

TUESDAY, 01/09, ROOM Z 454

MAR PRINCIPLES, HYDRAULIC ASPECTS AND CASE STUDIES

08:30 REGISTRATION

09:00 Opening and introduction *Cornelius Sandhu, Thomas Grischek*

09:30 **Keynote lecture:** Hydraulic aspects of MAR and management of clogging *Thomas Grischek*

10:30 Photo-session and Break

11:00 **Keynote lecture:** Development and evaluation of RBF in a saline coastal aquifer: an integrated groundwater flow modeling and particle tracking approach *Y. R. Satyaji Rao*

11:40 **Keynote lecture:** 20 years of development and operation of RBF for drinking water production in Uttarakhand, India – experiences and challenges *Prakash C. Kimothi*

12:10 Lunch

13:30 Groundwater Recharge in Arid Environments: Insights from Northwest India *Darshan Malviya*

13:50 Monitoring of Groundwater Draft for Irrigation *Mukesh Kumar Gautam*

14:10 Modelling, simulation and optimization of a membrane-based wastewater treatment process using WAVE

Abaseen Khairkhwah

14:30 Potential of RBF in the Ganga and North-Eastern river basins in India *Cornelius Sandhu*

15:00 Break

15:30 Field practicals / techniques, U125

- double-ring infiltration experiment *Philipp Marx*
- manual measurement & automatic data-recording of groundwater level *Cornelius Sandhu*

19:30 Welcome dinner

WEDNESDAY, 02/09, ROOM Z 454/U 102

WATER QUALITY AND MAR EXPERIENCES

09:00 **Keynote lecture:** Water quality aspects of MAR *Thomas Grischek*

09:45 **Keynote lecture:** Groundwater salinity: challenges, mitigation and role of MAR – case study from Mewat, India

Gopal Krishan

10:30 Break

10:45 **Lecture:** From columns to wells: tracking microplastics in RBF – transport, retention and sampling *Jiaying Ding*

11:15 **Lecture:** Removal of tire-particles by column experiments and quantification *Cindy Rau*

11:45 **Lecture and laboratory technique:** Detection of microplastics using flow cytometry *Mareike Michaelis*

12:30 Lunch & transfer to TU Dresden, IWC, room 268

13:30 **Lecture:** Behavior of organic micro-pollutants

Hilmar Börnick

14:15 **Lab tour:** Institute of Water Chemistry, TU Dresden

Hilmar Börnick

15:00 Break & transfer to HTW Dresden

15:00 – 17:00 Online MAR Seminar – “Long-standing experience in MAR” organized by IAH-MAR Commission, U102

- Lessons learned from 40 years’ MAR experiences in Belgium *Emmanuel Van Houtte*

- The MAR of the Geneva auifer: after more than 40 years successful operation, what are the next challenges?

Gabriel de los Cobos

- Decades of drinking water treatment using MAR in Finland: aspects of sustainability and resiliency *Petri Jokela*

THURSDAY, 03/09

MAR EXCURSION 1

07:45 Meeting point: In front of main building, HTW Dresden

08:00 Departure by bus

10:00 Excursion to UNESCO-World Heritage Site Muskau Park in Bad Muskau and to RBF waterworks in Sdier

16:00 Return to Dresden

FRIDAY, 04/09, ROOM U 102

WATER-NEXUS MODELLING AND INOWAS WEB-BASED MAR MODELLING

09:00 **Keynote lecture:** Hydro-economic modelling of food-energy-water nexus

Numerical practical with Python: Simulating yields and water requirement of wheat crop under different irrigation strategies

Hemanth Kumar

10:30 Break

MARISS 2026 is an activity of the project “Integration of managed aquifer recharge and water-food nexus in higher education”, funded by the GIANT program of the DAAD with funds from the Federal Foreign Office of Germany

