NORDIWA

NORDIWA wastewater conference online

28 September – 1 October 2021

Leading Nordic event for water professionals

FIWA, DANVA, Norsk Vann, Samorka and Svenskt Vatten invite all water professionals with an interest in wastewater, sewerage and climate change mitigation and adaptation to join us at NORDIWA 2021.

We and 200 presenters engaged in five parallel tracks, welcome experts and practitioners, managers and operators, city planners, researchers, engineers, advisors and others with an interest in wastewater management, urban drainage and climate adaptation in the Nordic region.

All presentations will be recorded and also available during October and November for the participants at NORDIWA 2021.

www.nordiwa.org #nordiwa2021

DANVA FIWA Norsk Vann SAMORKA SvenskVatten

Welcome to NORDIWA 2021

We look forward to welcoming all of you to the online format of the Nordic Wastewater Conference 2021. The interest among practitioners, experts and researchers to present and share their latest results, knowledge and experiences, has this pandemic year just been overwhelming. Among all the abstracts we accepted 200 exciting presentations and five workshops. The eagerness to share with others has never been so obvious.

The Nordic Wastewater Conference is now being arranged for the seventeenth time. While longing to meet physically again - we hope to maintain NORDIWA 2021 as a venue for exchanging practical knowledge and the latest information, where participants have the opportunity to network and learn from each other's experiences and practices.

Good news for those who do not have enough split vision to watch five parallel tracks simultaneously - all presentations will be recorded and available to also watch during October and November for participants at NORDIWA 2021.

On behalf of the Programme Committee
Anna Norström, Magnus Bäckström and Anders Finnson
www.svensktvatten.se/om-oss/kontakt/

Svenskt Vatten

Anna Norström

Magnus Bäckström

Anders Finnson

Keynote speakers

Opening of NORDIWA 2021.
Pär Dalhielm, CEO Svenskt Vatten

Future of water, global drivers of change.
Kala Vairavamoorthy, Executive Director
International Water Association

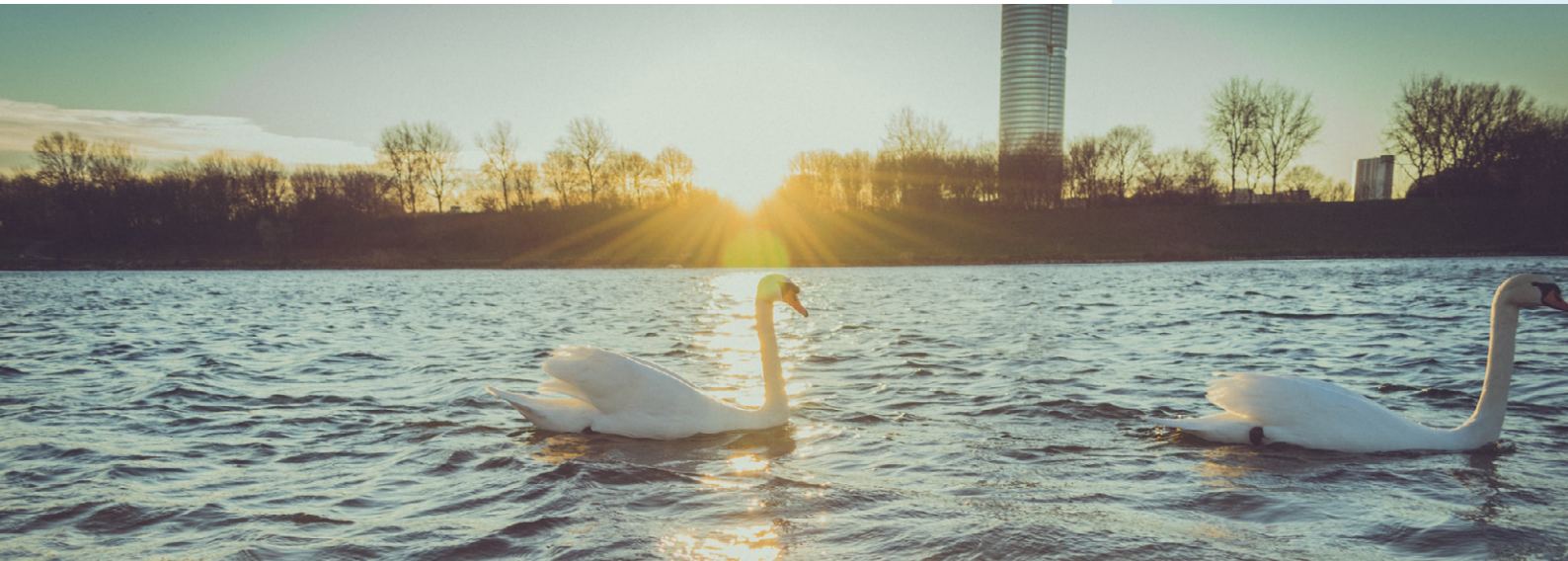
The European Green Deal, the water policy and how it will shape the water industry for the coming decades.
Veronica Manfredi, Director, Quality of Life, Directorate General for Environment, European Commission

