

*Hydrology Seminar***New insights into debris-flow mechanics derived from high-frequency 3D laser scanners****Prof. Jordan Aaron**

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*Date: Tuesday 21 November**Time: 16:30-17:30**Room: ETH Hönggerberg, HIF D 80.2***Abstract**

Debris flows, which are surging mixtures of soil, woody debris and water, are an important process by which sediment gets transported downstream from hillslopes to the river network. They are also one of the main hazards that occur in mountainous regions, as they occur repeatedly in the same catchments. Our ability to understand and predict debris-flow depth, velocity, volume and discharge is presently limited by a lack of in-situ observations, however new sensors developed for autonomous driving can be used to overcome this limitation. These sensors provide data at over two orders of magnitude more resolution than was previously possible, and analysing this data has revealed surprising new insights into debris-flow motion. In this talk I will present these new results, and discuss their implications for understanding how debris flows contribute to shaping landscapes, and how we can improve the management of debris-flow hazards.