

Organised by:  
**INOWAS**  
MAR Junior Research Group

Hosted by:  
**TECHNISCHE  
UNIVERSITÄT  
DRESDEN**

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2nd International INOWAS Summer School on Managed Aquifer Recharge  
Dresden, Germany, 4-15 September 2017

**INOWAS**  
MAR Junior Research Group



2<sup>nd</sup> International INOWAS  
**SUMMER SCHOOL**  
on Managed Aquifer Recharge

**4-15 September 2017**  
Dresden, Germany

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## PROGRAMME

<b>Monday, 4 September 2017 (Dresden)</b>			
17:00-20:00	D-1	WELCOME RECEPTION Introduction to INOWAS project and summer school agenda, welcome buffet	Catalin Stefan Claudia Schönekerl TU Dresden (INOWAS)
<b>Tuesday, 5 September 2017 (Dresden)</b>			
09:00-12:00	E-1	SELF-INTRODUCTION Self-introduction of participants	Summer school participants
12:00-13:00		Lunch break	
13:00-16:00	E-2	SELF-INTRODUCTION Self-introduction of participants (cont.)	Summer school participants
17:00-20:00	D-2	NETWORKING Introduction CIPSEM Joint networking BBQ	Anna Görner Center for International Postgraduate Studies of Environmental Management (CIPSEM), Germany
<b>Wednesday, 6 September 2017 (Dresden)</b>			
09:00-11:00	A-1	LECTURE Introduction to managed aquifer recharge	Catalin Stefan TU Dresden (INOWAS)
11:00-13:00	A-2 B-1	LECTURE and EXERCISE MAR techniques – detailed survey and selection process	Jana Sallwey TU Dresden (INOWAS)
13:00-14:00		Lunch break	
14:00-18:00	A-3 B-2	LECTURE and EXERCISE GIS-based selection of suitable sites for MAR application	Nienke Ansems International Groundwater Resources Assessment Center (IGRAC), The Netherlands
18:00-20:00		CITY TOUR Dresden	
<b>Thursday, 7 September 2017 (Pirna)</b>			
10:00-12:00	A-4	LECTURE MAR processes and parameters	Thomas Fichtner TU Dresden (INOWAS)
12:00-13:00		Lunch break	
13:00-17:00	C-1	TECHNICAL TRIP INOWAS MAR research facilities in Pirna	Thomas Fichtner / Felix Barquero TU Dresden (INOWAS)
<b>Friday, 8 September 2017 (Dresden)</b>			
09:00-11:00	G-1	GUEST LECTURE Technical solutions for MAR systems	Enrique Fernández Escalante (TRAGSA Group), Spain
11:00-13:00	G-2	GUEST LECTURE River bank filtration - challenges and ways forward	Thomas Grischek Dresden University of Applied Sciences (HTW), Germany
13:00-14:00		Lunch break	
14:00-16:00	G-3	GUEST LECTURE Regulating managed aquifer recharge	Manuel Sapiano The Energy & Water Agency Malta
16:00-17:00	B-3	EXERCISE / DISCUSSION Institutional and policy factors affecting MAR development and implementation	Andrew Ross National Centre for Groundwater Research and Training (NCGRT) Manuel Sapiano The Energy & Water Agency Malta

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<b>Monday, 11 September 2017 (Dresden)</b>			
09:00-11:00	A-5	LECTURE Introduction to MAR modeling	Aybulat Fatkhutdinov TU Dresden (INOWAS)
11:00-12:00	A-6	LECTURE Numerical groundwater flow modeling	Jana Glass TU Dresden (INOWAS)
12:00-13:00	B-3	EXERCISE MAR modeling using MODFLOW and FloPy	Ralf Junghanns TU Dresden (INOWAS)
13:00-14:00		Lunch break	
14:00-16:00	B-4	EXERCISE MAR modeling using the web-based INOWAS-DSS modeling platform	Ralf Junghanns TU Dresden (INOWAS)
<b>Tuesday, 12 September 2017 (Dresden)</b>			
09:00-13:00	B-5	EXERCISE MAR modeling workshop with INOWAS DSS (incl. model setup, construction and analysis of different MAR scenarios) – role play exercise	Ralf Junghanns TU Dresden (INOWAS) Summer school participants
13:00-14:00		Lunch break	
14:00-17:00	B-6	EXERCISE MAR modeling workshop with INOWAS DSS Group work and presentation of results	Ralf Junghanns / Jana Glass / Catalin Stefan TU Dresden (INOWAS) Summer school participants
<b>Wednesday, 13 September 2017 (Berlin)</b>			
08:00-20:00	C-2	TECHNICAL TRIP Infiltration basins for aquifer recharge in Berlin-Tegel	Christoph Sprenger Berlin Center of Competence for Water (KWB), Berlin Water Works (BWB), Germany
<b>Thursday, 14 September 2017 (Dresden)</b>			
09:00-12:00	G-4	GUEST LECTURE Financial and economic costs of managed aquifer recharge	Andrew Ross National Centre for Groundwater Research and Training (NCGRT), Australia
12:00-13:00		Lunch break	
13:00-18:00	C-3	TECHNICAL TRIP River bank filtration in Dresden-Hosterwitz and HTW research facility	Rico Bartak Dresden University of Applied Sciences (HTW), Dresden Water Works (DREWAG), Germany
<b>Friday, 15 September 2017 (Dresden)</b>			
09:00-12:00	G-4	GUEST LECTURE Climate change vulnerability analysis of the Xecunabaj micro watershed basin in the dry corridor of Guatemala	Harald Himself Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Guatemala
12:00-13:00		Lunch break	
13:00-14:00	F-1	EVALUATION Summer school assignments	Catalin Stefan TU Dresden (INOWAS)
14:00-15:00		CLOSING CEREMONY Summer school wrap-up Certificates of attendance	Catalin Stefan Claudia Schönekerl TU Dresden (INOWAS)

A: Lecture, B: Exercise, C: Technical trip, D: Networking, E: Self-introduction, F: Evaluation, G: Guest lecture

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