

National Groundwater Association  
Groundwater Week  
Las Vegas, NV  
December 2-5, 2019

Course		Course Hours	CEUs
Chromate Removal, the Ins and Outs of Available Technology	Peter Meyers	1	0.5
Creating and Effective Volunteer Driven Association, not a Staff Driven one	Dave Shulenberg	1	1
Electrical Basics for Pump Installers	Tom Stephan	1	0.25
How Water Well Contractors Can Become Invincible to Lawsuits and Save Thousands in Taxes	Larry Oxenham	1	1
Leaving Your Business on Your Terms – Know Your Options	Mary Beth Koester	1	1
MGWC Symposium – Business Efficiencies: Where to Look and What to Consider Greatest Utility	Jeffrey Williams	1	1
MGWC Symposium – Mathematics of Plumbness and Alignment 2.0	Roger Renner	1	1
MGWC Symposium – Managing Your Business: The Bigger Picture	Kathy Butcher	1	1
The Universal Challenge of Water Scarcity (Groundwater Summit Keynote Session)	Pat Mulroy	1.5	1.5
Groundwater and the Clean Water Act	Jesse Richardson	1	1
PFAS: The Association's Role in Educating its Members and Consumers	Dave Schulerberg	1	1
Preparing for April 15 2020: Tax Law Updates That May Affect You and Your Return	Brent Ardit	1	1
Understanding Friction Loss Calculations	Chris Charland	1	0.25
What's Your Online Strategy for the Next Five Years	Rachel Batdorff	1	1
Airborne Geophysics for Improved Targeting of Groundwater and Geotechnical Drilling	Bill Brown	0.33	0.33
Application of Electrical Resistivity in Investigating Groundwater Potential	Bright Ofunim	0.33	0.33
More than 75% of Energy and CO2 Saving in Combined Cooling and Heating Systems with Aquifer Thermal Energy Storage	Stig Sorensen	0.33	0.33
Where Not to Drill a Well – Application of Surface Geophysical Methods for Locating Water Production Well Sites	Phillip Paski	0.33	0.33
Hydrogeologic Survey of Santa Rita Spring, Guam: Determination of Its Natural capacity and Development Options	Paul Bourke	0.33	0.33
Data Quality over Quantity: How Improved Collection methods and Multiple Lines of Evidence can Reduce Uncertainty.	Mark Higgins	0.33	0.33
Characterizing Groundwater Seepage in an Urban, Tidal Estuary Using Multiple Lines of Evidence	Samuel Best	0.33	0.33
Using Bacteria DNA Sequencing to Identify Nitrate Sources in a Coastal Groundwater Aquifer	Mark Higgins	0.33	0.33
Surface Water/Groundwater Interaction in an Alluvial Valley: What we think we know and what we need to know	Joe Yelderman	0.33	0.33

Vulnerability Analysis for the Mexican Valle de Puebla Aquifer Supported by the Fourth Industrial Revolution	Carlos Patino	0.33	0.33
Modeling and Uncertainty Analysis for Remedy Selection to Address Groundwater Discharging to Surface Water	Katy Lindstrom	0.33	0.33
How a Karst Watershed Swallowed Half of the Excess Rainfall in Its Wettest Year Ever	Todd Giddings	0.33	0.33
Heat-treated Biochar Impregnated by Zero-Valent Iron Nanoparticles for TCE Removal from Groundwater	Soroosh Mortazavian	0.33	0.33
Neural Modeling of Biological Processes For Organic Wastewater Treatment	Kelly Tun	0.33	0.16
Panel Discussion (Water Quality and Treatment)		1.33	0.67
Biological Treatment of Acid Mine Drainage at Perry Canyon Mine, NV	Matthew Ruehl	0.33	0.33
All Along the Waterfront – Case Study Utilizing Various Remedial Strategies for a Large Brownfield Site in Yonkers, NY	Mark Godick	0.33	0.33
Groundwater Characterization and Remediation Proposal for a Site Contaminated by Chromium, Northern Mexico City	Victor Alcocer	0.33	0.33
Carbon Based Injectates for the Treatment of Petroleum Hydrocarbons in Groundwater	Andrea Marrocco	0.33	0.33
Peroxymonosulfate Decomposition with Different Cobalt-based Materials for Acetaminophen Degradation	Oscar Rodriguez	0.33	0.33
STAR as an Innovative Alternative for Source Zone Remediation	Gabriel Sabadell	0.33	0.33
Chromate Removal by Long Life IX Resins without Continuous pH Adjustment	Peter Meyers	0.33	0.33
Comparative study of two Distinct Persulfate Activation methods Followed by Biologically Mediated Processes	Antonios Karachalios	0.33	0.33
Remediation Actions for the Rescue of the Mexican Tecamachalco Valley Aquifer	Carlos Patino	0.33	0.33
Leveraging Remote Telemetry and Data Visualization to Streamline Implementation of a Thermal Remedy: A Case Study	Brent Aigler	0.33	0.33
Water Deflouridation Using coupled Moringa Oleifera Extract and Electrocoagulation	Oscar Rodriguez	0.33	0.33
Design Verification Program Lessons Learned from Pre-Application Assessments at In Situ Remediation Sites	Craig Sandefur	0.33	0.33
Re-sequencing of a Combined Remedy Approach fo Sustainable Water Conservation	Cathy Rockwell	0.33	0.33
Age of Amazon 2.0	Randy Carnes	1	1
Applying Water Quality Solutions to an Every Changing Landscape with the Understanding of what Works and What Won't	Richard Mest	1	1
Demystifying Insurance: Understanding the Terms in the Coverage You Purchase	John Walsh	1	1
How to do 3 Wire Pump Controls Quicker and for Less	Stephen Anderson	1	0.25
Hydrogeologic Tools and Techniques: Then and Now	Rebecca Carter	1.25	1.25
Comparing Natural Silica Sand and Glass Bead Filter Packs Used in Production Well Design and Construction	Terrinda Alonzo	1	1
How Losing a Job Can Help You Improve Your Profitability	Jeffrey Williams	1	1
Not Just a Bolt-on; Integrating Safety into Operational Excellence	Valerie Thiel	1	1

