

Program at a Glance

Sunday, June 24, 2007

Workshops

09:00 - 10:30	D2	Tutorial 1: Yeast for Synthetic Biology Stefan Hohmann, Göteborg University
	D8	Tutorial 2: Mathematical Models for SB Diego di Bernardo, TIGEM & Jörg Stelling, ETH Zurich
10:45 - 12:15	D2	Tutorial 3: Microfluidics Nicolas Szita, UCL
	J3	Tutorial 4: iGEM and the MIT Registry Randy Rettberg, MIT

08:00 - 13:00	Foyer	Registration
13:00 - 13:05	G3	Welcome Sven Panke, ETH Zurich

Keynote 1

13:05 - 13:55	G3	Reading, Writing and Evolving Genomes George Church, Harvard Medical School
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Design of Parts, Devices and Systems

13:55 - 14:20	G3	I. CoLi Team Project iGEM Imperial
14:20 - 14:45	G3	Synthetic Ecosystems based on Airborne Inter- and Intra-Kingdom Communication Wilfried Weber, ETH Zurich
14:45 - 15:25	Foyer	Coffee
15:25 - 16:00	G3	Evolvability and Hierarchy in Rewired Bacterial Gene Networks Luis Serrano, CRG
16:00 - 16:25	G3	Exploiting a Scaffold Protein as a Platform to Generate Diverse I/O Dynamics in a MAP Kinase Pathway Caleb J. Bashor, University of California, San Francisco
16:25 - 16:50	G3	The Semi-Synthetic 'Minimal Cell' : a Model for Early Living Cells Giovanni Murtas, University of RomaTre
16:50 - 17:25	Foyer	Coffee
17:25 - 18:00	G3	Designing Biological Memory and Logic Pam Silver, Harvard Medical School

18:00 – 18:25	G3	Engineered Human Cells: Say No to Sepsis iGEM Ljubljana
18:25 – 18:50	G3	Towards Large-scale Integrated Nucleic Acid Logic Circuits Georg Seelig, Caltech
19:00 – 22:00	Foyer	Poster Session 1 and Reception

Monday, June 25, 2007

Keynote 2

08:00 – 08:50	G3	The Quest for a Minimal Cell: a Synthetic Genomics Approach Ham Smith, The J Craig Venter Institute
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Concepts for Fabrication

08:50 – 09:25	G3	Reconstructing the genome from hundred pieces: Deinococcus radiodurans Miroslav Radman
09:25 – 09:50	G3	Microbial Genome Reconstruction by Iterative Clone Recombination Rene Warren, BC Cancer Agency
09:50 – 10:15	G3	Microfluidic Gene Synthesis David S Kong, MIT
10:15 – 10:45	Foyer	Coffee

Parallel Session: Biosafety and Biosecurity, Public Perception

10:45 – 11:00	G3	Framing the Safety and Security Aspects of Synthetic Biology Markus Schmidt, IDC Vienna
11:00 – 11:15	G3	Synthetic Genomics: Biosafety, Biosecurity, and Governance Michelle Garfinkel, The J Craig Venter Institute
11:15 – 11:30	G3	Riding a Roller-Coaster: Policy, Public and Science Interactions in Synthetic Biology Joyce Tait, University of Edinburgh
11:30 – 11:45	G3	Biosecurity Implications of DNA Synthesis and Synthetic Biology Gautam Mukunda, Boston University
11:45 – 11:55	G3	Synthetic Biology and Biosafety: Insight into Control Mechanisms on Worldwide Distribution of Synthetic DNA from an Industrial Perspective Ralf Wagner, Geneart AG
11:55 – 12:10	G3	Open Discussion
12:10 – 13:30	Cafeteria	Lunch

Parallel Session: Intellectual Property Rights at the Industry/Academy Interface

- 10:45 – 11:10 G7 **On the Economics of Synthetic Biology: Is Openness Feasible?**
Joachim Henkel, Technical University Munich
- 11:10 – 11:35 G7 **A novel biosynthetic process concept for advanced β -lactam antibiotics**
Roel Bovenberg, Royal DSM
- 11:35 – 12:00 G7 **The BP Deal - A Policy Analysis**
Steven Maurer, University of California at Berkeley

