Print View

« Back to regular page view (/ismar-agenda-highlights/)
Your printed page will look *something* like this.
https://www.grac.org/ismar-agenda-highlights/

ISMAR Draft Program

April 11 - 15, 2022, Long Beach Hilton Hotel – To Register: Event - ISMAR11 (grac.org) (https://www.grac.org/events/272/)

ISMAR 11 includes 3 pre-conference workshops, keynote speakers, two days of multi-track technical sessions, the Herman Bouwer Awards luncheon, post-conference field trips, post conference geophysics workshop, networking, socializing, and networking opportunities.

DAY 1 – Monday, April 11

PRE-CONFERENCE WORKSHOPS* ISMAR 11 Workshops (grac.org) (https://www.grac.org/events/272/)

*Workshops and Field Trips require separate registration.

8:00 am – 12:00 pm

Achieving Successful Groundwater Recharge and Recovery Through Wells

Course Instructors: David Pyne (ASR Systems, USA) and Russell Martin, Senior Principal Hydrogeologist, Wallbridge Gilbert Aztec, Australia

The aim of this workshop is to provide attendees with an appreciation and practical understanding of the technical, scientific, engineering design, and other issues that need to be addressed when developing managed aquifer recharge (MAR) systems that utilize wells, whether aquifer recharge (AR) wells, aquifer storage recovery (ASR) wells or aquifer storage transfer recovery (ASTR) wells.

12:00 pm – 1:00 pm

Lunch Break - *Lunch on your own*

1:00 pm – 5:00 pm

State of the Art Techniques in Identifying and Characterizing Optimum Surface Spreading Groundwater Recharge Projects

Course Instructors: Mike Milczarek (GeoSystems Analysis) and Adam Hutchinson (Orange County Water District)

Successful site selection, design and operations of surface spreading groundwater recharge operations are highly dependent on subsurface geologic conditions, source water quality, land availability and nearby land use. This course is designed to present, discuss and evaluate the best tools for site evaluation and the application of these tools for feasibility studies and recharge system design.

1:00 pm – 5:00 pm

Meeting Water Management Objectives with Managed Aquifer Recharge: The Role of MAR Governance and Policy

Course Instructors: Sharon Megdal, Director, University of Arizona Water Resources Research Center, and speakers from OECD, Australia, Israel, New Zealand, and the U.S. (Arizona and California).

This first-ever ISMAR workshop on governance and policy aspects of MAR is designed to inform participants on how sound MAR governance and regulatory frameworks can facilitate meeting jurisdictional water management goals. The stresses on both surface water and groundwater systems are leading many to consider MAR implementation. Understanding the elements of successful frameworks will enable policy makers and water managers to shape MAR frameworks for their jurisdictions.

DAY 2 – Tuesday, April 12

GENERAL SESSION

Keynote Speakers

Leadership: A Key Ingredient for Addressing Water Management Challenges

Bruce Babbitt served as the 16th governor of Arizona from 1978 to 1987, and as President Bill Clinton's Secretary of the Interior from 1993 to 2001.

Protecting the Invisible, Underground Pulse of the Planet: The Challenges and What Needs to be Done

David Kreamer, Ph.D. is a Professor of Geoscience, and past Director of the interdisciplinary Water Resources Management Graduate Program at the University of Nevada, Las Vegas. Dave serves as President of the International Association of Hydrogeologists (IAH), and is past IAH Vice President for North America.

7:00 am – 5:00 pm

Registration

7:00 am -8:30 am

Continental Breakfast

Event - ISMAR11 (grac.org) (https://www.grac.org/events/272/)

8:00 am – 8:05 am

Welcome

8:05 am – 9:10 am

Keynote Address

Bruce Babbitt, former governor of Arizona (1978-87) and Secretary of Interior (1993-2001)

Leadership: A Key Ingredient for Addressing Water Management Challenges

9:10 am – 10:00 am

Keynote Address

David Kreamer, Ph.D. , Professor of Geoscience, and past Director of the interdisciplinary Water Resources Management Graduate Program at the University of Nevada, Las Vegas.

Protecting the Invisible, Underground Pulse of the Planet: The challenges and what needs to be done

10:00 am – 10:20 am

Break

Join us for a 7-minute standing workout and then network with colleagues and exhibitors before heading into the next session!