Wastewater-based surveillance of SARS-CoV-2 supports national COVID-19 pandemic response in Finland
Tarja Pitkänen, Chief Specialist, Department of Health Security, the Finnish Institute for Health and Welfare; and Associate Professor, Department of Food Hygiene and Environmental Health, University of Helsinki

A holistic approach to develop a sustainable concept for a New Sjölunda WWTP in a regional system
Göran Johnsson, project manager VA SYD
Maria Jonstrup, R&D manager, EnviDan AB

Conference Elements

- Opening of the conference and plenary session with keynote speakers, who will illustrate challenges and new development in the water sector.
- Conference sessions with full presentations (15 minutes) and speed talks (5 minutes) highlighting key findings of projects and results. Possibilities for a broad digital interactivity between presenters, participants and moderators.
- All presentations will be recorded and being available during October and November for all the participants at NORDIWA 2021.
- Workshops facilitate knowledge sharing and discussion between the presenters and the participants of the conference.
- Every morning starts with 30 minutes summary of the highlights from the previous day.



Workshops

- Power of positivity - the road towards a Nordic carbon and energy positive future
- The ”not so clear” crystal ball - the water resource Recovery Facility of the future must be adaptable
- Paradigm shift within stormwater and cloudburst management
- On-site and fast DNA-analyses of microbial communities for surveillance and control
- From online NORDIWA 2021 to IWA Copenhagen 2022

Young Water Professionals

A special session will be organised for Young Water Professionals in the Nordic region.

Digital technical tour

Gothenburg is celebrating 400 years as a city this year and since 1621 the city has developed into a modern industrialized city with a population of 600 000. In the middle of the 1800’s the sewer systems began to be built to transport wastewater from the city center and into the Göta estuary that flows through the city towards the sea.

In 1972 The Rya WWTP was commissioned which included a 130 km tunnel system. Since then the plant has grown and today it serves a population equivalent of 800 000 from eight municipalities. Looking towards the future the population within the region is increasing and more stringent discharge consents are also expected. To handle our future challenges Gryaab has started an expansion project called New Rya with the objective that new treatment processes will be ready for action in 2036.

Social program

- Welcoming digital reception on Tuesday, 28 September.
- Digital surprises

Digital Exhibition

Showcase of companies and solutions. To enable networking a digital area will be created for exhibitors.

Key dates

- 1 June, registration opens for the conference.
- 21 September, last date for registration.
- 28 September - 1 October, Conference take place.

Programme Committee NORDIWA 2021

Lise Hughes, Aarhus Vand A/S, (IWA) • Miriam Feilberg, DANVA • Marina Graan, Helsinki Region Environmental Services Authority, (IWA) • Mika Rontu, FIWA • Paula Lindell, FIWA • Fjóla Jóhannesdóttir, Veitur (IWA) • Magnar Sekse, Bergen (IWA) • Arne Haarr, Norsk Vann • Anna Norström, Svenskt Vatten (IWA) • Magnus Bäckström, Svenskt Vatten • Anders Finnson, Svenskt Vatten

Registration and participant fees

Registration
www.nordiwa.org

Category	Fee
Delegates	9 375 SEK (7 500 excl. VAT)
Speaker (Full presenter/Speek talk)	5 625 SEK (4 500 excl. VAT)
Moderator/Workshop	5 625 SEK (4 500 excl. VAT)
Exhibitor package incl 1 person	10 000 SEK (8 000 excl. VAT)
Extra exhibitor (not included in the package)	9 375 SEK (7 500 excl. VAT)
Student	4 994 SEK (3 995 excl. VAT)

Registration includes

- Admission to the digital program with presentations, exhibition and abstracts, available for two months after the conference has taken place.

