

Welcome to an open seminar in Lund

24th of October 13.30-17.00

How a new water paradigm is changing our cities

Destructive floods have hit communities all over the world. From small towns to large cities, cloudbursts have inundated homes, cut power, and disrupted lives. Climate change is fueling more floods, leading to more economic costs, and changing our ability to respond to growing risks.

To manage our climate insecurity, communities need to redesign themselves into sustainable transformative places. Large storms are hard to prepare for but investing in more resilient infrastructure - including new green designs and technologies - is a key to addressing long-term risks, even from daily rainfall. But one project is not going to make a big difference. We need a collection of systems and people working together to create more resilient places.

We need to develop and implement more detailed measures to gauge land changes over time. Continued monitoring is needed to better estimate flood impacts, alter designs, and guide future plans. We also need to experiment with new funding and financing strategies — including new types of stormwater fees and procurement tools. But most importantly is the need for strong leadership to drive change, from individual planners and policymakers to regional utilities and economic development organizations.

This seminar has a pronounced blue angle but the message that will be conveyed is intended not only for water professionals but for all those who are working with physical planning and administration of sustainable cities and the need to understand “How a new water paradigm is changing our cities “.

Welcome to a Wake Up Call and the possibility to meet some of the most distinguished water professionals in the world representing both academia and practice and learn from their collective experiences!

- **Changing Expectations for Infrastructure in a Time of Climate and Technological Change** *Steve Moddemeyer*
- **Failures, Limitations and Opportunities in Modelling** *Wolfgang Rauch*
- **Adaptation to Climate Change; a Planning Support System to Investigate Options** *Frans van de Ven*
- **Administrative Boundaries of the Water Balance in Sweden** *Lena Blom*
- **Future City Flow – Combining Research and Practical Engineering Experience with Serious Gaming to Support Decision Making in Wastewater Flow Management** *Maria Roldin*
- **Building flood resilience – together** *Kristina Hall & Nina Steiner*

The seminar takes place in Lund at [Kemicentrum](#)/Lund University Thursday the 24th of October 13.30-17.00 with a break for coffee/tea, cake and discussions at around 15. Directions on how to find the lecture hall will be sent out to those who have registered on the 18th of October.

The seminar is free, but You need to sign up for the seminar via the link for [Registration](#). If the seminar is fully booked we will apply a waiting list. LAST DAY FOR REGISTRATION is 18th of October. The seminar is free, but we apply a no-show fee of 450 kr.

Questions? Contact Maria Messer at maria.messer@chemeng.lth.se

We are looking forward to meeting You in Lund!

Welcome!

/Karin Jönsson & Henrik Aspegren

VA-teknik Södra & LU Water

Steve Moddemeyer

PRINCIPAL



Steve Moddemeyer is a principal of Collinswoerman with 30 years' experience leading governments, land owners, and project teams towards increased sustainability and resilience. He creates tools, policies and programs that empower communities to implement resilience principles into planning for land use and urban infrastructure. He works on climate change adaptation, sustainability strategies for large urban redevelopments, and advanced sustainability strategies for land owners, cities, counties, and utilities.

Years of Experience: 30

Years with CollinsWoerman: 11

Affiliations: Member: National Academies of Sciences Resilient America Roundtable; Advisor: University of Washington Masters in Infrastructure Management and Planning; Member: IUCS CEM Resilience Theme Group

Education: Bachelor of Landscape Architecture, University of Washington



SUSTAINABILITY / RESILIENCE PLANNING EXPERIENCE

Port of Seattle Maritime Clean Energy Strategic Plan Framework (CESP)

Seattle, WA
Planning team lead

LaConner Sea Level Rise

LaConner WA
Project Principal

King County Climate Adaptation Strategies for Fish Passage

Seattle WA
Project Principal

STARR

National
Subject Matter Expert

STARR 2

National
Subject Matter Expert

Resilience Design Performance Standard

Boulder County, CO
Project Principal

University of Washington Seismic Resilience Strategy

Seattle WA
Advisor

City of Seattle Pre-Disaster Master Plan, Phase 1

Seattle WA
Authored & Implemented

Cities of the Future, International Water Association

Global
Led, Facilitated & Developed

Yesler Terrace Sustainable District Study

Seattle WA
Strategy Leader

Presidential Policy Directive 8 or National Preparedness | National Mitigation Framework

Seattle WA
Reviewer

Sustainable Infrastructure Strategies

Seattle WA
Strategy Leader

The Seattle Green Factor

Seattle WA
Author

Urban Sustainability Planning Strategies

Seattle WA
Bellingham WA
Redmond WA
Creator, Advisor & Project
Manager

Sustainable Infrastructure Frameworks

Istanbul, Turkey
Kayseri, Turkey
Trabzon, Turkey
Senior Designer

Clinton Foundation Advisor for Climate Positive Development Program

Global
Technical Advisor

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Routledge Handbook of Sustainability and Resilient Infrastructure, 1st Edition (London, December 2018)

*Part II Situating and Motivating
Sustainability and Resilience,
Aligning Community Resilience
and Sustainability*

McAllister, Therese P. &
Moddemeyer, Steven

CV Wolfgang Rauch

Wolfgang Rauch was born in 1959. He studied Civil Engineering at the Technical University of Graz, Austria and at ETH, the Swiss Federal Institute of Technology, where he also graduated in 1985. For the six succeeding years after graduation he has been working as a practitioner in the field of civil and environmental engineering consulting. During this period he also conducted part time doctoral research at the Institute of Environmental Engineering, University Innsbruck in Austria finishing 1991 on the topic of spreading patterns of temperature anomalies in the groundwater.