10:20 am – 12:00 pm

Panel Discussion: Managed Aquifer Recharge in California

Moderator: Felicia Marcus, William C. Landreth Visiting Fellow, Stanford University; Former Chair, California State Water Resources Control Board

Panelists:

· Paul Gosselin, Deputy Director, Sustainable Groundwater Management, CA Department of Water Resources

· Rosemary Knight, Professor of Geophysics, Senior Fellow, Woods Institute for the Environment, Stanford University

· Aaron Fukuda, General Manager, Tulare Irrigation District, and General Manager, Mid-Kaweah Groundwater Sustainability Agency.

· Sarge Green, Water Management Specialist, California Water Institute, Cal State University, Fresno

· Samantha Arthur, Working Lands Program Manager, National Audubon Society, California and Commissioner, California Water Commission

12:00 pm – 1:30 pm

Herman Bower Awards Luncheon

The Herman Bouwer Award is given to a person or agency that has significantly advanced the understanding or utilization of Managed Aquifer Recharge.
Prior recipients include: Robert Rice (2014), Mario Lluria (2016), and David Pyne (2018).

1:30 pm – 2:00 pm

Break

2:00 pm – 3:30 pm

Panel Discussion: Managed Aquifer Recharge in Action

Moderator: Sharon Megdal, Director, University of Arizona Water Resources Research Center

Panelists:

· Ken Slowinski, Chief Legal Counsel, Arizona Department of Water Resources Topic: Arizona Water Banking Authority

· David DeJong, Project Director, Pima-Maricopa Irrigation Project, Gila River Indian Community(AZ) Topic: Gila River Indian Community's Managed Aquifer Recharge Site #5 (MAR 5) and Gila River Interpretive Trail

· Danielle Squeochs, Hydrologist, Yakama Nation Topic: Yakama Basin Integrated Plan and the Yakama Nation's MAR program

· Diego Berger, International Projects Coordinator, Mekorot–Israel National Water Co., Israel Topic: The role of MAR in implementing Israel's master plan for water (To be presented by Sharon Megdal)

3:30 pm – 4:15 pm

ISMARx: Presentations

Moderator: Erik Cadaret, West Yost

ISMARx is an innovative, fast paced session that features short presentations from students and young professionals on a MAR research or project.

· A Review on Risk Assessment in Managed Aquifer Recharge
Anne Imig, Technical University of Munich PhD Student

· Groundwater Modeling in the Face of Uncertainty
Zach Perzan, Stanford University PhD student

· Managed Aquifer Recharge: A No-Regret Climate ChangeAdaptive Measure
Jose David Henao Casas, Tragsa-Universidad Politécnica de Madrid PhD Student

· Well Efficiency and Performance: Influencing Factors and Management Guidelines
Corne Engelbrecht, University of the Free State South Africa Masters Student

· A 3D Numerical Groundwater Flow Model to Assess the Feasibility of Managed Aquifer Recharge (MAR) in the Tamne River Basin of Ghana
Okofo Boansi Louis, Brandenburg University of Technology Germany PhD Student

· Coordinating Agricultural Land Idling and Managed Aquifer Recharge to Prevent Domestic Well Failure
Yara Pasner, UC Davis Masters Student

· What Drives Cities to Adopt Groundwater Banking? A Cross-Case Analysis of U.S. Cities
Lauren Bartels, University of Nevada Reno Masters Student

4:15 pm – 5:00 pm

ISMARx: Networking

Facilitator: Erik Cadaret, West Yost

Part 2 of ISMARx involves networking of the presenters and other young professionals with conference attendees.

5:00 pm – 6:30 pm

MARdi Gras Reception

Enjoy this reception to end the day, network and visit exhibitors.

DAY 3 – Wednesday, April 13

TECHNICAL PRESENTATIONS, POSTER SESSION, AND SPEAKEASY

6:30 am

Join us in the lobby for the Darcy Dash 5k!

Event - ISMAR11 (grac.org) (https://www.grac.org/events/272/)

7:00 am – 5:00 pm

Registration

7:00 am -8:30 am

Continental Breakfast

8:00 am – 9:55 am

Multi-Benefits of Integrated Flood Managed Aquifer Recharge in California

Moderator: Jim Wieking, CA Dept of Water Resources

· The Merced Flood-MAR Reconnaissance Study - Integrated Modeling
David Arrate, P.E., California Department of Water Resources

· The Merced Flood-MAR Reconnaissance Study - Climate Change Vulnerability
Karandev Singh, P.E., California Department of Water Resources

· The Flood Risk Sector of the Merced Flood-MAR Reconnaissance Study
Aleksander Vdovichenko, P.E., California Department of Water Resources

· The Water Supply Sector of the Merced Flood-MAR Reconnaissance Study
Lisbeth (Liz) DaBramo, E.I.T., Woodard & Curran

· Evaluation of Ecosystem Enhancements of the Merced Flood-MAR Reconnaissance Study
Taylor Spaulding, Fisheries Biologist Scientist, ESA Environmental

8:00 am – 9:55 am

Aquifer Storage and Recovery (ASR) I

Moderator: David Pyne, ASR Resources

· Aquifer Storage and Recovery Development in Northern California – Considerations and Lessons Learned
Chris Petersen, Principal Hydrogeologist, GEI Consultants, Inc.