Exhibitor package includes

- Infopage with text, image and/or film
- Contact information
- Links to the companys social media
- Live chat with the participants
- Live meeting in the exhibitor booth
- Notice of interest from the participants
- 1 registered company representative
- Access to the scientific sessions for 1 registered company representative

Themes at NORDIWA 2021

Main Topics

NORDIWA presents a diverse conference with five main topics

1. Climate challenges, mitigation and adaptation
2. Sewer systems, management, models and integrated approaches
3. Sustainable wastewater treatment and challenge of micropollutants
4. Circular economy, resources and reuse
5. Sustainable management and communication

For more information and updates
please visit us at nordiwa.org

Tuesday 28 September 2021

09:00

Plenary
09:00-10:30
Chair: Anders Finnson

Opening of NORDIWA 2021.
Pär Dalhielm, CEO Svenskt Vatten

Future of Water, a climate perspective.
Kala Vairavamoorthy, Executive Director International Water Association

The European Green Deal, the water policy and how it will shape the water industry for the coming decades.
Veronica Manfredi, Director, Director, Quality of Life, Directorate General for Environment, European Commission

Wastewater-based surveillance of SARS-CoV-2 supports national COVID-19 pandemic response in Finland
Tarja Pitkänen, Chief Specialist, Department of Health Security, the Finnish Institute for Health and Welfare;
and Associate Professor, Department of Food Hygiene and Environmental Health, University of Helsinki

A holistic approach to develop a sustainable concept for a New Sjölunda WWTP in a regional system
Göran Johnsson, project manager VA SYD
Maria Jonstrup, R&D manager, EnviDan AB

11:00

Upstream diffuse sources
11:00-12:30
Chair: Per Henrik Nielsen

New hazardous substances in Finnish wastewater treatment plants
Niina Vieno

Characteristics of household wastewater in Skarpnäck 2014-2019
Anders Ljung

Mapping microplastics in urban waters - flows, solutions, and actor responsibility
Emma Fältström

Monitoring micropollutants in wet-weather discharges – what can we learn from the past?
Lena Mutzner

Photodegradation of macroplastics into microplastics – a laboratory study of four plastic debris
Lisa Öborn

Communicating risks and opportunities
11:00-12:30
Chair: Fjóla Jóhannesdóttir

Stormwater management – get citizens on board!
Isabel Seifert-Dähnn

Digitalization – communicating flood and pollution risks to stakeholders
Hanna Rissanen

Implementation of Sustainable Drainage Systems - How to change a mindset?
Halldora Hreggvidsdottir

Reuse of wastewater
11:00-12:30
Chair: Maj Møller Sørensen

Which Water Source Should be Used for Different Water Usages?
Esmeralda Frihammar

Possibilities of large-scale wastewater reclamation for potable use in Scania, Sweden
Olivia Söderman Söderman

Removal of pharmaceutical residues from RO-concentrates from water reuse facility on Gotland island
Christian Baresel

Utilization of water from rainwater basins at industrial laundry applications
Stinne Plesner Skårup

Sewer management to reduce overflow
11:00-12:30
Chair: Peter Underlin

Experiences in rising main monitoring in wastewater pumping stations
Perttu Saarinen

Managing infiltration and inflow to wastewater systems – Key aspects in a risk-based approach
Anna Ohlin Saletti

Localizing Intruding Rainwater in Separated Sewer Systems
Ørjan Heggdal

Fractionation of Unwanted Water using Machine Learning and Time Series Analysis
Christian Svensson

The roles of model-based simulation and direct flow measurements in CSO data-analytics
Hannes Björninen

Data driven detection of extraneous water using AI for intelligent investment planning
Torben Bach

Reykjavik- Covid-19 - operational problems due to wet wipes in the sewage system
Páll Ragnar Pálsson

Development of parametric tools for the evaluation of the physical integrity of sewage networks
Axumawit Tesfamariam

Workshop
Power of positivity – the road towards a Nordic carbon and energy positive future
11:00-12:30
Chair: Miriam Feilberg

14:00

Asset management tools
14:00-15:30
Chair: Niels Vinderslev Bjerregaard

Rehab-IT: An Asset Management Tool for Renewal Planning
Mads Uggerby

7 years of experience with Asset Management and long-term operation and invest-ment planning
Benny Nielsen

