Water Webinars

K. N. Toosi University of Technology

CISTC CENTER OF INTERNATIONAL SCIENCE AND TECHNOLOGY COOPERATION

CONNECT To create more value

Water Whispers Wednesdays Webinars

Registration is free, but required: https://forms.gle/5iGioLY7TpZBDFt19

Salar Haghighatafshar

Project Manager; Lecturer

Sweden Water Research; Lund University

Sweden

Speaker

salar.haghighatafshar@swrab.se

Wednesday, 03 January 2024 (1402 دی 13)

14h30-15h30 (Tehran) | 11h00-12h00 (GMT) | 19h00-20h00 (Beijing)

Hybrid

Connect to https://meet.kntu.ac.ir/b/rooms/r44-krm-ejd-0qw/join?lng=en

Come to meeting room, 3rd floor, Building A, Faculty of Civil Engineering

Climate Adaptation of Urban Stormwater Systems

Abstract

Precipitation is intrinsically associated with high uncertainty, which is exacerbated exponentially over time, especially concerning climate change. However, the current design practice in urban drainage infrastructure remains firmly bound to deterministic assumptions regarding the design load. This approach is too simplified—focusing only on the return period of the design event—and ignores the complexity of drainage systems and the potential changes in catchment hydrology and the at-risk valuable assets within. Therefore, the current design approach is inherently an unsustainable practice that cannot deal with extreme uncertainties associated with urban drainage and flood resilience in changing climate and society. In this presentation, we will examine the current deterministic design practice and encourage a collective discussion on the need for a paradigm-shift in the engineering of urban drainage infrastructure. In a changing society and an uncertain climate, climate adaptation should be a continuous work that needs to be integrated into societal development and become part of traditional management and maintenance work. The ultimate objective is to enable problem-owners, engineers, and decision-makers to quickly and continuously see where the problem is the biggest and which measures should be implemented where and when. In the shadow of economic difficulties and the limitation of resources, this shall be done with regards to the assessed risk landscape for our cities through a risk-based design.

Biography

Salar holds a Ph.D. from Lund University, Sweden. His dissertation focused on monitoring, modeling, evaluation, and optimization of blue-green stormwater systems—as measures within the concept of nature-based solutions (NbS)—for sustainable urban drainage. Today, he works as a project manager at Sweden Water Research focusing on the enhancement of urban water planning and design paradigm in urban drainage to face the challenges of an uncertain future. His interest area includes the application of AI and Machine Learning techniques in the field of urban drainage. At Sweden Water Research, Salar has the primary responsibility for two projects: firstly, the company's contribution to Mistra InfraMaint phase II, which focuses on climate adaptation of the urban stormwater drainage system; secondly, the R&D collaboration on the use of X-band radar in the Öresund region (covering regions in both Denmark and Sweden). He is investigating how today's urban water infrastructure can respond to climate change and urbanization challenges with respect to planning, design and management. Salar has also a part-time employment at Lund University to supervise master's thesis and Ph.D. students. He is the coordinator and the main lecturer of the course "Urban Storm Water Management" (VVAN30) at Lund University, Faculty of Engineering.

Moderator

Mohammad Javad Ostad Mirza Tehrani

mohammad.tehrani@kntu.ac.ir

Save the date for the next event on May 8, 2024

#KNTUWaterWebinars

2024 Series

1

Follow us on:

waterwebinars.civil.kntu.ac.ir

waterwebinars@saba.kntu.ac.ir

linkedin.com/company/waterwebinars