· ASR in suboptimal conditions: freshwater self-sufficiency of the Dutch island Texel
Beatriz de La Loma Gonzalez and Tine te Winkel, Acacia Water

· 2D and 3D Seismic Reflection Surveys to Improve the Efficiency of ASR Systems
John Jansen, Senior Geophysicist, Collier Geophysics

· Part 1: City of Phoenix, Aquifer Storage and Recovery (ASR) Well #302: Recharge, Well Rehabilitation, and Lessons Learned
Gary M. Gin, R.G., Vice President of AZ Operations, LRE Water

· Well Efficiency and Performance: Influencing Factors
Corné Engelbrecht, Institute for Groundwater Studies (IGS), Natural and Agricultural Sciences, University of the Free State, South Africa & GEOSS South Africa, Stellenbosch, Western Cape, South Africa

8:00 am – 9:55 am

Managed Aquifer Recharge and Integrated Water Management I

Moderator: Mary-Belle Cruz Ayala, Water Resources Research Center, University of Arizona

· Co-Managed Aquifer Recharge (Co-MAR). A bottom-up approach for Integrated Water Resources Management enhancement. Novel method employed at Los Arenales aquifer (Spain) and first results
Enrique Fernández-Escalante, Tragsa Group (Spain) & IAH MAR Commission

· Evaluation of Managed Aquifer Recharge Using Municipal Residential Stormwater in the Pacific Northwest US
Jason Melady, Principal Hydrogeologist, Summit Water Resources

· Groundwater recharge in India: the transition from water conservation to MAR
Himanshu Kulkarni, Executive Director, ACWADAM

· Aquifer recharge and green stormwater infrastructure applied in urban regions
Hugo A. Loaiciga, Professor and Director, University of California, Santa Barbara

· Managed Aquifer Recharge in the Los Angles Coastal Plain
Nathan Hatch, Hydrologist, Intera Incorporated, California

9:55 am – 10:15 am

Break

Join us for a 7-minute standing workout and then network with colleagues and exhibitors before heading into the next session!

10:15 am – 12:10 pm

Managed Aquifer Recharge Engineering and Design I

Moderator: Gary Burchard, LRE Water

· A proposed methodology for identifying the feasibility of Managed Aquifer Recharge
Anne Imig, Technical University of Munich

· The effect of air injection on the biogeochemical efficiency of a soil aquifer treatment (SAT) system
Ido Arad, Civil & Environmental Engineering, Technion - Israel Institute of Technology

· Cooperative project on feasibility of MAR in the MENA region
Thomas Grischek, Professor, Dresden University of Applied Sciences, Division of Water Sciences

· Extraction of Brackish Water and Optimization of Injection at Seawater Intrusion Barriers and Inland Wells
Raghu Suribhatla, Senior Engineer, INTERA Incorporated

· Injection and Extraction at Elandsfontein Mine to Protect Langebann Lagoon
Kes Murray, Senior Scientist/Hydrogeologist, GEOSS South Africa (Pty) Ltd – Groundwater and Earth Sciences

10:15 am – 12:10 pm

Managed Aquifer Recharge Geophysics I

Moderator: Tim Parker, Ramboll USA

· A new high-resolution geophysical imaging method for advanced assessment of MAR sites
Ahmad-Ali Behroozmand, Senior Geophysicist, Ramboll

· Efficient Hydrogeologic Characterization Using a Newly Developed Direct Push Magnetic Resonance System and Applications to Managed Aquifer Recharge
David Walsh, President, Vista Clara

· Soil texture and seepage mapping beneath earth irrigation infrastructure using electrical conductivity imaging.
David Allen, Principal, Groundwater Imaging Pty. Ltd.