Asset Management in Swedish Water and Wastewater sector – results from a research a project
Magnus Montelius

From key figures to key performance indicators with spatial data
Jukka Heinonen

From data to optimized asset management
Kia Aksela

Enhanced nutrient removal
14:00-15:30
Chair: Dines Thornberg

Full scale study – Sludge capacity test on sand filter for polishing of municipal wastewater
Sofia Bramstedt

Where did the phosphorus go?
Sofia Andersson

Densadeg XRC technology to reduce phosphorus discharge from Skanderborg wastewater treatment plant
Clara Barret

Effect of coagulants agent on sewage water treatment and sludge production: A pilot study
Annaliza Cainglet

Effect of VFA rich hydrolysates from different substrates in the denitrification process
Andrea Carranza Muñoz

Design approach for Moving Bed Biofilm Reactor to achieving low effluent nutrient concentrations
Stefan Erikstam

Preparing wastewater for resource efficient treatment: pre-filtration and carbon source production
Elin Ossiansson

Upstream point sources
14:00-15:30
Chair: Ann Mattsson

Results from testing program for pharmaceuticals at Egaa WWTP and at the hospital of Aarhus, Denmark
Laura Bailón Allegue

Treatment of landfill leachate from PFAS: process selection based on pilot-scale tests
Andriy Malovanyy

Innovative technology concept removes and destructs perfluorinated-acids from water
Maria Nymann

Tire and road wear particles in roadside snow banks: Quantities and dynamics of release
Arya Vijayan

Stormwater pollutants
14:00-15:30
Chair: Asbjørn Haaning Nielsen

Removal of particles, heavy metals and detergents from tunnel wash water
Hanne Vistnes

Occurrence and treatment of microplastics and car tire rubber in stormwater
Steen Petersen

An overview of continuous stormwater quality monitoring technologies
Nikita Razguliaev

A large-scale mapping of stormwater runoff from heavily trafficked areas. Case study Gothenburg
Helen Galfi

Removal of dissolved metals from road runoff – Initial observations and implications for operation
Magnus Hallberg

Workshop
On-site and fast DNA-analyses of microbial communities for surveillance and control
14:00 - 15.30
Chair: Per Halkær

