



## International MARSOLUT and LIFE REWAT Autumn School



*Digital water management and water-related agroecosystem services: geostatistics, hydroinformatics and groundwater flow numerical modelling*

3<sup>rd</sup> Edition



October 12<sup>th</sup>— November 23<sup>rd</sup>  
2020

Online course



## *Managed Aquifer Recharge and modelling. Technologies and tools for groundwater resource management*

23<sup>rd</sup> November 2020 — from 11 am to 1.45 pm Central Europe Time  
Web seminar - Scuola Superiore Sant'Anna, Pisa (Italy)

Participation is free, limited "seats" available (40).

Registration is mandatory. To register, please send an e mail to Rudy Rossetto ([rudy.rossetto@santannapisa.it](mailto:rudy.rossetto@santannapisa.it)), providing the following info:

- Name
- Surname
- e-mail
- Institution
- Type of Institution (university/research, water utility, river basin authority, governmental authority, enterprise, freelance).

Web seats will be assigned on first come first served basis.

For further information, please contact:

Rudy Rossetto – [rudy.rossetto@santannapisa.it](mailto:rudy.rossetto@santannapisa.it)

Partecipazione gratuita, numero di posti limitato (40).

La registrazione è obbligatoria. Per registrarsi inviare una mail a Rudy Rossetto ([rudy.rossetto@santannapisa.it](mailto:rudy.rossetto@santannapisa.it)), comunicando:

- Nome
- Cognome
- e-mail
- Ente di appartenenza
- Tipologia di ente (università/ricerca, gestore servizio idrico, autorità di bacino, ente governativo, società di consulenza, libero professionista).

Il seminario è in lingua inglese.

I posti disponibili saranno assegnati in base all'ordine di arrivo delle richieste di partecipazione.

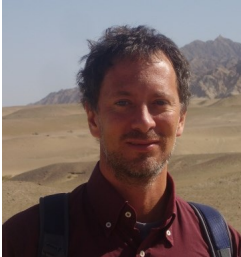
Per ulteriori informazioni contattare:

Rudy Rossetto – [rudy.rossetto@santannapisa.it](mailto:rudy.rossetto@santannapisa.it)



Start	End	Speaker	Presentation title	Affiliation
10.45	11:00	<b>Registration</b>		
11:00	11:05	Rudy Rossetto	<i>Welcome and introduction to the workshop</i>	Institute of Life Sciences, Scuola Superiore Sant'Anna Italy
11.05	11.10	Christoph Schüth	<i>The ITN MSCA MARSOLUT project</i>	Technical University Darmstadt Germany
<b>Session 1 - Exemplary Managed Aquifer Recharge case studies (presentation of the forthcoming UNESCO's book)</b>				
11:10	11:35	Yan Zheng	<b>Managing Aquifer Recharge: A Showcase for Resilience and Sustainability</b>	School of Environmental Science and Engineering, Southern University of Science and Technology China
11:35	12:00	David Pyne	<b>Achieving water supply reliability at Hilton Head Island, South Carolina, USA</b>	ASR Systems LLC Florida — USA
12:00	12:25	Thomas Grischek	<b>Riverbank filtration and infiltration basins for drinking water supply in Dresden, Germany</b>	Department of Civil Engineering University of Applied Sciences Dresden Germany
<b>Session 2 - Modeling tools for groundwater resource management</b>				
12:25	12:40	Ata Joodavi	<b>Deriving optimal operational policies for off-stream man-made reservoir considering conjunctive use of surface- and groundwater at the Bar dam reservoir (Iran)</b>	Kashmar Higher Education Institute Iran
12:40	12:55	Rotman Criollo	<b>AkvaGIS</b> <b>The spatial open source technology for water quality management</b>	Consejo Superior de Investigaciones Científicas, Institute of Environmental Assessment and Water Research Spain
12:55	13:10	Andreas Kallioras	<b>Simulation of variable density groundwater flow in coastal aquifers using the FREEWAT platform and MODFLOW-2005/SEAWAT 4 codes</b>	National Technical University of Athens Greece
13:10	13:25	Michele Remonti	<b>Complex groundwater numerical modeling and PEST to manage major contaminated sites</b>	ERM Italy Italy
13:25	13:40	<b>Questions and Answers</b>		
13:40	13:45	Rudy Rossetto	<i>Closing remarks</i>	Institute of Life Sciences, Scuola Superiore Sant'Anna Italy

