

Process modelling, monitoring, and automation for wastewater treatment

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Process modelling, monitoring, and automation of wastewater treatment systems is challenged by the presence of processes occurring at diverse time-scales, nonlinear phenomena, lack of high-quality data, and the need to handle hard-to-predict variations in the volume and quality of the incoming wastewater. With this session, we solicit for submissions that describe systematic approaches to deal with the severe challenges one confronts when applying computer-based engineering tools in wastewater treatment.

Exemplary topics include:

- Model structure selection and parameter estimation
- Methods for data quality evaluation and data reconciliation
- Model identification and uncertainty analysis
- Process monitoring and control with uncertain models and low-quality data
- Advanced control of wastewater treatment systems

Preferably, submissions include validation with experimental data, collected in laboratory-scale, pilot-scale, or full-scale processes