



This meeting is a forum for communications between the Consortium academic community and the corporate sponsor community, research collaborators and "friends" of the Consortium who provide additional insights and links to relevant research in other parts of the world. It also provides opportunity for graduate students to acquire presentation experience in front of an audience with diverse experience and interests.

NOTE: Wireless internet access will be available in Rozanski Hall. Please do not leave valuables in cars in the parking lot.

Presenters Please Allot 3-5 Minutes of your Time Slot for Questions

Day 1: Monday June 13th Presentations in 103 Rozanski Hall, UG

7:30 - 8:15 **Registration (Rozanski Hall Registration Area); BREAKFAST served (Coffee, tea, juice, fruit, yogurt, croissants, danish, muffins etc.)**

8:15 - 8:25 B. Parker (UG) Welcome to the University of Guelph and G360

8:25 - 8:35 J. Cherry (UG) Consortium Overview: Past, Present, Future and This Meeting

Theme 1: High Resolution Methods Applied at an Old, Mixed Organic Chemicals Manufacturing Plant.

Moderator: John Cherry (UG)

8:35 - 8:40 Moderator Overview

8:40 - 8:55 S. Pitkin (Cascade) Application of advanced coring methods and profiling

8:55 - 9:05 S. Morgan (AECOM) Adaptation of the Piston Coring Method for Rotasonic Drilling

9:05 - 9:15 S. Morgan (AECOM) Evidence of Natural Recovery of Canal Sediments using High Resolution Sampling of Bulk Sediments and Diffusive Pore Water Samplers

9:15 - 9:30 S. Chapman (UG) Insights from High Resolution Multilevel Monitoring Systems Applied at an Old, Mixed Organic Chemicals Manufacturing Plant

9:30 - 9:45 B. Sherwood Lollar (UT) Insights from high resolution CSIA profiles: chlorinated aromatics and benzene

9:45 - 10:00 Discussion

10:00 - 10:20 BREAK- Coffee, tea, juice

Theme 2: Studies of a Toluene LNAPL Site with Phytoremediation

Moderator: K. Dunfield (UG)

10:20 - 10:30 Moderator Overview/Intro to project

10:30 - 10:50 J. Fernandes (UG) A hydrogeological conceptual model using the DFN approach at a toluene impacted shallow fractured Silurian dolostone site

10:50 - 11:05 R. Aravena (UW) Insights from Geochemistry and CSIA at a Toluene LNAPL Site

11:05 - 11:20 G. Martin (UG/Dow) In-Situ Deployment of "Button" Samplers for Organic Analyte Pore Water Analysis

11:20 - 11:30 A. Roebuck (UG) Assessment of Microbial Communities and Activity in Shallow Toluene-Contaminated Groundwater at a Fractured Bedrock Site

11:30 - 11:40 M. Ben-Israel (UG) Characterization of Microbial Communities Related to Rhizoremediation of Toluene in a Shallow Fractured Bedrock System

11:40 - 12:00 Discussion

12:00 - 1:00 GROUP LUNCH

Theme 3: From Field Data to Concepts to Numerical Models

Moderator: B. Parker (UG)

1:00 - 1:05 Moderator Overview

1:05 - 1:25 M. Einarson (H&A) The Site Assessment Manual Project

1:25 - 1:45 E. Frind (UW) Concepts of dispersion in granular aquifers: From field experiments to directional macrodispersion

1:45 - 2:00 F. Manna (UG) Estimating groundwater recharge in a fractured aquifer in a semi-arid region of southern California

2:00 - 2:20 D. Abbey (Matrix) DNAPL Site on Complex Geology: Representing the 3D Hydrogeologic Framework in a FEFLOW Numerical Model

2:20 - 2:40 Discussion

2:40 - 3:00 BREAK- Coffee, tea, juice, gourmet cookies

Theme 4: Probes for Measuring Flow and Fluxes

Moderator: R. Devlin

3:00 - 3:05 Moderator Overview

3:05 - 3:25 R. Devlin (KU) The Streambed PVP for Characterizing Groundwater-Stream water Interactions: Development, Laboratory and Field Testing

3:25 - 3:45 M. Newman (UFL) Advances in Characterization of Water and Contaminant Flux

3:45 - 4:00 Discussion

Theme 5: Compound Specific Isotope Analysis (CSIA)

