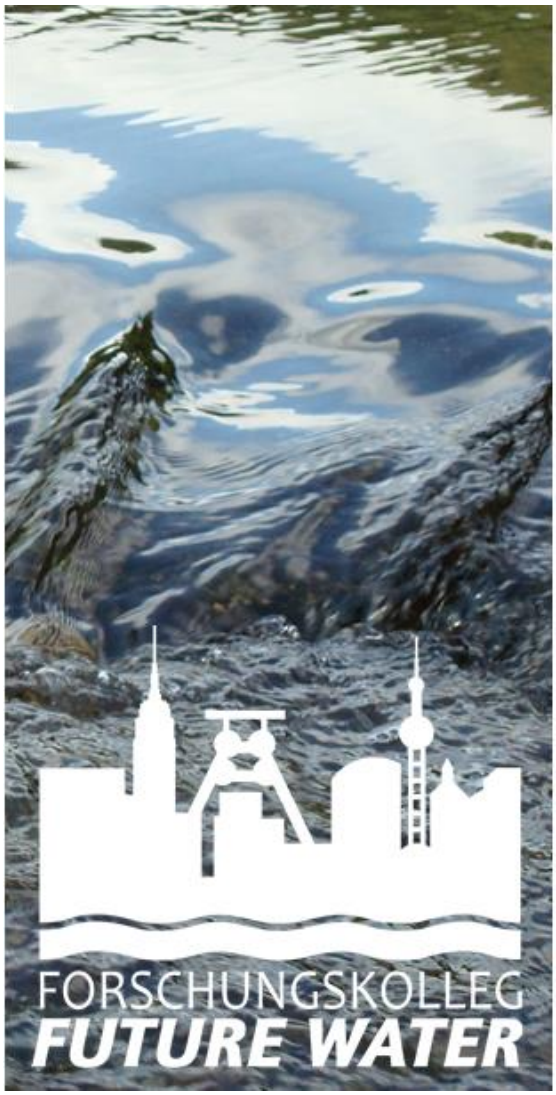
NRW Forschungskolleg FUTURE WATER



About FUTURE WATER

Humanity's intensive water use is rapidly changing the dynamics within water bodies such as rivers, lakes, groundwater and seas. A sustainable water management is therefore one of the main challenges of our age. Within the so called „NRW-Forschungskolleg FUTURE WATER", several scientists deriving from various subject areas are collaborating in order to conduct interdisciplinary research in the field of urban water cycle and water management. In overall, there are 16 subprojects - respectively PhD-projects - focussing on water management from various fields, i. e. engineering, natural, social and economic sciences.

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#futurewater14

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Contact:

Juliane Koti, M.Sc.
Universität Duisburg-Essen
Fakultät für Ingenieurwissenschaften
Abteilung Maschinenbau und Verfahrenstechnik
Lehrstuhl Mechanische Verfahrenstechnik / Wassertechnik
Lotharstr. 1
47057 Duisburg
juliane.koti@uni-due.de

Conceptual Study on the Implementation of a Regional Water Cycle

The European Water Framework Directive (WFD) states that rivers, lakes, transitional and coastal waters, and groundwater achieve “good chemical and ecological status” by the year 2027 at the latest. In this context, within the PhD-project “ Conceptual Study on the Implementation of a Regional Water Cycle”, it will be determined how the regional water cycle can be closed (from waste water effluent to the provision of process- or drinking water) in order to reduce or prevent emissions from municipal waste water to receiving water bodies.

Based on international experiences (literature research and experience exchange) of realized, industrial scale water reuse plants, process data, quality parameters and framework conditions have to be evaluated in order to identify available and suitable processes and technologies. In collaboration with Emschergenossenschaft/Lippeverband as practice partner, a conceptual study will be developed for a defined research area in North-Rhine-Westphalia. Taking into consideration the fulfilment of defined water quality criteria, demands for sewer system and treatment technologies will be specified and evaluated according to their technical, ecological and (socio-)economic impacts. Finally, the feasibility of the developed water reuse concept is evaluated regarding advantages and disadvantages and the transferability on other regions within Germany is evaluated.

Funded by: Ministerium für Kultur und Wissenschaft des Landes Nordrhein-Westfalens

Duration: 01.01.2019 - 31.12.2021

Coordinated by: ZWU Zentrum für Wasser- und Umweltforschung

Team

- PhD-student: Juliane Koti
- Supervisor:
    - Prof. Dr.-Ing. Stefan Panglisch (Universität Duisburg-Essen, Mechanische Verfahrenstechnik/Wassertechnik)
    - Dr. Steven Engler (Kulturwissenschaftliches Institut Essen)
    - Prof. Dr.-Ing. Burkhard Teichgräber (Emschergenossenschaft/Lipperverband)
- Mentor: Prof. Dr. Elke Dopp (IWW Zentrum Wasser)