WEDEB1
Early Bird—Hydraulic Fracturing and Drinking Water

Track: Source Water Protection
Moderator: Jonathan Pressman

Draft Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources 1830
Jeanne Briskin, USEPA

ST6WED
Is Your Source Groundwater, Surface Water, or Something In-Between?

Track: Source Water Protection
Moderator: Patricia Klonicki

GW or GWUDI or Somewhere In-between 1843
Stephen Hubbs, University of Louisville

Improving Microscopic Particulate Analysis—A Presentation on the Development of the USEPA “Consensus Method” 1855
Patricia Klonicki, CSC

Riverbank Filtration Demonstration of Performance Evaluations 1863
William Golinitz, Tetra Tech/Earthworks, Jennifer Clancy
ST7WED

New Research in Biotechnologies: Solutions to Current and Emerging Contaminants

Track: Sustainable Water/Biological & Other Treatment Methods
Moderator: Kerry Meyer

GWUDISW and Riverbank Filtration: A State Approach  1873
Tyson Ingels, CDPHE

Optimizing Chemical and Biologically Based Treatment Processes for DBP Control  1885
Monica Hoyt, Central Utah Water Conservancy District,
Chance Lauderdale, Carollo Engineers

NSF ETV Testing of Unique Biological Iron, Manganese, and Ammonia Treatment  1898
Lee Odell, CH2M HILL, Katsu Yamada, Nagaoka International Corporation

Removal of Micropollutants Through Biologically Based Processes  1908
Tom Zearley, University of Colorado at Boulder,
Kyle Shimabuku, R. Scott Summers
WED01

Chlorine and Chloramines

Track: Emerging Contaminants
Moderator: Paul Swaim

Investigating the Presence of HAAs and THMs in Sodium Hypochlorite Feedstocks 1919
Gary Emmert, University of Memphis, Paul Simone, Christina Henson, Aaron Brown

Critical Elements in the Manufacture and Application of Preformed Chloramines 1932
Emily Owens, Trussell Technologies, Fredrick Gerringer, R. Shane Trussell, R. Rhodes Trussell

Chloramine Conversion to Free Chlorine in A Combined System 1952
Stephanie Posse, Lori Kappen, Gannett Fleming, Jamie Shambaugh

Simulations and Experiments Reveal the Relative Significance of the Free Chlorine/Nitrite Reaction in Chloraminated Systems 1960
David Wahman, USEPA, Gerald Speitel

Effect of NOM on Monochloramine and Total Chlorine Decay After a Short Prechlorination Time in the Presence of Bromide 1971
Abdalrahman Alsulaili, Kuwait University, Lynn Katz, Gerald Speitel

Role of Nitrification in Accelerating Chloramine Decay Through Application of Microbial Decay Factor Method 1987
Arumugam Sathasivan, Curtin University of Technology, George Kastl, Ian Fisher, Bal Krishna KC, Dipok Sarker
**WED02**

**Controlling Metals Release in the Distribution System**

Track: Distribution Systems Corrosion  
Moderator: *Colleen Arnold*

- The Impact of Orthophosphate on Copper Corrosion and Chlorine Demand 2000
  *Darren Lytle, USEPA-WSWRD, Jennifer Liggett*

- Distribution System Diagnostics: Geo-Referencing Historical LCR Data to Determine the Causes of Lead in Drinking Water 2009
  *Matthew McFadden, HDR Engineering, Inc., Leonard Schantz, Pierre Kwan, Steve Reiber*

- Electrochemical Reversal and the Effects of Flow Pattern on Galvanic Corrosion of Lead 2027
  *Roger Arnold, Virginia Tech, Marc Edwards*

- Controlling Lead Release in a Water Distribution System, Which Experienced an Increase in Chloride to Sulfate Mass Ratio 2034
  *Benjamin Klayman, Black & Veatch, Gordon McGhee, Tracy Triplett, Catherine Spencer; Lee Moore, Robert Cummings*

- Predicting Arsenic Intrusion in a Drinking Water Distribution System: Implications for Decontamination Strategies 2046
  *Jennifer Hagar, USEPA, Regan Murray, Terra Haxton, John Hall, Jeffrey Szabo*

- Arsenic Accumulation and Release Studies Using a Cast Iron Pipe Section From a Drinking Water Distribution System 2059
  *Darren Lytle, USEPA-WSWRD, Jennifer Liggett*
**WED03**

*Cryptosporidium and Other Nuisance Organisms*

Track: Microbiology & Lab Methods  
Moderator: Paul Rochelle

The Hunt for Green Fluorescence: Portland Water Bureau’s One-Year *Cryptosporidium* Study in the Bull Run Watershed  2068
*Yone Akagi*, Portland Water Bureau, *Ann Richter*, *Zoe Rodríguez Del Rey*

