



Open Invited Track Proposal on

Predictive Control of large-scale water systems

Organizers

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Summary Statement

Water networks are large-scale systems that must be controlled to better answer to the Human' needs. It is particularly true in the context of climate change and population increase. The Automatic Control community has already well contributed in this field by the design of models (predictive model, model dealing with uncertainties) and control algorithms (Model predictive control, optimal control, among many others). The latter topic has found a great interest during the last IFAW WC in 2017. We expect the same interest for the next edition of the IFAW WC since we think that the predictive management of water systems is still an ongoing challenge for the Automatic Control community. The design of predictive and efficient water management strategies can gather multidisciplinary expertise from researchers belonging to computer sciences (machine learning, Artificial Intelligence) and control theory. This track offers the opportunity to exchange ideas and interact between researchers and water managers. Topics of the track include but are no limited to:

- Modeling of large-scale systems (physical-based or data-based models)
- Optimization approaches
- Robust/Adaptive control
- Model predictive control
- Centralized control
- Decentralized/distributed control
- Coalitional control
- Nonlinear control
- Hierarchical management/control schemes

This Open Invited Track is proposed in the framework of the IFAC TC 8.3 “Modelling and control of environmental systems”.

Key dates

- **31 October 2019** - Draft manuscript submission
- **February 2020** - Notification to authors
- **31 March 2020** - Final paper submission deadline
- **12 -17 July 2020** - IFAC World Congress in Berlin

Invited session identification code: **v8d6n**