Forest SAT 2026

Association for Forest Spatial Analysis Technologies

May 4-8, 2026 | Gainesville, Florida, USA

Title: From Scan to Insight: Operationalizing IntELiMon for Forest, Fire, and Fuels Management

Instructors/Affiliation:

- Scott Pokswinski

New Mexico Consortium

- Kurtis Nelson

USGS Earth Resources Observation and Science Center (EROS)

Description: The Interagency Ecosystem Lidar Monitoring Program (IntELiMon) aims to remove inherent limitations of most existing ecological, forestry and fuels monitoring programs by streamlining data collection, analysis and data delivery, removing observer bias, and developing training pathways that promote an efficient sustainable monitoring program. The result is a TLS-based monitoring program that can, after training data is collected and predictive models are built, complete a monitoring plot in minutes with the push of a button. This data can then be uploaded for processing and data delivery to the USGS Earth Resources Observation and Science (EROS) Center and displayed in under 24 hours. New pathways of co-production (managers working together with researchers to optimize tool building) have led to the development of Innovation Landscapes with the goal of improving user experience and applicability of improved legacy and newly developed planning tools including LANDFIRE, QUIC-Fire, FastFuels, and other applications.

Learning Objectives: The participants can expect to become familiar with the workings of IntELiMon, how to access the data, data analysis and collaboration frameworks and how the tool is currently being used. Familiarization with the tool will allow the participants to more easily integrate data products and workflows into their own research.

Target audience: Designed for lidar researchers in forestry and fire ecology, this session will guide participants through the practical implementation of IntELiMon methodologies into their research, introduce workflows to collaborate in predictive model generation and consult researchers on how they would improve the tools, whether that be newly requested features, improved user interfaces, data delivery improvements, or other suggested integrations.

Format & Activities:

- Introduction to IntELiMon lidar processing and workflow
- Field data collection and training data examples
- Training data Discussion
- Data analysis workflow and examples
- Data analysis exercise
- Application discussion and feedback

Expected outcomes:

Attendees will explore the extraction of structural variables applicable to forestry, ecological, and fuels modeling.

Language: English

Requirements: Participants should have at least an intermediate knowledge of lidar data, coding and data analysis and a laptop running a current version of R and RStudio is recommended but not required.

Schedule: Monday, May 4, 2026

Duration: 4 hours.

Instructor Biography:

Scott Pokswinski- New Mexico Consortium – Scott Pokswinski is the technical director of the IntELiMon program. He has nearly a decade of experience linking forestry, ecological and fuels measurements to lidar data.

Kurtis Nelson - knelson@usgs.gov - USGS Earth Resources Observation and Science Center (EROS) – Among many other projects at EROS, Kurtis Nelson manages the implementation of IntELiMon and has been a part of several terrestrial lidar research projects.

Agenda

Topic	**Instructor**
Introduction to IntELiMon lidar processing and workflow	Scott Pokswinski, Kurtis Nelson
Field data collection and training data examples	Scott Pokswinski, Kurtis Nelson
Training data Discussion	Scott Pokswinski, Kurtis Nelson
Break	
Data analysis workflow and examples	Scott Pokswinski, Kurtis Nelson
Data analysis exercise	Scott Pokswinski, Kurtis Nelson
Application discussion and feedback	Scott Pokswinski, Kurtis Nelson