



## SPECIAL SESSION 10

### Upscaling of lidar assessments of forest structure Terrestrial to Aerial to Satellite

*Andrew Hudak, USFS Rocky Mountain Research Station, 1221 South Main St., Moscow, ID 83843, USA;*

[andrew.hudak@usda.gov](mailto:andrew.hudak@usda.gov)

*Jody Vogeler, Colorado State University, Fort Collins, CO, USA; [Jody.Vogeler@colostate.edu](mailto:Jody.Vogeler@colostate.edu)*

*Jonathan L Batchelor, University of Washington, Seattle, WA, USA; [jonbatch@uw.edu](mailto:jonbatch@uw.edu)*

#### **The goal of the session**

LiDAR applications for estimating forest structure attributes have migrated from research to operational realms. At the core of regional lidar assessments of forest structure is the need to create and refine predictive models. Models can bridge gaps between lidar and image sample resolutions. Satellite imagery often offers the distinct advantage for monitoring in that data are collected both pre and post disturbance while lidar data rarely captures before and after data. Fortunately, this is quickly changing with the availability of spaceborne ICESAT-2 and GEDI datasets, which given their broader spatial and temporal sampling schemes, offer great potential for monitoring forest canopy structural change from disturbance events to undisturbed forest growth. With such a wealth of satellite data, reliable estimation will still require localized assessments of structure to calibrate (or validate) predictive models. The goal of this session is to highlight applications of multiscale lidar collections (i.e., terrestrial, mobile, UAV, airborne, spaceborne) that upscale lidar-derived estimates of forest structure attributes across larger areas.