EPA SYMPOSIUM ON GROUND WATER-BORNE INFECTIOUS DISEASE EPIDEMIOLOGY, ETIOLOGIC AGENTS AND INDICATORS

January 26 and 27, 2010

at

The Carnegie Institute Of Washington

1530 P St. NW

Washington DC

Public Scientific Forum, All Are Welcome, Seating and Wi-Fi Available for 400

http://es.epa.gov/ncer/events/#jan0210

info and informal registration: Berger.philip@epa.gov

Tuesday, January 26th

Carnegie Institute of Washington Auditorium

1530 P St. NW

INTRODUCTION AND WELCOME	
8:30 – 8:35 a.m.	**Welcome**, Audrey Levine, US EPA Office of Research and Development
8:35 - 8:40 a.m.	**Introduction**, Pam Barr, US EPA Office of Water
VARIABLE TRANSPORT OF BIO-PARTICLES (ESPECIALLY *E. COLI*) IN THE SUBSURFACE	
8:40 - 9:10 a.m.	**New Filtration Theory for Predicting Retention of Cryptosporidium Oocysts and Other >2 Micron Particles in Porous Media Under Environmental Conditions**, Bill Johnson, University of Utah (30 minutes)
9:15 – 9:45 a.m.	***E. coli* Transport Variability among Twelve Isolates**, Carl Bolster, US Department of Agriculture, Bowling Green, Kentucky (30 minutes)
9:45 - 10:15 a.m.	***E. coli* Transport Variability among Fifty-four Isolates,** Jan Willlem Foppen, UNESCO-IHE, Delft, The Netherlands (30 minutes)
10:15 – 10:30 a.m.	BREAK (15 minutes)
10:30 – 11:00 a.m.	***E. coli* O157 Transport in Saturated Sand**, Scott Bradford, US Department of Agriculture, Riverside, California (30 minutes)
11:00 a.m. – 11:30 a.m.	**Subsurface Fate and Transport Modeling of *Cryptosporidium parvum*,** Tom Harter, University

	of California, Davis (30 minutes)
11:30 – 12:00 p.m.	**Laboratory Studies of Colloid and Virus Transport in Fractured Rock,** Pulin Mondal* and Brent Sleep, University of Toronto (30 minutes)

12:00 - 1:00 p.m.	LUNCH (on your own) (60 minutes)

GWUDI ISSUES: ESPECIALLY SURROGATES FOR CRYPTOSPORIDIUM OCCURRENCE IN WELLS	
1:00 – 1:15 p.m.	Discussion: Does variable E. coli transport result in significant increased uncertainty in the TC/EC monitoring barrier? (15 minutes)
1:15 – 1:45 p.m.	**Microscopic Particulate Analysis (MPA) of Sasketchewan wells (based on Method 1623),** Peter Wallis, Hyperion Research, Ltd., Medicine Hat, Alberta (30 minutes)
1:45 - 2:15 p.m.	**Aerobic Spores and MPA Comparison in Cedar Rapids and Sioux City, Iowa Wells**, Morteza Abbaszadegan, Arizona State University (30 minutes)
2:15 – 3:00 p.m.	***Cryptosporidium* Surrogate Transport at the Miami Dade Northwest Wellfield**, Bob Renken, US Geological Survey, Fort Lauderdale, Florida (45 minutes)
3:00 – 3:15 p.m.	**Break** (15 minutes)
3:15 – 3:30 p.m.	Discussion: Are aerobic spores a suitable complement to MPA for Cryptosporidium occurrence and/or removal? (15 minutes)
3:30 – 4:00 p.m.	***Cryptosporidium* Removal by Bank Filtration at the Grand River Wellfield, Kitchener-Waterloo, Ontario**, Monica Emelko, University of Waterloo (30 minutes)

4:00 – 4:30 p.m.	**Facility for the Simulation of Riverbank Filtration and Slow Sand Filtration – Examples of Virus Elimination in the Subsurface under Near-natural Conditions,** Sandra Klitzke, German Environmental Protection Agency (UBA) (30 minutes)
4:30 – 5:00 p.m.	Discussion: How to predict the effectiveness of *Cryptosporidium* removal by subsurface passage?
5:00 p.m.	Dinner (on your own) (End of First Day)

Wednesday, January 27th

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1530 P St. NW

GROUND WATER EPIDEMIOLOGY STUDIES	
8:30 – 9:00 a.m.	**The Sonoma Water Evaluation Trial: A Randomized Drinking Water Intervention Trial to Reduce GI Illness in Older Adults**, Joe Eisenberg, University of Michigan (30 minutes)
9:00 – 9:30 a.m.	***Cryptosporidium* Surrogate Transport at the Sonoma County Russian River Wellfield**, Dave Metge, US Geological Survey, Boulder, CO (30 minutes)
9:30 – 10:00 a.m.	**Association Between Self-Reported Diarrhoea and Indicators of Fecal Contamination (*E. coli* v. Enterococci) in Small, Rural Ground Water Supplies, France,** Paul Hunter, University of East Anglia, Norwich, England (30 minutes)
10:00 – 10:15	**BREAK** (15 minutes)
10:15 – 10:45	**Development of a protocol for identifying**

	groundwaters under the direct influence of surface water (GWUDI) in Quebec, Annie Locas, INRS-Institut Armand-Frappier (30 minutes)
10:45 – 11:30	**Plum Bottom Sinkhole and Log Den Norovirus Outbreak, Wisconsin**, E. Calvin Alexander, Jr., University of Minnesota (45 minutes)
11:30 – 12:00	**The Presence of Viruses in Sedimentary and Crystalline Rock Aquifers in Canada,** Kent Novakowski, Queens University, Kingston, Ontario (30 minutes)

12:00 – 1:00 p.m.	**LUNCH** (on your own) (60 minutes)

PATHOGEN AND INDICATOR OCCURRENCE AND TRANSPORT	
1:00 – 1:15 p.m.	Discussion: What do the epidemiology data tell us about GWUDI, karst or fractured bedrock (crystalline) aquifers?
1:15 – 2:00 p.m.	**Protection of Ground Water Supply Wells in The Netherlands,** Jack Schijven, RIVM The Netherlands (45 minutes)
2:00 - 2:30 p.m.	**Confined Animal Feeding Operations (CAFOs) as a Source of Ground Water Pathogens and Indicator Organisms**, Tom Harter, University of California, Davis (30 minutes)
2:30 – 3:00 p.m.	**Torque Teno Virus: A Potential Indicator of Enteric Viruses,** Jennifer Griffin* (JHU), Sharon Long (Wisconsin Hyg. Lab), Jeanine Plummer

	(Worcester Poly. Inst.) (30 minutes)
3:00 – 3:15	**Break** (15 minutes)
3:00 – 3:45 p.m.	**Indicator Transport in Alpine Karst Terrain,** Georg Reicher, Technical University, Vienna, Austria (45 minutes)
3:45 – 4:00 p.m.	Discussion on pathogen occurrence (e.g. Is *E. coli* a good pathogen indicator for ground water?)
	End of Symposium