MARISS 2026 is organised by HTW Dresden in scientific cooperation with



Deutscher Akademischer Austauschdienst
German Academic Exchange Service

7TH INTERNATIONAL SUMMER SCHOOL MANAGED AQUIFER RECHARGE - MARISS 2026

HTW DRESDEN, DIVISION OF WATER SCIENCES, GERMANY

1-11 SEPTEMBER 2026

Hochschule für Technik und
Wirtschaft Dresden
University of Applied Sciences

HTW

11:00 Numerical practical with Python: Development of surrogate crop yield models using machine learning

Hemanth Kumar

12:30 Lunch

13:30 Keynote talk: Guiding principles for MAR suitability mapping and introduction to web-based numerical modeling of MAR *Catalin Stefan*

15:00 Break

15:30-17:00 Group-work: "Five years. Multiple stakeholders. One aquifer. You decide!" - The (serious) MAR Game *Catalin Stefan*

**SATURDAY, 05/09,
FREE DAY FOR PARTICIPANTS**

**SUNDAY, 06/09,
OPTIONAL EXCURSION TO NATIONAL PARK
SÄCHSISCHE SCHWEIZ**

**MONDAY, 07/09, ROOM U 102
SITE-INVESTIGATION AND DESIGN OF RBF SCHEMES**

09:00-09:45 Lecture: Site-selection concept for RBF schemes

Cornelius Sandhu

09:45 Keynote lecture: Site-selection methodology for RBF schemes and its application in GIS *T.N.A. Hoang*

10:30 Break

11:00 Lecture and exercise: Design of a RBF well scheme

Cornelius Sandhu

12:30 Lunch

13:30-14:15 Lecture: Isotopes in water resources management with focus on MAR *Gopal Krishan*

14:15-15:00 Lecture: From floods to recharge: MAR for flood resilience and groundwater sustainability in Punjab, India

Gopal Krishan

15:00 Break

15:30- 17:00 MAR group project: MAR design and site-selection

Cornelius Sandhu

**TUESDAY, 08/09, ROOM U 102
NUMERICAL GROUNDWATER FLOW MODELLING FOR
MAR**

09:00 Keynote lecture: Numerical modelling of MAR schemes – theoretical and conceptual aspects

Thomas Reimann, Eileen Poeter, Rudolf Liedl

10:30 Break

11:00 Application: Numerical modelling of MAR schemes

Thomas Reimann, Eileen Poeter, Rudolf Liedl

12:30 Lunch

13:30 Application of numerical modelling to MAR group project

Thomas Reimann, Cornelius Sandhu, participants

15:00 Break

15:15- 16:30 Application of numerical modelling to MAR group project *Thomas Reimann, Cornelius Sandhu, participants*

WEDNESDAY, 09/09,

MAR EXCURSION 2

07:45 Meeting point: Behind Z and U building, HTW Dresden

08:00 Departure by bus

10:30 Excursion of RBF site in Torgau and waterworks

Fernwasserversorgung Elbaue-Ostharz GmbH

15:00 – 18:00 Return to Dresden via Meissen

THURSDAY, 10/09, ROOM U 102

CROSS-CUTTING MAR TOPICS

09:00 Discussion on numerical modelling of MAR group projects

10:30 Break

09:30 Keynote lecture: Potential of MAR for spring-shed management in mountainous regions – case studies from Central Himalayas *Moti Rijal*

12:30 Lunch

13:30 MAR group project work *Cornelius Sandhu*

15:00 Break

15:30-17:00 Lecture and laboratory practical / techniques: Removal of pathogens by RBF and their detection

Cornelius Sandhu

**FRIDAY, 11/09, ROOM U 102
MAR PROJECT PRESENTATIONS AND SUMMARY AND
DISCUSSION OF MARISS CONTENT**

09:00-09:45 Laboratory practical / techniques: Detection of pathogens *Cornelius Sandhu*

09:45 – 10:30 MAR group project presentations

Cornelius Sandhu, Moti Rijal

10:30 Break

10:45 Summary and Discussion of MARISS Content

Cornelius Sandhu, Moti Rijal

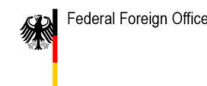
12:00 Closing and distribution of participant certificates

Cornelius Sandhu, Moti Rijal

12:30 Farewell lunch for participants

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