



## **An integrated approach for assessing soil moisture dynamics at the hillslope scale**

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A proper quantification of soil moisture dynamics is still a challenge for hydrologists, as soils are spatially heterogeneous, both laterally and vertically, and they are not transparent. Hence, it is a challenge to capture the spatial distribution of hydrologically relevant structures, states and hydraulic properties with the resolution required by hydrological models. Recent advances in sensor technology including wireless soil moisture monitoring networks and various geophysical measurement techniques together with new methods for data evaluation provide interesting opportunities for estimating field scale soil moisture dynamics and soil architecture. However, there are not many studies to date which combine these data with hydrological modelling in order to quantify field- or hillslope-scale soil moisture dynamics. We aim to make a first step in this direction by combining time series soil moisture data and electromagnetic induction measurements from the Schäfertal hillslope site to parameterize and calibrate a hillslope-scale hydrological model with the ultimate goal to quantify hillslope-scale soil moisture dynamics based on the available information. In this presentation we will provide an overview about the available data and the conceptual hydrological model.