

## Special Session SS-4-7

- **Title**

Management of Combined Sewer Overflow (CSO) towards climate resilient city

- **Organiser**

Organisation: The Society for Ecological Rehabilitation of Beijing

Representative: Junguo Liu

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- **Co-organiser**

None

- **Potential Presenter**

1. Presenter: Yuansong Wei

Affiliation: Researcher

Organisation: Research Centre of Eco-Environmental Sciences, Chinese Academic of Sciences, China

2. Presenter: Dawei Yu

Affiliation: Associate researcher

Organisation: Research Centre of Eco-Environmental Sciences, Chinese Academic of Sciences, China

3. Presenter: Luca Vezzaro

Affiliation: Researcher

Organisation: Department of Environmental and Resource Engineering, University of Copenhagen, Denmark

4. Presenter: Marina Bergen Jensen

Affiliation: Researcher

Organisation: Department of Geosciences and Natural Resource Management, Technical University of Denmark, Denmark

- **Alignment with Congress**

4. 4. Supporting Aquatic Ecosystem Health and Functions

- **Session description**

Relevance and Goals Rainfall drives sediments building and flushing in city's combined sewer system, which responds to climate action and sustainable cities and community (UN SDG 11 and 13). Combined sewer overflow are hubs for

extreme weather, urban planning, water, sanitation, waste management, disaster risk reduction, and capacity-building are all relevant issues to world water congress. Combined sewer overflow leaks untreated urban wastewater into water body, which considered a growing threat of human healthy and sustainable city. Significant management needs raised in urban sewer system to facilitate urban resilience to rainstorm in fulfil of sustainable development goal 11 (SDG 11). The XVIII World Water Congress is the ideal platform to bring together a core group of CSO professionals from different backgrounds (academics, utilities, consultants) in order to facility management of combined sewer overflow.

**Workshop outcomes** The workshop will discuss the effects of temporal evolution of rainfall on hydrograph and pollutant discharge of combined sewer overflow, with special attention to differences in temporal scale for supporting management decision making. There will be case reported in Beijing and Copenhagen, as case study responds to climate action and sustainable cities and community (UN SDG 11 and 13) in China and EU. The combined effects of rainfall, urbanization, and sediments as "CSO troika" are the driving forces for CSO pollutants in the long-term. The workshop will discuss effective measures for the improvement of best management practices of CSO control, and (iii) provide insight for long-term organizational decisions of the best management practices for controlling CSO pollutants discharge. Related data and methodology will be discussed to facilitate the understanding of the CSO and its managements. The improved characterization of CSO events and the associated pollutants has refined our understanding of how overflow hydrograph and pollutant discharge responds to rainfall temporally, which methodology supported decision making in the combining source/process control with terminal management for facilizing urban resilience.