



Iowa DNR Well Contractor CEU Index



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Monday, December 3, 2018

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8:30 A.M.-9:50 A.M.

Las Vegas Convention Center Room N110-114
[Groundwater Summit Opening and H2O Presentation](#)
Alan Kolok, Ph.D.

This session qualifies for up to 1.5 Iowa DNR Contact Hour.

10:20 A.M.-1:40 P.M.



Las Vegas Convention Center Room N109
[Groundwater Monitoring](#)

- 10:20 a.m. [The MODFLOW 6 Modular Hydrologic Model](#) *Christian D. Langevin, Ph.D.*
- 10:40 a.m. [Methodology and Framework for Developing Groundwater FEFLOW Conceptual and Numerical Model to Couple with Mike 21 FM: Miami Beach Case Study](#) *Carlos Tamayo*
- 11:00 a.m. [Study of Scale and Time Dependent Parameters for Reactive Solute Transport through Stratified Porous Media](#) *Abhimanyu Sharma*
- 11:20 a.m. [Using Periodic Pumping to Characterize Aquifers: Field and Modeling Advantages](#) *Michael Cardiff, Ph.D.*
- 11:40 a.m. [Application of 3D Visualization Modeling to Improve Conceptual Site Model Development and Groundwater Remediation](#) *Richard Boone, CPG, CHMM*
- 12:00 p.m. Lunch (on your own)
- 1:20 p.m. [Development of a Revised Hydrogeologic Conceptual Model of the Indian Wells Valley Groundwater Basin](#) *Max Halkjaer*

This session qualifies for up to 2 Iowa DNR Contact Hour.

10:20 A.M.-3:00 P.M.

Summit

Las Vegas Convention Center Room N117

Groundwater Monitoring

- 10:20 a.m. [Cloud-Based Analytics Dashboard Advances Real-Time Data Analysis While Supporting Collaboration and Active Groundwater Management](#) *Charles Dunning, Ph.D.*
- 10:40 a.m. [Stable and Radio Isotope Analysis Identified Sources of Methane During an In-Situ Remedial Action](#) *Richard Coffin*
- 11:00 a.m. [Ion Tracer to Quantify Drill Fluid Impact During Vertical Aquifer Profiling](#) *Ramsey Ferguson, PG*
- 11:20 a.m. Break
- 11:40 a.m. [Monitoring of Pollutant Movement Along a Line of Transect within the Freshwater Field of Umm Al-Aish, Kuwait](#) *Amitabha Mukhopadhyay*
- 12:00 p.m. Lunch (on your own)
- 1:20 p.m. [Tagging and Tracking Pumping Influence Provides Critical New Insight Across Monitoring Networks](#) *Joseph Fillingham, Ph.D.*
- 1:40 p.m. [Benefits and Limitations of Using Down Well, Real-time, Telemetric Water Quality Meters to Monitor Water Quality](#) *Brian Symons, PE*
- 2:00 p.m. [The Effect of Close-Proximity Blasting on Groundwater Quality and Impacts on Communal Drinking Water Supply Systems](#) *Andrew Bingeman*
- 2:20 p.m. [Monitoring Optimization: Lean Approaches and Lessons](#) *Jay Piper, CEM*
- 2:40 p.m. [Developing a Threat Assessment and Monitoring Framework for Urban Karst Groundwater Management](#) *Rachel Kaiser*

This session qualifies for up to 3.25 Iowa DNR Contact Hours.

10:20 A.M.-3:40 P.M.

Summit

Las Vegas Convention Center Room N119-120

Groundwater Remediation including Combined Remedies Part 1

Kevin Finneran, Ph.D.

- 10:20 a.m. [Removal of Chlorinated Solvents in Groundwater Using Immobilized Nano Zero-Valent Iron for Advanced Oxidation Processes](#) *Erick Bandala*
- 10:40 a.m. [Antimethanogenic Reagents \(AMR\) to Control Excessive Methanogenesis During Remedial Actions](#) *Jim Mueller*
- 11:00 a.m. [Pilot Study Data Evaluation: Enhanced Attenuation of PFAS and VOCs in Groundwater](#) *Jeffrey Holden, PE, LSP, LEP*
- 11:20 a.m. [Subgrade Biogeochemical Reactors: Design and Performance of Multiple Configurations](#) *Jeff Fitzgibbons, PG*
- 11:40 a.m. [Challenges of Iron in Groundwater Remediation Projects – A Case Study](#) *Jason Downey, PE*
- 12:00 p.m. Lunch Break (on own)
- 1:20 p.m. [Animal Co-Products as Novel Electron Donors for In Situ Bioremediation](#) *Kevin Finneran, Ph.D.*
- 1:40 p.m. [Iron Enhanced In Situ Reductive Dechlorination in High Sulfate Aquifers](#) *Daniel P. Leigh, PG, CHG*
- 2:00 p.m. [Optimization and Performance of ZVI Amendments for In-Situ Chemical and Biological Reduction](#) *Gary Birk, PE*