Investigating Matrix Spike Recovery Challenges for the Bull Run Water Source, Portland, Oregon  2091
*Jeffrey Rosen*, Tetra Tech-Clancy Environmental,  *Yone Akagi*, *Ann Richter*, *Paul Westerhoff*, *Chao-An Chiu*, *Justin Irving*

Phylogenetic Processes for Analyzing the Sequence Diversity of *Cryptosporidium* for Source Tracking From Water Samples  2106

Free-Living Protozoa, Biofilm Bacteria, and Disinfection in Distributed Water: An Approach to Understanding the Interactions  2118
*Susan Springthorpe*, Centre for Research on Environmental Microbiology (CREM), *Richard Kibbee*, *Alain Stintzi*, *Roger Pickup*, *Jackie Parry*, *Syed Sattar*

Occurrence of Filamentous Fungi in Real Water Sources and Their Inactivation Using Chlorine and Chloramines  2133
*Vanessa Pereira*, Instituto de Biologia Experimental E Tecnológica, *Marta Marques*, *Rosalina Marques*, *Maria Vitória San Romão*, *Maria Crespo*

Application of Control Strategies for Mitigation of Nuisance Aquatic Macrofauna in a Drinking Water Treatment Plant  2136
*Joe Hernandez*, City of Scottsdale Water Resources, *Jeanne Jensen*
WED04  
UV Operation, Monitoring, and Validation

Track: Treatment Techniques & Membranes  
Moderator: James Malley

Operation, Maintenance, and Reporting Requirements for Municipal Drinking Water UV Disinfection Facilities 2148  
Enoch Nicholson, CH2M HILL, Todd Elliott, Alex Chen, David Euler, Andrew Niblock, Eric Kiefer, Paul Swaim

Impact of Upstream Treatment Processes on UV System Design and Operation 2152  
Xi Zhao, Black & Veatch, Robert Hulsey, Jeff Neermann, Donnie Ginn, Matthew Wirtz, Kathy Moriarty

Twelve-Month UV Fouling Study on Unfiltered Source Water 2169  
Chad Talbot, Portland Water Bureau, Mark Heath, Harold Wright, David Peters

Impact of Low-Wavelength UV Light on UV Dose Monitoring With Medium-Pressure UV Systems 2219  
Harold Wright, Carollo Engineers, Jeff Bandy, Mark Heath, Christian Bokermann, Ronnie Bernus

Use of a High-Resistance Challenge Organism for Validation of Low-Pressure High-Output UV Reactors for Virus Inactivation 2234  
Brian Petri, Trojan Technologies, Stewart Hayes, Adam Festger, O. Karl Scheible, Chengyue Shen, Prakash Patil

Bacillus pumilus Spores for Bioassay Validation of UV Reactors for Virus Disinfection Credit 2238  
Thomas Hargy, Clancy Environmental Consultants, Inc., Theng Theng Fong, Florence Fong, Randi McCuin
NDMA Formation and Occurrence

Track: Regulation, Detection & Treatment
Moderator: Jennifer Baldwin

Formation of NDMA From Pharmaceuticals—Reaction Kinetics and Impact From Primary Disinfection 2244
Ruqiao Shen, University of Toronto, Susan Andrews

Formation of NDMA by Chloramination of Nitrogenous Contaminants: Potential Role of Bromide and Dissolved Oxygen 2256
Julien Le Roux, University of Poitiers, Herve Gallard, Jean-Philippe Croue

A Simulated Distribution System Test to Predict the Formation of Nitrosamines, THMs, and HAAs in Drinking Water 2264
Stuart Krasner, Metro Water District of Southern California, Chih-Fen Lee, Eduardo Garcia, William Mitch

NDMA Formation From Gaskets Used in a Water Storage Tank 2286
Susan Teefy, East Bay Municipal Utilities District, Clifford Chan

PolyDADMAC and Dimethylamine as Precursors of N-Nitrosodimethylamine During Ozonation 2304
Ching-Hua Huang, Georgia Institute of Technology, Lokesh Padhye, Sang-Hyuck Park

Six Years of Nitrosamine Monitoring in Philadelphia 2316
Adam Eyring, Philadelphia Water Department
Wednesday

**ST8WED**

**Microbial Water Quality at the Tap: An Emerging Issue**

Track: Microbiology & Lab Methods
Moderator: *Marsha Pryor*

- Biofilm Control: Nutrients, Disinfection and Pipe Materials 2322
  *Anne Camper*, Montana State University

- The Interplay of Plumbing Materials, Home Filters, Disinfection and Nutrients in Controlling Nitrification in Premise Plumbing 2336
  *Yan Zhang*, Long Beach Water Department, *Marc Edwards*

- The Occurrence of Amoebae and Legionella in Premise Plumbing 2350
  *Susan Springthorpe*, Centre for Research on Environmental Microbiology (CREM)

- Nontuberculous Mycobacteria in Household Plumbing
  *Joseph Falkingham*, VA Polytechnic Inst. & St Univ., Dept. of Biology 2367