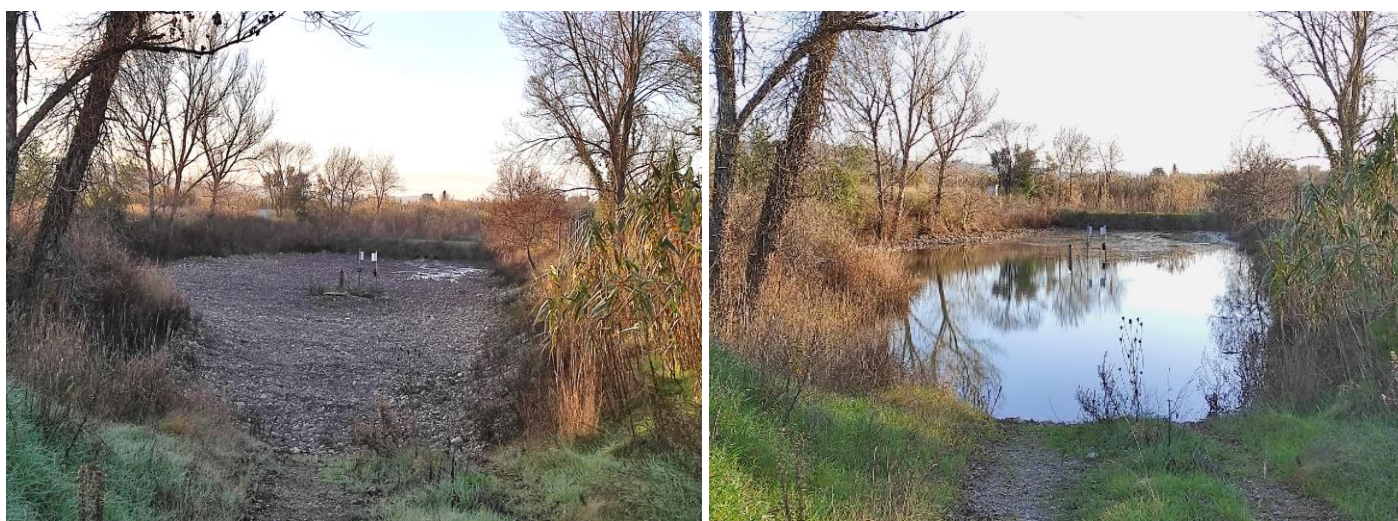




MAR Con '22 - Barcelona

Managed Aquifer Recharge Solutions
International Conference on Current Research Results
Barcelona, 19.-20. October 2022



The overall objective of MAR Con '22 is to collect research results, practical experience, and innovative ideas related to the following aspects of Managed Aquifer Recharge (MAR) activities:

- Chemical, biological and hydraulic processes resulting in clogging and reduction of infiltration rates,
- Hydrogeochemical processes affecting the water quality, with special focus on micropollutants,
- Performance monitoring and modelling, including reactive transport models to predict the fate of pathogens and emerging pollutants, and
- Implications of the processes mentioned above on the technical design of MAR projects in the frame of regional flow models and water management plans.

Venue: Universitat Politècnica de Catalunya, Master's and Multipurpose Classroom, A3 building, North Campus of UPC, C. Jordi Girona, 1-3, Barcelona, Spain

Participation in the conference is free, and may be in person or online. For registration and an updated program please visit www.marsolut-itn.eu.



MAR Con '22 - Conference Program

Managed Aquifer Recharge Solutions

International Conference on Current Research Results, Barcelona, Spain

Wednesday October 19th

9:00 Check in / registration / welcome

9:30 Welcome words by Christoph Schüth (TUDa) and Xavier Sánchez-Vila (UPC)

Session 1: Sustaining Rates

Chair: Ulrike Werban

9:45 Sultana, R., Werban, U., Pohle, M., Rossetto, R. & Vienken, T. (UFZ, Germany, & SSSA, Italy): *On the relevance of site exploration as prerequisite for successful MAR site planning and operation*

