

## EXTRACTION OF NON-FOREST TREES FOR BIOMASS ASSESSMENT BASED ON AIRBORNE AND TERRESTRIAL LIDAR DATA

M. Rentsch<sup>1</sup>, A. Krismann<sup>2</sup>, P. Krzystek<sup>1</sup>

<sup>1</sup> Munich University of Applied Sciences, Department of Geoinformatics, Karlstr. 6, 80333 Munich, Germany – (rentsch, krzystek)@hm.edu

<sup>2</sup> University of Hohenheim, Institute for Landscape- and Plant-Ecology, August-v.-Hartmann-Str. 3, 70593 Stuttgart, Germany – a\_krismann@uni-hohenheim.de

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### ABSTRACT:

The main goal of the federal funded project ‘LiDAR based biomass assessment’ is the nationwide investigation of the biomass potential coming from wood cuttings of non-forest trees. In this context, first and last pulse airborne laserscanning (F+L) data serve as preferred database. First of all, mandatory field calibrations are performed for pre-defined grove types. For this purpose, selected reference groves are captured by full-waveform airborne laserscanning (FWF) and terrestrial laserscanning (TLS) data in different foliage conditions. The paper is reporting about two methods for the biomass assessment of non-forest trees. The first method covers the determination of volume-to-biomass conversion factors which relate the reference above-ground biomass (AGB) estimated from allometric functions with the laserscanning derived vegetation volume. The second method is focused on a 3D Normalized Cut segmentation adopted for non-forest trees and the follow-on biomass calculation based on segmentation-derived tree features.

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### Photogrammetric Image Analysis

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