· Identification of potential recharge pathways at the field scale using geophysical and CPT data: tools for recharge site assessment
Meredith Goebel, Post Doctoral Research Fellow, Stanford University

· Integrated Geophysics for Managed Aquifer Recharge Infiltration, Injection and Conjunctive Surface/Groundwater Scheme Investigation
Geoff Pettifer, Technical Director, GHD, Australia

10:15 am – 12:10 pm

Managed Aquifer Recharge and the Environment I

Moderator: Russell Martin, Senior Principal Hydrogeologist, Wallbridge Gilbert Aztec, Australia

· Impact of managed aquifer recharge on critical zone processes in agricultural landscapes
Helen Dahlke, Associate Professor, University of California, Davis

· Multi-Benefit Groundwater Recharge: Saving Birds and Recharging Groundwater in California's Central Valley (V)
Julia Barfield, Project Manager, The Nature Conservancy

· Recharge Quantification for Floodplain Restoration Opportunities on Central Valley Rivers
Michael Founds, Ecohydrologist, cbec eco engineering

· Environmentally sound managed aquifer recharge for drinking water production
Petri Jokela, Managing Director, Tavase Ltd.

· Catchment-scale hydrologic analysis of streambed recharge structures in Rajasthan, India (V)
Yogita Dashora, Senior Research Fellow and Vidya Bhawan Krishi Vigyan Kendra, Badgaon, Udaipur, India

10:15 am – 12:10 pm

Managed Aquifer Recharge Operations and Maintenance

Moderator: Nathan Nutter, Murraysmith

· Biochemical process optimization for enhanced SAT operation
Alex Furman, Civil & Environmental Engineering, Technion - Israel Institute of Technology

· Measuring and Monitoring Incentivized MAR in a Channel in Idaho, USA
Ernest M. Carlsen, Secretary, Recharge Development Corporation

· Part 2: Bench Scale Testing: Reducing Impacts to Stainless Steel Casing While Targeting Legacy Drilling Fluids
Gary M. Gin, R.G., Vice President of AZ Operations, LRE Water

· Ten years of ASR by deep well injection in a carbonate aquifer
Jordi Guimera, Hydrological Services Project Director, AMPHOS21

· Shallow Aquifer Recharge Expansion Planning at the City of Yelm's Cochrane Memorial Park Reclaimed Water Facility, Thurston County, Washington
Nathan Nutter, Principal Engineer and Technical Services Lead, Murraysmith

12:10 pm – 2:00 pm

Lunch

Hosted lunch provided in the Catalina Room

2:00 pm – 3:55 pm

Managed Aquifer Recharge Engineering and Design II

Moderator: Mike Milczarek, Geosystems Analysis

· Preliminary assessment of a managed aquifer recharge pilot facility utilizing riverbank filtration and aquifer storage for sustainable groundwater-irrigated agroecosystems (V)
Andy O'Reilly, Research Hydrologist, U.S. Department of Agriculture, Agricultural Research Service

· The Freeman Expansion project: increasing diversions and aquifer recharge during peak flows to reduce impacts of droughts and increased environmental flow requirements
Bram Sercu, Senior Hydrologist, United Water Conservation District

· Use of Enhanced Recharge Methods to Increase Managed Aquifer Recharge Rates
Jason Keller, Senior Hydrogeologist, GeoSystems Analysis, Inc.

· Infiltration capacity of infiltration trenches and basins in Dresden, Germany
Thomas Grischek, Professor, Dresden University of Applied Sciences, Division of Water Sciences

· Rooftop Rainwater Harvesting by Shallow Well Infiltration – Challenges and Opportunities
Zsóka Szabó, PhD student, Eötvös Loránd University, Budapest, Hungary

2:00 pm – 3:55 pm

Managed Aquifer Recharge and Emerging Contaminants I

Moderator: Bas van der Grift, KWR Water Research Institute

· Reclaimed Water Infiltration Study: Determining Attenuation Factors and Exposure Point Concentrations for Contaminants of Emerging Concern
Brittany Duarte, Hydrogeologist, HDR

· Field comparison of nitrogen cycling between three agricultural managed groundwater recharge sites
Elad Levintal, Postdoctoral Researcher, Department of Land, Air and Water Resources, University of California, Davis, CA, United States

· Treatment to Remove PFAS from Groundwater Impacted by MAR to Restore Drinking Water in Orange County, California
Manmeet (Meeta) Pannu, Senior Scientist, Orange County Water District

· Combining Constructed wetlands and Soil Aquifer Treatment to enhance infiltration flux and water quality
Ido Negev, Chief Hydrologist, Mekorot National Water Company

2:00 pm – 3:55 pm

Managed Aquifer Recharge and the Environment II

Moderator: Christy Kennedy, Woodard & Curran

· Modeling the impact of levee setback on groundwater recharge and stream flow and temperature for ecosystem and anthropogenic needs
Andrew Calderwood, UC Davis, Foglia & Dahlke Labs

