:00	Lunch Brown Bag Break-Out Sessions	
BREAK (60 min – tackle that inbox)		
Session 3 Lightning Presentations		
2:00-3:00	All participants	Networking: Things I want/need to do next year. Anyone have any advice or want to collaborate?
BREAK (15 min – grab your drink of choice)		
Session 4 Virtual Drinks Discussion		
3:15-4:00	All participants (welcome to stay longer)	Do we want to formalize?... Solving the world's problems and other topics.

Title: Piloting a digital alpine ecosystem tour for online experiential learning in the biogeosciences

Name: Nina Hewitt

Affiliation: Geography, UBC-Vancouver

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Abstract:

Field education is fundamental to the learning experience in the bio-geosciences, providing diverse benefits including learning in affective domain, promoting pro-environmental behaviour (Boyle *et al.* 2007; Kuo *et al.* 2019), collaborative relationships and instructor-student bonding; and fostering retention and diversity metrics relative to lecture situations (Beltran *et al.* 2020). During the 2020-21, remote online transition, actual field trips were not possible, and even under normal conditions pose challenges of access, especially to field sites that are remote from classrooms. Virtual field experiences are increasingly available to instructors and students on open education platforms. I had developed a series of virtual ecosystem tours, two of which I ran in undergraduate bio-geoscience courses (GEOB 102; GEOB 307). I present anonymous student feedback about an alpine ecosystem tour from the 3rd year course. In general, students responded very positively to the tour experience and, to a lesser degree, the assessments. I discuss the lessons I learned for integrating virtual tours more seamlessly in future.

References:

Beltran, R., E., Marnocha, A. Race, D.A. Croll, G.H. Dayton, E.S. Zavaleta (2020) Field courses narrow demographic achievement gaps in ecology and evolutionary biology. *Ecology and Evolution*, 10, 5184-5196.

Boyle, A., S. Maguire, A. Martin, C. Milsom, R. Nash, S. Rawlinson, A. Turner, S. Wurthmann, and S. Conchie (2007) Fieldwork is Good: The Student Perception and the Affective Domain. *Journal of Geography in Higher Education*, 31, 299–317.

Kuo, M., M. Barnes, C. Jordan (2019) Do Experiences with Nature Promote Learning? Converging Evidence of a Cause-and-Effect Relationship. *Frontiers in Psychology*, 10, 305.

Title: Individualizing lab assessment in large classes (Part 1)

Name: Stuart MacKinnon,

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Title: Individualizing lab assessment in large classes (Part 2)

Name: Karla Panchuk,

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Abstract:

“Like many others, my lab assessment before the COVID-19 pandemic was dominated by right/wrong lab assignment questions and lab tests that assessed the same kinds of questions as the assignments. Although explanations were usually required along with these questions, they were often simply assessed as ‘that sounds about right’ by the TAs doing the grading. When I joined forces with Karla Panchuk for the preparation of lab material and delivery of the Department of Earth, Environmental and Geographic Sciences’ (EEGS) first year labs* for the virtually delivered 2020/21 academic year (2020WT1

and 2020WT2), we knew this model had to change under the constructs of online learning and assessment.” – Stuart MacKinnon

**Earth Science (EESC 111) – 2020WT1 and 2020WT2; combined = ~ 150 students and 10 lab sections*

**Earth Systems: Weather, Climate, and Life (GEOG 108) – 2020WT1; ~290 students and 15 lab sections*

**Earth History (EESC 121) – 2020WT2; ~ 80 students and 5 lab sections*

**Earth Systems: Landscape Dynamics (GEOG 109) – 2020WT2; ~160 students and 10 lab sections*

This presentation will highlight the unique lab assessments used by the presenters to allow for individualized responses to lab assignments and lab tests; including the use of BARPs (Barely Adequate Rock Photos) for assessment. These assessments were developed to do be utilized in large classes with numerous lab sections, where teaching assistants (TAs) were responsible for the grading of lab assessments. They could however be employed with small class sizes.
