Danish Water Forum, Water research conference, 2025

Overview of technical presentations and sessions.

Plenum session 10.00 – 12.00: Stakladen

10.00	Opening by the chairman of DWF, **Hans-Martin Friis Møller**
10.05	Conference practicalities by **Jesper Goodley Dannisøe**, DWF
10.10	**Keynote:** The European Blue deal**, Arthur Guischet**, European Water Association
10.40	The Urban Wastewater directive: How to approach the directive in Denmark? **Joannes J. Gaard**, Ministry of Environment, Denmark
10.55	Development in rain intensity in Denmark, **NN**, Danish Meteological Institute
11.15	How to handle and plan for extreme events, **NN**, Vejle Forsyning
11.30	New solutions to combat storm water, **Nicolai Friberg**, Eco Science, Aarhus University
11.55	Closure of the morning session
12-00	Lunch
12.45	Parallel sessions

SESSION 1: EU Invests in Water Innovation – discussions around the forthcoming EIT Water, Marine & Maritime Knowledge Innovation Community (KIC)

As part of Horizon Europe, EU's main program for Research and Innovation, the EIT is set to create a new Knowledge and Innovation Community (KIC) in the field of water, marine and maritime sectors and ecosystems. KIC will unite water, marine, and maritime innovators to join the EIT Community and build a pan-European partnership that addresses the most pressing challenges facing water-related innovation ecosystems.

Denmark plans to have a central role in the forthcoming EIT Water KIC and we are inviting you to join this workshop to learn more about the EIT Water KIC call and give your input to the forthcoming application.

Lean more about the EIT Water here: https://eit.europa.eu/our-activities/call-for-eit-communities/eit-water

Hosted by Water Valley Denmark; contact: Janni Thusgaard - jth@watervalleydenmark.com

SESSION 2: Groundwater and water supply

Impact of natural electric fields on ion transport in groundwater; **Perrine Marguerite Fernandez, Aarhus University**
Groundwater Recharge Estimation from Multiple Independent Methods in Fractured Hard-Rock Aquifers in Densu Basin Ghana; **Bismark Awinbire Akurugu, Water Research Center Ghana**
Innovative UV Reactor for Complete Degradation and Defluorination of PFAS without Additives in Water Treatment; **Shuang Luo, Aarhus University**
High-resolution hydraulic conductivity estimates from borehole nuclear magnetic resonance (NMR); **Seyyed Reza Mashhadi, Aarhus University**
Assessing the needed supply buffer for Copenhagen's water supply; **Martin Rygaard, HOFOR**

SESSION 2: Groundwater and water supply
Public online updatable hydrostratigraphic geological model used for groundwater administration in Denmark – a road trip and lessons learned; **Tom Martlev Pallesen, I-GIS**
Robust and automatic validation of sensor data from combined drainage networks; **Rocco Palmitessa, DHI A/S**
Implementing an IoT sensor network in a horizontal subsurface flow constructed wetland pilot for real-time monitoring of hydraulic patterns; **Christian Overlund, DTU**

SESSION 3: Hazardous substances and PFAS
Source tracking and simulation of the fate of hazardous substances in Odense Fjord; **Jens Tørslev, DHI A/S**
Hazardous substances, sources and compliance. Co-creation of a digital support tool; **Marie S.R. Vestergaard, DHI A/S**
Decentralized PFAS Removal at Drinking Water Wells Using Resin Filters; **Nicolaj Schmidt Damgaard, Teknologisk**
A UV/Phenol/DTN System for Simultaneous PFAS and Phenol Remediation**; Xingaoyuan Xiong, Aarhus University**
LPRO membrane filtration for removal of PFAS, DMS and other groundwater micropollutants from mineral-rich drinking water - a pilot study; **Sonsoles Quinzanos, HOFOR**
Closing the PFAS cycle: Regeneration and novel defluorination strategy for PFAS adsorbents; **Jan-Max Arana Juve, NIRAS**
Development of films from wastewater recovered materials for membrane applications; **Javier Romero Gil, Aarhus University**
Optimizing Dewatering process for Sludge Management and PFAS Removal in Wastewater Treatment; **Jakob Nielsen, Teknologisk**
Reactive ZVI-biochar for chlorinated ethylene remediation in groundwater aquifers; **Jinxin Zhao, University of Copenhagen**