2:20 p.m. [Case Study – Challenges Encountered during Concurrent Implementation of Remedial Strategies at a Solvent Site](#) *Joe Whearty*

2:40 p.m. [Groundwater Modeling and Monitoring Results for a Combined Thermal and In-Situ Bioremediation Remedy](#) *Jason R. House, CG, PG*

3:00 p.m. [Combining Technologies and Implementation Methods to Address Chlorinated Solvent Impacts at Complex Sites](#) *Mike Mazzaresse*

3:20 p.m. [Lessons Learned from Surfactant Enhanced Aquifer Remediation of Light and Dense NAPLs](#) *David Alden, PE*

This sessions qualifies for up to 4 Iowa DNR Contact Hours.

10:20 A.M.-11:40 A.M.

Summit

Las Vegas Convention Center Room N107/108

[Room N107/108 Groundwater/Surface Water Interactions](#)

10:20 a.m. [Next Generation Sequencing for Management of Surface Water/Groundwater Interaction and Water Quality](#) *Andrea Rocha, Ph.D.*

10:40 a.m. [Surface Water/Groundwater Interaction: A Forensic Approach to Salinity in an Alluvial Aquifer](#) *Erin Noonan*

11:00 a.m. [A Comparison of Thermal Imaging and In-Situ Thermistor/Tensionmeter Data to Characterize Groundwater Seepage in a Fen](#) *Ogochukwu Ozotta*

11:20 a.m. [Surface-water Reservoir Effects In A Shallow Karst Aquifer: Quantity, Quality Or Both](#) *Joe C. Yelderman Jr., PhD, PG*

This session qualifies for up to 1.5 Iowa DNR Contact Hours.

12:00 P.M.-1:20 P.M.

Workshop

Las Vegas Convention Center Room N115/116

[Water Well Design by the Numbers](#)

Marvin F. Glotfelty, RG and David Kill

This session qualifies for up to 1.5 Iowa DNR Contact Hours.

2:00 P.M.-3:40 P.M.

Summit

Las Vegas Convention Center Room N109

[Anything Else Groundwater](#)

2:00 p.m. [Quantifying Groundwater Evapotranspiration with Remote Sensing for the Humboldt River Basin, NV](#) *Matt Bromley, M.S.*

2:20 p.m. [A Five-Year Estimation of Wasted Potable Landscape Irrigation Water, Orange Crest-Mission Grove Area \(OCMGA\), Riverside CA](#) *Thomas Deane, CHg, PG, RG*

2:40 p.m. [Flow of Groundwater through North Slope, Alaska Gravel Pads](#) *Ori Miller*

3:00 p.m. Break

3:20 p.m. [Remediation to Research: Training Future Hydrogeologists--A Repurposed Geoprobe to Assess an Alluvial Aquifer](#) *Wayne Hamilton, PE, PG, Research Faculty*

This session qualifies for up to 1.5 Iowa DNR Contact Hours.

2:20 P.M.-3:00 P.M.

Summit

Las Vegas Convention Center Room N107/108

Karst Hydrology

2:20 p.m. [Determination of Hydraulic Diffusivity of a Limestone Aquifer Using Spectral Analysis Techniques](#) *Hillool Guha, Ph.D., P.G., P.E.*

2:40 p.m. [Modeling and Evaluating the Influences of Class V Injection Wells on Urban Karst Hydrology](#) *James Shelley*

This session qualifies for up to 0.75 Iowa DNR Contact Hour.

3:15 P.M.-4:00 P.M.

Las Vegas Convention Center Room N213/214

Early/New Career Peer to Peer Networking Session

This session qualifies for up to 0.75 Iowa DNR Contact Hour.

