

Monday, 29.08.

- 08:30 Registration and coffee break
- 09:00 Welcome and introduction to MARISS
Cr. Sandhu, coordinator MARISS
- 09:15 Keynote speech: 30 years of riverbank filtration research at the University of Applied Sciences Dresden
Prof. Dr.-Ing. T. Grischek, Head of Division of Water Sciences
- 09:45 Keynote speech: Groundwater in a changing environment
Dr. C. Stefan, Co-chair of IAH Commission on MAR
- 10:15 Coffee break in Z801
- 10:30 Participants introduction
Presentation of own projects, 15 min. per person with questions/discussion
- 12:00 Photo session
- 12:30 Lunch
- 13:30 Participants introduction
Presentation of own projects, 15 min. per person with questions/discussion
- 15:00 Discussion and coffee break
- 18:00 Ice-breaker dinner

Tuesday, 30.08

- 09:00 Hydraulic aspects and management of clogging
T. Grischek
- 10:30 Coffee break
- 10:45 Well design
T. Grischek, Dr.-Ing. C. Sandhu
- 12:00 Lunch
- 13:00 Design of RBF schemes and site selection concept
C. Sandhu, N.A. Hoang
- 14:30 Coffee break
- 14:45 Lab work I: Hydraulics and clogging
T. Grischek, C. Sandhu
- 17:00 Coffee break
- 17:15 Group project on MAR design and site selection
T. Grischek, C. Sandhu

Partners

Wednesday, 31.08.

07:00 - 20:00 Technical excursion to MAR sites in Saxony



Visit to the riverbank filtration well at the Waterworks Sdier, 2021

Thursday, 01.09.

- 09:00 Web-based numerical modelling and optimisation of MAR
Dr. C. Stefan, TU Dresden
- 10:30 Coffee break
- 10:45 Web-based numerical modelling and optimisation of MAR applications
C. Stefan
- 12:00 Lunch
- 13:00 MAR in coastal aquifers
Cr. Sandhu
- 14:30 Coffee break
- 14:45 MAR in coastal aquifer applications
Cr. Sandhu
- 16:15 Coffee break
- 16:30 Group project on MAR design and site selection
C. Sandhu

Venue

Hochschule für Technik und Wirtschaft Dresden
Friedrich-List-Platz 1
01069 Dresden
www.htw-dresden.de

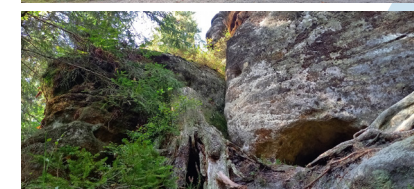
Contact: mariss@htw-dresden.de



Friday, 02.09.

- 09:00 Numerical modelling of MAR schemes
Dr.-Ing. T. Reimann, TU Dresden, C. Sandhu
- 10:30 Coffee break
- 10:45 Numerical modelling of MAR schemes applications
T. Reimann, C. Sandhu
- 12:00 Lunch
- 13:00 Water quality modelling
T. Reimann, C. Sandhu
- 14:30 Coffee break
- 14:45 Water quality modelling applications
T. Reimann, C. Sandhu
- 16:15 Coffee break
- 16:30 Group project on MAR design and site selection
C. Sandhu

Saturday/Sunday - Individual excursions



Funded within the framework of Future.
East HTW Dresden-international and
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Monday, 05.09.

- 09:00 Water quality aspects and attenuation processes
T. Grischek
- 10:30 Coffee break
- 10:45 Water quality aspects: oxygen, nitrate, ammonium
G. Covatti
- 11:30 Removal of organic micro-pollutants: SOMA2 tool application
N. A. Hoang
- 12:00 Lunch
- 13:00 Water quality aspects: iron, manganese
T. Grischek
- 14:00 Coffee break
- 14:15 Pathogen removal
C. Sandhu
- 15:45 Lab work II: Water quality aspects
C. Sandhu, G. Covatti, Y. Adomat
- 18:00 Group project on MAR design and site selection

Tuesday, 06.09.

- 09:00 Behaviour of organic micro-pollutants (OMPs)
Dr. H. Börnick, TU Dresden, Institute for Water Chemistry, IWC
- 10:30 Short break
- 10:45 Lab visit: Analytical methods and lab experiments to determine the attenuation rates of OMPs
H. Börnick, Lab at IWC
- 12:00 Lunch
- 13:00 Post-treatment of RBF water for drinking water supply: monitoring and disinfection
Dr. M. Wagner, German Water Centre, Dresden site
- 14:30 Coffee break
- 14:45 Lab work III: batch, column and channel experiments
M. Musche, G. Covatti, C. Sandhu
- 17:00 Coffee break
- 17:15 Group project on MAR design and site selection

Wednesday, 07.09.

- 08:00 Technical excursion to MAR sites in Saxony
- 14:30 Group project on MAR design and site selection
Preparation of presentations



Visit to the infiltration basin at the Waterworks Dresden-Hosterwitz, 2021

Thursday, 08.09.

- 09:00 MARISS exam
C. Sandhu, Cr. Sandhu
- 10:30 Coffee break
- 10:45 Group project presentation and discussion: Team 1 & 2
T. Grischek, C. Sandhu, N. A. Hoang
- 12:00 Lunch
- 13:00 Group project presentation and discussion: Team 3 & 4
T. Grischek, C. Sandhu, N. A. Hoang
- 14:15 Coffee break
- 14:30 Worldwide case studies
G. Covatti, N.A. Hoang, E. Zehtabian

Friday, 09.09.

- 09:00 Regulations, policies, guidelines, quality standards and risk assessment
C. Stefan, C. Sandhu
- 10:30 Coffee break
- 10:45 MAR Debate: discussion of open questions
T. Grischek, C. Sandhu, C. Stefan, Cr. Sandhu
- 12:00 MARISS closing ceremony
T. Grischek, Cr. Sandhu
- 13:00 Lunch

MARISS Team

Prof. Dr.-Ing. T. Grischek, HTW Dresden, has expertise in groundwater management, water supply, bank filtration, artificial groundwater recharge, removal of iron, manganese, organic micro-pollutants.

Dr.-Ing. C. Sandhu, HTW Dresden, has expertise in bank filtration, groundwater management and removal of pathogenic microorganisms.

Cr. Sandhu, HTW Dresden, MARISS Coordinator, has expertise in unsaturated zone and groundwater recharge modelling, software development, analytical methods.

G. Covatti, HTW Dresden, has expertise in groundwater chemistry, drinking water production through bank filtration and redox processes.

N. A. Hoang, HTW Dresden, has expertise in feasibility studies for bank filtration, GIS, geohydraulic modelling, and site selection.

F. Musche, HTW Dresden, has expertise in MAR field and lab work, RBF well construction.

Y. Adomat, HTW Dresden, has expertise in water chemistry, assessment of OMPs, drinking water treatment.

Dr. Catalin Stefan, TU Dresden, INOWAS, has expertise in artificial groundwater recharge, integrated water resources management and decision support systems for sustainable water management.

Dr.-Ing. T. Reimann, TU Dresden, has expertise in hydraulics and transport in karst aquifers, development and application of numerical models, hydraulics and solute transport in aquifers and transition zone between saturated and unsaturated zones.

Dr. H. Börnick, TU Dresden, has expertise in analytical methods for the determination of OMPs in water, degradation and sorption of OMPs during drinking water treatment.

Dr. M. Wagner, TZW Dresden, has expertise in online sensor development and application, disinfection strategies, data science and machine learning.