



**UWI Summer School**  
**21 - 22 September 2021**

**Online via Zoom** (Meeting-ID: 628 4794 0149)

<https://tu-berlin.zoom.us/j/62847940149?pwd=YjV0SGZncDBlV0hiQjBMcitWNDVKdz09>

**Day 1, 21 September 2021, morning**

|   |   |  |
|---|---|--|
| 9:00  | Welcome   | Reinhard Hinkelmann                              |
| 9:10  | Introduction External Advisory Board (EAB) Members  | Elisabeth Gross<br>David Bastviken<br>Hans Moser |
| <i>Interfaces in urban watersheds, session chair: Dörthe Tetzlaff</i> |   |  |
| 9:30  | Ecohydrological controls on urban groundwater recharge: an isotope-based modelling approach (W1)                                      | Lena-Marie Kuhlemann                             |
| 9:35  | Assessing and managing ecohydrological sources of atmospheric moisture for urban cooling (W4)   | Ann-Marie Ring                                   |
| 9:50  | Scaling and connectivity assessment of critical source areas of diffuse pollution in urban catchments (W2)                            | Nasrin Haacke                                    |
| 9:55  | Analysis of multiple pathways of diffuse pollution from the atmosphere to the saturated soil zone in complex urban landscapes (W5)    | Laura Tams                                       |
| 10:10   | Heat and vapour fluxes of urban vegetation patterns – a remote sensing based approach (W3)  | Stenka Vulova,<br>Birgit Kleinschmit             |
| 10:15   | Feedbacks and interactions between the urban plant-water system (W6)  | Philipp Jordan                                   |
| 10:30   | Coffee break  |  |
| 11:00   | Mapping evapotranspiration in urban environments using the SCOPE model and remote sensing data  | Alby Duarte Rocha                                |
| 11:10   | Assessing temporal trends of urban evaporation and its interactions with meteorological data using Generalized Additive Models (GAMs) | Basem Aljoumani                                  |
| 11:20   | Mosaic - Field work and modelling using stable isotopes in urban water bodies and green spaces  | Christian Marx,<br>Mikael Gillefalk              |
| 11:30   | Flash flood modeling in arid regions - model coupling, infiltration settings and mitigation measures                                  | Franzi Tügel                                     |
| 11:40   | Flash flood simulation in urban and rural areas   | Yangwei Zhang                                    |
| 11:55   | Presentation of common topic group 'Interfaces in urban watersheds'   | Common topic group                               |
| 12:15   | Lunch   |  |



**Day 1, 21 September 2021, afternoon**

| <i>Interfaces in urban freshwater ecosystems, session chair: Michael Hupfer</i> |  |                                     |
|---|--|-------------------------------------|
| 13:00   | The GHG footprint of a metropolitan area (F4)  | Benjamin Archer                     |
| 13:05   | Impact of urbanization on methane dynamics in natural and engineered aquatic systems (F8)                          | Aurora Pinto                        |
| 13:20   | Interactions between invasive ecosystem engineers and bank filtration in urban lakes (F1)                          | Anna Lena Kronsbein                 |
| 13:25   | Securing urban lake water quality for drinking water production by bank filtration (F5)                            | Jonas Mauch                         |
| 13:40   | Long term inference of carbon fluxes in diverse plankton communities (F2)  | Marvin Mayerhofer                   |
| 13:45   | Modeling cyanobacteria ecology and toxin production (F6)   | Charlotte Schampera                 |
| 14:00   | Controlling of phosphorus fluxes in urban systems: Analogous processes in limnic sediments and sewage sludges (F3) | Lena Heinrich                       |
| 14:05   | Impact of natural and technical interfaces on phosphorus fluxes in urban water systems (F7)                        | Susanne Boteck                      |
| 14:20   | Coffee break   |                                     |
| 14:50   | Immission and effect iron from mining regions - Dispersion mechanisms and biogeochemical signatures                | Giulia Kommana                      |
| 15:00   | Presentation of UWI common topic group 'Interfaces in urban freshwater ecosystems'                                 | Common topic group                  |
| 15:20   | <b>Survey on supervision of 2<sup>nd</sup> cohort and discussion</b>   | Birgit Müller,<br>Vahid Sobhi Gollo |
| 16:00   | Meeting of PIs   |                                     |
| 16:30   | End of day 1   |                                     |
| 18:00 ...   | Casual meeting of (post)doctoral students in beer garden   |                                     |