· Managed Aquifer Recharge: A No-Regret Climate Change Adaptive Measure
Jose David Henao Casas, Tragsa-Universidad Politécnica de Madrid

· Water Security and Integrated Water Resources Management improvements due to Managed Aquifer Recharge (MAR). Selection of case studies, characterization, benchmarking and practical recommendations.
Enrique Fernández-Escalante, Tragsa Group (Spain). Innovation SD

· MAR for Environmental Benefit - Katarapko Freshwater Injection Trial Case Study
Russell Martin, Senior Principal Hydrogeologist, Wallbridge Gilbert Aztec, Australia

· Agricultural Soil-Aquifer Treatment: A New Concept in the MAR Arsenal
Noam Weisbrod, Professor, Ben Gurion University of the Negev, Israel

2:00 pm – 3:55 pm

Managed Aquifer Recharge and Water Markets

Moderator: Paul Weghorst, Irvine Ranch Water District

· Five years of Recharge Net Metering (ReNeM) to improve water supplies and water quality
Andrew T. Fisher, Professor of Earth and Planetary Sciences, University of California, Santa Cruz

· Creation of a Local Non-Profit Corporation to Manage and Distribute Incentivized MAR
Keith Esplin, Executive Director, Eastern Snake Plain Aquifer Recharge (ESPAR)

· Groundwater-energy-food nexus for sustainable management of the aquifers
Makoto Taniguchi, Professor, Research Institute for Humanity and Nature

· Creation of Local Non-Profit Corporations for the Implementation of Incentivized Managed Aquifer Recharge
David R. Tuthill, Jr., Ph.D., P.E., Vice President, Recharge Development Corporation

· The Costs and Benefits of Managed Aquifer Recharge
Andrew Ross, Visiting Research Fellow, Fenner School of Environment and Society, Australian National University

4:00 pm – 5:00 pm

Poster Session

Enjoy reviewing posters, meeting the poster presenters, networking and visiting exhibitors.

5:00 pm – 6:15 pm

International Association of Hydrogeologists (IAH) Commission on MAR Plenary Session

IAH MAR Commission Co-chair: Enrique F. Escalante, and IAH President: David Kreamer

The IAH Plenary Session is held at every ISMAR event.The session will include an update on Commission activities, announcement of ISMAR12 location, election of IAH MAR Commission Co-chairs, and other business.

6:00 pm – 8:00 pm

Break

Take a break and grab dinner on your own but don't forget to come back for our amazing evening in the ISMAR Speakeasy in the Gallerie!

8:00 pm – 11:00 pm

Speakeasy

Sergio Vellatti

Come dressed up and get ready to enjoy big-band music, drink and dessert bar, photo booth, casino games. Sergio Vellatti, Big Band Music (http://www.sergiovellatti.com/)

Day 4 – Thursday, April 14

TECHNICAL PRESENTATIONS

7:00 am – 2:00 pm

Registration

7:00 am -8:30 am

Continental Breakfast

8:00 am – 9:55 am

Managed Aquifer Recharge and Emerging Contaminants II

Moderator: Jeffrey Davis, Integral Consulting

· Behavior of ammonium in the hyporheic zone during riverbank filtration
Gustavo Covatti, PhD Student, M.Eng., University of Applied Sciences Dresden

· Reclaimed Water Infiltration Study: Effectiveness of Residual Chemical Removal Through Soil Aquifer Treatment in a Glacial Aquifer System
Shane McDonald, PG, CPG, Senior Technical Leader, Hydrogeology and Modeling, HDR

· The Effect of Dry Wells on Groundwater Quality
Thomas Harter, Professor, University of California Davis

· Using molecular properties to predict the removal efficiency of (new) organic micro-pollutants during soil passage
Bas van der Grift, KWR Water Research Institute

· Large-scale tank experiments simulating soil aquifer treatment – Assessing attenuation of emerging organic compounds and water quality changes
Marcel Horovitz, Laboratório Nacional de Engenharia Civil (Portugal), Technical University of Darmstadt (Germany)

8:00 am – 9:55 am

Managed Aquifer Recharge and Sustainable Groundwater Management

Moderator: Trey Driscoll, Dudek

· Managed Aquifer Recharge and Climate Change in Florida-Strategies for Coping with an Uncertain Future
Robert G. Maliva, Principal Hydrogeologist, WSP USA

· Sustainable Groundwater Management using Managed Aquifer Recharge (Dry wells)
Salini Sasidharan, Assistant Professor, Sustainable Groundwater Management Engineer, University of California, Riverside, CA; Oregon State University, OR

