



**Visit of Wageningen University Graduate groups in Microbiology and Systems Biology  
Berkeley Lab, CA, May 12<sup>th</sup> 2015**

Time	Title	Presenter	Institute
8.30	Arrive and coffee/snacks		
8.50	Welcome & Logistics	Eoin Brodie & Neslihan Tas	Berkeley Lab
9.05	Introduction to Wageningen UR	Detmer Sipkema	Wageningen UR
9.20	Modeling Algal Interactions	Maarten Reijnders	Wageningen UR
9.40	Identifying metabolic processes underlying patterns of rhizosphere microbial succession and organic matter priming	Kateryna Zhalnina	Berkeley Lab/UC Berkeley
10.00	Semi-automatic generation of consensus genome-scale constraint-based metabolic models	Ruben van Heck	Wageningen UR
10.20	Trait based approach to modeling microbial processes	Yiwei Cheng	Berkeley Lab
10.40	Chemolithoautotrophy in the subsurface	Talia Jewell	Berkeley Lab
11.00	Break		
11.20	Intestinal microbiota development and activity in preterm infants	Romy Zwiittink	Wageningen UR
11.40	Microbe-metazoan interactions	Abelardo Arellano	Berkeley Lab
12.00	Development of a universal high-throughput selection and screening system for obtaining novel biocatalysts	Teunke van Rossum	Wageningen UR
12.20	Endophytic N-fixation in Switchgrass and Tobacco	Marcus Schicklberger	Berkeley Lab
12.40	Group Photo		
12.50	Lunch and discussions		
14.20	Functional (meta)genomics of organohalide respiring Firmicutes	Yue Lu	Wageningen UR
14.40	Infrared Imaging for Life Sciences	Liang Chen	Berkeley Lab
15.00	Semantic Annotation Platform for Prokaryotes	Jasper Koehorst, Jesse van Dam	Wageningen UR
15.20	Detection of environmental contaminants with machine-learning based sequence analysis	Eric Dubinsky	Berkeley Lab
15.40	Break		
16.00	Molecular Foundry Tour	TBD	
17.00	Depart		
	Optional meet for food and drinks in downtown Berkeley		

## Berkeley Lab Ecology Department PIs Represented.

**Gary Andersen** is Ecology Department head and a senior staff scientist in the Earth Sciences Division at Berkeley Lab. His research focus is in the area of microbial ecology and includes the examination of phylogenetic diversity in natural environments. His laboratory uses molecular approaches to study the dynamics of microbial community structure under changing environmental conditions. This includes the development of new techniques to dissect the microbial diversity of complex ecosystems. The long-term goal of this research is to integrate different fields of biology (i.e., genomics, ecology, molecular biology, proteomics and bioinformatics) to provide insight into the interactions of environmental microorganisms under stressful conditions. His current research focuses on the remediation of oil spills, limiting sulfate reduction in oil reservoirs, tracking sources of fecal pollution in marine and freshwater systems and using thermophilic composting to reduce the impact of wastes on watersheds and to improve land use productivity. His laboratory has developed the 16S rRNA Greengenes database and the PhyloChip, for the measurement of microbial diversity and the identification of bacterial communities by 16S rRNA gene sequences.

**Harry Beller** is a microbiologist who serves as a Senior Scientist at Lawrence Berkeley National Laboratory (LBNL), a Director of Biofuels Pathways in DOE's Joint BioEnergy Institute (JBEI), and an Adjunct Professor in the Department of Chemical Engineering and Applied Chemistry at the University of Toronto. His research has covered a range of disciplines and topics, including the physiology and biochemistry of anaerobic bacteria (e.g., those catalyzing anaerobic hydrocarbon degradation via benzylsuccinate synthase and the redox cycling of uranium and iron), design and engineering of novel biofuel pathways, and development of mass spectrometric and biomolecular techniques to document in situ metabolism. He earned a Ph.D. and was a postdoctoral scholar in the Civil & Environmental Engineering Department at Stanford University.

**Nicholas Bouskill** is a research scientist in the Earth Sciences Division at Berkeley Lab and is an environmental microbiologist broadly interested in the interaction between microbial communities and biogeochemical cycling. He has a particular interest in the nitrogen cycle (a true biological cycle) and how it interacts with the carbon and phosphorus cycles.

**Eoin Brodie** is a Staff Scientist in the Ecology Department of the Earth Sciences Division of Lawrence Berkeley National Lab and an Adjunct Assistant Professor at the University of California, Berkeley in the Department of Environmental Science, Policy and Management. He obtained his Ph.D. from University College Dublin in Ireland and joined LBNL following postdoctoral research at UC Berkeley. He co-leads the Earth Sciences Division Environmental & Biological System Sciences program area and is science lead for the Microbes-to-Biomes lab initiative. His research focuses on the feedbacks between microbial communities and their environment with a goal towards developing a predictive understanding of how biogeochemical cycles are regulated and how human health is impacted. The general approach can be considered 'reverse engineering', that is deconstructing naturally occurring microbial communities with desired properties to identify the functional roles of specific microorganisms, key inter-species interactions and critical environmental or host factors that influence the assembly and maintenance of these populations.

**Romy Chakraborty** received her PhD from the University of California, Berkeley in Microbiology and is a Research Scientist in the Ecology Department of the Earth Sciences Division. Her background is in anaerobic microbial physiology and microbial ecology. Her lab is interested in: Identification of novel microbes and microbial function; Effect of Climate change on rhizosphere; Plant-microbe interactions; Ecosystems and Networks Integrated with Genes and Molecular Assemblies in environmental microorganisms; Microbial Enhanced Oil Recovery; Bioremediation of oil and other contaminants.

**Hoi-Ying Holman** is Director of the Berkeley Synchrotron Infrared Structural Biology program, and a senior staff scientist in the Earth Sciences Division. Her group uses and develops advanced synchrotron infrared spectroscopic methods to study complex microbial cycling of elements such as bioremediation and plant cell-wall deconstruction and carbon sequestration. Recently she was awarded the R&D100 award for the development of the Berkeley Multiplex Chemotyping Microarray.

**Javier Ceja-Navarro** is a scientist in the Ecology Department of the Earth Sciences Division at Berkeley Lab. He is interested in using multidisciplinary approaches to achieve a profound understanding of complex ecological systems. His research interests include the characterization of microbial systems from different environments, such as soil and insects, and the understanding of their interactions in metabolic processes.

**Neslihan Tas** is a scientist in the Ecology Department of the Earth Sciences Division at Berkeley Lab. She obtained her Ph.D. on microbial ecology from Wageningen University and continued her postdoctoral research at Vrije Universiteit Amsterdam and LBNL. Her research focuses on understanding impact of climate change on soil biogeochemical cycles via studying microbial community functions and metabolism. She directs the permafrost microbiology component of the multi-institutional NGEE Arctic project.