

EIP Water Conference

Accelerating action to tackle water pollution and enhance EU preparedness to water-related climate change impacts #EUWIC

EIP Water AG 128 MARtoMARKet

side meeting on

“How H2020 MARSoluT will contribute to tackle water pollution and enhance MAR preparedness in EU”

WED December 11, 2019, 14:00-18:00

Palacio de Congressos, Zaragoza, Spain

and

INVITATION TO VISIT EUWIC 2019 Exhibition Booth

[EIP Water AG 128 MARtoMARKet](#), [MARSOL](#), [MARSoluT ITN](#) and [FreeWat](#)

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As before in Barcelona (2014), Leeuwarden (2016) and Porto (2017) also in Zaragoza (2019) EIP Water AG 128 MARtoMARKet is organizing a side event, this time presenting and discussing the new H2020 MARSoluT project. MARSoluT project PhD candidates are invited to present their MSc related MAR Quality Issues followed by the institutional PhD coordinators to additionally present what they are willing to do in complementary way. H2020 MARSoluT project addresses Managed Aquifer Recharge (MAR) – storing water in aquifers during times of excess.

MAR is a key strategy to enrich groundwater resources in water scarce regions by providing intermediate storage, addressing the typical mismatch between water demand and availability. It can help to mitigate the effects of climate change, and to support water-related environmental services. MAR is, however, characterized by complex interaction of physical, biological and hydrochemical processes influencing water quality and the sustainability of infiltration rates. Individual processes are in principal known, but there is a significant knowledge gap on how they

are linked and affect each other. An in-depth understanding of their interplay can lead to MAR systems tailored for best performance in terms of water storage, water polishing goals, performance and economic viability, and adaptation to climatic changes.

MARSoluT addresses this knowledge gap by a collaborative effort in a multi-disciplinary team. Activities are organized around the existing field sites of previous EU FP7 project MARSOL that are already highly characterized and instrumented to allow further in-depth studies and experimental approaches. This will lead to new insights into the complex and coupled processes at MAR sites and will help to optimize MAR design and operation, and thereby minimizing risk of MAR failure. Excellence in research and technological innovation are ensured by involving partners from renown research organizations as well as SMEs and industry partners with a strong background in the water sector. MARSoluT Early Stage Researcher (ESR) will get hands-on experience at various MAR sites while tackling specific MAR-related research topics in an interdisciplinary team. MARSoluT ESRs will become experts on the tailored planning of MAR systems making them attractive for employers from research, industry, and regulatory agencies which are eager to implement MAR into sound and safe Integrated Water Resources Management concepts. Through the EIP Water Action Group 128 "MAR to MARket", led by LNEC, also acting as MARSoluT networks Knowledge Transfer Coordinator, the project will ensure that scientific findings will be efficiently communicated to regulators and practitioners.

If you are interested in joining the meeting or in more information about the project please contact [João-Paulo Lobo-Ferreira](#) or visit the [project website](#).

PROGRAMME:

- **Introduction to H2020 MARSoluT Side Event** – JP Lobo Ferreira (EIP Water AG 128 MARtoMARKet leader, Laboratório Nacional de Engenharia Civil (LNEC), Lisbon, Portugal, 7.5 min)
- **Introduction to H2020 MARSoluT Project** - Christoph Schüth (MARSoluT coordination at Institute of Applied Geosciences, Technische Universität Darmstadt (TUDa), Germany, 7.5 min)
- **Reactive barriers for enhanced attenuation of micro pollutants** - Christoph Schüth and ESR Edinsson Muñoz Vega (TUDa, 15 min)
- **Soil-Aquifer Treatment as a passive solution to enhance treated wastewater quality. An example in south Portugal** - Teresa Leitão and ESR Marcel Horovitz (LNEC, 15 min)
- **Advanced technical solutions in managed aquifer recharge (MAR)** - Enrique Fernandez Escalante (representing TRAGSA ESR (tbc) @Empresa de Transformacion Agraria Sa, Madrid, Spain, 15 min)
- **Chaotic flows and reactive transport modeling during managed artificial recharge** – Daniel Fernandez Garcia (representing ESR Vera Behle and ESR Rodrigo Perez (Universitat Politecnica de Catalunya, Barcelona, Spain, 15 min)

