

15th Annual International Conference on Microbial Genomics
PROGRAM
(updated 9/12/07)

SUNDAY SEPTEMBER 16, 2007

5:00 - 7:00 PM **REGISTRATION/RECEPTION**

MONDAY SEPTEMBER 17, 2007

7:45 - 8:30 AM **REGISTRATION/BREAKFAST**

SESSION 1 REGULATION OF GENOMES, BIOENERGY

Session Chair: Fred Blattner

8:45 - 9:00 AM **Introduction/Announcements**
Program Organizer: Fred Blattner, University of Wisconsin

9:00 - 9:30 AM **Jeffrey H. Miller**
University of California, Los Angeles CA
Using Genomics to Study Susceptibility and Resistance to Mutagens and Antibiotics in Bacteria

9:30 - 10:00 AM **Susan Gottesman**
NIH/NCI, Bethesda MD
Small RNAs in E. coli regulatory networks: Have we found them all?

10:00 - 10:30 AM **Aseem Ansari**
University of Wisconsin, Madison WI
Using drugs to annotate 'promoters' across microbial genomes

10:30 - 10:45 AM **BREAK**

10:45 - 11:15 AM **Athanasios Typas**
University of California, San Francisco CA
Developing large-scale phenotypic analyses and global quantitative genetic interaction maps for E. coli

11:15 - 11:45 AM **Marvin Whiteley**
University of Texas, Austin TX
Revisiting the host as a growth medium

11:45 - 12:15 PM **Gregory Stephanopoulos**
MIT, Cambridge MA
Using Transcriptional Engineering to elicit new multigenic cellular phenotypes

12:30 - 01:30 PM **LUNCH**

SESSION 2 MODELING RESOURCES AND SYSTEMS BIOLOGY

Session Chair: Jeffrey H. Miller

1:45 - 2:15 PM **Adam Arkin**
University of California, Berkeley CA

- 2:15 - 2:45 PM **Costas Maranas**
Penn State University, University Park PA
Optimization driven refinement of genome-scale metabolic models
- 2:45 - 3:15 PM **Jennie Reed**
University of Wisconsin, Madison WI
Development and Applications of Genome-Scale Metabolic Models
- 3:15 - 3:45 PM **Stephen Payne and Veena Venkatachalam**
MIT, Cambridge MA
Eau d'E. coli
- 3:45 - 4:15 PM **Tiffany Williams**
Baylor College of Medicine, Houston, TX
Exploring microbes through their genomes past present and future
- 4:15 - 6:15 PM **POSTERS/SPONSORS/INFORMAL RECEPTION**
- 6:15 - 7:30 PM **DINNER**

TUESDAY SEPTEMBER 18, 2007

7:45 - 8:30 AM **REGISTRATION/BREAKFAST**

SESSION 3 PATHWAY ENGINEERING AND SYNTHETIC BIOLOGY, BIOENERGY
Session Chair: Tricia Kiley

- 8:30 - 9:00 AM **Mark Goulian**
University of Pennsylvania, Philadelphia PA
Maintaining signal strength and fidelity in two-component signaling
- 9:00 - 9:30 AM **Peter Carr**
MIT, Cambridge MA
Whole Genome Engineering and the Construction of New Genetic Codes
- 9:30 - 10:00 AM **Brian Kay**
University of Illinois, Chicago IL
Phage-displayed Affinity Reagents for Proteomics and Structural Biology
- 10:00 - 10:30 AM **George Bennett**
Rice University, Houston TX
Genetics and Biotechnology of Clostridium acetobutylicum
- 10:30 - 10:45 AM **BREAK**
- 10:45 - 11:15 AM **Anthony Burgard**
Genomatica Inc., San Diego CA
The genome-based design, engineering, and evolution of microbial biocatalysts
- 11:15-11:45 AM **Clyde Hutchison**
J. Craig Venter Institute, Rockville MD
The quest for a minimal cell: a synthetic genomics approach

11:45 - 12:15 PM

Robert LaRossa

USA DuPont

Uncovering the Unusual Metabolic Logic of Zymomonas mobilis, An Ethanol Producing Microbe, by Application of Amino Acid-Centric Genomic and Genetic Approaches

12:30 - 1:30 PM

LUNCH

SESSION 4

MODELING RESOURCES AND SYSTEMS BIOLOGY, BIOENERGY

Session Chair: Jizhong Zhou

1:45 - 2:15 PM

Tim Donohue

University of Wisconsin, Madison WI

Shedding light on microbial energy conservation & stress responses

2:15 - 2:45 PM

Mustafa Khammash

University of California, Santa Barbara CA

Reverse Engineering the Architecture of Biological Networks: A Control Theory Framework

2:45 - 3:15 PM

Shelley Haveman

University of Massachusetts, Amherst MA

Adaptive Evolution of Geobacter for Enhanced Electricity Production and Bioremediation