Wednesday 29 September 2021

08:30	**Highlights from Day1** 08:30-09:00				
09:00	**Management for sustainability** 09:00-10:30 Chair: Halldóra Hreggviðsdóttir	**H2S** 09:00-10:30 Chair: Per Henrik Nielsen	**Recycling and recovery of nutriens** 09:00-10:30 Chair: Torgeir Saltnes	**Strategies for digitalisation** 09:00-10:30 Chair: Erik Lindblom	**Workshop** **Paradigm shift within stormwater and cloudburst management** 09:00-10:30 Chair: Marinette Hagman
	Advanced Hydraulic Representation of Blue Green Infrastructure Jessica Jefferys	Cost efficient and sustainable reduction of hydrogen sulphide Maria Jonstrup	Innovative technology to remove nitrogen and produce climate smart fertilizers Carl-Johan Högberg	Metadata and their role in the digital transformation of Water Resource Recovery Facility operations Oscar Samuelsson	
	Survey on Sustainability and the SDGs Niina Vieno	Novel sensor for hydrogen sulfide monitoring in sewers enables improved odor and corrosion control Søren Porsgaard	Comprehensive nutrient recovery at wastewater treatment plant by RAVITA process Sini Reuna	Catchment overview for cross-boundary corporation flood risks Peter Rasch	
	Swedish utilities and their contributions to the SDG:s – status and recommendations for the future. Magnus Arnell	Sewer Process Modelling as a Tool to Predict and Manage Odour and Corrosion in a Drainage System Esther Vollertsen	Is it safe to use sewage sludge-based fertilizers in agriculture? Katri Senilä	Extreme Weather Layer as a tool towards climate resilient cities Ivar Annus	
	Learning from a resource-recovery game for collaborative urban sanitation planning Jennifer R. McConville	Biological pre-treatment upstream the WWTP – using the sewers as a process volume Mark De Blois	Recovering phosphorus from chemical phosphorus removal sludge: A techno-economic comparison Juho Uzkurt Kaljunen	VeVa – a Danish water utility association utilising weather radar data for watersector applications Malte Ahm	
	Benefits of water sector integration to energy systems Dominik Franjo Dominković	Advanced digital solution to control hydrogen sulfide in sewers Johan Egsgaard Thomsen	Ash2®Phos: Closing the phosphors cycle: Value added recycling from incinerated sewage sludge Yariv Cohen	Smart Stormwater systems aiding to retrofit urban areas for new climate conditions Nils Kändler	
		Evaluating the effectiveness of lime-based filter-media on sewer air hydrogen sulphide Asbjørn Haaning Nielsen	The Road to Full-Scale Biochar Production Per Henrik Nielsen	Stormwater data management in the Helsinki Capital Region Maiju Happonen	
11:00	**An overview of possibilities for resource recycling and recovery** 11:00-12:30 Chair: Maj Møller Sørensen	**Anammox and Aerobic Granular Sludge** 11:00-12:30 Chair: Sofia Andersson	**Dealing with uncertainty** 11:00-12:30 Chair: Fjóla Jóhannesdóttir	**Digital tools** 11:00-12:30 Chair: Hannes Björninen	**Workshop** **Young Water Professionals – Knowledge transfer in the Nordic Water Sector** 11:00-12:30 Chair: Christoffer Wärff
	Experimental and desktop assessment of wastewater treatment solutions for resource recovery Herman Helness	Supervising and observing the implementation of granular sludge technology, S::Select® Ditte Marie Hansen	Vital climate change solutions integrated in major Norwegian infrastructure project Jan Scheel	Protection and warning against faecal bacteria and toxic algae in bathing lakes Rikke Markfoged	
	From Urban Biowaste to Animal Feed - Proteins from Biogas Jacob Kragh Andersen	Stable operation of the first AGS application in the Nordic countries Mark de Blois	Planning Sustainable Infrastructure using BREEAM Communities Sigurdur Sigmarsson	IoT as an enabler for Distributed Online Monitoring of the Urban Water Cycle Malte Ahm	
	Recommendations for improved life cycle assessments of sewage sludge as fertilizer Magdalena Svanström	Installation and Start-up of the first MABR Drop In solution in UK Josep Manzano	Drilling within Reykjavík´s city limits – improving understanding of groundwater levels and shallow subsurface permeability Sigrún Tómasdóttir	Model predictive control for the sewer system in Kolding, Denmark Nikolaj Mølby	
	Source-separation sanitation systems for Northern Finland – effects on regional nutrient balance Vuokko Laukka	Start-up of partial denitratation-anammox MBBR systems with a partial nitritation-anammox inoculum David J. I. Gustavsson	Citizen science can help solve climate-derived groundwater problems Anja Sloth Ziegler	The Living Digital Twin of the urban drainage system in Odense, Denmark Agnethe Nedergaard Pedersen	
	From WWTP to a WRRF with the Hias Process Torgeir Saltnes		Monitoring of water runoff from construction sites and in the stormwater system Anton Jacobson	3D Visualization, Cloudburst Modeling and Planning Bo Kempel	
			Multi-objective assessment of nature-based climate adaptation considering future uncertainty Ida Linde Hansen	The Digital Water Cities project Dines Thornberg	
			Challenges of the coastal urban drainage system under climate change in Trelleborg, Sweden Salar Haghighatafshar	Automatic Anomaly Detection for Sewage Network Sensors Peter Rasch	