4:00 P.M.-5:00 P.M.

Summit

Las Vegas Convention Center Room N119/120

Augmented Reality/Mixed Reality Platforms for Remediation

John Horst, PE, Nick Welty, PG and Allison Yanites

Summit

Las Vegas Convention Center Room N109

Groundwater Data Available to the Public -- USGS and the National Groundwater Monitoring Network

Rodney Sheets, William L. Cunningham, Charles W. Schalk, Candice Hopkins and Daryll Pope

Summit

Las Vegas Convention Center Room N218

Mitigating Natural Disaster Impacts at Groundwater Remediation Sites - Discussion Session

Summit

Las Vegas Convention Center Room N117

What's New in Groundwater Monitoring

These sessions qualify for up to 1 Iowa DNR Contact Hours.

Click on the session titles below to see the abstracts/speakers within each session.

Tuesday, December 4, 2018

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8:00 A.M.-9:00 A.M.

Workshop

Las Vegas Convention Center Room N201/204

[Basic Pump Sizing and Understanding the Pump Curve](#)

Scott O'Brien

Workshop

Las Vegas Convention Center Room N219/222

[Business Efficiency - Are We Really in It for the Money](#)

David Baker

Workshop

Las Vegas Convention Center Room N115/116

[Drilling Reactive Clays And Shales](#)

Jim Hutmacher

Workshop

Las Vegas Convention Center Room N209/212

[Getting Past the "Feel-Good" Part of a Groundwater Project in Third World Country](#)

Edd Schofield

Workshop

Las Vegas Convention Center Room N101/102

[How to Conserve Water Using Innovative Techniques with Traditional Problem Water Treatments](#)

Matthew Wirth, BA

Workshop

Las Vegas Convention Center Room N205/208

[The Emerging Revolution in Groundwater Rights](#)

Jesse J. Richardson Jr., J.D.

These sessions qualify for up to 1 Iowa DNR Contact Hours.

8:30 A.M.-9:30 A.M.

Las Vegas Convention Center Room N110/114

[2018 GSA Hydrogeology Division Birdsall-Dreiss Lecture](#)

David F. Boutt, Ph.D.

This session qualifies for up to 1 Iowa DNR Contact Hours.

9:00 A.M.-10:00 A.M.

Workshop

Las Vegas Convention Center Room N201/204
[Advanced Curves, NPSHr, and Sizing Programs](#)

Daniel Featherstone

Workshop

Las Vegas Convention Center Room N101/102
[Don't Forget to Disinfect...Developing a Strategy for Microbiological Contamination in Private Water Systems.](#)

Kirk Sheasgreen

Workshop

Las Vegas Convention Center Room N205/208
[Groundwater Industry Legislative Update and Current Issues](#)

Lauren Schapker and Margaret Martens

Workshop

Las Vegas Convention Center Room N219/222
[Phase Converters, VFDs and Low Harmonics. Why Should I Care?](#)

Nicholas Kingsbury, President

Workshop

Las Vegas Convention Center Room N115/116
[We Mix Properties...Not Mud!!](#)

Douglass Keller

These sessions qualify for up to 1 Iowa DNR Contact Hour.

9:30 A.M.-10:40 A.M.

Las Vegas Convention Center Room N110/114
[Plenary Session: PFAS: When the Word Becomes Reality](#)
David Henrich, CWD/PI, CVCLD, Avram Frankel, PE and Steve Sliver

This session qualifies for up to 1.5 Iowa DNR Contact Hours.

10:30 A.M.-11:30 A.M.

Workshop

Las Vegas Convention Center Room N205/208
[How to Become a Groundwater Guardian Green Site](#)

Jennifer Wemhoff

Las Vegas Convention Center Room N223/224
[PFAS Call to Action](#)

Workshop

Las Vegas Convention Center Room N115/116

[Performing Plumbness and Alignment Tests - The Lost, but Essential Art](#)

Roger E. Renner, MGWC, NGWAF

Workshop

Las Vegas Convention Center Room N101/102

[Preventive Maintenance - Extending the Life of Your Water](#)

Kevin McGinnis

Workshop

Las Vegas Convention Center Room N209/212

[Supply Chain Survival in the Age of Amazon](#)

Greg Beach, David Henrich, CWD/PI, CVCLD and Randy Carnes

Workshop

Las Vegas Convention Center Room N201/204

[US Department of Energy Pump Efficiency Standards – What You Need to Know](#)

Peter Gaydon

Workshop

Las Vegas Convention Center Room N219/222

[Using Digital Meters on VFD's](#)

Tom Stephan

These sessions qualify for up to 1 Iowa DNR Contact Hour.