Rudy Rossetto, Scuola Superiore Sant'Anna - Institute of Life Sciences (Italy)



**Rudy Rossetto** is Researcher at Scuola Superiore Sant'Anna. Rudy deals with surface and subsurface hydrology and he holds a MSc in Earth Science from Uni. of Pisa (IT), a MSc in Geoenvironmental Engineering from Cardiff Uni. (UK), and a PhD in Engineering Geology from Uni. of Siena (IT). Main research fields are development and application of GIS integrated groundwater and solute transport numerical models to water resources management issues (special focus on the Mediterranean environment) and the analysis of functionalities of blue infrastructures (i.e. Managed Aquifer Recharge schemes) for the provision of water related agro-ecosystem services. Rudy coordinated EU funded HORIZON 2020 FREEWAT project (FREE and open source software tools for WATER resource management [www.freewat.eu](http://www.freewat.eu)) and WP8 leader in EU FP7 MARSOL (Managed Aquifer Recharge as a solution to drought and water scarcity [www.marsol.eu](http://www.marsol.eu)) Sant'Alessio induced riverbank filtration case study. Since 2012 he is Co-Editor in Chief of Acque Sotterranee-Italian Journal of Groundwater (<http://www.acquesotterranee.online/index.php/acque>).

Christoph Schüth, Technical University Darmstadt (Germany)



**Christoph Schüth** got his PhD in Applied Geology from the University of Tübingen in 1995. After a PostDoc at Stanford University, he again joined the University of Tübingen. Since 2005 he is Full Professor for Hydrogeology at Darmstadt Technical University. Since 2011 he is also scientific director at IWW Water Centre, a private non-profit institute with a staff of 100 focusing on drinking water issues. In his research he focuses on (i) water resources management especially in arid areas, (ii) the fate of organic contaminants in the environment, and (iii), the development of novel methods to remediate soil and groundwater contaminations.

Yan Zheng, School of Environmental Science and Engineering, Southern University of Science and Technology (China)



Dr. **Yan Zheng** became a Chair Professor at SUSTech in Shenzhen, China in 2016. Her multi-disciplinary research contributed to the reduction of exposure to drinking water arsenic among millions of private well households in Bangladesh, China and USA. She has published >110 peer reviewed journal articles (Google Scholar citation > 8900, h-index 50) in areas including geochemistry, hydrogeology, environmental health and policy. She obtained her PhD from Columbia University in 1999. Between 1998 and 2016, she held tenured faculty and administrative appointments at the City University of New York and research appointments at Columbia University. She was a water and sanitation specialist with UNICEF Bangladesh between 2009 and 2011. Currently, she serves as an Associate Editor for Water Resources Research, as a member of the Stockholm Water Prize Nomination Committee and as a Co-Chair for the International Association of Hydrogeologists – Managing Aquifer Recharge Commission.

David Pyne, ASR Systems LLC (USA)


**David Pyne** is a civil engineer from Gainesville, Florida USA. He has a BS in Civil Engineering from Duke University and an MSE in Environmental Engineering Sciences at the University of Florida. PhD studies at the University of Florida in Water Resources are incomplete. He is the president of ASR Systems LLC, a company that specializes in the planning, design, permitting, construction and operation of Aquifer Storage Recovery (ASR) wells and wellfields for storing water underground. This is a technology that he pioneered since 1978 and has applied at numerous locations in the USA and in many other countries around the world. He is the author of a book on ASR science and technology, now in its second edition. He was the Project Manager for development of Well ASR-1 for Hilton Head Public Service District, which began operations in 2013 and is recognized in the UNESCO publication on Managed Aquifer Recharge.

