

Innovation and methods for data acquisition

The session will focus on proximal and remote sensing of soils with special attention to soil spectroscopy and to soil organic carbon as the target soil characteristic. Presentations will be considered dealing with: 1) methods of data collection (lab/field proximal/UAV/ airborne/ satellite; tools/instruments/platforms; standard procedures and/or protocols; spectral/spatial/temporal resolution; spatial extent etc.); 2) data processing (pre-treatment, model development and calibration, machine learning methods, downscaling/upscaling; building and exploitation of soil spectral libraries including transfer options between lab, field and remote data); 3) elimination of the effect of disturbing factors (soil moisture, texture, vegetation and plant residues, atmospheric conditions); 4) accuracy assessment and uncertainty (validation methods and approaches, criteria, ground truth determination, comparison of methods and models).