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Telesensing of Environment and
Model Prediction of Severe events



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I SEMINARI DEL CETEMPS

Alluvioni e siccità: Modelli socioidrologici per la gestione del rischio.



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Mercoledì 5 luglio 2023, ore 11:00
Aula Verde, edificio «Renato Ricamo» (Coppito 1)
Diretta Streaming sul Canale UNIVAQ
<https://www.univaq.it/live>

ABSTRACT

Misure ben intenzionate e interventi pensati per la riduzione del rischio idrologico, alluvioni e siccità, possono peggiorare la situazione. La ricerca in socio-idrologia ha permesso negli ultimi anni di studiare le interazioni e i feedback tra sistemi socioeconomici e idrologici e modellare il loro potenziale di generare crisi, effetti indesiderati e sorprese. Questo seminario descrive il progresso scientifico in questo campo ottenuto combinando metodi interdisciplinari (qualitativi e quantitativi), nonché osservazioni storiche e modelli matematici. Si discute inoltre l'obiettivo di informare meglio i processi decisionali per la gestione delle risorse idriche, compresa l'elaborazione di politiche e misure sostenibili per mitigare siccità e alluvioni.

BIOGRAFIA

Giuliano Di Baldassare is a Professor of Hydrology at Uppsala University (Sweden) and the Director of the Centre of Natural Hazards and Disaster Science (CNDS). He has been the recipient of prestigious prizes, including the Whitherspoon Lecture Award by the American Geophysical Union (AGU) in 2020 and the Plinius Medal by the European Geosciences Union (EGU) in 2021.

He studied Environmental Engineering with a focus on Water Resources at University of Bologna (Italy) where he graduated summa cum laude in 2002. After his PhD in Hydrology in 2006, he continued his scientific career as a postdoc at the University of Bristol (United Kingdom), and then as a senior lecturer at the UNESCO-IHE Institute for Water Education in Delft (The Netherlands). In 2012, he was awarded both the EGU Outstanding Young Scientist Award and the AGU Early Career Award. He was also the coordinator of the large European (FP7) project KULTURisk on the benefits of risk prevention.

Giuliano Di Baldassare moved to Sweden and joined Uppsala University in 2014, as a Professor of Hydrology. He was awarded by the European Research Council (ERC) the Consolidator Grant for his project HydroSocialExtremes, which addresses drought and flood risk. He is also the Director of the Centre of Natural Hazards and Disaster Science, which focuses on natural hazards, vulnerability, risk and societal security. He has been a leader (and the chair for the biennium 2017-2019) of Panta Rhei: Change in Hydrology and Society, the global initiative of the International Association of Hydrological Sciences (IAHS). Di Baldassare is also a dedicated educator. Besides teaching, he has mentored 11 postdocs and supervised 17 PhD students, while also doing dissemination activities in schools, international seminars, and high-level meetings with policy makers.

His research aims to unravel the interplay between water, environment and society, with a focus on the phenomena, crises and risks emerging from the feedback mechanisms between human and water systems. He has explored how the frequency, magnitude and spatial distribution of floods and droughts is influenced by societies (e.g. Nature Geoscience, 2016; Nature Sustainability, 2018; 2023; Nature Climate Change, 2022), which at the same time adapt and respond to their devastating impacts (e.g. Science Advances, 2018; Ambio, 2021, Nature Communications, 2021; Nature, 2022).

In addition to case studies in both low- and high-income countries, Giuliano Di Baldassare has pioneered the development of novel approaches and analytical tools for the assessment of hydrological risk based on a combination of geographic information systems and system dynamics models. These new methods explicitly account for the way in which societies both influence and respond to floods and droughts.

Giuliano Di Baldassare published more than 150 scientific articles, including several papers in multidisciplinary journals, such as Nature Sustainability, Science Advances, Nature Climate Change, and Nature. He has been ranked amongst the top cited scientists in the world (see CV), and his research work received attention from several media, including Bloomberg, The Guardian, The Washington Post, Scientific American, SVT, SverigeRadio, and the National Geographic.