Thursday 30 September 2021

08:30	**Highlights from Day 2** 08:30-09:00			
09:00	**Micropollutants - an overview** 09:00-10:30 Chair: Arne Harr	**CCTV and data for asset management** 09:00-10:30 Chair: Hans Bäckman	**Sludge management** 09:00-10:30 Chair: Herman Helness	**MBR and membrane based treatment** 09:00-10:30 Chair: Marina Graan
	Full scale removal of Active Pharmaceutical Ingredients from wastewater treatment plants Sille Larsen	Digital materials and methods in water distribution and sewage network asset management in Finland Heini Postila	Semi full-scale study - High loaded mesophilic anaerobic digestion of primary sewage sludge Gustav Björk	Stockholm's Future Wastewater Treatment – long term pilot trials with an MBR process Sofia Lovisa Andersson
	Micropollutant contamination of soil and groundwater at two wastewater drainage fields Rasmus Klapp	Novel Sewer Surveys at HSY Jussi Kuikka	Post-digestion thermal hydrolysis for a more cost-efficient sludge drying and incineration Norman Weisz	Commissioning of Swedens first large scale MBR-process - setbacks and successes Sofia Andersson
	Selection of Process Design for Micropollutant Reduction – with Unclear Legal Requirements Jacob Kragh Andersen	In depth analysis of the features contributing to the performance of sewer deterioration models Bolette Hansen	Modelling of thermophilic digestion and experimental calibration in semi full-scale digestion Ted Lundwall	Testing Membrane-Aerated Biofilm Reactors under Nordic conditions Nerea Uri-Carreño
	Driving forces for implementation of organic micropollutant removal in Swedish wastewater Maja Ekblad	Input data induced uncertainty in sewer deterioration models Franz Tscheikner-Gratl	Comparison of sludge management alternatives and resource recovery Blanca Magdalena Gonzalez Silva Blanca Magdalena Gonzalez Silva	Investigating direct membrane filtration (DMF) as a treatment concept for municipal wastewater Eline Klaastad
		Wastewater Components Determine Renovation and Maintenance Plans Tomi Lukkarinen	Continuous solids measurements and an optimization control application enhance sludge drying Heli Karaila	Fouling mechanisms and mitigation during direct membrane filtration of primary municipal wastewater Selina Hube
			How low can we go? – mesophilic and thermophilic digestion of WWT sludge at short retention times Sofia Andersson	
			Circular Economy with Sludge - A Novel Solution Prem Verma	
11:00	**Stormwater planning** 11:00-12:30 Chair: Lena Blom	**Micropollutants with a focus on microplastics and antibiotics** 11:00-12:30 Chair: Peter Tychsen	**Wastewater treatment** 11:00-12:30 Chair: David I'Ons	
	New Tool Enables Early Integration of Nature Based Stormwater Solutions in Urban (re)Developments Sara Maria Lerer	Prevalence of Antibiotic Resistance in Full-Scale Sewage Sludge Treatment Processes Maria Valtari	Effect of cold climate conditions on municipal wastewater treatment in constructed wetlands Lina Büngener	
	Combined impacts of sustainable stormwater systems and climate change on runoff and pollutant loads Nora Sillanpää	Fate and removal efficiency of microplastics in a wastewater treatment plant Rupa Chand	Experiences of low pressure sewer (LPS) systems in Sweden Solveig Johannesdottir	
	Mapping land cover with Machine Learning provides new possibilities in surface water planning Morten Revsbæk	Micropollutants and Microplastics in a Membrane BioReactor (MBR) Katja Närhi	Bromma WWTP strikes back Hanna Gottås	
	Water and climate are carefully orchestrated in the construction of a new urban district Åsa Malmäng Pohl	Comparison of activated sludge processes for antibiotics removal from wastewater at cold temperature Antonina Kruglova	Characteristics of municipal wastewater in south-west Sweden Mark De Blois	
	Redefining boundaries – A Nordic collaboration for streamlined and accessible catchment modelling Hannes Björninen	Minimization of plastic emissions from WWT plants through development of biodegradable flocculants Laura Agneessens	Treatment efficiency of small-scale package plants in northern Sweden and Finland Brenda Vidal	
		Sundsvall's different wastewater management strategies, needs for and effects on advanced treatment Malin Tuvesson	Factors affecting effluent quality from on-site wastewater treatment systems in Nordic countries Juho Kinnunen	
			Joint Procurement of Ferrous Sulphate - Cooperation Between Water Management Utilities Marina Graan	

Friday 1 October 2021

08:30 — Highlights from Day 3
08:30-09:00

09:00

Management of N2O
09:00-10:30
Chair: Anna Mikola

- N2O Emissions from Danish WWTPs – National Emissions and Reduction Potential
  Anna Katrine Vangsgaard
- Nitrous Oxide Emissions - Lessons Learned at Ejby Mølle
  Nerea Uri-Carreño
- Identifying Nitrous Oxide Emissions in different scenarios in Henriksdal Wastewater Treatment Plant
  Kristina Stark Fujii
- Update for the full-scale testing of N2O mitigation strategies at the Viikinmäki WWTP
  Kati Blomberg
- Quantification and reduction of nitrous oxide emissions from Wastewater Treatment plants
  Anders Lynggaard-Jensen
- Nitrous oxide emissions and carbon harvesting by prefiltration. Case of Avedøre WWTP (VARGA project)
  Artur Tomasz Mielczarek