SESSION 4: Recovery of resources
Membrane Distillation Crystallization a Sustainable Approach for Magnesium Recovery from Brine; **Asif Saud, Aarhus University**
Full-Scale Implementation of Resource Recovery from Industrial Water Streams at Nopa Nordic; **Jonathan Guld Christensen, Teknologisk**
Mg/Ca coupled with sucrose-based biochar as CDI electrodes for selective removal and recovery of phosphorus; **Tanzila Sharker, Ålborg University**
Electroactive Microbes: Pioneering Waste-Powered Batteries, Green Transition, and Clean Water; **Ramya Veerubhotla, Ålborg University**
Development of films from wastewater recovered materials for membrane applications; **Javier Romero Gil, Aarhus University**
Phosphate Recovery from Groundwater Treatment Sludge; **Tinatin Tkesheliadze, GEUS**
Understanding the sludge proteome - Keratin as an emerging protein of interest; **Amrita Bhattacharya, Aarhus University**
Harnessing Activated Sludge as a Source of Humic Acids: Innovative Extraction and Characterization; **Sasmitha Aulia Zahra, Aarhus University**

SESSION 4: Recovery of resources

Isolating and identifying sugars in activated sludge and biofilm isolates; **Mojtaba Azari-Anpar, Aarhus University**

SESSION 5: Biofilm and corrosion

Biofilms on RO membranes used in water recycling harbor diverse bacteria with opposing salinity optima; **Jan Struckmann Poulsen**, Aarhus University
Effects of salinity oscillation on planktonic bacteria and biofilm formation; **Arya Van Alin, Aarhus University**
Induction Time Investigations for Assessing Scaling Risk in Feedwaters of Reverse Osmosis Systems using Batch Operation; **Loren Mark Ramsay, Via University College**
Using conductivity as a surrogate to enable real-time monitoring of chloride concentration to support stormwater quality control during winter; **Lineker Goulart Coelho, DTU**
A screening framework for the selection of areas to implement multipurpose urban constructed wetlands for the production of biobased construction materials; **Kemo Usto, DTU**
Comparison of heavy metal and nutrient removal in wet- and dry ponds treating urban runoff; **Emil Jespersen, Aarhus University**
Bayesian spatial modeling of extreme rainfall frequency in Denmark using INLA and SPDE methods; **Nafsika Antoniadou, DTU Sustain**

SESSION 6: Wastewater treatment

Percrystallization: A versatile Approach for Desalination and Zero Liquid Discharge; **Bastian Stiem Kirkebæk, Ålborg University**
Membrane distillation for the treatment of industrial wastewater: Experimental and modelling perspectives; **Hussein Fairousha Sulaiman, Ålborg University**
Cutting Emissions with Digital Precision: The Future of Wastewater Treatment Plants; **Trine Dalkvist, DHI A/S**
Integration of hydrothermal liquefaction in wastewater treatment: focus on treatment of the process water; **Sanne Falkenberg Jensen, Aarhus University**
Using nanobubble aeration to enhance (urban) wastewater treatment in constructed wetlands; **Sara Bedoya, Aarhus University**
Denmark's Africa Strategy Promotes Strategic Cooperation and Investment Opportunities in Ghana; **Mathias Thuborg Madsen, Min. Foreign Affairs**

SESSION 7: POSTERS

Sustainable Water Quality Improvement Through Constructed Floating Wetlands: Potential of South American Macrophytes for Eutrophication and Cyanobacteria Management; **Allan Amorim Santos, Brazil**
Performance Assessment of Hydrocyclone System for Aquatic Microplastics Removal Using Online Microscopy Sensors; **Zhenyu Yang, Ålborg University**
Semicentennial trend analysis of irrigation and food variables reveal global disparities among countries and regions; **Kiril Manevski , Aarhus University**

SESSION 7: POSTERS
Operating experiences from the first year with solar cells placed over a green sedum roof; **Niels Eisum, Huginn**
Assessing Diatom Diversity: Evaluating Artificial Substrates as Proxies for Natural Biofilm Communities of Water Leaching from a HCH Deposit; **Josephine S. Jensen, Aarhus University**
Ultrapure- and Reject Water Treatment for Power-to-X Applications – A Technical Deep Dive; **Sebastian Ravn-Andersen, NIRAS**
Surface and Morphology Modulated Adsorption-Activation of Trace Concentration Hydrogen Peroxide with Multiple Electron Transfer Pathways and Sustained Fenton Reactions; Zhiqun Xie, Aarhus University