Special Issue on Forest Structure Estimation in Remote Sensing

Forests are important ecosystems to all life on Earth. They provide shelter for many flora and fauna, rich resources for anthropogenic development and an important sink in the global carbon cycle. Satellite earth observation provides a critical capacity to observe this ecosystem wall to wall. Especially, Synthetic Aperture Radar (SAR) and Lidar technologies hold large potential to measure forest structure properties such as forest height and biomass and are consequently used in existing observation systems. In addition to the existing observation systems Space Agencies are implementing or planning dedicated satellite missions capitalizing on these technologies, such as ESAs BIOMASS, NASAs GEDI and NISAR missions or DLRs Tandem-L mission concept. Despite the direct sensitivity of SAR and Lidar technologies to forest structure the actual interpretation of the measurements is challenging. Forest structure, environmental effects and system parameters have a confounding effect on the measurements and need to be accounted for in the biophysical parameter retrieval. The impact of these factors is often not well understood and hampers our ability to make optimum use of available technologies and their synergies. This special issue aims to collect and highlight the latest results and lessons learned from existing satellite data and from recent airborne and tower based research campaigns.

For this special issue we invite contributions of unpublished original research in the following domains:
- Retrieval of forest structure parameters from Lidar, PolSAR, PolInSAR and TomoSAR data;
- Performance assessment of future GEDI, BIOMASS, NISAR and Tandem-L systems;
- Lessons learned from recent airborne and tower based campaigns relevant for forest structure retrievals;
- Synergies and complementarities between different sensor systems for estimating forest structure parameters;
- Assessment of different methods to collect forest structure parameters on ground suitable for verification and validation of space borne products (plot based inventory, terrestrial lidar, drone lidar).

Format:
All submissions will be peer reviewed according to the IEEE Geoscience and Remote Sensing Society guidelines. Submitted articles should not have been published or be under review elsewhere. Submit your manuscript on http://mc.manuscriptcentral.com/jstars, using the Manuscript Central interface and select the "Forest Structure Estimation in Remote Sensing" special issue manuscript type. Prospective authors should consult the site http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7676436 for guidelines and information on paper submission.

Important Dates
September 29th, 2017: Full paper submission deadline
September, 2018:   Publication Date

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