

SG&T 2014 TLS Short Course

Introduction to Terrestrial Laser Scanning (Ground-Based Lidar) for Earth Science Research

Course Leaders:

Christopher Crosby (UNAVCO)

Marianne Okal (UNAVCO)

Tentative Workshop Agenda:

MORNING SESSION

- 9:00 AM Welcome & course introduction, participant intros
- 9:30 AM Intro to lidar and TLS, applications examples (*Crosby*)
- About UNAVCO
 - TLS and the LiDAR “spectrum”
 - Lidar definitions and terminology
 - Project examples
 - TLS Basic Concepts and Workflows
- 10:15 AM *Break*
- 10:30 AM Overview of Data Acquisition Concepts (*Okal*)
- Overview of data acquisition, processing, and workflow
 - GPS collection methods and georeferencing
 - Coordinate systems
- 11:15 AM *Break & UNAVCO Facility tour (Okal)*
- 11:30 AM Overview of Data Processing and Analysis (*Crosby*)
- Data formats and standards
 - Surface modeling
 - Change detection
 - Error budgets

LUNCH SESSION

- 12:15 PM Informal Q&A

AFTERNOON SESSION

- 1:00 PM Field data collection and Riegl scanner operation (*Okal & Crosby*) – group will split into two and we'll setup and operate the scanners on UNAVCO campus.
- 2:15 PM *Break*
- 2:30 PM Overview of a TLS project: data exploration, data processing, data products and interrogation. (*Crosby & Okal*)
- 3:15 PM Future trends, community resources. (*Crosby*)
- 3:45 PM Q&A and concluding thoughts.
- 4:00 PM *Adjourn*