Micropollutants advanced treatment #1
09:00-10:30
Chair: Lise Karstenskov Hughes

- Tracking the adsorption profiles of organic micropollutants in a granular activated carbon filter
  Ellen Edefell
- The challenge of simultaneous removal of pharmaceutical residues and PFAS at Uppsala WWTP
  Anna Maria Sundin
- Pilot trials with pulverized activated carbon in combination with Membrane BioReactor (PAC-MBR)
  Christian Baresel
- Direct membrane filtration followed by granular activated carbon filtration for wastewater treatment
  Simon Gidstedt
- Large-scale pilot tests using an MBR-GAC configuration for micropollutant removal at Syvab
  Ross Roberts
- Comparison of UV-H2O2 and ozone oxidation for the removal of pharmaceutical residues
  Anneli Andersson Chan

Modelling and control #1
09:00-10:30
Chair: Maria Valtari

- Improving data quality with mass balances and data reconciliation
  Oscar Samuelsson
- Integrating COD and SS for prediction of organic micropollutant removal in ozonation of wastewater
  Rubén Juárez
- Plant-wide dynamic WWTP modelling for sustainability evaluation of phosphorus removal techniques
  Magnus Rahmberg

Performance of stormwater facilities
09:00-10:30
Chair: Nora Sillanpää

- Mini-raingardens for managing stormwater from rooftops
  Johanne Grøndahl Klausen
- Roadside trees drink stormwater in innovative solution for urban climate adaptation
  Esben Ravn Iversen
- Occurrence and concentrations of organic micropollutants in bioretention filter media
  Robert Furén
- Applicability of using sedimentation and membrane filtration for stormwater treatment
  Saida Kaykhaii
- This carpark is also a retention basin for rainwater
  Esben Ravn Iversen
- Efficient dewatering of sediment from rainwater basins
  Simon Østergaard Jensen
- Evaluation of the hydraulic capacity and maintenance of nine rain gardens in Oslo
  Nevedda Sivakumar

Workshop
The "not so clear" crystal ball - the water resource Recovery Facility of the future must be adaptable
09:00-10:30
Chair: Dines Thornberg

11:00

Micropollutants advanced treatment #2
11:00-12:30
Chair: Peter Tychsen

- Removal of micropollutants from wastewater effluent using a mobile pilot E-peroxone and ozonation
  Majid Mustafa
- Can bromate reduction in anoxic MBBRs enable ozonation of bromide rich-wastewater in coastal areas?
  Per Falås
- Tracking 14C-labeled micropollutants to separate degradation from adsorption in carbon filters
  Alexander Betsholtz
- Ozonation of xenobiotic compounds from wastewater containing bromide
  Sille Larsen

Wastewaster and the climate, our contribution to lowering global emissions
11:00-12:30
Chair: Lovisa Gelotte

- ARES Active Reduction of Emissions from wastewater Systems
  Per Henrik Nielsen
- Carbon footprint assessment of wastewater treatment plants: Case studies from Finland
  Alexis Awaitey
- Greenhouse gases - How do we deal with them?
  Mikkel Algren Stokholm-Bjerregaard
- Greenhouse Gas Reduction through Holistic Approach to Sludge Digestion
  Jan Høgh
- Low pressure - High impact. Climate and operational value from vacuum degassing of digested sludge
  Maria Dittmann

Modelling and control #2
11:00-12:30
Chair: Oscar Samuelsson

- The AMOZONE O3 digital twin of the Linköping WWTP, Sweden: prediction of pharmaceuticals removal
  Giacomo Bellandi
- Digital twins enable virtual acceptance tests (VAT) of wastewater treatment plant control systems
  Erik U. Lindblom
- Flexible Management of WRRF Objectives Using Nonlinear Model Predictive Aeration Control
  Peter Alexander Stentoft
- Continuous Optimization of an Industrial Symbiosis using real-time online measurements
  Sille Larsen

Stormwater management in a challenging cold climate
11:00-12:30
Chair: Lena Blom

- Improving winter environmental practices: Urban snow management tool (SMT)
  Jiri Marsalek
- Retention of snowmelt and rain from extensive green roofs during the snow-covered period
  Bent Braskerud
- Variability of the hydrologic performance of green infrastructures due to Swedish climatic regimes
  Ivan Mantilla

Workshop
From online NORDIWA 2021 to IWA Copenhagen 2022
11:00-12:30
Chair: Miriam Feilberg

12:30 — Closing remarks
12:30-12:45

Read more and register at www.nordiwa.org