



GROUNDWATER RESOURCES ASSOCIATION
O F C A L I F O R N I A

The 18th Symposium in GRA's *Series on Groundwater Contaminants*

“Emerging Contaminants in Groundwater: A Continually Moving Target”

June 7-8, 2006
Hilton Hotel, Concord, California

PROGRAM AGENDA

(As of 5/24/2006)

Wednesday June 7, 2006

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| 11:00 – 5:00 pm | Registration |
| 1:00 – 1:15 pm | <i>Welcome and Program Overview</i>
Tom Mohr, GRA President
Rula Deeb, Symposium Chair |
| Session 1: | Overview of Emerging Contaminants Issues – Technical, Political and Institutional Challenges |
| Moderator(s): | Dr. David Sedlak, University of California at Berkeley, and Jim Strandberg, Malcolm Pirnie, Inc. |
| 1:15 – 1:45 pm | <i>Overview of Technical Challenges Posed by Key Emerging Contaminants in Groundwater</i>
Dr. David Sedlak, University of California at Berkeley |
| 1:45 – 2:10 pm | <i>Regulating Emerging Contaminants</i>
Dr. Bruce Macler, US EPA Region 9 |
| 2:10 – 2:30 pm | <i>The DOD Strategy to Improve Response to Emerging Contaminants</i>
Dr. Janis Hulla, United States Army Corps of Engineers |

- 2:30 – 2:55 pm *Emerging Contaminants: A Legal Perspective*
Brian Haughton, Esq., Barg Coffin Lewis and Trapp, LLP
- 2:55 – 3:10 pm Break in Exhibit Area**
- 3:10– 3:35 pm *Retrospective Evaluation of MTBE Predictions versus 2005 Data: Lessons Learned*
Jon Rohrer, WorleyParsons Komex
- 3:35 – 4:05 pm USGS Talk on Pharmaceuticals
Joseph Domagalski, U.S. Geological Survey
- Session 2: Analytical Issues and Emerging Contaminants**
Moderator(s): Dr. Andrew Eaton, MWH Laboratories
- 4:05 – 4:35 pm *USEPA's Approach to the Development of New Analytical Methods for Emerging Contaminants in Drinking Water*
Jean Munch, USEPA Technical Support Division
- 4:35 – 5:00 pm *The Evolutionary Path of Analytical Methods for Emerging Contaminants*
Dr. Andrew Eaton, MWH Laboratories
- 5:00 – 6:30 pm Reception and Poster Presentations – Exhibit Hall
Student Paper Competition**
- 6:30 – 8:30 pm GRA San Francisco Branch Dinner Meeting *****
Panel: Regulating Emerging Contaminants: National Research Council (NRC), EPA and CA State Perspectives
Dr. Rhodes Trussell, Trussell Technologies, Inc., Pasadena, CA
(Co-Chair of NRC Committee on Emerging Drinking Water Contaminants)
Dr. Bruce Macler, US EPA, San Francisco, CA
Dr. Bob Howd, OEHHA, Oakland, CA
*** *Separate registration is required for this dinner event – please RSVP at <http://www.grac.org/sanfrancisco.asp>*

Thursday June 8, 2006

- 7:30 – 11:00 am Registration
- Session 3: 1,4-Dioxane**
Moderator(s): Dr. Reid Bowman, Applied Process Technology, Inc., and Krista Clark, ACWA
- 8:00 – 8:30 am *1,4-Dioxane: A ROD Re-opener or a Manageable Co-Contaminant*
Tom Mohr, Santa Clara Valley Water District
- 8:30 – 9:00 am *Managing a Significant Release of 1,4-Dioxane into a Complex Glacial Depositional Environment; the Integration of Hydrogeology, Remedial Engineering and Politics*
Dr. Saied Tousi and Farsad Fotouhi, Pall Corporation
- 9:00 – 9:20 am *Biodegradation of 1,4-Dioxane Under Aerobic Conditions*
Shaily Mahendra, University of California at Berkeley
- 9:20 – 9:40 am *Bioreactors for Treatment of 1,4-Dioxane*
Dr. Patrick J. Evans, CDM
- 9:40 – 9:55 am Break – Exhibit Hall**
- Session 4: 1,2,3-Trichloropropane (1,2,3-TCP)**
Moderator(s): Dr. Paul Tratnyek, Oregon Health and Science University, Portland
- 9:55 – 10:20 am *1,2,3-Trichloropropane: Occurrence, Fate, Remediation and Risk*
Dr. Paul Tratnyek, Oregon Health and Science University, Portland
- 10:20 – 10:45 am *The Emergence of 1,2,3-Trichloropropane as a Groundwater Contaminant: Where it Comes From and What to do About It*
John Fortuna, GeoSyntec Consultants
- 10:45 – 11:10 am *Reduction of 1,2,3-TCP and other Halogenated Solvents, Perchlorate, and Nitrate in Groundwater Using a Hollow-Fiber Membrane Biofilm Reactor (MBfR)*
Dr. Reid Bowman, Applied Process Technology, Inc.
- Session 5: N-Nitrosodimethylamine (NDMA)**
Moderator(s): Phyllis Stanin, Todd Engineers
- 11:10 – 11:30 am *Metal Catalyzed Reduction of N-Nitrosodimethylamine in Water*
Matthew G. Davie, Stanford University

11:30 – 11:55 am *Catalytic Treatment of NDMA- and TCE-Contaminated Groundwater*
Bill Guarini, Shaw Group

11:55 am – 1:00 pm Lunch
Announcement of Student Paper Competition Winners

1:00 – 1:20 pm *Alternative Sources of NDMA in Groundwater*
Elisabeth Hawley, Malcolm Pirnie, Inc.

