	Johan Gaume	**SWITZERLAND**

Johan Gaume (born 18 September 1985) is associate professor of alpine mass movements at ETH Zürich and at the WSL Institute for Snow and Avalanche Research SLF, Davos, Switzerland.

Research:

His research interest is in the initiation and propagation of gravitational mass movements with a particular focus on snow and avalanche mechanics, including the development of multiscale methods based on computational geomechanics validated using laboratory and field experiments. In 2018, he proposed a new approach based on a novel snow constitutive law and a numerical technique known as the Material Point Method to simulate both the release and flow at the slope scale (Gaume et al. 2018 *Nature Communications*). This model later allowed him and his group to discover a transition from sub-Rayleigh anticrack to supershear crack propagation during the release process of snow avalanches (Trottet et al. 2022, *Nature Physics*). His work on snow avalanches was extended to model glacier calving and tsunamis (Wolper et al. 2021, *Communications Earth & Environment*) as well as multiphase alpine mass movements (Cicoira et al. 2022. *Engineering Geology*). He is also known for proposing, together with his colleague Alexander M. Puzrin a plausible explanation to the Dyatlov Pass Incident, a famous Russian Cold case (Gaume and Puzrin, *Communications Earth & Environment*). His work improves the physical understanding of slope instability and mass flows with impacts on applied research related to risk assessment and management in mountainous regions.

Employment history:

2022 –	**Associate Professor** – ETH Zürich, Head of the Alpine Mass Movements Group ALMO, WSL Institute for Snow and Avalanche Research SLF, Davos
2019 – 2022	**Assistant Professor –** EPFL Lausanne, Head of the Snow and Avalanche Simulation Laboratory SLAB
2016 – 2018	**Research and Teaching Associate –** EPFL Lausanne, Laboratory of Cryospheric Sciences CRYOS
	Visiting Scholar - UCLA, Department of Mathematics, Los Angeles, USA, 2017
	Visiting Scholar – UPenn, Computer Science Department, Philadelphia, USA, 2018
2013 – 2016	**PostDoc –** WSL Institute for Snow and Avalanche Research SLF, Davos
2009 – 2013	**PhD student** – INRAE & Grenoble Alpes University, Grenoble, France

Honors & Awards:

2023	**IUGG Early Career Scientist Award**
2018	**Eccellenza** Professorial fellowship from the Swiss National Science Foundation SNSF
2015	**Ambizione** fellowship from the Swiss National Science Foundation SNSF
2013	**Swiss Government Excellence Scholarship** (SEFRI)

Early Career Scientist Award (2023)