Moderator: R. Aravena (UW)

4:00 - 4:05 Moderator Overview

4:05 - 4:20 D. Shea (SH) Compound Specific Isotope Analysis for Non-CSIA Experts

4:20 - 4:40 O. Shouakar-Stash (UW) Advancements in utilizing carbon and chlorine CSIA in investigating 1,2-Dichloroethane and Monochlorobenzene contaminants

4:40 - 5:00 P. Bennett (H&A) Extending the applicability of compound-specific isotope analysis to low concentrations of 1,4-dioxane

5:00 - 5:15 Discussion

END OF DAY 1

5:30 - 6:00 - Cash Bar @ Science Complex Building; UofG

6:00 - 8:30 - Group Dinner @ Science Complex Building; UofG

Day 2: Tuesday June 14th Presentations in 103 Rozanski Hall, UG

Consortium Business Meeting (By Invitation Only)

Room: Rozanski Room 109

7:30 - 8:00	BREAKFAST for Business Meeting (Coffee, tea, juice, fruit, yogurt, croissants, danish, muffins etc.)
8:00 - 9:30	Consortium Business Meeting Rozanski Hall Room 109 (For Principal Investigators and Corporate Representatives- Call in option available to remote participants.)

Day 2 Program Presentations Begin:

9:00 - 9:30	Coffee, tea, pastries, fruit	For those not attending the Business Meeting
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Theme 6: Microbial Investigations

Moderator: S. De Long (CSU)

9:30 - 9:35	Moderator Overview	
9:35 - 9:50	S.K. De Long (CSU)	Roles for Emerging Microbial Tools
9:50 - 10:05	M. Irianni-Renno (CSU)	Soil Solarization as a Means of Enhancing Natural Source Zone Attenuation of Hydrocarbon Impacted Subsurfaces
10:05 - 10:25	D. Freedman (UC)	Use of Novel Intact Rock Core Microcosms to Evaluate Natural and Enhanced Attenuation of TCE in Fractured Sandstone
10:25 - 10:40	S. Mahendra (UCLA)	Degradation of 1,4-Dioxane – State of Knowledge
10:40 - 10:55	Discussion	

Theme 7: Emerging and Recalcitrant Contaminants

Moderator: S. Mahendra (UCLA)

10:55 - 11:00	Moderator Overview	
11:00 - 11:15	S. Mahendra (UCLA)	Emerging Contaminants – Overview
11:15 - 11:30	J. Blotvogel (CSU)	Synergistic Treatment of Emerging Contaminants via Electrolytic Biostimulation
11:30 - 11:45	R. Johnson (OHSU)	Chemical Reactivity Probes for Abiotic Redox Processes
11:45 - 12:00	Discussion	

12:00 – 1:00 GROUP LUNCH

Theme 8: Gas Mobility and Fate

Moderator: J. Blotvogel (CSU)

1:00 - 1:05	Moderator Overview	
1:05 - 1:25	A. Cahill (UG)	Migration and Fate of Fugitive Methane: Overview of a Controlled Release Investigation
1:25 - 1:40	O. Forde (UBC)	Surficial Gas Emissions Associated with a Controlled Methane Injection in the Borden Aquifer, Ontario.
1:40 - 2:00	C. Steelman (UG)	Assessing the evolution of a controlled methane leak into an unconfined sandy aquifer using electrical resistivity and ground-penetrating radar
2:00 - 2:15	D. Klazinga (UW)	Modelling the distribution of a fugitive methane release in an unconfined aquifer
2:15 - 2:35	P. Jourabchi (UBC/Golder)	Ethanol-Blended Gasoline and Methane Fate in the Vadose Zone: Controlled Release Field Experiments and Numerical Model Simulations Using MIN3P-Dusty
2:35 - 2:50	Discussion	

2:50 - 3:10 BREAK-Assorted sweets and fresh fruit

Theme 9: Heat: Monitoring and Remediation

Moderator: T. Sale (CSU)

3:10 - 3:15	Moderator Overview	
3:15 - 3:35	C. Newell (GSI Environmental)	Internet-based thermal monitoring of petroleum sites
3:35 - 3:50	J. Munn (UG)	Thermal tracer testing using a fibre optic distributed temperature sensor (DTS) to identify hydraulically important porosity
3:50 - 4:00	Discussion	