11:00 A.M.-1:50 P.M.

Summit

Las Vegas Convention Center Room N109

[Geophysics for Groundwater Model Development and Monitoring](#)

11:00 a.m. [Airborne Geophysical Data for Building a Groundwater Sustainability Plan](#) *Bill Brown*

11:20 a.m. [Geophysical CSAMT Survey Results and Groundwater Modeling in a Groundwater Appropriation Trial](#) *Norman Carlson, PG*

11:40 a.m. [Hydro-TISAR – A New High Resolution Seismic Imagery Method for Hydrogeological Investigations](#) *Milan Simum*

12:00 p.m. Lunch (on your own)

1:30 p.m. [Geophysical Surveys to Maximize Horizontal Well Yield and Extend Production in Depleting Aquifers](#) *John Jansen, Ph.D., PG*

This session qualifies for up to 1.5 Iowa DNR Contact Hours.

11:00 A.M.-12:00 P.M.

Summit

Las Vegas Convention Center Room N107/108

Managed Aquifer Recharge

- 11:00 a.m. [ASR Generation: Generating Power During the Injection Cycle of an ASR Project](#) *Kent Madison*
- 11:20 a.m. [Sustainable Water Initiative For Tomorrow \(SWIFT\), Managed Aquifer Recharge Demonstration Project](#) *Mark C. Lucas*
- 11:40 a.m. [Environmental Isotopes in Time Series Resolve Issues of Imported Water Recharge in Basin Fill Aquifer](#) *Barry Hibbs, Ph.D.*

This session qualifies for up to 1 Iowa DNR Contact Hour.

11:00 A.M.-2:50 P.M.

Summit

Las Vegas Convention Center Room N119/120

Water Quality and Treatment

- 11:00 a.m. [Groundwater Quality and Fracking: Current Understanding and Science Needs](#) *Daniel Soeder*
- 11:20 a.m. [Citizen Suits are Possible Regarding Groundwater Contamination](#) *Steven Hoch, JD*
- 11:40 a.m. [Using Ultrasound to Minimize Mineral Depositions in Boreholes](#) *Koen Kinsbergen*
- 12:00 p.m. Lunch (on your own)
- 1:30 p.m. [The Removal of Long & Short Chain Perfluoroalkyl Substances via Granular Activated Carbon Adsorption](#) *Adam Redding*
- 1:50 p.m. [Groundwater Treatment for the Removal of Arsenic and Uranium](#) *Peter Meyers*
- 2:10 p.m. [Activated Carbon, A Love Affair Spanning 15 Years](#) *Scott Noland*
- 2:30 p.m. [New Directions for Improvement of Groundwater Quality](#) *Bruce Manchon, PG*

This session qualifies for up to 2 Iowa DNR Contact Hours.

11:30 A.M.-12:30 P.M.

Las Vegas Convention Center Room N223/224

Groundwater Recharge Call to Action

This session qualifies for Iowa DNR Contact Hours – up to 1 contact hour.

12:30 P.M.-1:30 P.M.

Workshop

Las Vegas Convention Center Room N219/222

Constant Pressure Systems - The Opportunity, the Challenges, the Playbook

Mark Reeder

Workshop

Las Vegas Convention Center Room N205/208

Inexpensive and Effective Safety Resources Any Company Can Use

Jim Wright

Workshop

Las Vegas Convention Center Room N201/204

[Solar for AC Pumps: Solar Pumping is Not Just for DC](#)

Matt Servant

Workshop

Las Vegas Convention Center Room N115/116

[Water Well Rehabilitation and Time Based Preventive Maintenance](#)

Neil Mansuy

These sessions qualify for up to 1 Iowa DNR Contact Hour.

1:30 P.M.-2:50 P.M.

