

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 Sdie

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

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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_D

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: numerical modelling of MAR
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*

10:30 Break

11:00 Application: Numerical modelling of MAR schemes

Thomas Reimann, Eileen Poeter

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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