Theme 10: Advances in Systems Understanding and Remediation

Moderator: P. Pehme (UG)

4:00 - 4:05	Moderator Overview	
4:05 - 4:25	T. Al (UO)	Permanganate Natural Oxidant Demand and Its Retarding Effect on Diffusion in Sandstone
4:25 - 4:45	K. Keating (Rutgers)	Nuclear Magnetic Resonance and Complex Resistivity Measurements for Pore Space and Hydraulic Properties Evaluation
4:45 - 5:00	P. Pehme (UG)	Temporary Deployment of Sensors: A Cost effective approach for assessing hydraulic conditions in a fractured bedrock borehole and planning multilevel systems
5:00 - 5:15	Discussion	

END OF DAY 2

5:30 - 6:00 - Cash Bar @ Science Complex Building; UofG
6:00 - 8:30 - Group Dinner @ Science Complex Building; UofG

Day 3: Wednesday, June 15th Presentations in 103 Rozanski Hall, UG

7:30 - 8:00 BREAKFAST BREAKFAST served (Coffee, tea, juice, fruit, yogurt, croissants, danish, muffins etc.)

Theme 11: Emerging Issues Groundwater Supply: Interface with Contamination and Water Resources

Moderator: T. Sale (CSU)

8:00 - 8:05 Moderator Overview

8:05 - 8:25	T. Sale (CSU)	Interface between water resource management and groundwater contamination issues: Colorado
8:25 - 8:40	A. Alqahtani (CSU)	Subsurface Water Storage Assessment Model
8:40 - 8:55	S. Duggan (McM)	Establishing an advanced groundwater resource monitoring station on the Oak Ridges Moraine
8:55 - 9:15	B. Parker (UG)	Co-Existence of Organic Contaminant Plumes with Municipal Water Supply Wells in Fractured Rock Aquifers
9:15 - 9:25	Discussion	

9:25 - 9:40 BREAK- Coffee, tea, juice

Theme 12: Technology and Software Advances

Moderator: B. Parker

9:40 - 9:45 Moderator Overview

9:45 - 10:00	Y. Gao (CSU)	Dynamic particle tracking using continuous water level data and analytical flow models
10:00 - 10:15	J. Kennel (UG)	Conceptual modeling of aquifers using analytical elements
10:15 - 10:30	M. Barbosa (USP)	Development of a Mobile Unit for Packer Testing (MUST) in Brazil for a fractured bedrock aquifer characterization: preliminary results
10:30 - 10:45	S. Kiaalhosseini (CSU)	Cryogenic Core Collection: Preserving the Key Attributes and Providing High-Resolution Data
10:45 - 11:05	C. Campbell (CSU)	Effects of capping material on longevity of degradable contaminants
11:05 - 11:20	Discussion	

Theme 13: A Multicomponent Mixed Chemical DNAPL Site on Complex Geology

Moderator: B. Parker

11:20 - 11:25 Moderator Overview

11:25 - 11:40	R. O'Neill (Brown and Caldwell)	Iterative Site Conceptual Model Development for DNAPL Impacts in a Highly Deformed Rock Unit: From Field Sketches to 3D Visualization
11:40 - 11:55	A. Buckley (UG)	Characterizing a DNAPL Source Zone in Bedrock using COREDFN along a transect
11:55 - 12:10	T. Harvey (UG)	Hydrogeological Characterization of Complex Quaternary Ice Marginal Sediments at a Contaminated Site in South Central Wisconsin
12:10 - 12:25	L. Ribeiro (UG)	Constraining a 3-D Discrete Fracture Network Static Model for a Contaminated Sandstone Site: an integrated Outcrop and Borehole study
12:25 - 12:30	Discussion	

12:30 - 1:00 LUNCH

END OF MEETING

Abbreviations:

CSU	Colorado State University
UW	University of Waterloo
UG	University of Guelph
UO	University of Ottawa
KU	University of Kansas
UT	University of Toronto
UBC	University of British Columbia
UCLA	University of California, Los Angeles
UFL	University of Florida
McM	McMaster
SH	Sanborn Head
UC	Clemson University
OHSU	Oregon Health & Science University
H&A	Haley Aldrich
USP	University of São Paulo