**Title:** TLS Point Cloud Processing and Leaf–Wood Segmentation Using Open-Source Methods

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**Description:** Accurate segmentation of leaf and wood components is a critical step for tree structure analysis using Terrestrial Laser Scanning (TLS) data. This workshop introduces participants to open-source tools and workflows for preprocessing TLS point clouds and performing leaf–wood classification using both rule-based and machine learning approaches. Participants will gain hands-on experience with the following methods: i) TLSeparation – a heuristic algorithm based on geometric features; ii) DBSCAN – a density-based clustering algorithm adapted for geometric feature separation; iii) Graph-based method – identifies wood points by generating graph structure.

The workflow includes point cloud normalization, filtering, segmentation, visualization, and evaluation using reference data. Comparative performance of the methods will be discussed in terms of accuracy and transferability across species.

**Requirements:** Computer with R and Python (or Anaconda) environments installed. Instructions for installing specific packages will be provided in the workshop.

**Schedule:** October 30, 9:00 AM – 1:00 PM (EST)

**Duration:** 4 hours.