Concepts for Fabrication

- 13:30 – 14:05 G3 **Evolution & Synthesis of New Cellular Function: Ribosome Engineering**
Jason Chin, MRC Lab, Cambridge
- 14:05 – 14:40 G3 **Can We Design De Novo a Bacterial Genome?**
Antoine Danchin, Institut Pasteur
- 14:40 – 15:05 G3 **Programming Bacteria and Communities for Environmental Release**
Victor de Lorenzo, CSIC
- 15:05 – 15:35 Foyer **Coffee**

Concepts for Design

- 15:35 – 16:10 G3 **What is to be done?**
Marvin Cassmann, University of California, San Francisco
- 16:10 – 16:45 G3 **Stability and Instability in Complex Reaction Networks: The Big Picture**
Martin Feinberg, The Ohio State University
- 16:45 – 17:10 G3 **Synthesizing Stochasticity in Biochemical Systems**
Marc Riedel, University of Minnesota
- 17:10 – 17:40 G3 **Coffee**

Parallel Session: Synthetic Biology and Ethics

- 17:40 – 17:55 G3 **Debating the Ethics of Synthetic Biology: Transcending the Current Impasse**
Nikola Biller-Andorno, University of Zurich
- 17:55 – 18:10 G3 **Hide and Seek: The Ethics of Curiosity and Security in Synthetic Biology**
Laurie Zoloth, Northwestern University
- 18:10 – 18:30 G3 **Panel replies**
- 18:30 – 19:00 G3 **Discussion**

Parallel Session: Community Session

- 17:40 – 17:45 G7 **Introduction**
- 17:45 – 18:05 G7 **iGEM - The International Genetically Engineered Machine Competition**
Randy Rettberg, MIT
- 18:05 – 18:25 G7 **Synthetic Biology Engineering Research Center (SynBERC)**
Drew Endy, MIT

18:25 – 18:40	G7	EMERGENCE: a Foundation for Synthetic Biology in Europe Jörg Stelling, ETH Zürich
18:40 – 18:50		Towards a European Strategy for Synthetic Biology: The TESSY Project Sybille Gaisser, Fraunhofer Institute for Systems and Innovation Research
19:00 – 22:00	Foyer	Poster Session 2 and Reception

Tuesday, June 26, 2007

Applications 1: Chemistry

08:15 – 08:50	G3	Ribozyme Catalysis and Metabolism in the RNA World Michael Famulok, University of Bonn
08:50 – 09:25	G3	Metabolic Engineering: Engineering Microbes for Production of Biochemical Products Gregory Stephanopoulos, MIT
09:25 – 09:50	G3	Sense Codon Reassignment as Means of Synthesizing Safe Genetically Engineered Microorganism Volker Döring, Isthmus
09:50 – 10:15	G3	From Metabolic Engineering to Metabolic Design: Embodying Novel Core Metabolisms and Containing Genetic Pollution Philippe Marliere, Heurisko
10:15 – 10:45	Foyer	Coffee

Applications 2: Materials

10:45 – 11:20	G3	Sensing, Regulating and Communicating by Mechanical Force Viola Vogel, ETH Zurich
11:20 – 11:55	G3	Signaling Systems Involving Carbohydrates: Applications to Systems Biology? Peter Seeberger, ETH Zurich
11:55 – 12:20	G3	Engineered Bacterial Chemonavigation Justin Gallivan, Emory University
12:20 – 12:45	G3	3D Living Cell Microarrays Assembled Using Optical Tweezers Winston Timp, MIT
12:45 – 14:15	Cafeteria	Lunch

Applications 3: Systems

14:15 – 14:50	G3	Production of a Human Artificial Chromosome with a Conditional Centromere Bill Earnshaw, University of Edinburgh
14:50 – 15:25	G3	Control and Design of Mammalian Clocks Hiroki Ueda, RIKEN

15:25 – 15:50	G3	A Massively Parallel Biological Edge Detector Jeff Tabor, University of California, San Francisco
15:50 – 16:30	Foyer	Coffee
16:30 – 17:05	G3	Artificial Signaling Pathways for Pattern Formation and Programmed Tissue Generation Ron Weiss, Princeton University
17:05 – 17:40	G3	Formal Tools for Model-Based Synthetic Biology Hana el-Samad, University of California, San Francisco
Keynote 3		
17:40 – 18:30	G3	Ab Initio Design of Complete Living Organisms Tom Knight, MIT
18:45 – 19:30		Transfer to Conference Dinner Location*
20:00 – 23:30		Conference Dinner at Uto Kulm Poster Award
		End of Conference