Summit

Las Vegas Convention Center Room N107/108

[Sustainability and Planning](#)

- 1:30 p.m. [Chasing Sustainability: Establishing Management Goals and Thresholds](#) *Leslie Dumas, PE*
- 1:50 p.m. [Central Coast Blue: Creating a Sustainable Groundwater Supply and Combating the Threat of Seawater Intrusion](#) *Michael Cruikshank, PG, CHG*
- 2:10 p.m. [Using Private Wells to Cost-Effectively Complement and Extend Groundwater-Level Monitoring Networks, Build Consensus and Facilitate Sustainable Management](#) *Marian Singer, Co-founder & CEO*
- 2:30 p.m. [The Evolving Landscape of Groundwater Management in California](#) *Timothy K. Parker, PG, CEG, CHG*

This session qualifies for up to 1.5 Iowa DNR Contact Hours.

1:45 P.M.-2:45 P.M.

Workshop

Las Vegas Convention Center Room N205-208

[2018 OSHA Crane Rule for Cranes in Construction](#)

John Fowler, CSP, CMSP

Workshop

Las Vegas Convention Center Room N101/102

[Biofilm Presence in Potable Wells and Effective Chemical Treatment Strategies for Removal](#)

Eric Duderstadt

Workshop

Las Vegas Convention Center Room N201-204

[Protecting Today's More Efficient Pump Motors from PWM Damage](#)

Patrick Hogg

Workshop

Las Vegas Convention Center Room N219-222

[Solar Powered Single Phase 3-inch AC Pumps for Replacing Windmills](#)

Nikola Milivojevic, Ph.D.

Workshop

Las Vegas Convention Center Room N115/116

[Tier IV Engines](#)

Fred McAninch and Blake Fahl

These sessions qualify for up to 1 Iowa DNR Contact Hour.

1:50 P.M.-2:30 P.M.

Summit

Las Vegas Convention Center Room N109

[Emerging Contaminants](#)

- 1:50 p.m. [How the PFAS regulations got to where they are and what you can legally do to recover costs for damages](#) Richard Head, JD
- 2:10 p.m. [Interstate Technology and Regulatory Council \(ITRC\) PFAS Team: Status of Achievements and Activities](#) Bill DiGuseppi, PG

This session qualifies for up to 0.75 Iowa DNR Contact Hour.

2:30 P.M.-3:10 P.M.

Summit

Las Vegas Convention Center Room N109

[Groundwater Remediation including Combined Remedies Part 2](#)

Kevin Finneran, Ph.D.

- 2:30 p.m. [Water Treatment Technologies for PFAS: The Next Generation](#) Jeffrey McDonough
- 2:50 p.m. [Best Practices for Environmental Site Management: A Practical Guide for Applying Environmental Sequence Stratigraphy to Improve Conceptual Site Models](#) Rick Cramer, PG

This session qualifies for up to 0.75 Iowa DNR Contact Hour.

3:00 P.M.-4:00 P.M.

Workshop

Las Vegas Convention Center Room N219-222

[AC/Solar Power Blending – Maximize Free Solar Power Without Compromising Performance](#)

Jeff Lints

Workshop

Las Vegas Convention Center Room N205-208

[An Introduction to Behavioral Based Safety \(BBS\)](#)

Bill Lillich

Workshop

Las Vegas Convention Center Room N201-204

[Materials of Construction and Pumps – What to Use When](#)

Kyle Lanier

Workshop

Las Vegas Convention Center Room N115/116
[Maximizing Efficiency in the Drilling Process Panel](#)
Roger Renner, Gary Shawver and Fred Rothauge

Workshop

Las Vegas Convention Center Room N101/102
[Redefining Water Treatment Technology Selection for Today's Water Quality Challenges](#)
Richard Mest

These sessions qualify for up to 1 Iowa DNR Contact Hour.

3:00 P.M.-4:30 P.M.

Workshop

Las Vegas Convention Center Room N209-212
[Risk Management for the 21st Century Business](#)
Don Cleveland, Steve Smith, Linda Colasurdo, Courtnee Stevenson and Bonnie North

This session qualifies for up to 1.5 Iowa DNR Contact Hours.

3:15 P.M.-4:15 P.M.

Las Vegas Convention Center Room N213/214
[State Government Affairs Information Session](#)

This session qualifies for up to 1 Iowa DNR Contact Hour.

3:30 P.M.-5:00 P.M.