· California's 2014 Sustainable Groundwater Management Act (SGMA) - Progress Update, Lessons Learned and MAR Proposed
Timothy K. Parker, PG, CEG, CHG, Senior Hydrogeologist/Sustainability Expert, Ramboll USA

· Eastern Snake Plain MAR Program - Collaborative, Long-term Sustainable Management of an Aquifer
Wesley Hipke, Recharge Program Manager, Idaho Department of Water Resources

· Preliminary assessment of managed aquifer recharge opportunities for irrigated agricultural areas in Australia (V)
Dennis Gonzalez, Spatial Data Scientist, Commonwealth Scientific and Industrial Research Organisation

8:00 am – 9:55 am

Managed Aquifer Recharge Engineering and Design III

Moderator: Doug Bartlett, Geo-Logic Associates

· Effect of small changes in clay content in sandy soil on recharge rates: new conclusions on planning criteria of new recharge ponds, and on the ability to rehabilitate existing ponds
Ido Negev, Chief Hydrologist, Mekorot National Water Company

· ASR Well Hydraulics: The 'Balloon Effect' Revisited
David Pyne, President, ASR Systems

· Soil and infrastructure suitability for managed aquifer recharge with recycled water
Sarah Paschal Gerenday, PhD candidate, University of California Santa Barbara

· Optimizing MAR in coastal dunes by abstracting brackish groundwater: preliminary results of a field pilot in the Netherlands
Teun van Dooren, Scientific Researcher Hydrogeology, KWR Water Research Institute

· Depth-Specific Testing Methods for Water Bank Recovery Wellfield Design
Timothy Leo, Principal Hydrogeologist & Vice President, Montgomery & Associates

8:00 am – 9:55 am

Managed Aquifer Recharge Modeling I

Moderator: Ali Tagavi, Woodard & Curran

· Strategizing Recharge in Complex Settings by Optimization of Recycled Water Injection
Chin Man W. Mok, Principal and Vice President, GSI Environmental Inc.

· Assessing predictions' uncertainty at a multi-source Managed Aquifer Recharge site using stochastic modelling: the Menashe System, Israel
Daniel Kurtzman, Sub-surface Hydrology Researcher, Institute of Soil, Water and Environmental Sciences, Agriculture Research Organization – Volcani Institute, Israel

· A novel analytical approach to calculating groundwater recharge through the vadose zone
Morteza Sadeghi, Water Resources Engineer, California Department of Water Resources

· Using Groundwater models to support Sustainable Groundwater Basin Management in California's Monterey Bay Region
Pascual Benito, Senior Hydrogeologist, Montgomery & Associates

· Water Availability Analysis for California Water Rights Permitting
Shelby Witherby, Water Resources Control Engineer, CA State Water Resources Control Board

9:55 am – 10:15 am

Break

Join us for a 7-minute standing workout and then network with colleagues and exhibitors before heading into the next session!

10:15 am – 12:10 pm

Managed Aquifer Recharge and Emerging Contaminants III

Moderator: Roohi Toosi, A-Tech Consulting

· Implications of Groundwater Contamination on Managed Aquifer Recharge Development: An Unforeseen Loss
Maria Gibson-Daugherty; Geologist IV, EA Engineering, Science, and Technology, Inc., PBC

· Managed Aquifer Recharge at West Richland, Washington, USA: Displacing Poor Quality Groundwater with High Quality Potable Water
Kevin A. Lindsey, Principal Hydrogeologist, GeoEngineers, Incorporated

· The fate of trace organic contaminants in managed aquifer recharge combined with pre-oxidation and nanofiltration
Sung Kyu Maeng, Professor, Sejong University

· Chronic Toxicity Mystery at an Advanced Water Treatment Facility
Phuong Watson, Senior Engineer, Water Replenishment District of Southern California and Eric Gonzales, Director of Operations, PERC Water Corporation

· Identifying SAT efficiency by modelling its specific aquifer environment influenced by natural and anthropogenic activities - Example of the Costal SAT of Agon-Coutainville (France)
Picot-Colbeaux Géraldine, Hydrogeologist,BRGM

10:15 am – 12:10 pm

International Recharge Opportunities and Innovation

Moderator: Erik Cadaret, West Yost

· MAR for the Developing World - Guidelines for developing Community-based MAR Projects for Climate Change Resiliency and Water Security
Bob Bower, Principal Hydrologist, Mercy Corps

· Education and outreach on riverbank filtration in India – examples from the CCRBF project
Cornelius Sandhu, Senior Researcher, Dresden University of Applied Sciences

· Evaluating Managed Aquifer Recharge options to improve the status of an over-exploited aquifer in South Portugal
Kath Standen, Universidade do Algarve

· Identification and characterization of cross-sector collaborative relationships enabling Managed Aquifer Recharge projects in Mexico
Mary-Belle Cruz Ayala, Water Resources Research Center, University of Arizona

· Addressing a Severe Water Scarcity Problem by Implementing a Fast and Durable Managed Aquifer Recharge Program in Northern Algeria (North Africa)
Farid Achour, Principal Hydrogeologist, GSI Environmental Inc.

