



UFZ Environmental Modeling & Monitoring Colloquium

Wednesday, 16 October 2023, 13:30 - 15:00 pm

UFZ Leipzig, KUBUS, Hall 1CD and Online

Observing the soil-plant-atmosphere system by multi-sensor remote sensing

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The ever growing fleet of remote sensing instruments on a variety of platforms (from drones to satellites) has reached a level where joint and holistic observations of the soil-plant-atmosphere system (SPAS) are enabled. The joint assessment of the different environmental compartments (from soil through plants into the atmosphere) allows insights into the interwoven mechanisms between water, energy and carbon cycles. Starting with the water dynamics within SPAS, the talk will present the latest efforts to analyze reservoirs (e.g. soil & plant moisture) as well as fluxes between compartments (e.g. evapotranspiration). But also the role and benefit of monitoring solar induced fluorescence or total water storage from gravity fields will be touched. This observation synergy of multiple environmental variables should lead towards a comprising monitoring of SPAS.

All interested colleagues are kindly invited.



Dr. Thomas Jagdhuber

received his Diploma in physical geography, physics, remote sensing and geoinformatics from Ludwig Maximilian University of Munich and Technical University of Munich in 2006 and his PhD from the Faculty of Science at the University of Potsdam in 2012. His main research interests include multi-sensor data integration with focus on active and passive microwave interaction theory and on polarimetric SAR techniques for hydrological, plant ecological and agricultural parameter modeling and estimation. Since 2007 he is affiliated with the Microwaves and Radar Institute of the German Aerospace Center (DLR) and since 2022 he leads the research group signatures. In 2014 he was honored with the DLR Science Award for his research on polarimetric decomposition techniques. From 2014 through 2019 and 2022 through 2023, he was a yearly visiting scientist at the Massachusetts Institute of Technology (MIT) contributing to the preparation and continuation of the SMAP mission. In addition, Dr. Jagdhuber serves as an associated lecturer for the University of Jena and the University of Augsburg (UniA). Since November 2020 he is a habilitation candidate at the Institute of Geography within the Faculty of Applied Computer Science at UniA supervised by Prof. Dr. Harald Kunstmann, Prof. Dr. Wolfgang Buermann and Prof. Dr. Ralf Ludwig (LMU Munich) researching on the observation of the Soil-Plant-Atmosphere System (SPAS), its status and response on climate change and other anthropogenic impacts. **For more details see:** <https://www.uni-augsburg.de/en/fakultaet/fai/geo/prof/geophy/geophy-team/t-jagdhuber/>