3:15 - 3:45 PM

George Church

Harvard Medical School, Boston MA

Reading, writing, and evolving of microbial genomes

3:45 - 4:15 PM

Michelle Chang

University of California, Berkeley CA

Engineering E. coli for production of an effective anti-malarial drug

4:15 - 5:45 PM

POSTERS/SPONSORS/INFORMAL RECEPTION

5:45 - 7:45 PM

KEYNOTE DINNER

Claire Fraser-Liggett

Institute of Genome Sciences, University of Maryland, Baltimore MD

Understanding our Microbial Selves through the Science of Metagenomics

WEDNESDAY SEPTEMBER 19, 2007

7:45 - 8:30 AM

REGISTRATION/BREAKFAST

SESSION 5

COMMUNITY BIOLOGY/METAGENOMICS AND PATHOGENESIS

Session Chair: Brian Kay

8:30 - 9:00 AM

Debashish Bhattacharya

University of Iowa, Iowa City IA

Using comparative genomics to unravel the tangled evolutionary history of photosynthesis in microbial eukaryotes

9:00 - 9:30 AM

Forest Rohwer

San Diego State University, San Diego CA

What have we learned from 100+ metagenomes?

9:30 - 10:00 AM

Jeff Dangl

University of North Carolina, Chapel Hill, NC

Comparative genomics to understand the interaction of Pseudomonas syringae with plants

10:00 - 10:30 AM **Sarah Highlander**
Baylor College of Medicine, Houston TX
Subtle genetic changes enhance virulence of methicillin resistant and sensitive Staphylococcus aureus strains

10:30 - 10:45 AM **BREAK**

10:45 - 11:15 AM **Joe Zhou**
University of Oklahoma, Norman OK
GeoChip: A comprehensive microarray for investigating biogeochemical, ecological, and environmental processes

11:15 - 11:45 AM **Najib El-Sayed**
University of Maryland, College Park MD
Comparative genomics of trypanosomatids and functional characterization of a novel surface protein gene family in Trypanosoma cruzi

11:45 - 12:15 PM **Steven Salzberg**
University of Maryland, College Park MD
Tracking recent influenza virus evolution through large scale sequencing

12:30 - 1:30 PM **LUNCH**

SESSION 6 **STRUCTURAL GENOMICS/BIOLOGY**
Session Chair: Sankar Adhya

1:45 - 2:15 PM **George Rose**
John Hopkins University, Baltimore MD
Protein Folding - inverting the paradigm

2:15 - 2:45 PM **Frederick Blattner**
University of Wisconsin, Madison WI
From genomes to designed genomes: E. coli and the Genome Reduction Challenge

2:45 - 3:15 PM **Stuart Austin**
NCI-Frederick, Frederick MD
The Dynamics of Escherichia coli Chromosome Segregation

3:15 - 3:45 PM **Matthew Hemm**
NIH, Bethesda MD
Identification and Characterization of Small Proteins in Escherichia coli

3:45 - 4:15 PM **Peter Karp**
SRI International, Menlo Park CA
Modeling Biological Regulation in EcoCyc and Pathway Tools

4:15 - 4:45 PM **Tania Lima**
Swiss Institute of Bioinformatics, Geneva Switzerland
Annotation of microbial proteins in UniProtKB/Swiss-Prot

4:45 - 5:45 PM **POSTERS/SPONSORS/INFORMAL RECEPTION**

5:45 - 7:30 PM **DINNER**

THURSDAY

SEPTEMBER 20, 2007

7:45 - 8:30 AM

REGISTRATION/BREAKFAST

SESSION 7

STRUCTURAL GENOMICS/BIOLOGY, EVOLUTION & COMPARATIVE GENOMICS

Session Chair: TBD

8:30 - 9:00 AM

Steve Busby

University of Birmingham, Birmingham UK

Transcriptional regulation in E. coli - the big picture

9:00 - 9:30 AM

Ding Jin

NCI-Frederick, Frederick MD

The distribution of RNA polymerase, global gene expression and the dynamic structure of the bacterial nucleoid are coupled in Escherichia coli

9:30 - 10:00 AM

Richard Lenski

Michigan State University, East Lansing MI

Phenotypic and genomic evolution during a long-term experiment with E. coli

10:00 - 10:30 AM

Steve Giovannoni

Oregon State University, Corvallis OR

Genome streamlining in marine bacterioplankton: why some and not others?

10:30 - 10:45 AM

BREAK

10:45 - 11:15 AM

Byung-Kwan Cho

University of California, San Diego CA

Reconstruction of the genome-scale transcriptional regulatory network in E. coli

11:15 - 11:45 AM

Mark Eppinger

Institute of Genome Sciences, University of Maryland, Baltimore MD

Common and Unique Traits in the Evolutionary History of Yersinia pestis and Yersinia pseudotuberculosis

11:45 - 12:00 PM

CLOSING REMARKS