10:15 am – 12:10 pm

Managed Aquifer Recharge Engineering and Design IV

Moderator: Kevin O'Toole, Orange County Water District

· The use of regional groundwater flow characteristics for optimized screening of MAR potential and application conditions
Ádám Tóth, ELTE Eötvös Loránd University

· Electrical Resistivity Tomography to Site Recharge Basins and Improve Groundwater Models in Southern California
Kristen Marberry, Senior Geophysicist, Collier Geophysics, LLC

· Site suitability analysis for managed aquifer recharge in karst aquifers (V)
Nourelhoda Itani, American University of Beirut

· Methodology for evaluation of potential sites for large scale river bank filtration
Thi Ngoc Anh Hoang, M.Eng, Dresden University of Applied Sciences

· What Drives Cities to Adopt Groundwater Banking? A Cross-Case Analysis of U.S. Cities
Lauren Bartels, University of Nevada, Reno

10:15 am – 12:10 pm

Managed Aquifer Recharge of Stormwater: Rural and Agricultural Applications

Moderator: Bob Bower, Wallbridge Gilbert Aztec, New Zealand

· Increased Recharge to the Orange County Groundwater Basin from Forecast Informed Reservoir Operations (FIRO) at Prado Dam, Riverside County, California
Adam Hutchinson, Recharge Planning Manager, Orange County Water District

· Tools to Assess Groundwater Quality Effects when Flooding Agriculture Fields to Recharge Aquifers
Michael Milczarek, Program Director, GeoSystems Analysis, Inc.

· On-Farm Recharge at the McMullin Projects: Local expectations, and considerations
Philip Bachand, President, Principal Investigator, Bachand & Associates

· Basalt Aquifer Recharge in the Columbia Basin: Agribusiness Working to Reverse Aquifer Water Level Decline, Southern Columbia Basin, Oregon, USA
Kevin Lindsey, Principal Hydrogeologist, GeoEngineers, Inc.

· Managed Aquifer Recharge (MAR) for Agriculture: A Pilot Test Case Study of Direct Injection in the San Joaquin Valley, California
Robert Anderson, Principal Scientist, Geosyntec Consultants.

12:10 pm – 2:00 pm

Lunch

Hosted lunch provided in the Catalina Room

2:00 pm – 3:55 pm

Managed Aquifer Recharge Geophysics II

Moderator: John Jansen, Collier Consulting

· Rapid Mapping of Aquifers and Water Quality Using a Towed Cart Time-Domain Electromagnetic Induction System
Doug Laymon, Geophysicist, Collier Geophysics, LLC

· Connected Waters - Saline Discharge Into, and Aquifer Recharge Out of Australian Waterways – an Investigation Using Electrical Conductivity Imaging
David Allen, Principal, Groundwater Imaging Pty. Ltd.

· Airborne Electromagnetic Mapping for Managed Aquifer Recharge
Jared D. Abraham, Geophysicist/Geologist, Aqua Geo Frameworks LLC

· A geostatistical workflow for evaluating flood-MAR sites using geophysical data
Zach Perzan, Stanford University

· Improving hydrogeological characterization for managed aquifer recharge with borehole magnetic resonance
Ned Clayton, Principal Hydrogeologist, NMR Services

2:00 pm – 3:55 pm

Managed Aquifer Recharge and Integrated Water Management II

Moderator: Lyndsey Bloxom, Water Research Foundation

· Challenges and Experiences on Managed Aquifer Recharge in the Mexico City Metropolitan Area
Adriana Palma Nava, Master Engineering, UNAMF Institute of Engineering

· Leveraging Existing Information to Assess the Potential Impacts of Managed Aquifer Recharge Projects
Carolina Sanchez, Senior Engineer, West Yost

· Managing Aquifer Recharge: An Integrated Assessment of Global Best Practice (V)
Karen Grothe Villholth, Principal Researcher, IWMI - International Water Management Institute

· Potable Reuse of Municipal Wastewater in the United States
William M. Alley, Director, Science & Technology, National Ground Water Association

