

14th International Conference on Urban Drainage

September 10-15, 2017 | Prague, Czech Republic



Title of the Special Session: **Hygienically relevant microorganisms: pathways from sewer systems into surface waters and treatment techniques**

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Description of the Special Session topic: Discharges and overflows from both combined and separate sewer systems contribute to hygienically relevant pollution of surface waters. Since people use urban surface waters for recreational purpose and drinking water production, this can be severe when it comes to health-related effects. Solid particles and dissolved substances of all kinds are discharged as well as bacteria, viruses and parasites. The main focus in terms of pathogens is usually set on fecal indicator bacteria, such as *E. coli*, intestinal enterococci (EU, 2006) or thermotolerant coliforms (WHO, 2008). The general idea of indicator parameters is to use parameters that correlate with other critical pathogens in order to be able to conclude to a health risk by measuring these parameters. However, several investigations could not confirm such correlations, e.g. between fecal indicator bacteria and fecal viruses (Baggi et al., 2001). Regardless of that, these other pathogens might pose higher risks to human health. The same is true for antibiotic resistant bacteria. In the recent years, it became clear that more and more antibiotics fail to treat infections caused by bacteria resistant to one or several commonly used antibiotics. One pathway of resistant bacteria and genes could be the sewer system. Controlling these pathways and improving the hygienic situation of rivers is crucial in a growing society. Thus, this session should help to exchange current knowledge on pathways of and treatment techniques for hygienically relevant microorganisms and raise an awareness of the risks associated with the discharge of sewers into surface waters. Viruses and antibiotic resistant genes and bacteria are of major concerns regarding possible future epidemics.

Targeted group of participants: Researchers on topics such as detection, pathway tracking and modelling as well as elimination of the pathogens and antibiotic resistant bacteria and genes from sewer system discharges as well as on risk assessment (QMRA, DALY etc.). Stakeholders (municipalities, water authorities, NGOs) working on wastewater treatment and public health. Industry developing treatment techniques.

Proposed format of the Special Session including the duration: Two hour session with two or three foci depending of the abstracts and concluding panel discussions. Abstracts can be submitted from research projects as well as from case studies.

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