Thomas Grischek, Department of Civil Engineering, University of Applied Sciences Dresden (Germany)


**Thomas Grischek** is Professor of Water Sciences at the Department of Civil Engineering, University of Applied Sciences Dresden, Germany. Dr. Grischek has 28 years of professional and academic experience in groundwater management and water supply. His main research interests are natural water treatment techniques, such as riverbank filtration and artificial recharge, and the removal of iron, manganese, micropollutants and pathogens. He was involved in several national and international research projects including the EU projects SAPH PANI and AquaNES. He has initiated and supported feasibility studies on riverbank filtration in India, Egypt, Thailand and Vietnam, and the Indo-German Competence Centre for Riverbank Filtration in Roorkee, India. Dr. Grischek has more than 80 publications on water related subjects in peer-reviewed scientific journals, book chapters and international conference proceedings.

Ata Joodavi, Kashmar Higher Education Institute (Iran)


**Ata Joodavi**, PhD, is an Assistant Professor in the Kashmar Higher Education Institute and a research faculty member in the East Water and Environmental Research Institute (EWERI), Iran. He participated in several projects on hydrogeology, water balance calculation, groundwater flow modeling, groundwater quality and pollution, and water resources management. He has been (co-)authors of nine indexed and peer-reviewed scientific papers and about 25 national and international conference papers. He is also been a member of the IAH Association since 2012 and associate editor of *Acque Sotteranee-Italian Journal of Groundwater*.

Rotman Criollo, Institute of Environmental Assessment and Water Research, Consejo Superior de Investigaciones Científicas (Spain)


**Rotman Criollo**, PhD, is interested in the analysis and management of hydrogeological data, the design and the development of databases and tools to optimise hydrogeological analysis within Geographic Information Systems (GIS) with knowledge in IT project management. Additionally, he has more than 5 years of experience in scientific projects related with civil engineering and hydrogeology: environmental assessments, geothermal exploration and exploitation, monitoring and analysis of groundwater in civil works by field campaigns, laboratory experiments and numerical modeling.

*Andreas Kallioras, National Technical University of Athens (Greece)*



**Andreas Kallioras**, Dr.Eng., is an Assistant Professor at the School of Mining and Metallurgical Engineering-National Technical University of Athens (Greece), Guest Fellow at the Helmholtz Environmental Research Centre-UFZ (Germany) and Visiting Lecturer at Technical University of Darmstadt (Germany). He is an Environmental Engineer and his scientific activities and interests include arid hydrogeology, management of coastal aquifers (with emphasis on seawater intrusion); development of innovative field techniques to quantify groundwater recharge; groundwater resources management; transboundary water resources management. He has been involved in groundwater resources investigation projects in Greece, Germany, Saudi Arabia, Italy, Tunisia, Madagascar, and Bangladesh with published peer-reviewed articles in more than 20 journals, 30 conferences and 4 book chapters. He worked/working as PI in the following EU research projects: MARSOL (FP7, 2013-2016); TRUST (FP7, 2011-2015); FREEWAT (H2020, 2015-2018), SUBSOL (H2020, 2015-2018), SCENT (H2020, 2016-2019), LOTUS (H2020, 2019-2022), MARSOLUT (H2020, 2019-2022).

*Michele Remonti, ERM Italy (Italy)*



**Michele Remonti** is a Senior Consultant of ERM, with 19 years' experience in the fields of water management, applied hydrogeology, groundwater modelling and contaminated sites management. Currently he is technical coordinator of projects for some of the most important contaminated sites in Italy. He led complex hydrogeological studies in Italy and abroad and has a profound knowledge of numerical groundwater modelling, applied, in particular, to manage and optimize large contaminated sites and to conduct groundwater Impact Assessment studies. Modelling experience includes groundwater flow, contaminant and heat transport, density dependent, variable saturation and stochastic modelling, mainly with the MODFLOW suites of code, including MODFLOW USG, MF SURFACT, SEAWAT, MT3D and RT3D. He also has a deep knowledge of inverse modelling with PEST.



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