Sustainable Removal of Iron Clogging in Boreholes	Päivi Puronpää Schäfer	1	1
Turbines: What, Where, Lineshaft or Submersible & Options	David Stover	1	0.25
Lessons Learned from Development and Implementation of National Groundwater Monitoring Network	Robert Schreiber	0.33	0.16
Using the Optical Image Profiler (OIP) and Hydraulic Profile Tool to Visualize Complex Petroleum LNAPL Migration	John Fontana	0.33	0.33
Integrating Pump Duty and Flow in the Cloud to Quantify Gallons Pumped from Groundwater Monitoring Networks	Joseph Fillingham	0.33	0.16
Integrating Monitoring Technology and Psychology to Improve Water Management in A Groundwater Dependent Community	William Brewster	0.33	0.16
Toward a Sustainable Management Concept for Coastal and Island Aquifers	John Jenson	0.33	0.33
Chlorine, the Most Misunderstood Chemical in the Water Well Industry	Kevin McGinnis	1	0.5
Principles of Air Drilling	Todd Tennehill	1	1
Understanding the Advanced Pump Curve	Brian Broga	1	0.25
Working in a Surface Mine	John Fowler	1	0.5
Historic Flow Capacity in Arid Groundwater Basins: Continuing Salinity and other Environmental Concerns	Barry Hibbs	0.33	0.33
Structural mapping of Aquifer Delineation; Case Study of Buffalo Catchment, Eastern Cape, South Africa	Solomon Owolabi	0.33	0.33
VFD Symposium	Tom Stephan	3	0.75
Drone Based Geophysical Surveys for Groundwater Applications	John Jansen	1	1
How to Build a Better Business and Then Sell It for a Profit	Kelly Miller	1	1
The Multiple Challenges of Unused Wells	Richard Thron	1	1
Three Fields of Science That Can Influence the Life Cycle of a Water Well: Geology – Chemistry – Microbiology	Michael Schnieders	2	2
Colloidal Activated Carbon for In Situ Remediation of PFAS: A Review of Multiple Case Studies	Kristen Thoreson	0.33	0.33
Installation, Operation and Startup of World's First Regenerable Resin System for PFAS Removal	Steven Woodard	0.33	0.33
Ion Exchange Groundwater Treatment System Addresses PFAS Contamination at an Australian Air Base	Steven Woodard	0.33	0.16
Rapid Deployment of PFAS Removal System for Town Water Supply in Katherine, Australia	Steven Woodard	0.33	0.16
Measuring Magnetic Susceptibility as an Indicator of Biochemical Degradation of Oil in the Subsurface	Alexandra Torrance	0.33	0.33
Using Geophysics to Identify Groundwater in Arid Regions	Ryan Blanchard	0.33	0.33
Using Microgravity and Passive Seismic Methods jointly to Explore the Brazos River Alluvium Aquifer	Wynne Casteel	0.33	0.33
Characterizing Infiltration Rate Variability Using Distributed Temperature Sensing	Patrick O'Connell	0.33	0.33
Estimating Storage Capacity and Suitability of Managed Aquifer Recharge on a Basin-Wide Scale in Washington USA	Michael Gibson	0.33	0.16
Take My Job, Please	John Horst	1	1
The Value of Using Drilling Fluids and Additives	Douglass Keller	1	1
Water Well Maintenance – Maintaining Production and More Consistent Quality	Neil Mansuy	1	1

