GSA 2017: 502. High Resolution Topography and 3D Imaging I: Introduction to Terrestrial Laser Scanning

863 Marianne Okal October 21, 2017 Geodetic Imaging, Short Courses 5029

Geological Society of America Annual Meeting Short Course, Seattle, WA

502. High Resolution Topography and 3D Imaging I: Introduction to Terrestrial Laser Scanning

Fri., 20 Oct., 8 a.m.–5 p.m., Sheraton Seattle, Seattle, WA.
Instructors: Christopher Crosby & Marianne Okal, UNAVCO

Abstract: This one-day course will provide faculty, students, and professionals with an introduction to terrestrial laser scanning (TLS, also known as ground-based LiDAR). TLS provides high-resolution 3D images of geologic features and has emerged as a powerful tool for applications ranging from outcrop mapping to analysis of earth surface processes. The course will focus on TLS technology, data collection, processing and analysis, and examples of science and educational applications. A combination of lectures and hands-on demonstrations of TLS equipment and data processing will be used.

Prior to the course, and if you would like to follow along with one of the software examples, please install CloudCompare v. 2.8 Hogfather (latest **stable** release - scroll down to find it) and download the following files:

- hh_NCALM_ALS.laz
- hh_tls_14_14022014_allreturns_upper.laz

*Note that CloudCompare is available for PC, MacOS and Linux platforms.

Agenda

8:00 AM Welcome & Course Introduction, About UNAVCO

8:30 AM Intro to laser scanning, Applications Examples (Crosby)

9:30 AM Break

9:50 AM Overview of Data Acquisition Concepts & TLS Workflow (Okal)

11:00 AM Hands on demos w/ scanner (1/2 group, 2x scanners - outside)

Overview of Data Processing and Analysis (1/2 group - classroom)

12:15 PM LUNCH

1:15 PM Hands on demos w/ scanner (1/2 group, 2x scanners)

Overview of Data Processing and Analysis (1/2 group - classroom)

2:30 PM Break

2:50 PM Future trends, community support resources, educational resources. Afternoon session Q&A and concluding thoughts.

3:50 PM Review scan data

4:20 PM Participants fill out GSA and UNAVCO ECE course evaluations

4:30 PM Adjourn

Online URL:
https://kb.unavco.org/article/gsa-2017-502-high-resolution-topography-and-3d-imaging-i-introduction-to-terrestrial-laser-scanning-863.html