· MAR's Role in One Water – Building Resilience
Don Corbett, Senior Hydrogeologist, Hydrogeology and Water Programs, Region of Waterloo, ON, Canada

2:00 pm – 3:55 pm

Aquifer Storage and Recovery (ASR) II

Moderator: Chris Petersen, GEI Consultants

· Aquifer Storage and Recovery using Desalinated Water in United Arab Emirates
Mohsen Sherif, United Arab Emirates University, Al Ain, United Arab Emirates

· ASR Implementation Challenges in Texas, USA
David K. Smith, Environmental Scientist, CDM Smith

· Power Regeneration During ASR Injection
Kent Madison, Owner of 3RValve LLC

· Aquifer Storage and Recovery in the Brackish Edwards Aquifer, Central Texas
Neil Deeds, Senior Water Resources Engineer, INTERA Incorporated

· Advanced monitoring of storage and recovery of unmixed drinking water in a brackish groundwater aquifer
Caspar van Genuchten, PWN Water Supply Company

2:00 pm – 3:55 pm

Managed Aquifer Recharge Modeling II

Moderator: Stephanie Moore, INTERA Incorporated

· Groundwater Modeling to Support Permitting of Recycled Water Recharge Projects in California
Abhishek Singh, Principal Engineer; Vice President - Western Region, INTERA Incorporated

· Flood Water Allocation and Agricultural Site Suitability for Potential Flood Managed Aquifer Recharge
Francisco Flores-López, Ph.D., California Department of Water Resources

· Fluid Dynamics Assessment using Numerical Modeling of Water Flow through Different Screen Types for ASR Well Design
Salvador Jordana, Project Director, AMPHOS21

· Mapping the potential for water quality improvements during infiltration for MAR with machine learning informed by field and laboratory experiments
Galen Gorski, Postdoctoral Researcher, University of California, Berkeley

· The impact of storage conditions on the recovery efficiency during ASR: an analytical and numerical evaluation to optimize system design
Niels Hartog, Principal Scientist — Geohydrology, KWR Water Research Institute

---

Day 5 – Friday, April 15

FIELD TRIPS AND GEOPHYSICS WORKSHOP*

*Workshops and Field Trips require separate registration. ISMAR 11 Field Trips (grac.org) (https://www.grac.org/ismar-11-field-trips/)

8:30 am – 2:00 pm

Field Trip to Orange County Water District

Guide: Kira Erquiaga, Orange County Water District

8:30 a.m. Depart Long Beach for Anaheim Recharge Facilities 9:15 a.m. Arrive at OCWD Field headquarters to Tour Recharge Basins & Santa Ana River 10:45 a.m. Depart Anaheim and Head to OCWD Headquarters 11:15 a.m. Lunch & OCWD/GWRS Overview 11:45 a.m. Tour of the Groundwater Replenishment System (GWRS) 12:30 p.m. Tour of the Philip L. Anthony Water Quality Laboratory 1:15 p.m. Depart OCWD for Long Beach 2:00 p.m. Arrive at Conference Venue

8:30 am – 2:00 pm

Field Trip to Water Replenishment District of Southern California

Guide: Jenn Swart, Water Replenishment District of Sothern California

8:30 a.m. Depart Long Beach for Los Angeles County Recharge Facilities 9:15 a.m. Arrive at Rio Hondo Headworks and/or San Gabriel Headworks Tour Recharge Basins 10:45 a.m. Depart spreading grounds and drive to the Albert Robles Center (ARC) 11:15 p.m. Lunch & WRD/ARC Overview 11:45 p.m. Tour of the Albert Robles Center: treatment facility, learning center, demo gardens 1:15 p.m. Depart ARC for Long Beach 2:00 p.m. Arrive at Conference Venue

9:00 am – 12:00 pm

Application of Geophysics for Managed Aquifer Recharge

Presented by Ramboll

Instructors:

- Ahmad-Ali Behroozmand, Ramboll, Emeryville, California, USA
- Max Halkjaer, Ramboll, Aarhus, Denmark
- John Jansen, Collier Geophysics, West Bend, Wisconsin, USA
- Timothy K. Parker, Ramboll, Emeryville, California, USA

The objective of this workshop is to provide attendees information on a broad array geophysical imaging methods and practical application through examples and lessons learned. The intent is to provide the project manager with the working knowledge needed to specify and evaluate geophysical surveys that provide the coverage and resolution that are optimal for the assessment of MAR sites for projects targeted at recharging shallow to deeper parts of the groundwater system. The workshop will provide ample opportunity for group discussions, and input on specific projects and site settings.