

## Eawag Seminar Invitation

# Climate change impacts on water availability in Germany - Can water reuse be part of the solution?

**Speaker** Dr.-Ing. Jörg E. Drewes, Chair of Urban Water Systems Engineering, Technical University of Munich, Germany

**When** November 10, 2022, 16.00 – 17.00, CET

**Where** Eawag Dübendorf, room FC C20 and online via Zoom, contact [seminars@eawag.ch](mailto:seminars@eawag.ch) for access details.

**Abstract** Climate change impacts increasingly challenge the availability of water resources also in regions that haven't experienced water shortage in the past. To mitigate frequency and severeness of extended droughts, the EU Commission has adopted, for the first time, new regulations specifying minimum requirements for water reuse practices as an alternative water resource option in Europe. Germany like other member states is currently adopting these regulations into national law recognizing the need to diversify water supply options. However, with no prior water reuse practices in Germany, this has resulted in a discussion regarding appropriate standards to properly manage risks in order to protect public health and the environment. This talk will present findings from the development and implementation of a water reuse project to demonstrate both urban and agricultural irrigation as well as groundwater recharge informed by risk-based principles in Lower Franconia, Germany. A multi-barrier treatment train, comprised of ceramic ultrafiltration, ozonation, biologically-active activated carbon filtration, and UV-disinfection, is employed to mitigate microbial and chemical contaminants. The performance of individual processes and the reliability under challenge conditions had been investigated. In addition, the underlying risk management is assuming irrigation practices to follow agronomic rates. This concept for the first time is implemented by a demand-based irrigation and recharge practice using IoT approaches. This talk will also reflect on challenges, perceptions, and lessons learned while adopting a new water supply practice and pursuing uncharted territory by stakeholders and regulators.