

2. Special Sino-German Seminar

# The New Urban Water Cycle in the City of Future

Drinking Water Supply – Rainwater Harvesting – Water Reuse

Monday, 16th October 2023

10:00 am – 5:15 pm CEST



**Venue: Hanns-Lilje-Haus**  
(Knochenhauerstraße 33, 30159 Hannover)

Organized by:

**Prof. Dr.-Ing. Stephan KOESTER**  
Institute of Sanitary Engineering and Waste Management (ISAH)  
Leibniz University Hannover (LUH)

**Prof. Dr. Jian'e ZUO**  
Tsinghua Shenzhen International Graduate School (SIGS)  
Tsinghua University (THU)

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## Agenda

### The New Urban Water Cycle

Welcome Addresses		
09:30 – 10:00	Registration – Get together – Coffee and Tea	30 minutes
10:00 – 10:15	<b>Welcome Addresses from hosts</b> Prof. Stephan Koester, Institute of Sanitary Engineering and Waste Management (ISAH), Leibniz University Hannover (LUH), Germany Prof. Jian'e Zuo, School of Environment (SoE), Shenzhen International Graduate School (SIGS), Tsinghua University (THU), China	15 minutes
10:15 – 10:30	<b>Welcome Address from Leibniz University Hannover</b> Prof. Christina von Haaren, Vice President for International Affairs and Sustainability, LUH	15 minutes
Special Topic 1 – Introduction to the New Urban Water Cycle		
10:30 – 10:50	<b>The elements of the new urban water cycle: ideas and achievements – thoughts from German perspective</b> Prof. Stephan Koester, ISAH, LUH	20 minutes
10:50 – 11:10	<b>The indicators of ecosystem health of urban rivers</b> Prof. Jian'e Zuo, SoE and SIGS, THU	20 minutes
11:10 – 11:20	<b>Discussion</b> All Speakers and Participants	10 minutes
Special Topic 2 – Innovations in Rainwater Management		
11:20 – 11:40	<b>Innovative concept and solutions for decentral rainwater treatment</b> MSc Greta Hadler, member of ISAH research staff, LUH	20 minutes
11:40 – 12:00	<b>Biochar-based bioretention systems for simultaneous removal of inorganic nitrogen and heavy metals from stormwater</b> Assistant Professor, Lixun Zhang, SIGS, THU	20 minutes
12:00 – 12:20	<b>Dynamization of rainfall data – from annual series to characteristic single events as input variables for pollution forecasting</b> MSc Jana Brettin, member of ISAH research staff, LUH	20 minutes
12:20 – 12:30	<b>Discussion</b> All Speakers and Participants	10 minutes
12:30 – 13:30	Lunch Break	60 minutes

Special Topic 3 – Advanced Wastewater Treatment		
13:30 – 13:50	<b>Aerobic treatment of wastewater and sludge as contributing to energy efficiency</b> Prof. Peter Hartwig, aqua Et waste International GmbH, Germany	20 minutes
13:50 – 14:10	<b>Novel remediation techniques for the effective control of per- and polyfluoroalkyl substances (PFAS)</b> Associate Professor, Yuxiong Huang, SIGS, THU	20 minutes
14:10 – 14:30	<b>SarsCov2 monitoring in the urban water cycle</b> Prof. Silvio Beier, Bauhaus University Weimar, Germany	20 minutes
14:30 – 14:50	<b>Chemical oxidations for the removal of trace organic contaminants in reclaimed water</b> Associate Professor, Wenlong Wang, SIGS, THU	20 minutes
14:50 – 15:00	<b>Discussion</b> All Speakers and Participants	10 minutes
15:00 – 15:20	<b>Tea and Coffee Break</b>	20 minutes
Special Topic 4 – Ready for Water Reuse		
15:20 – 15:40	<b>Tailoring membrane chemistry and structure for effective organic micropollutants removal in water reuse</b> Assistant Professor, Hao Guo, SIGS, THU	20 minutes
15:40 – 16:00	<b>N<sub>2</sub>O emissions forecasting with neural networks – expanding the training database using deterministic models</b>  MSc Arne Freyschmidt, member of ISAH research staff, LUH	20 minutes
16:00 – 16:15	<b>Discussion</b> All Speakers and Participants	15 minutes
Closing Session		
16:15 – 16:45	<b>Overarching discussion</b> All Speakers and Participants, moderated	30 minutes
16:45 – 17:00	<b>Introduction to the THU – LUH Double Degree: previous achievements and outlook</b> Prof. Jian'e Zuo, SoE and SIGS, THU, China Prof. Stephan Koester, ISAH, LUH, Germany	15 minutes
17:00 – 17:15	<b>Closing Addresses</b> Prof. Jian'e Zuo, SoE and SIGS, THU, China Prof. Stephan Koester, ISAH, LUH, Germany	15 minutes
End of Special Sino-German Seminar		
18:00 – 20:30	<b>Dinner together</b>	

中德联合水科技创新平台

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List of Participants

Name	Institution / Company
Prof. Dr. Jian'e Zuo	School of Environment (SoE) Tsinghua Shenzhen International Graduate School (SIGS) Tsinghua University, China (THU)
Associate Professor Dr. Yuxiong Huang Associate Professor Dr. Wenglong Wang Assistant Professor Dr. Hao Guo Assistant Professor Dr. LiXun Zhang	Institute of Environment and Ecology Tsinghua Shenzhen International Graduate School (SIGS) Tsinghua University, China (THU)
Prof. Dr. rer. hort. Christina von Haaren	Vice President for International Affairs and Sustainability Leibniz University Hannover, Germany (LUH)
Prof. Dr.-Ing. Stephan Koester MSc Greta Hadler MSc Jana Tjeda Brettin MSc Arne Freyschmidt M.A. Feng Wu	Institute of Sanitary Engineering and Waste Management (ISAH) Leibniz University Hannover, Germany (LUH)
Prof. Dr.-Ing. Peter Hartwig	aqua & waste International GmbH, Germany
Prof. Dr.-Ing. Silvio Beier	Bauhaus-University Weimar, Germany