1:20 – 1:55 pm *Fate and Transport of NDMA in California Groundwater*
Phyllis Stanin, Todd Engineers

Session 6: Pharmaceuticals and Personal Care Products
Moderator(s): Jennifer Nyman, Stanford University

1:55 – 2:20 pm *Incidence and Toxicological Significance of Selected Pharmaceuticals in Drinking Water*
Dr. Richard C. Pleus, Intertox, Inc.

2:20 – 2:55 pm *Fate and Transport of Wastewater Indicators: Results from Ambient Groundwater and from Groundwater Directly Influenced by Wastewater*
Dr. Jean E. Moran, Lawrence Berkeley National Laboratory

2:55 – 3:10 pm Break – Exhibit Hall

3:10 – 3:35 pm *Fate of Pharmaceuticals and Trace Organics During Soil Aquifer Treatment*
Dr. Peter Fox, Arizona State University

Session 7: Other Emerging Contaminants
Moderator(s): Dr. Peter Fox, Arizona State University, Tempe, AZ and Dr. Eduard Hoehn, Stanford University

3:35 – 4:00 pm *Unraveling the Trail of a Very Persistent and Mobile Emerging Contaminant: Perfluorinated Chemicals in Minnesota*
Virginia Yingling, Minnesota Department of Health

4:00 – 4:25 pm *Natural Attenuation of Emerging Contaminants in a Downwelling Stream Augmented with Recycled Water, Upper Silver Creek, San José CA – First Results and Comparison to U.S. and European Studies*
Dr. Eduard Hoehn, Swiss Federal Institute for Water Science and Technology (Eawag) and Stanford University

4:25 – 4:50 pm *Nanotechnology: Implications for the Environment*
Jenny Sterling, Daniel B. Stephens & Associates, Inc.

4:50 – 5:00 pm **Closing Remarks**
Dr. Rula Deeb, Malcolm Pirnie, Inc.

Poster Presentations

General Poster Session

1. *Pilot Studies of Hexavalent Chromium Removal from Groundwater in Glendale, California*
Nicole K. Blute, McGuire Malcolm Pirnie
2. *Laboratory Quality Analysis of VOC's in Groundwater at the Site of Investigation Using Field-Portable GC/MS*
Dave Curtis, Field-Portable Analytical, Inc.
3. *What's Cooking? The Increasing Regulation of Teflon® and Associated Chemicals*
Andrew Gregg, Miller Brooks Environmental
4. *Influence of Salinity on Partitioning and Transport Modeling for Polycyclic Aromatic Hydrocarbons in Estuarine Sediments*
Lei Hong, Bechtel National, Inc.
5. *Pilot and Model Results for NDMA Removal Using UV During Advanced Recycled Water Treatment*
Jon Loveland, McGuire Malcolm Pirnie
6. *The Occurrence, Fate, and Transport of 1,4-Dioxane at an Industrial Site in San Jose, California*
Sally McCraven, Todd Engineers
7. *Hydrogeologic Evaluation of a Plume of NDMA in California*
Brent Mooder, WorleyParsons Komex
8. *Use of HiPOx™ for Destruction of 1,4-Dioxane in Groundwater Extracted from a Superfund Site in the San Francisco Bay Area*
Keel Robinson, Applied Process Technology Inc.
9. *Groundwater Pollution by Pesticide Residues and Their Metabolites in a Tropical Area of North India*
Ashraf Seleem, Indian Institute of Technology

Student Paper Competition Poster Session

1. *Catalyzed Reduction of N-Nitrosodimethylamine in Water*
Matthew Davie, Stanford University
2. *Fast and Affordable Analytical Methods for 1,4-Dioxane and Tetrahydrofuran Analysis Using SPE*
Carl Isaacson, Oregon State University
3. *Implications for Perfluorochemical Ecotoxicology: Inhibition and Induction of an Efflux Transporter in the Marine Mussel, Mytilus Californianus*
Laura A. MacManus-Spencer, Stanford University
4. *Biodegradation of 1,4-Dioxane Under Aerobic Conditions*
Shaily Mahendra, University of California at Berkeley
5. *Inhibition of Microbial Activity by U(VI) and Implications for Field-Scale Bioremediation*
Jennifer Nyman, Stanford University
6. *Degradation of Polybrominated Diphenyl Ethers by Dehalococcoides species*
Kristin Robrock, University of California at Berkeley
7. *Removal of Perfluorooctane Sulfonate by Reverse Osmosis and Nanofiltration Membranes*
Chuyang Y. Tang, Stanford University
8. *TBD*
ASU