



PhD course

STOCHASTIC METHODS IN HYDROLOGY



Teacher: **Dr. Theano Iliopoulou** (National Technical University of Athens, Greece.
Visiting researcher at POLITO with the Erasmus programme).

The course will offer an introduction to stochastic methods applied to the field of hydrology. It will provide a basic overview of probability theory and statistics and introduce the notion of stochastic processes. The most common probabilistic models used for hydrological processes and their extremes will be presented. Simple stochastic models will be introduced, and related simulation algorithms will be applied in class.

Schedule:

- 5 July 2024, 09:30, Sala Multifunzionale DIATI 3: CAFES Seminar "The importance of stochastic methods in hydrology and extremes: Insights from Greece". A general overview of the course will follow.
- 8 July 2024, 09:00, Aula Bibolini: Introduction to probability, statistics, and stochastic processes for hydrology
- 11 July 2024, 09:00, Aula Bibolini: Common distributions used for hydrological processes and their extremes
- 15 July 2024, 09:00, Aula Bibolini: Basic stochastic models and simulation algorithms applied for hydrological processes
- 16 July 2024, 09:00, Aula Bibolini: State-of-the-art applications in hydrology

Please register to the course by the 20th of June!



Bio



Theano Iliopoulou is a Research and Teaching Associate at the **Department of Water Resources and Environmental Engineering** at the National Technical University of Athens (NTUA). She holds a Ph.D. in Civil Engineering from NTUA, where her research focused on stochastic methods for hydrological extremes. She also holds an MSc in Hydrology and Water Resources Management from Imperial College London, and a Diploma in Civil Engineering from NTUA. Her research interests include rainfall hydrology, hydroclimatic extremes and their spatio-temporal dynamics, and novel applications of stochastic methods in water resources and environmental research. She is co-author of 36 papers in international scientific journals, 2 book chapters, and over 80 presentations in international conferences. She has worked as a researcher in several European and national research projects, as an external consultant for civil engineering companies and as an adjunct lecturer at the University of West Attica. Recently, she was the principal investigator of a national-scale project for design rainfall curves in Greece. Since 2019, she serves as a convener of the session "Future Hydroclimatic Scenarios in a Changing World" at the European Geosciences Union.