Why Recommend Certified Products	Bryanna Poczatek	1	0.5
The Concept of Sustainability and the Recruiting of Younger Millennials	Kevin Svitana	1.5	1.5
Geophysical Method Selection	Frederick Day Lewis	1	1
Development of MODFLOW – Helping USGS Chart the Future	Christian Langevin	1.5	1.5
Lessons Learned in the Remediation Field	Kevin Svitana	1.5	1.5
A Hybrid Geothermal Heat Pump – Photovoltaic Solar System Yields 5 Times the Efficiency	Todd Giddings	1	1
Flooding Impacts to Groundwater	Charles Job	1	1
Groundwater Guardian for Your Community and Business	Jennifer Wemhoff	1	1
PFAS and Groundwater: Real and Perceived Risks	Karen Kinsella	1	1
Submersible Motor and Controls Testing	Scott O'Brien	1	0.25
Submersible Motor Technologies – A Review	Kyle Lanier	1	0.25
NGWA's Cost Calculator Goes App: New for Your Business Toolbox	Kathy Butcher	1	1
Water Management Software	Karen Griffin	1	1
Darcy Lecture: Starting from the Problem and Working Backwards	John Doherty	1	1
McElhiney Lecture: Drilling Markets Change – So Must We	Gary Hix	1	1
Combination of water well chemical treatment with physical stimulation	Lloyd Ingram	1	1
Ion Bond vs Ion Exchange Water Softening	Gabe Ergler	1	0.5
Operational Value of the Well: Determining Problems and Solutions Impacting Well Systems	Michael Schnieders	2	2
Direct Push Logging Workshop	Kathy Butcher	4	4
What's New With MODFLOW	Christian Langevin	4	4
Residential sizing and basic curves	Daniel Featherstone	1	0.25
Iron Bacterial Remediation	Donald Teeters	1	1
Treating Muddy Drilling Water by Using a Sediment Filter Bag as BMP	Todd Giddings	1	1
The Best of Safe Practice: Basic and Enhanced First Aid	Bertha Jardine	1.5	.75
VFD Installation, Settings, and Troubleshooting	Tom Stephan	1.5	0.4
The Best of Safe Practice: Drilling Chemicals and Rehabilitation Activities	Fred Rothauge	1	1
The Awesome Aquifer – Exciting the Next Generation	Sara Brock	1	1
The Best of Safe Practice: Basic Housekeeping and Equipment and Tool Inspection	Richard Thron	1	1
Basic Introduction to Wiring Accessories to a VFD	Daniel Featherstone	1	0.25
The Best of Safe Practice: SDS and How to Locate/assess Information	William Lillich	1	0.5
Connectivity Wiring and Controlling Pumps Remotely	Daniel Featherstone	1	0.25
The Best of Safe Practice: Communication and Documentation	William Lillich	1	0.5
Assessing Unconfined Aquifers for Supplemental Potable Groundwater Resources in Central Texas, McLennan County	Wayne Hamilton	0.33	0.33

Innovative Solutions for Water Management in Western Nebraska	John Berge	0.33	0.33
Provo Aquifer Storage and Recovery – the Path to a Long Term Sustainable Water Supply	Jeffrey Davis	0.33	0.33
The Springs Preserve – How Las Vegas Began	Gabriela Villafuerte	1	0.5
Challenges of Groundwater Resource Development in the Cattle Corridor of Uganda	Steve Kalule	0.33	0.33
Using Geophysics to Site “Forebay-Type” Managed Aquifer Recharge Systems in the Wasatch Front of Utah	John Jansen	0.33	0.33
Historic Groundwater Development in Illinois: 125 Years of Groundwater Science, Well Construction, and Aquifer Development	Steve Wilson	1	1
You Don’t Know Jack – Groundwater Edition	Insley Haiski	1	1
The Best of Safe Practice: Electrical Hazards	William Glenn	1	0.25
The Best of Safe Practice: The Federal Silica Standard (as applicable to the groundwater industry)	David Bowers	1	1



11/22/2019

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Date