

# SEMINAR

*Tuesday, March 21<sup>st</sup>, 2017, 16:00 h, ETH Hönggerberg HIL G 36.1*

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## ***SPATIAL ORGANIZATION OF DEBRIS FLOWS TRIGGERING RAINFALL: IMPACT ON THE IDENTIFICATION OF EARLY WARNING THRESHOLDS***

### ***Abstract***

Early warning of debris flows is often based on rainfall thresholds: empirical relationships between the depth (or intensity) and duration of rainfall that is expected to trigger events. We use weather radar to explore the spatial characteristics of rainfall events that led to ~100 debris flows in the eastern Italian Alps. We identify systematic patterns: the triggering rainfall presents a local peak in proximity of the debris flow initiation points and this characteristic is enhanced for severe triggering rainfall (longer return period). We discuss the impact of these characteristics on debris flows occurrence thresholds based on rain gauge measurements (point sampling of the rainfall field) and satellite estimates (spatial aggregation of the rainfall field).