- **Hydroinformatics and monitoring for investigating groundwater quality changes in managed aquifer recharge (MAR)** – Rudy Rossetto and ESR Esteban Rafael (Scuola Superiore di Studi Universitari e di Perfezionamento Sant'anna (SSSA), Pisa, Italy, IT, 15 min)
- **Hydrogeological and geochemical modelling of a sea-water intrusion barrier in an island/coastal groundwater body** - Manuel Sapiano and ESR Francesco Demichele (Energy and Water Agency (EWA), Luqa, Malta, 15 min)
- **Integration of MAR solutions and modelling know-how for improvement of quantitative and qualitative status of selected water bodies identified in River Basin Management Plans** - José Paulo Monteiro and ESR Kathleen Kathleen Standen (Universidade do Algarve UAlg, Faro, Portugal, 15 min)

COFFEE BREAK (15 min)

- 15 min slots available for EIP Water AG 128 **MARtoMARKet** partners
 - a. **New approaches in risk management and climate change adaption for MAR in Berlin** - Christoph Sprenger, Kompetenzzentrum Wasser Berlin, Germany.
 - b. **Sharing experiences on GTK ongoing MAR projects/project preparation to network with MARtoMARKet partner projects** - Jussi Ahonen, Head of unit Groundwater, Geological Survey of Finland
 - c. **Relevance of H2020 PIANO project results for future EU/China water innovation cooperation** - JP Lobo Ferreira, EIP Water AG 128 MARtoMARKet leader, Laboratório Nacional de Engenharia Civil (LNEC), Lisbon, Portugal

POSTERS, DISCUSSION and WRAP-UP (15 min)

- 5 min slots available for **A BRIEF INTERNAL MARSoluT MEETING FOR MUTUAL INTRODUCTION** (led by Karl Ernst Roehl / Annette Wefer-Roehl, TUDa, 45 min)
 - a. TUDa: Edinsson Muñoz Vega (m, Chilean)
 - b. LNEC: Marcel Horovitz (m, German)
 - c. Tragsa: (tbc)
 - d. UPC: Vera Behle (f, German), Rodrigo Perez (m, Chilean)
 - e. SSSA: Esteban Rafael Caligaris (m, Italian)
 - f. EWA: Francesco Demichele (m, Italian)
 - g. UAlg: Kathleen Standen (f, British)

Participant list:

- JP Lobo Ferreira (EIP Water AG 128 MARtoMARKet leader, Laboratório Nacional de Engenharia Civil (LNEC), Lisbon, Portugal)
- Christoph Schüth (MARSoluT coordination at Institute of Applied Geosciences, Technische Universität Darmstadt (TUDa), Germany)
- Teresa Leitão (Laboratório Nacional de Engenharia Civil (LNEC), Lisbon, Portugal)

- Enrique Fernandez Escalante (TRAGSA Empresa de Transformacion Agraria Sa, Madrid, Spain)
- Daniel Fernandez Garcia (Universitat Politecnica de Catalunya, Barcelona, Spain)
- Rudy Rossetto (Scuola Superiore di Studi Universitari e di Perfezionamento Sant'anna (SSSA), Pisa, Italy)
- Manuel Sapiano (Energy and Water Agency (EWA), Luqa, Malta)
- José Paulo Monteiro (Universidade do Algarve, Faro, Portugal)
- Karl Ernst Roehl (Technische Universität Darmstadt (TUDa), Germany)
- Annette Wefer-Roehl (Technische Universität Darmstadt (TUDa), Germany)
- Ester Vilanova (Amphos 21 consulting, Barcelona, Spain)
- Jordi Guimerà (Amphos 21 consulting, Barcelona, Spain)
- Edinsson Muñoz Vega (ESR@TUDa, Germany, Chilean)
- Marcel Horovitz (ESR@LNEC, Portugal, German)
- Esteban Rafael Caligaris (ESR@SSSA, Italy, Italian)
- Francesco Demichele (ESR@EWA, Malta, Italian)
- Kathleen Standen (ESR@Universidade do Algarve, Portugal, British).
- Jussi Ahonen, Head of unit Groundwater, Geological Survey of Finland
- Christoph Sprenger (Kompetenzzentrum Wasser Berlin, Germany)
- Samuel Lee Hancock Dr., President & Executive Director EmeraldPlanet International Foundation® Washington, D.C. 20037 USA.
- Paolo Severi, Regione Emilia Romagna, Italy
- Ismael Pérez Mata, Área del Agua, Uraren Arloa, 31015 Pamplona-Iruñea. NAVARRA
- Catalin Stefan, Technische Universität Dresden, Germany

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