



**UWI International Conference**  
**22<sup>nd</sup> - 24<sup>th</sup> September 2020**  
**(via Zoom)**

**Day 1, 22<sup>nd</sup> September 2020**

13:00	<b>Opening</b>	Prof. Reinhard Hinkelmann, UWI Speaker Prof. Christine Ahrend, Vice President TU Prof. Luc De Meester, Director IGB
13:30	<b>Keynote 1</b> Anthropogenic intensification of short-duration rainfall extremes: Implications for flash floods in urban areas (Interfaces in urban watersheds) <i>Session chair: Prof. Eva Paton</i>	Prof. Hayley Fowler, Water Resource Systems Engineering Group School of Engineering Newcastle University UK
14:15	<b>Keynote 2</b> The role of riverine hydromorphological and water quality quantities to predict hyporheic processes from reach to global scales (Interface urban hyporheic zones) <i>Session chair: Prof. Reinhard Hinkelmann</i>	Prof. Daniele Tonina, Center for Ecohydraulic Research University of Idaho Boise USA
15:00	Coffee break / Virtual networking	



Parallel sessions		
	<b>Session 1a</b> <i>Interfaces in urban watersheds</i> Session chair: Prof. Birgit Kleinschmit	<b>Session 2a</b> <i>Interface urban hyporheic zones</i> Session chair: Dr. Jörg Lewandowski
15:30	Dr. Hamideh Nouri The impact of local climate on the greenness and water demand of large urban green spaces	Hanna Schulz The effect of stream flow dynamics on microbial metabolism and carbon dioxide production in a moving sandy streambed
15:50	Stenka Vulova A remote-sensing approach for assessing evapotranspiration of urban vegetation in a Berlin garden	Yuki Sorgler Transformation products of iodinated X-ray contrast media: formation and behaviour concerning sorption and biodegradability
16:10	Dr. Alby Duarte Rocha Inverse modelling of evapotranspiration of urban vegetation from thermal-optical remote sensing: a physically-based approach using SCOPE	Birgit Maria Müller Attenuation of dissolved organic matter and trace organic compounds in the hyporheic zone of an urban river
16:30	Lena-Marie Kuhlemann Using stable isotopes to quantify ecohydrological flux dynamics at the soil-plant-atmosphere continuum in urban green spaces	Niranjan Mukherjee Effect of different redox conditions on sediment microbial communities from a lotic hyporheic zone
16:50	Dr. Mikael Gillefalk Quantifying the effects of urban vegetation on water partitioning in complex cityscapes: the potential of isotope-based ecohydrological models	Anja Höhne Determining hyporheic removal rates using non-parametric conservative transport with multiple sorption models
17:10	Christian Marx High spatial and temporal resolution of stable water isotopes to investigate flow paths and water ages in the urban Panke catchment in the north of Berlin	Tabea Broecker Integral modelling approach for tracer transport in the hyporheic zone under neutral, losing and gaining streamflow conditions
17:30	Prof. Jochen Hack Analysis of the impact of different degrees of urbanization and urban green infrastructure on the water and energy balance using a spatially high resolved raster-based model	Vahid Sobhi Gollo Integral modeling of flow in and around a ventilated U-shaped chironomid burrow
17:50	Virtual networking	
18:05	End of day 1	



**Day 2, 23<sup>rd</sup> September 2020**

9:00	<b>Keynote 3</b> Planning nature based solutions for sustainable city futures (General overview) <i>Session chair: Prof. Dörthe Tetzlaff</i>	Prof. Ana Deletic, School of Civil and Environmental Engineering UNSW Sydney Australia
9:45	Coffee break / Virtual networking	
	Parallel sessions	
	<b>Session 1b</b> <i>Interfaces in urban watersheds</i> Session chair: Dr. Alby Duarte Rocha	
10:00	Dr. Basem Aljoumani Assessing the variation of evaporation from cobblestones and concrete slabs pavement	
10:20	Nasrin Haacke Survey of rain events: how to categorise and analyse individual storm events in high-resolution precipitation time series	
10:40	Omar Seelem Parsimonious hazard mapping for extreme urban pluvial floods: a case study for Berlin, Germany	
11:00	Simon Berkhahn Recursive artificial neural network approach for dynamic hot-spot nowcast of pluvial floods	
11:20	Lunch / Virtual networking	
	Parallel sessions	
	<b>Session 1c</b> <i>Interfaces in urban watersheds</i> Session chair: Dr. Basem Aljoumani	<b>Session 2c</b> <i>Interfaces in sewer systems</i> Session chair: Dr. Adrian Augustyniak
12:40	Wenyu Yang Evaluating the performance of green and grey infrastructures for the road-deposited sediment pollution removal	Prof. Andrea Cominola The ide3a project: a gamified digital approach to integrated modelling of urban critical infrastructure systems



