Annual ERSD PI Meeting Agenda
Warrenton, VA
April 3-5, 2006

Objective: To provide an annual update of research results, discuss significant research issues, and identify opportunities to interact with other research efforts and make use of new capabilities.

Sunday April 2, 2006

All day Arrival of ERSD PIs, Co-PIs, ERSD program staff and guest speakers.

Monday April 3, 2006

7:00 AM	**Breakfast** (*all meals served at the Airlie Center*)
8:00 AM	Welcome and Opening Remarks (Paul Bayer, ERSD Program Manager)
8:10 AM	BER Programs (David Thomassen, Acting Director, BER)
8:20 AM	Environmental Remediation Sciences Division (ERSD) Update (Mike Kuperberg, Acting Director, ERSD/BER)
	Biomolecular Studies of Metal/Radionuclide Reduction
8:45 AM	Enzyme Design for Cr(VI) and U(VI) Reduction (A.C. Matin, Stanford University)
9:10 AM	Membrane Proteome of *Shewanella oneidensis* MR-1 (Carol Giometti, ANL)
9:35 AM	Biomolecular Mechanisms of Metal/Radionuclide Transformations in *Anaeromyxobacter dehalogenans* (Alex Beliaev, PNNL)
10:00 AM	Genes Involved in Microbial Survival in Aquifer Sediments (Lee Krumholz, University of Oklahoma)
10:25 AM	**Break**
	Latest Findings from Microbial Community Dynamics Studies
10:40 AM	Natural Gene Transfer to Develop Resistance to Metal Toxicity in Bacterial Strains and Communities (Jeffrey Fitts, BNL)
11:05 AM	Adaptation of Subsurface Microbial Communities to Mercury (Soren Sorenson, University of Copenhagen)
11:30 AM	Community Structure in Contaminated Habitats: The Dynamic Tension between Selective Forces and Environmental Heterogeneity (Alan Konopka, Purdue University)
11:55 AM	Uranium Immobilization through Microbial Phosphatases (Patricia Sobecky, Georgia Tech)
12:20 PM	**Lunch**
2:00 PM	Introduction of the Genomics: GTL Roadmap (Roland Hirsch, BER)
2:10 PM	Overview of NRC Review of the Genomics: GTL Roadmap (Jennie Hunter-Cevera, University of Maryland Biotechnology Institute)
2:40 PM	**Breakout Sessions**
	1) Genomics: GTL Roadmap: Overview and Opportunities (Roland Hirsch, BER and Jim Fredrickson, PNNL)
	2) Coupling Physical, Chemical and Biological Processes (Scott Fendorf, Stanford, George Redden, INL and Carl Steefel, LBNL)

5:00 PM **Dinner**
6:30 PM **Poster Session**
Microbial Ecology, Integrative Studies, Students
9:00 PM **Adjourn**

Tuesday April 4, 2006

7:00 AM **Breakfast**
8:00 AM Announcements and Other Logistics (Paul Bayer, ERSD)
Reduction of Metals/Radionuclides
8:10 AM Influence of Geochemistry and Microbial Community Structure on Metal Reduction Rates (Anthony Palumbo, ORNL)
8:35 AM Influence of Mass Transfer on U(VI) Reduction (Chongxuan Liu, PNNL)
9:00 AM Stimulating the Microbial Reduction of Chromium (Terry Hazen, LBNL)
9:25 AM Aqueous Complexation Reactions and Biogeochemical U(VI) Reduction (Scott Brooks, ORNL)
9:50 AM **Break**
10:05 AM Transformation of U(VI) Under Iron Reducing Conditions (Edward O'Loughlin, ANL)
10:30 AM Chromate Bioremediation: Formation and Fate of Organo-Cr(III) Complexes (Luying Xun, Washington State University)
Grand Challenge in Biogeochemistry
10:55 AM Overview of the Biogeochemistry Grand Challenge at the Environmental Molecular Sciences Laboratory (Jim Fredrickson, PNNL)
11:20 AM Mechanisms of Bacterial Metal Reduction (Tom DiChristina, Georgia Tech)
11:45 AM Electron Transfer at Mineral Surfaces (Kevin Rosso, PNNL)
12:10 PM **Lunch**
2:15 PM **Breakout Sessions**
1) Relating –Omic Approaches to Other Field Data (Jizhong Zhou, University of Oklahoma and Matthew Fields, Miami of Ohio)
2) Identifying New Science Opportunities in Biogeochemistry for DOE Sites (John Zachara, PNNL and Eric Roden, University of Wisconsin)
5:00 PM **Dinner**
6:30 PM **Poster Session**
Biogeochemistry/Biotransformation, Biomolecular Sciences
9:00 PM **Adjourn**

Wednesday April 5, 2006

7:00 AM **Breakfast**
8:00 AM Announcements and Other Logistics (Paul Bayer, ERSD)
Reduction and other (Bio)Geochemical Processes
8:10 AM Uranium Reduction by *Clostridia* (A.J. Francis, BNL)
8:35 AM Behavior of Sorbed ^{90}Sr in Contaminated Subsurface Sediments (John Zachara, PNNL)

9:00 AM	Heterogeneity Impacts on Contaminant and Microbial Dynamics (Scott Fendorf, Stanford University)
9:25 AM	Reductive Immobilization of Metals by H_2S Treatment (Baolin Deng, University of Missouri)
9:50 AM	Use of Isotopic Tracers at the Hanford Site (Don DePaolo, LBNL)
10:15 AM	**Break**
	Coupled Physical, Chemical and Biological Processes
10:30 AM	The Biogeochemistry of Pu Mobilization and Retention (Bruce Honeyman, CSM)
10:55 AM	Upscaling Coupled Pore-Scale Reactive Transport Processes to the Continuum Scale (Peter Lichtner, LANL)
11:20 AM	Coupled Flow and Reactivity in Variably Saturated Porous Media (Carl Palmer, INL)
11:45 PM	Breakout Session Summary Presentations (Breakout group leads)
12:30 PM	**Adjourn & Lunch**
1:30 PM	UMTRA Group Meeting
5:00 PM	**All meetings adjourn**