



EuroSDR Educational Service 2018

The 16th series of short e-learning courses from EuroSDR will begin with a **pre-course seminar** hosted by Prof. Markus Gerke, Institute of Geodesy and Photogrammetry, Technical University of Braunschweig from 26th to 27th February 2018. The goal of the seminar is to (i) introduce the topics and content of four e-learning courses; (ii) present the Moodle learning platform; (iii) give an opportunity to meet the participants with the tutors which among others creates a good base for further on-line communication. The seminar will be followed by e-learning. Each course requires about **thirty hours of online study** and it will be completed over a period of **two weeks** during spring 2018.



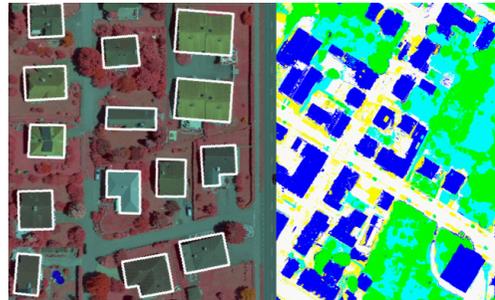
Oblique Aerial Camera Systems for Mapping Purposes

Tutors: Fabio Remondino & Isabella Toschi (FBK Trento), Francesco Nex (ITC/University of Twente), Markus Gerke (TU Braunschweig)

Oblique airborne photogrammetry is rapidly maturing and being offered by service providers as a good alternative or replacement of the more traditional vertical imagery and for very different applications. Nowadays many companies and most of the European National Mapping and Cadastre Agencies (NMCAs) still rely on the traditional workflow based on vertical photography but changes are slowly taking place also at production level. Some data providers have already run some tests internally to understand the potential for their needs whereas others are discussing on the future role of the oblique technology and how to possibly adapt their production pipelines. At the same time, some research institutions and academia demonstrated the potentialities of oblique aerial datasets to generate textured 3D city models or large building block models. The course provides an overview of oblique camera systems, processing methodologies and best practices with also practical works on oblique aerial blocks.

Dates: 5th–16th March 2018

Fees 600 € for pre-course seminar + 1 or 2 courses
700 € for pre-course seminar + 3 or 4 courses
100 € for pre-course seminar only



Topographic Maps by Classification of Remotely Sensed Imagery and Cartographic Enhancement

Tutors: Joachim Höhle (Aalborg University), Sébastien Lefèvre & Bharath Bhushan Damodaran (Université Bretagne Sud)

The course introduces advanced classification schemes with the goal to produce and update 2D topographic databases. The inclusion of the spatial descriptors such as geometry and shape are important to characterize the topographic objects in the orthoimages. This course will present some of the challenges in mapping from high resolution orthoimages. The solution to these challenges will be provided by the efficient and effective tool called as morphological attribute profiles. They are multi-scale attributes and are constructed by hierarchical representation of the images, thus enabling object-based image analysis. These characterizations are classified using well-established machine learning methods and different data sources (either raw or derived features). Different approaches to assess the thematic and geometric accuracy of maps will be discussed, and lastly the cartographic enhancement of the classification maps at different levels of quality will be presented. Solutions to the tasks are given by means of detailed course material including open source programs.

Dates: 9th–20th April 2018

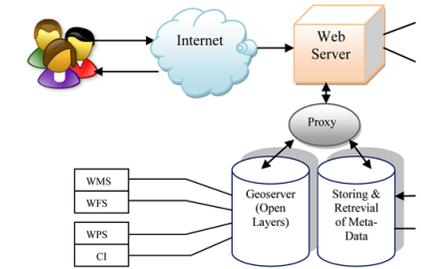


Terrestrial Point Cloud for Forest Modelling

Tutors: Liang Xinlian, Juha Hyyppä, Yunsheng Wang (National Land Survey of Finland)

Forest data are conventionally collected through labor-intensive and time-consuming manual measurement. Terrestrial point cloud became practically available twenty years ago, which documents three-dimensional (3D) environment with millions to billions of 3D points. The last two decades witnessed a rapid growth in the studies and applications. Tremendous efforts were put into research trying to answer key questions of using point cloud data in the forest measurement. The course aims at giving an overview on the state-of-the-art of forest modelling utilizing terrestrial point clouds, e.g. from terrestrial laser scanning, mobile laser scanning and series of images. The course will cover several topics, ranging from the background information (e.g. the instrument, the measurement principles and the potential applications), the summary of the research progresses in the last two decades, the fundamental steps in the data processing chain (e.g. noise reduction, tree detection, tree modelling and parameter estimations), to the pioneering studies. The course will also work on selected topics to discuss the influences of the terrestrial point clouds on the forest modelling.

Dates: 14th–25th May 2018



Open Spatial Data Infrastructures

Tutors: Bastiaan van Loenen (TU Delft), Joep Crompvoets (KU Leuven), Lars Bernard (TU Dresden)

This is an introductory course to Open Spatial Data Infrastructures (Open SDI). SDIs facilitate more and more the accessibility to open (spatial) data and provision of open services. Open SDI refers to standards, technologies, policies, and institutions necessary for opening the open data and services. This course gives a comprehensive overview on the state-of-the-art in Open SDI and its key components, introduces the participants to the underlying principles of Open SDI and lets them experience hands-on what it means to establish and maintain an Open SDI. A number of topics will be discussed: key standards, architectures, (network) services, relevant EU-regulations and policies, governance strategies, and key institutions. At the end of the course, participants are: informed about Open SDI strategies around the world, aware of the main strengths, weaknesses, opportunities and threats of Open SDI, familiar with the latest technological developments, capable to facilitate the opening of open data using latest developed tools, and able to evaluate Open SDIs.

Dates: 28th May – 8th June 2018

For more information visit
<http://www.euroedr.net/education/current>

