University of Trento, Italy

Department of Civil, Environmental, and Mechanical Engineering

Hydrology and Water Resources Engineering Lab

Machine learning applications in water resources management

November 25, 2024, Seminar Room: 2R

(https://unitn.zoom.us/j/86284597047, passcode: 956528)

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09:45 – 10:00 Prof Bruno Majone, *Introduction and presentation of the guests*

10:00 – 10:30 Prof Giuliano Di Baldassarre, *Unravelling the complex interplay of hydrological extremes and human societies, Uppsala University, Sweden*

15 minutes for Q&A

10:45 – 11:00 *Coffee Break*

11:00 – 11:30 Dr. Sebastian Lerch, *Machine learning methods for post-processing ensemble weather forecasts, Karlsruhe Institute of Technology, Germany*

15 minutes for Q&A

11:45 – 12:15 Assist. Prof Matteo Giuliani, *AI for drought detection and forecasting, Politecnico di Milano, Italy*

15 minutes for Q&A

Giuliano Di Baldassarre is a hydrology and environmental analysis professor at Uppsala University, Sweden. He is also the director of the Centre of Natural Hazards and Disaster Science (CNDS). His interdisciplinary work combines qualitative and quantitative research methods to unravel the interplay between water, environment, and society. The aim is to advance fundamental science and inform policy in the context of disaster risk reduction, climate change adaptation and sustainability.

Website: https://www.uu.se/en/contact-and-organisation/staff?query=N14-377

Dr. Sebastian Lerch is a Junior research group leader at the Institute of Statistics at the Karlsruhe Institute of Technology, Germany. His research interests include probabilistic forecasting, machine learning, mathematical methods for forecast evaluation, and applications in environmental sciences and economics

Website: https://sites.google.com/site/sebastianlerch/home?authuser=0

Dr. Matteo Giuliani is an assistant professor in the Environmental Intelligence for Global Change Lab at the Politecnico di Milano. The primary focus of his research is the integrated management of water resources in complex engineering systems involving multiple actors and exposure to evolving multisectoral demands and global change. His research areas include multi-objective optimization and control algorithms, decision-making under uncertainty, machine learning, and multi-agent systems. Dr. Matteo Giuliani has been awarded the 2021 EGU Outstanding Early Career Scientist Award for the Hydrological Sciences Division.

Website: https://giuliani.faculty.polimi.it/

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The Workshop is organized by the *Hydrology and Water Resources Engineering Lab:*
Prof. Alberto Bellin
Prof. Bruno Majone
Dr. Diego Avesani
Sameer Balaji Uttarwar, PhD Student

The Workshop is also sponsored by the *Physics-Based Machine Learning Lab*