



Principles of catchment-scale hydrological modelling

June, 26-30, 2017, University of Salento, Lecce, Italy

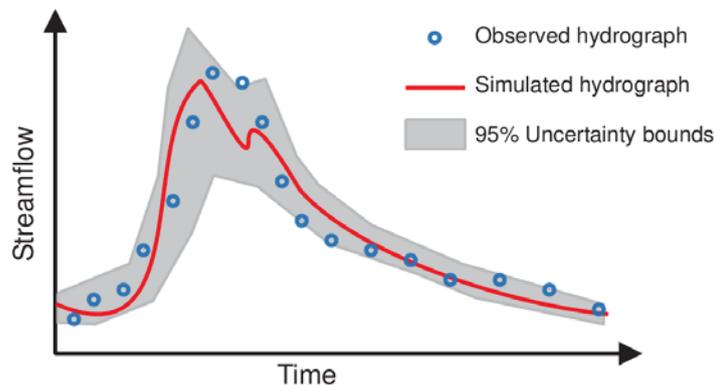
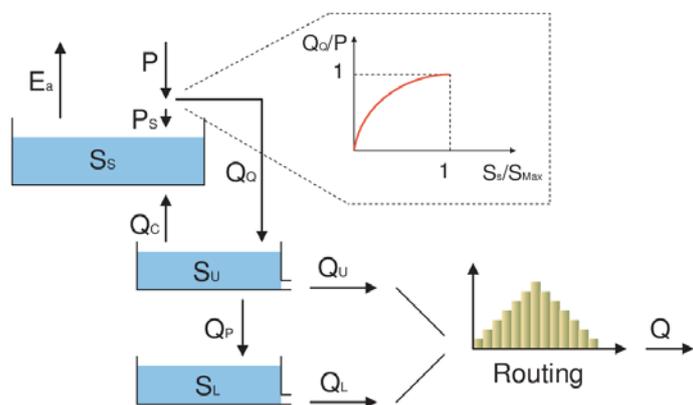
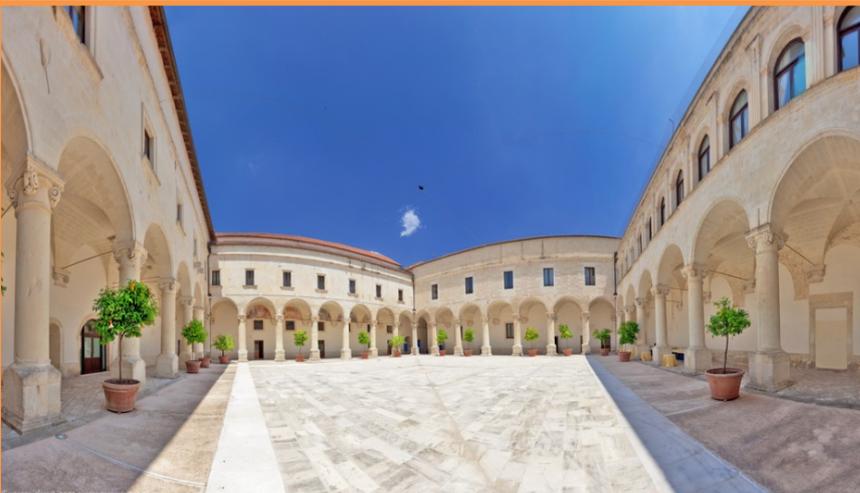
Overview:

Environmental modellers increasingly require robust and practical approaches for model development and evaluation. With the support of the **European Geosciences Union (EGU)**, the **University of Salento** jointly with the **University of Adelaide** (Australia) and the **Eawag** (Switzerland) are presenting a short course on catchment-scale hydrological modelling. The following topics are included:

- Hydrological model development using mass balance and constitutive functions
- Numerical methods for hydrological models
- Bayesian methods for model calibration and prediction
- Lumped and distributed hydrological models
- Hypothesis-testing in catchment scale hydrology
- Hydrogeology and hydroclimatology of South Italy and the Mediterranean region

The course will include a 1-day field trip showing the hydrogeological and hydrological characteristics of the Salento peninsula.

The course is suitable for researchers (PhD students, Masters students and postdocs) in the field of hydrology and broader environmental sciences with an interest in the workshop themes.



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Organizers

- Dr Fabrizio Fenicia (Eawag, Switzerland)
- Prof Dmitri Kavetski (University of Adelaide, Australia)
- Prof Piero Lionello (University of Salento, Italy)
- Dr Riccardo Buccolieri (University of Salento, Italy)

Lecturers

- Prof Dmitri Kavetski (University of Adelaide, Australia), Dr Fabrizio Fenicia (Eawag, Switzerland), Prof Piero Lionello (University of Salento, Italy), Prof Paolo Sansò (University of Salento, Italy) and Prof Sergio Negri (University of Salento, Italy)

Application

- The course fee is EUR 150 (thanks to EGU sponsorship). The fee includes lunches and refreshments, but does not cover travel or accommodation. The course is limited to a maximum of 20 participants.
- Please send your applications to fabrizio.fenicia@eawag.ch. Please include your contact details and a brief statement of your academic background and interest in the course
- Deadline for applications is May 30, 2017 but the course may be booked out earlier
- Participants are expected to organize their own travel and health insurance

Prerequisites

- Interest in and basic knowledge of catchment scale hydrology
- Good programming skills (ability to write scripts, use functions, loops, etc)
- Good mathematical and statistical skills (able to carry out basic derivations, work with Gaussian pdf, etc)
- Participants are expected to bring their own laptops, with a programming language installed
- The course will be delivered in English; Exercise solutions will be demonstrated in Matlab

Outcomes

- Learn how to build a simple hydrological model (conceptual design and numerical implementation)
- Learn how to calibrate the hydrological model using basic Bayesian methods
- Learn how to estimate uncertainties in model parameters and predictions under basic assumptions
- Gain an appreciation of the utility of field knowledge in environmental modelling (e.g. inference of dominant processes, diagnostic appraisal of model "realism")
- Gain an understanding of the hydrogeology and hydroclimatology of South Italy and Mediterranean region
- Preparatory material such as research articles and tutorials related to the workshop are available on request

Venue University of Salento, Rettorato - Sala Conferenze, Piazzetta Tancredi, 7 - 73100 Lecce (Italy)



Lecce is a historic city in the Apulia region of Italy, characterized by rich Baroque architectural monuments.

The closest airports are in Brindisi (BDS) and Bari (BRI), from which Lecce can be reached by bus or train. Lecce is also connected by direct trains to several major Italian cities, including Rome and Milano.

The school will be held in the historical building of the University of Salento, in the city centre.