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2nd Alpine Workshop on
"Fire- induced geohydrological processes
in mountainous areas"
April 25th-26th, 2025, Vienna, Austria

Dr. Fausto Guzzetti

"Geo-hydrological hazards in a warming climate"

Wann: Freitag 25.4.2025, 09.00 Uhr bis 10.00 Uhr

Wo: BOKU University, Schwackhöfer-Haus, 3. Stock, Seminarraum IBLB (Peter Jordan-Straße 82, 1190 Wien) , Anmeldung: office@geochange-consulting.com

"Climate change is unequivocal. However, the effects of a warming climate on geohydrological hazards, in particular floods and landslides, remain difficult to identify and predict. In the talk, I will discuss flood and landslide hazards in a warming climate. I begin by presenting general facts about the temporal and spatial occurrence of natural hazards. Building on key works from the literature, I then present my understanding of flood and landslide hazards and their impacts in a warming climate. Based on my experience at the Italian Department of Civil Protection, in the final part of the presentation, I will discuss key issues and challenges in using information and knowledge on flood and landslide hazards for risk reduction."

Short biography: As a researcher at the Italian National Research Council (CNR, https://www.cnr.it/), I spent most of my research career at the Research Institute for Geo-Hydrological Protection (IRPI, https://www.irpi.cnr.it/) in Perugia, where I studied landslides and other hazards.

After graduating in Geology from the University of Perugia (1983), I spent a year (1985-1986) at the U.S. Geological Survey (USA), and I obtained a Ph.D. in Geography from the University of Bonn (2004) with a thesis on landslide hazard and risk assessment. I have been Director of the CNR Research Institute for Geo-Hydrological Protection (2009-2019) and Director general for technical and scientific activities for risk prediction and prevention of the Italian Department of Civil Protection (2019-2023), an office of the Presidency of the Council of Ministers. I was President of the Natural Hazards division of the European Geosciences Union (EGU) (2002-2006).

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Dr. Francis Rengers

"Post wildfire debris flow hazard in Colorado, USA"

Wann: Freitag 25.4.2025, 10.00 Uhr bis 10.45 Uhr

Wo: BOKU University, Schwackhöfer-Haus, 3. Stock, Seminarraum IBLB (Peter Jordan-Straße 82, 1190 Wien) , Anmeldung: office@geochange-consulting.com

"Wildfires are common in mountainous areas of the western United States, and they lead to hydrologic and soil changes that increase the likelihood of debris flows. Debris flows are particularly hazardous to life and infrastructure, inundating suburban neighborhoods (e.g., Montecito, CA) and critical road, rail, and water infrastructure (e.g., Glenwood Canyon, CO). They have been observed to initiate via distributed runoff weeks to months fires, and also due to shallow landsliding 3+ years following wildfire. Research at the U.S. Geological Survey over the past two decades has sought to describe and quantify the hydrologic and geologic processes that interact to create conditions where debris flows are observed. This work has resulted in current models used at the USGS to estimate debris flow likelihood and volume, which are used for operational decision-making."

Short biography: For the past 10 years I have worked as a Research Geologist at the U.S. Geological Survey in the landslide hazard program (https://www.usgs.gov/programs/landslide-hazards). I have additionally spent time working in environmental consulting and for a state agency (The Colorado Water Conservation Board).

I obtained two undergraduate degrees in Geology and French, at West Virginia University (1999-2003), an M.S. degree from Colorado State in Fluvial Geomorphology (2003-2005), and a Ph.D. in Geoscience from the University of Colorado (2009-2014) with a thesis on highly erosive environments such as gullies and postfire hillslopes. Since 2014 I have worked at the U.S. Geological Survey on the topic of postfire debris flows. I was President of the Environmental and Engineering Geology division of the Geological Society of America (GSA) (2020-2024).