13:00	<p><b>Robert Sämann</b> Pollution transport forecast during pluvial flood events: model and field experiments with a rainfall simulator</p>	<p><b>Mohammed Marzouk</b> Modelling combined sewer network applications to the new admin city and new zaid city in Egypt</p>
13:20	<p><b>Hatice Seda Kilic</b> Identifying faecal pollution sources in urban surface water resources to support water safety management</p>	<p><b>Abhinav Dixit</b> Validation of air phase flow, mass transport and mass transfer in a sewer pipe</p>
13:40	<p><b>Jinghua Jiang</b> A GPU-accelerated particle-tracking model for full-process modelling of nonpoint source pollutants in urban areas</p>	<p><b>Muhammad Waqar</b> Tltime reversal technique for freshwater pipeline burst detection</p>
14:00	<p><b>Franziska Tügel</b> Investigating the suitability of the Green-Ampt model with tabulated parameter values from literature by using a 2D hydrodynamic rainfall-runoff model</p>	<p><b>Wenyu Yang</b> <del>Integrated evaluation and improvement of urban drainage system sustainability through multi-criteria decision-making framework and green/grey infrastructures</del></p>
14:20	<p><b>Abu Sadath</b> Analysis of feasibility and acceptability of rainwater usage to aeras of acute water scarcity in Rajshahi metropolitan city, Bangladesh</p>	<p><b>Ivo Daniel</b> A data-driven approach to leakage identification in water distribution networks</p>
14:40	Coffee break / Virtual networking	
15:00	<p><b>Keynote 4</b> Interfaces in urban freshwater systems: Examples from long-term research in Baltimore (Interfaces in urban freshwater ecosystems) <i>Session chair: Prof. Mark Gessner</i></p>	<p>Dr. Emma J. Rosi, Cary Institute of Ecosystem Studies Millbrook New York USA</p>
15:45	Virtual networking	
16:15	<p><b>Open forum discussion</b> <i>Discussion topics:</i> "Too much, or too little water, that is the question" "Green cities: How can research help to develop future city concepts" Discussion among doctoral students, invited national and international experts and all participants <i>Session chairs: Nasrin Haacke, Micaela Pacheco Fernández, Niranjana Mukherjee, Vahid Sobhi-Gollo</i></p>	
17:15	End of day 2	



Day 3, 24<sup>th</sup> September 2020

9:00	<b>Keynote 5</b> The smell of sewage (Interfaces in sewer systems) <i>Session chair: Prof. Matthias Barjenbruch</i>	Prof. Jes Vollertsen, Department of Civil Engineering Division of Water and Environment Aalborg University Denmark
9:45	Coffee break / Virtual networking	
	Parallel sessions	
	<b>Session 1d</b> <i>Interfaces in urban freshwater ecosystems</i> Session chair: Dr. Sabine Hilt	<b>Session 2d</b> <i>Interfaces in sewer systems</i> Session chair: Prof. Dietmar Stephan
10:00	Marvin Mayerhofer Modeling cyanobacteria at Lake Müggelsee	Dr. Katharina Teuber A three-dimensional model for H <sub>2</sub> S mass transfer in sewers and its use cases
10:20	Benjamin Archer Urban greenhouse-gas dynamics: high frequency measurement of CO <sub>2</sub> and CH <sub>4</sub> in Berlin's surface waters	Daneish Despot Downstream nitrate dosing in pressure sewers for sulphide control: impact of residual nitrate on connecting gravity sewers
10:40	Jagriti Jain Urban wetlands: how can they mitigate the impacts of climate change	Kirsten Habicht Novel sensor technology for online monitoring of dissolved H <sub>2</sub> S presents new opportunities for data driven H <sub>2</sub> S management
11:00	Lena Heinrich Sulfur prevented the continuous effect of an iron amendment on sedimentary phosphorus retention: a case study at Lake Plötzensee in Berlin	Micaela Pacheco Fernández Determining the turbulent H <sub>2</sub> S mass transfer coefficient across the liquid-gas interface in sewer systems
11:20	Giulia Friedland Sedimentary signatures reveal transition between mining and urban impacts along river Spree (NE Germany)	Maria Sielaff Biogenic sulphuric acid corrosion of concrete at sewer pilot plant Berlin
11:40	Anja Svane Petersen Can outlets handled by stormwater ponds still affect the sediment decomposition in receiving streams?	Virtual networking
12:00	Lunch / Virtual networking	



	<b>Session 1e</b> <i>Interfaces in urban freshwater ecosystems</i> Session chair: Dr. Mikael Gillefalk	<b>Session 2e</b> <i>Interfaces in sewer systems</i> Session chair: Prof. Andrea Cominola
13:00	Prof. Sara Egemose Runoff from urban and rural land-use has different impact on stream quality: a GIS-study	Dr. Adrian Augustyniak Bacteria from sewers and their potential to improve the sustainability of construction materials
13:20	Hellen Aziz The water challenges and proposed solutions for Ash Shakhlouba, the Egyptian Venice and El Burullus, the polluted lake	Tayebeh Zinati Shoa Assessment of urban sanitation concepts for sustainable wastewater management
13:40	Anna Lena Kronsbein Effects of benthic organisms on the fate of trace organic compounds during bank filtration	Luisa Reinhold Suitability of a differential scanning calorimetry (DSC) based method to identify and quantify two common microplastics polyethylene and polypropylene in wastewater samples
14:00	Dr. Giuseppe Francesco Cesare Lama Simulation of the effects of common reed riparian plants on the real scale water flow velocity fields of a vegetated reclamation channel	Smit Chetan Doshi Surface water and sewer network interface with the inlets
14:20	Dr. Elena Matta A review of recent applications of neurocomputing methods in urban hydraulics and hydrology	Farhana Afroz Wastewater treatment and effects of wastewater irrigation use in agriculture: a case study in Rajshahi city, Bangladesh
14:40	Dr. Soren Brothers Does urbanization increase or decrease carbon dioxide emissions from lakes?	Adnan Aldukki Detecting and minimizing water losses in a drinking water supply system: two case studies in Hurghada and El Gouna Cities, Red Sea Governorate, Egypt
15:00	Virtual networking	
15:15	<b>Virtual excursions to selected laboratories and field sites</b> <i>Session chairs: Birgit Maria Müller, Nasrin Haacke</i>	
16:00	<b>Awards and closing remarks</b>	
16:30	End of conference	