Summit

Las Vegas Convention Center Room N107/108
[Communicating Groundwater Science](#)
William Alley, Ph.D. and Rosemarie Alley

Summit

Las Vegas Convention Center Room N109
[Design Verification Program - Lessons Learned from Pre-Application Assessments at In Situ Remediation Sites](#)
Craig Sandefur, Rick Cramer, PG and Chris Lee

Summit

Las Vegas Convention Center Room N119/120
[Procurement Practices in the Groundwater Industry](#)
Fred Rothauge, David Kaminski and Jeffrey Holden, PE, LSP, LEP

Summit

Las Vegas Convention Center Room N117

[Putting High-Resolution Data to Work: Targeted Conventional and Multi-Level Monitoring Well Design](#)

Robert Stuetzle

These sessions qualify for up to 1.5 Iowa DNR Contact Hours.

4:15 P.M.-5:15 P.M.

Workshop

Las Vegas Convention Center Room N115/116

[Scientific Groundwater Terminology You May Not Fully Understand - Let's Discuss](#)

Roger Miller

Workshop

Las Vegas Convention Center Room N201-204

[Single Phase Motors and Control Testing](#)

Brian Broga

Workshop

Las Vegas Convention Center Room N205-208

[The Essentials for Contractors Working at Surface Mines](#)

John Fowler, CSP, CMSP

These sessions qualify for up to 1 Iowa DNR Contact Hour.

Wednesday, December 5, 2018

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10:00 A.M.-5:00 P.M.

[Exhibit Hall Open](#)

The Exhibit Hall participation qualifies for up to 1 Iowa DNR Contact Hour.

10:30 A.M.-11:00 A.M.

Las Vegas Convention Center Exhibit Hall Activity Area A

[Testing a Single Phase Motor and Controls](#)

Daniel Featherstone

11:00 A.M.-11:30 A.M.

Las Vegas Convention Center Exhibit Hall Activity Area B

[The Importance Of Filtrate Control In A Drilling Fluid](#)

Stewart Krause

11:30 A.M.-12:00 P.M.

Las Vegas Convention Center Exhibit Hall Activity Area A
[Field pH Measurement Best Practices](#)
Insley Haciski

These sessions qualify for up to 0.5 Iowa DNR Contact Hour.

11:30 A.M.-12:30 P.M.

Workshop

Las Vegas Convention Center Room N101/102
[Green Infrastructure](#)
Daniel O'Rourke, PG

Workshop

Las Vegas Convention Center Room N107/108
[Radium Removal from Potable Water Supplies](#)
Peter Meyers

Workshop

Las Vegas Convention Center Room N115/116
[Resources to Assist You In Outreach and Education to Private Well Owners and Other Professionals](#)
Steven D. Wilson

Workshop

Las Vegas Convention Center Room N119/120
[Unraveling the Causes of Well Inefficiencies](#)
Thom Hanna, PG

Workshop

Las Vegas Convention Center Room N205-208
[Useful On-line Tools and Applications for Well Drilling Businesses](#)
Merritt Partridge

These sessions qualify for up to 1 Iowa DNR Contact Hour.

12:00 P.M.-12:30 P.M.

Las Vegas Convention Center Exhibit Hall Activity Area B
[Expanding Visual Inspections to Find Overlooked Trouble Spots](#)
Fred McAninch

This session qualifies for up to 0.5 Iowa DNR Contact Hour.

12:30 P.M.-1:00 P.M.

Las Vegas Convention Center Exhibit Hall Activity Area A
[Residential Drive Basic Troubleshooting Without a Meter](#)
Daniel Featherstone

1:00 P.M.-1:30 P.M.

Las Vegas Convention Center Exhibit Hall Activity Area B
[At the Well Control for the Water Well System.](#)
Stephen Anderson

These sessions qualify for up to 0.5 Iowa DNR Contact Hour for each session attended.

1:30 P.M.-2:30 P.M.

Las Vegas Convention Center Room N109-114
[Darcy Lecture: Alpine Hydrogeology: The Critical Role of Groundwater in Sourcing the Headwaters of the World](#)
Masaki Hayashi, Ph.D.

This session qualifies for up to 1 Iowa DNR Contact Hour.

1:30 P.M.-2:00 P.M.

Las Vegas Convention Center Exhibit Hall Activity Area A
[Seismoelectric Compared To Traditional Geophysics](#)
Ervin Kraemer

This session qualifies for up to 0.5 Iowa DNR Contact Hour.

