

2016 Fourth Aquatic Toxicology Symposium Program

Location: Bar Harbor, Maine

Organizing Committee

Bill Adams (Chair)

Kevin Brix

Emily Garman

Dave Mount

Eric Van Genderen

Tuesday June 7, 2016

Participants Arrive

6:30 – Hosted Bar

7:30 – Dinner at Hotel

9:00 - Social

Wednesday June 8, 2016

8:00 – Bill Adams – Welcome

Session 1 – Integrating Lab and Field Data for Risk Assessment and Setting Environmental Standards

8:15-8:50 Valery Forbes – Predictive models to link chemical impacts from molecules to ecosystems (and everything in between)

8:50-9:25 Michelle Hornberger – The biodynamic model as a predictive tool: integrating laboratory and field investigations.

9:25-10:00 – Break

10:00-10:35 Ross Smith – Predicting field responses: some thoughts from case studies mostly east of Wallace's line

10:35-11:10 Greg Pyle – Integrating lab and field with chemosensory function and behavior in aquatic animals.

11:10-11:45 Nic Bury - Is your jar an ocean: How relevant are laboratory toxicity experiments to ecosystem health?

12:00-1:00 – Lunch

Session 2 - Evaluating the Importance of Oxy-hydroxides in Controlling Bioavailability of Metals in Sediments

1:00-1:45 Allen Burton – Iron oxides are key to bioavailability of metals in freshwater sediments.

1:45-2:30 Anthony Chappaz – Speciation and early diagenesis of redox sensitive trace metals within sedimentary records.

2:30-3:00 - Break

3:00-3:45 Kevin Farley – Effects of oxidation on metal bioavailability in sediments: a modeling perspective.

3:45-4:30 Rich Carbonaro – Effect of redox on speciation and bioavailability of oxyanions in sediments.

6:30 – Dinner at Hotel

8:00 – Poster Session with Hosted Bar

Poster Session

Joe Meyer – Chronic toxicity of a high-TDS effluent to *Ceriodaphnia dubia*: TDS, conductivity, ion concentrations, or ion ratios?

Adam Ryan - Data Minecraft: Exploring existing data to answer relevant BLM and WQC questions.

Ben Chen – Metal (Zn, Pb, Cd) binding properties of Amazonian dissolved organic matter compared to organic matter from temperate regions.

Bob Santore – Software demonstration of the chronic Biotic Ligand Model

Chris Wood – Physiological perspectives on multiple ion toxicity

David Soucek – Exploring drivers of acute major ion toxicity to the mayfly *Neocloeon triangulifer*.

Chris Schlekot – Expanding the functionality and boundary conditions of nickel bioavailability models.

Sara Nedrich – Biogeochemical effects of water level fluctuations on vanadium speciation and metal toxicity to *Hyalella azteca* and *Daphnia magna*.

Sara Nedrich – Indirect effects of climate change on zinc cycling in sediments: the role of changing water levels.

Anne Cremazy – Investigating copper toxicity in the tropical fish cardinal tetra (*Paracheirodon axelrodi*) in natural Amazonian waters with different DOC.

Paul Paquin – Evaluating the potential for major ion toxicity to aquatic organisms.

Brian Wolff – Effects of metals contamination on stream microbial communities: implications for biogeochemical processing and trophic interactions.

Stephan Holhowskyj – Measuring thiometallate speciation across redox gradients in water and porewater.

Russ Erickson – Toxicity of major geochemical ions to freshwater species.

Thursday June 9, 2016

8:00 – Bill Adams – Announcements, Recap

Session 3 - Metal Risk Assessment Paradigms in Tropical Systems

8:15 – 9:00 Jenny Stauber – Metals risk assessment in tropical systems: current nickel research and future challenges.

9:00 – 9:45 Scott Smith – Metal binding to dissolved organic matter (DOM) in tropical and temperate systems: influence of temperature and DOM quality.

9:45 – 10:15 Break

10:15-11:00 Andrew Harford – Monsoons and crocodiles! The challenges of metals risk assessment in the tropics.

11:00-11:45 Kevin Brix – A warmer, more acidic world: potential effects of climate change on metal toxicity in aquatic systems

12:00-1:00 – Lunch

Session 4 - Advancement of Environmental Benchmarks for Aquatic Effects of Major Ions

1:00-1:45 Will Clements – Integrating laboratory and mesocosm experiments to evaluate ecological benchmarks for major ions in stream ecosystems.

1:45-2:30 Chris Nietch – Parallel single-species and stream mesocosm exposures for grading major ion effects in doses mimicking energy extraction produced waters.

2:30-3:00 – Break

3:00-3:45 Charlie Delos – Challenges of developing major ion toxicity models into regulatory approaches.

3:45-4:30 Dave Mount – Thoughts, issues, and priorities for advancing our understanding of major ion effects in fresh water.

7:00 – Dinner - Offsite