



3rd EARSeL SIG Forestry Workshop September 15-16, 2016, Krakow, Poland

“Breaking dimensions and resolutions of forest remote sensing data”

Background

During the last decade we are witnessing a global climate change leading to high frequency of disasters as hurricanes, droughts, forest fires, landslides, forest decline, insect outbreaks or floods. This situation requires us to develop a decision support system (DSS) for risks and damage assessment helping in the next step to adapt appropriate forest management planning strategies. Hence the importance of forest DSS are remote sensing technologies and GIS, but their implementation into forest practices still could be more widely and more efficiently than in the past. At the same time, in the field of forestry applications, a significant number of new remote sensing sensors and platforms delivering 2D and 3D very high resolution data, as well as far advanced automated data processing methods (like GEOBIA) were developed and are used for forest applications. Some of the state-of-the-art sensors and technical solutions will be very soon available on the RS market (like Sentinel-2) or, are announced for the upcoming months (e.g. WorldView-4) opening the new opportunities for research and practice.

Aims of the Workshop

The 3rd Workshop of the Special Interest Group on Forestry aims at setting up the common forum for the environment research community and people involved in the forestry sector, where both the operational techniques as well as developing methodologies can be presented and understood in order to improve the inventory methods, monitoring and management or protection practices used in the forests. The workshop will serve as a forum:

- to demonstrate the potential of the new generation of platforms, sensors and software,
- to present state-of-the-art methods of data processing and integration,
- to evaluate both benefits and limitations of the new technologies, and
- to discuss future needs of forest related research sector and end-users.
- To promote the integration of RS into operational practice

We are planning to offer young researchers and students the exchange of the knowledge and participation in lectures, practical demonstrations (like UAV flight campaign) and

software/data processing trainings as well. This activity is planned as Summer School "Advanced geomatics applications in forestry" (12-14 September, 2016) organizing just before the 3rd Workshop SIG on Forestry.

Scope of the 3rd Workshop

Proposed papers and posters should focus on following topics:

- from 2D to 3D forest inventory/management using digital Photogrammetry - image based stereo-matching; LiDAR (ALS, TLS, MLS) and Radar for tree/forest parameter derivation (eg. volume, age/height, tree species, forest type, biodiversity, horizontal/vertical structure, etc);
- forest change: 4D time detection of multi-temporal and multi-source information;
- forest mapping technologies using very high ground resolution imageries;
- applications of hyperspectral sensors (hand held, UAV, aircraft, spaceborne applications);
- automation of data processing (e.g. GEOBIA, LiDAR classification and vegetation metrics)
- state-of-the-art remote sensing technologies: spaceborne satellite sensors, UAV-LiDAR and hyperspectral mapping, TLS, etc.;
- multi-source RS data integration;
- mapping of forest decline/degradation/disasters; REDD+ issues
- modeling application on forest biomass;
- monitoring of protected forests, biodiversity and forest service's- related image analysis;
- forest parameter derivation for global monitoring and modelling issues (carbon stock, biomass, evapotranspiration, etc.)
- physical reflection/growth model integration, parameter estimation by inversion.

Organizers

The workshop will be organized by SIG on Forestry of the European Association of Remote Sensing Laboratories (EARSeL) and University of Agriculture in Krakow. You are very welcome to participate in a workshop with challenging topics. Please feel free to submit your individual input and to share your experiences with colleagues from around Europe.

Local organizer:

University of Agriculture in Krakow, Faculty of Forestry, Institute of Forest Resources Management, Department of Forest Management, Geomatics and Forest Economics.

Contact person: Piotr Wezyk, Assoc. Prof. (e-mail: p.wezyk@ur.krakow.pl) - Chairman of the SIG on Forestry, EARSeL. Shipping address: al. 29 Listopada 46, 31-425 Krakow; room 108.

Venue

Conference Centre of the University of Agriculture in Krakow

Address: al. 29 Listopada 46, 31-425 Krakow; WGS84: 50°4'58.081"N, 19°57'5.478"E