Lipperra, M.C., Werban U., Rossetto, R. & Vienken, T. (UFZ, Germany, & SSSA, Italy): *Understanding and predicting clogging behaviour to enhance and maintain infiltration capacity of MAR infrastructure*

Hartog, N. (KWR Water Research Institute, Netherlands): *Making MAR systems work: Different approaches to maintaining infiltration and abstraction rates*

Summary and outlook - *Spotlight on quantity*

11:00 Coffee break

Session 2: Improving Quality

Chair: Christoph Schüth

11:30 Muñoz Vega, E. & Schüth, C. (TUDa, Germany): *Experimental studies of the sorption and remediation of selected emerging organic contaminants*

Horovitz, M., Muñoz Vega, E., Leitão, T.E., Schüth, C. & Schulz, S. (LNEC, Portugal, & TUDa, Germany): *Large-scale sand tank experiments to assess water quality changes during soil aquifer treatment*

Rudnik, G., Rabinovich, A., Katz, Y. & Kurtzman, D. (ARO, TAU, & Mekorot, Israel): *Reactive transport modelling in a double source MAR site*

Valhondo, C. (CNRS, France): *Renaturalization of reclaimed water through enhanced soil aquifer treatment with reactive barriers*

13:00 Lunch break

14:30 Pérez Illanes, R., Muñoz Vega, E., Schulz, S., Schüth, C. & Fernández-García, D. (UPC, Spain, & TUDa, Germany): *Precipitation of Fe(III) oxyhydroxides in porous media and its influence in solute breakthrough*

Hübner, U. (TUM, Germany): *Engineering of managed aquifer recharge systems to optimize biotransformation of trace organic chemicals*

Summary and outlook - *Spotlight on the chemistry*

15:30 Coffee break

Session 3: Proving Performance

Chair: Rudy Rossetto

16:00 Behle, V.R., Rodríguez-Escales, P. & Sanchez-Vila, X. (UPC, Spain): *MAR modeling: hydrogeochemistry and fate of contaminants*

Caligaris, E.R. & Rossetto, R. (SSSA, Italy): *Hydroinformatics and monitoring for investigating groundwater quality changes in managed aquifer recharge*

Vlassopoulou, A., Tentes, G. & Kallioras, A. (NTUA, & G2S, Greece): *Participatory modelling in MAR*

Negev, I. (Mekorot, Israel): *The Shafdan Experience*

Summary and outlook - *Spotlight on techniques and tools*

17:30 End of day 1

Thursday October 20th

Session 4: Optimizing Design

Chair: Enrique Fernández Escalante

9:00 Henao Casas, J.D., Fernández Escalante, E. & Ayuga, F. (Tragsa & UPM, Spain): *Advanced technical and conceptual solutions in managed aquifer recharge*

Demichele, F. & Sapiano, M. (EWA, Malta): *Hydrogeological and geochemical modelling of a sea-water intrusion barrier in an island/coastal groundwater body*

Standen, K., Monteiro, J.P., Costa, L. & Hugman, R. (UALg, Portugal, & Flinders University, Australia): *Opportunities to improve aquifer status using MAR through River Basin Management Plans in the Algarve, Portugal*

Benedicto van Dalen, D. (Acaciawater, Netherlands): *The experience of Acacia Water in the design and implementation of ASR systems - the case of a farming cooperative in Texel, the Netherlands*

Summary and outlook - *Spotlight on scenarios*

10:30 Coffee Break

Session 5: Global applicability, bottlenecks and proactive legislation

11:00 Panel – experts statements and audience discussion

Final remarks and closing of the conference

13:00 Lunch break

Field site visit

14:00 *MAR activities in the Llobregat Lower Valley – an overview*

Tour for those who registered for the site visit. Exact meeting point and time for departure of the bus will be announced at the conference. Return planned for 18:00 h at the same place.

The conference is organised for the EU MSCA MARsolut Innovative Training Network (ITN) by Technical University of Darmstadt (TUDa), Darmstadt, Germany, and Universitat Politècnica de Catalunya (UPC), Barcelona, Spain. Registration on www.marsolut-itn.eu.