In 1994 he was awarded a post-doctoral fellowship (FWF Schrödinger grant) which he spent at the Department of Environment and Resources (formerly Department of Environmental Science and Engineering), Technical University of Denmark. His research on the behaviour of integrated urban drainage systems led not only to a successful collaboration with the Department but was also the topic of his advanced degree (Habilitation) in environmental engineering which he obtained in 1997 from the University Innsbruck.

In 1997 he was again awarded a fellowship, this time for research at BIOMATH, Department of applied mathematics, biometrics and process control at the University Gent, Belgium. Later this year he started working as Research Associate Professor at the Department of Environment and Resources, Technical University of Denmark and in 1999 he joined the environmental engineering group at EAWAG, Swiss Federal Institute for Environmental Science and Technology. In 2002 he returned to the University of Innsbruck as being appointed full professor for sanitary engineering. Since 2004 he is head of the Institute of Infrastructure Engineering.



During this whole period his research encompassed modelling and analysis of the complete urban water infrastructure system by focussing especially on water pollution, drainage and the integrative aspects of urban water management. Since being in Innsbruck he not only maintains an active research profile in the fields already mentioned but expands his research interest also towards application of innovative software methods in the field as well as modelling of urban water management on a city scale. His research group on modelling and systems analysis encompasses approx. ten academic positions, mostly external funded.

Wolfgang Rauch has published more than 200 papers in peer-reviewed journals, among others in *Science* (345/6198). He holds an h-factor of 42 (Google Scholar). He is well known in the international community due to his activity in international organisations. Among others he served as a member of the IWA task group on river water quality modelling and chaired the Joint Committee of IAHR and IWA on Urban Drainage in the period 2002 to 2005. Between 2013 and 2016 he acted as Chair of the IWA Program Committee and was nominated as IWA Fellow in 2015. In 2014 he was appointed to chair the evaluation committee of the engineering sector of Norway. He served for more than a decade as editor of the most important journal in the field that is *Water Research* and since 2014 as Editor in Chief for the journal *Water Science and Technology*. In 2017 he got the award for extraordinary research achievements which stands for the highest scientific recognition from the University Innsbruck and in 2018 the IWA Outstanding Service Award.

Adjunct Professor **Lena Blom**, strategist and research and development manager, Gothenburg City department of sustainable waste and water. Lena is also an adjunct professor in sustainable water and waste water systems at Chalmers University of Technology. Her research and work focuses on working in the areas of sustainable drinking



and waste water systems with a broad perspective focusing on decision support tools for complex decisions. *E.g.* planning for water in the city expecting climate change is a huge challenge where different stakeholders need to meet and understand each other to make it possible to make the right measure. Another great challenge is how to finance the needed measures.

dr.ir. Frans H.M. van de Ven

Frans van de Ven is team leader Urban Land & Water Management at Deltares, the Netherlands institute for delta technology, and he is associate professor Urban Water Management at the Faculty of Civil Engineering and Geosciences of Delft University of Technology. With his colleagues at Deltares he is working on flood and climate resilient, subsidence-free cities, while aiming at reduction of the environmental



footprint of urban systems. This includes research into (1) improved concepts for resilient urban water management, (2) better methods for engineering urban water systems and for control of water quantity, water quality, demands and supply and (3) urban planning and design support tools to implement these improved concepts and methods.

Major research projects of him and his team are

- Urban flood risk management; effectiveness, planning and design of blue-green interventions;
- Climate vulnerability and resilience of urban areas; adaptation strategies and urban water planning;
- Heat stress and urban evapotranspiration / water as solar heat collector;
- Transition management to achieve more sustainable systems of urban water management and water supply;
- Urban water quality management; public health aspects of urban water systems
- Improving urban drainage modelling for risk assessment and system adaptation.



Maria Roldin

Maria Roldin has an MSc degree in Environmental Engineering with specialization in Water Resources Management from Lund University in Sweden (2007), and a PhD degree in Water and Environmental Engineering from the Technical University of Denmark (2012). She has been working as a consultant at DHI Sweden since 2012 with projects related to sewer and stormwater management and modeling, flooding and groundwater modeling.

During her PhD, Maria specialized in modeling of integrated stormwater-groundwater systems and effects of stormwater infiltration on local and regional groundwater levels. Her work was mainly related to small-scale open stormwater structures, so called Low Impact Development systems (LIDs) or Sustainable Urban Drainage systems (SUDS). Working with integrated water modeling has since then been one of her main fields of expertise, covering interactions between groundwater, surface waters, sewer systems, tunnel systems and mines. During her years as consultant she has also performed several studies related to stormwater pollutants, stormwater quality and stormwater treatment.

In the more recent years, Maria has been involved in several projects related to online real time control and forecasting systems of sewer networks, including development of new modeling concepts (so called surrogate models) to improve computational speed for large sewer tunnel models. The models are currently in operation for two of the largest cities in Sweden (Gothenburg and Lund), providing real time control possibilities for short time handling of high flow situations, as well as decision support for long term planning purposes.

Maria's expertise in integrated water modeling, in particular related to systems with sewer-groundwater interaction, is well known within DHI globally, and she is frequently invited as an expert to assist with model and or software development for integrated modeling systems combining natural and urban waters.