**Day 2, 22 September 2021, morning**

|  |   |                     |
|--|---|---------------------|
| 9:00   | Meeting External Advisory Board (EAB)   |                     |
| 9:30   | Meeting External Advisory Board (EAB) and Internal Steering Committee (ISC)                                     |                     |
| <b><i>Interface urban hyporheic zones, chair person: Anke Putschew</i></b> |   |                     |
| 10:00  | Retention of trace organics in urban hyporheic bioreactors (H1)   | Birgit Müller       |
| 10:05  | Improving retention of trace organics in hyporheic zones of metropolitan areas (H5)                             | Christoph Reith     |
| 10:20  | Integral modelling approach for flow and reactive transport at surface water - groundwater interfaces (H2)      | Vahid Sobhi Gollo   |
| 10:25  | Extension and application of an integral surface water – groundwater model for improving river restoration (H6) | Finn Amann          |
| 10:35  | Abiotic transformation of organic trace compounds (H3)  | Yuki Sorgler        |
| 10:40  | Impact of enhanced anoxic/anaerobic zones on contaminant transformation during bank filtration (H7)             | Kerstin Gerundt     |
| 10:55  | Coffee break  |                     |
| 11:30  | Redox gradients in natural and technical systems: Population structure and physiological properties (H4)        | Niranjana Mukherjee |
| 11:35  | Metabolic transformation of mobile halogenated aromatics in redox gradients of urban hyporheic zones (H8)       | Simon Klaes         |
| 11:50  | Presentation UWI common topic group 'Interface urban hyporheic zones'   | Common topic group  |
| 12:10  | Lunch   |                     |



**Day 2, 22 September 2021, afternoon**

|   |  |  |
|---|--|--|
| <i>Interfaces in sewer systems, chair person: Reinhard Hinkelmann, Matthias Barjenbruch</i> |  |  |
| 13:00   | Three-phase simulation model for odour and corrosion in sewer systems (S2)                                       | Abhinav Dixit                                      |
| 13:05   | Sediment transport simulations in sewer systems using a multiphase flow approach (S4)                            | Huichen Zhang                                      |
| 13:20   | Bacterial physiology in interfaces   | Adrian Augustyniak                                 |
| 13:30   | Corrosion and odour in sewers caused by biochemical processes of sulphurous compounds (S1)                       | Micaela Pacheco Fernandez,<br>Matthias Barjenbruch |
| 13:35   | Corrosion in sewers caused by biochemical processes – microbiological investigations and inhibition effects (S3) | Romy Birnstengel,<br>Adrian Augustyniak            |
| 13:45   | Presentation of UWI common topic group 'Interfaces in urban sewer systems'                                       | Common topic group                                 |
| 14:05   | <i>Synthesis, feedback &amp; discussion, Reinhard Hinkelmann and ISC</i>   |  |
| 14:30   | End of summer school   |  |
| <b>BoS meetings</b>   |  |  |
| 15:00   |  |  |
| 15:30   |  |  |
| 16:00   |  |  |



## Instructions

**Doctoral students 2<sup>nd</sup> cohort:** 5 min presentation without discussion, max 6 slides

- 1 slide: research question
- 1 slide: (main) research methods
- 1 or 2 slides: main results / take home messages
- 1 slide: future research opportunities

**Doctoral students 3<sup>rd</sup> cohort:** 8 min presentation + 7 min discussion, max 7 slides

- 1 slide: research topic / background
- 1 slide: objectives
- 1 slide: work packages
- 1 or 2 slides: planned methods / sites etc
- 1 slide: time plan
- 1 slide optional: first results

**Postdocs, ('old') kollegiates:** 5 min presentation + 5 min discussion, max 6 slides;  
see doctoral students 2<sup>nd</sup> cohort; **please confirm availability and presentation title**

**New kollegiates:** see doctoral students 3<sup>rd</sup> cohort; **please confirm availability and presentation title**

**Common topic group leaders:** 10-15 min presentation + 10-5 min discussion;  
**please arrange who will present**

**External Advisory Board:** **please confirm availability** and introduce yourself within  
5 min (without slides)

**Chairmen:** **confirm availability**