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GSA 2020 Connects Online

Paper No. 235-10

Presentation Time: 7:00 PM

DEVELOPING MULTIDISCIPLINARY IMMERSIVE VIRTUAL GEOSCIENCE FIELD TRIPS AT WEBER STATE UNIVERSITY IN OGDEN, UTAH

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Field trips provide high-impact learning experiences and are critical components of many Earth science courses. Field trips also mimic conditions students may face in future careers. Field experiences, including physical sensations, improve retention, help train students to work effectively in teams and plan complex tasks, and build strong bonds among students and faculty. However, field trips also present challenges to student accessibility, and to social distancing during the COVID-19 pandemic. Therefore, the Department of Earth & Environmental Sciences (EES) at Weber State University (WSU) has developed multiple immersive virtual field trips (iVFTs) to supplement and partly replace in-person learning for the Fall 2020 semester, and increase student accessibility in future semesters. The EES Department has four upper-division courses with integral field trips scheduled for Fall 2020 (Geomorphology, Structural Geology, Geomicrobiology, and Geoscience Field Methods). These courses are required courses for majors, and Field Methods is a capstone course that focuses on building skills that prepare graduates for graduate programs and the workforce. Faculty have prepared for a contingency where all instruction will be remote, along with having hybrid courses in which iVFTs are integrated with, rather than completely replacing, field components. Faculty, working in collaboration with the Creative Academic Technology Solutions team at WSU, have made video lectures in the field with live demonstration of measurement techniques, collected 360 degree spherical images using an automated camera mount, and are building 3-D point cloud representations of outcrops for fifteen separate field trips at twelve different locations along the Wasatch Front and Great Salt Lake in northern Utah. Images and videos are also being combined with geochemical, structural, and petrologic data sets within the iVFTs to provide an enhanced learning experiences. Content and lessons learned from student interactions with iVFTs will be shared with the broader geoscience community.

Session No. 235

[T240. Teaching Field Geology without the Field: Providing a Robust Capstone Experience through Digital Resources IV](#)

Thursday, 29 October 2020: 5:30 PM-8:00 PM

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