2:00 P.M.-3:00 P.M.

Las Vegas Convention Center Exhibit Hall Activity Area B
[Glass Bead Filter Media: Higher Well Efficiency and Reduced O & M Costs](#)
Reinhard A. Klaus, Hydrogeologist

This session qualifies for up to 1 Iowa DNR Contact Hour.

2:30 P.M.-3:00 P.M.

Las Vegas Convention Center Exhibit Hall Activity Area A
[Drunkbusters](#)
Jim Wright

This session qualifies for up to 0.5 Iowa DNR Contact Hour.

2:30 P.M.-3:30 P.M.

Las Vegas Convention Center Room N119-120
[Early/New Career Groundwater Professionals Panel: Take My Job, Please!](#)
W. Richard Laton, Ph.D., PG, Steve Sliver, Rick Hutchings, Edd Schofield and Nicklaus Welty

This session qualifies for up to 0.5 Iowa DNR Contact Hour.

2:50 P.M.-3:50 P.M.

Las Vegas Convention Center Room N109-114
[McElhiney Lecture: The Future of Water: Data vs. Instincts](#)
Todd Halihan, Ph.D., P.Gp.

This session qualifies for up to 1 Iowa DNR Contact Hour.

Thursday, December 6, 2018

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8:00 A.M.-12:00 P.M.

Workshop

Las Vegas Convention Center Room N101/102

[Direct Push Technology - As Useful as Ever...and Cost Effective Too](#)

Bruce Manchon, PG and John Sciacca, PG

This session qualifies for up to 4 Iowa DNR Contact Hours.

8:00 A.M.-1:00 P.M.

[Exhibit Hall Open](#)

The Exhibit Hall can qualify for up to 1 Iowa DNR Contact Hour each day it is open.

8:00 A.M.-9:30 A.M.

Las Vegas Convention Center Room N223/224

[Standards Development Oversight Committee](#)

This session qualifies for up to 1.5 Iowa DNR Contact Hours.

8:30 A.M.-9:00 A.M.

Las Vegas Convention Center Exhibit Hall Activity Area A

[Drill Rig Safety and Maintenance](#)

George Long

This session qualifies for up to 0.5 Iowa DNR Contact Hour.

9:00 A.M.-10:00 A.M.

Las Vegas Convention Center Exhibit Hall Activity Area A

[Using an Application Program Interface \(API\) to Simplify Data Import](#)

Matt Trumbo

These sessions qualify for up to 1 Iowa DNR Contact Hours.

10:00 A.M.-12:00 P.M.

Las Vegas Convention Center Exhibit Hall Activity Area B

[The Groundwater Foundation Presents the Awesome Aquifer](#)

This session qualifies for up to 1 Iowa DNR Contact Hour.

10:30 A.M.-11:30 A.M.

Workshop

Las Vegas Convention Center Room N115/116

[Grouting Tools and Techniques for Geothermal Wells](#)

Stewart Krause, Todd K. Tannehill and Jeff Blinn

This session qualifies for up to 1 Iowa DNR Contact Hour.

1:00 P.M.-3:00 P.M.

Workshop

Las Vegas Convention Center Room N115/116

[Advanced Methods for Monitoring and Sampling in Karst Groundwater Systems](#)

Jason Polk, Ph.D., James Shelley and Rachel Kaiser

This session qualifies for up to 2 Iowa DNR Contact Hours.

1:00 P.M.-4:00 P.M.

Workshop

Las Vegas Convention Center Room N117

[Airborne Electromagnetic Surveys for Hydrogeologic Frameworks and Groundwater Management](#)

James Cannia, BSc, Jared Abraham, M.Sc. and Ted Asch, Ph.D.

This session qualifies for up to 3 Iowa DNR Contact Hours.

1:00 P.M.-5:00 P.M.

Workshop

Las Vegas Convention Center Room N101/102

[Borehole Geophysical Logging for Water Resources/Water Supply Applications](#)

Bruce Manchon, PG and John Sciacca, PG

This session qualifies for up to 4 Iowa DNR Contact Hours.

1:00 P.M.-3:00 P.M.

Workshop

Las Vegas Convention Center Room N107/108

[Direct Push Methods for Groundwater Sampling & Monitoring](#)

Wes McCall, PG

This session qualifies for up to 2 Iowa DNR Contact Hours.