

Enabling Technology for Synthetic Biology

Six-Academy Synthetic Biology Symposium II

Oct. 12-14, 2011, Shanghai, China

Oct. 12 (Wednesday), Grand Lecture Hall, SIBS, 320 Yueyang Road

Morning	09:00 am – 11:45 am
09:00 am	Opening Ceremony Chair: Sheng-li Yang
09:00 am	Introduction to the Symposium Guo-ping Zhao (Shanghai Institutes for Biological Sciences, CAS, China)
09:15 am	Opening Address 1.Xian-en Zhang (Director, Department of Basic Research, Ministry of Science and Technology of China) 2. Dai-ming Fan (Vice President, Chinese Academy of Engineering)
09:35 am to 11:45 am	Two Keynote Presentations (40 min plus 10 min Q&A for per keynote presentation) Chair: Guo-ping Zhao
09:35 am	The Synthetic Biology of Antibiotic Natural Products Peter Leadlay (University of Cambridge, UK)
10:25 am	Tea and Coffee Break
10:55 am	Tools for Engineering Biology Drew Endy (Stanford University, USA)
11:45 am	Group Photo of Speakers & Lunch Break
Afternoon	01:30 pm – 05:30 pm
01:30 pm	Opening Address Chair: Guo-ping Zhao
01:30 pm	The Grand Synthesis Thomas Lee (Director, Microsystems Technology Office, Defense Advanced Research Projects Agency, USA)
	Session A*: Designing Modules and Pathways Session Chairs: Richard Kitney & Zi-xin Deng
01:50 pm	The Application of Systematic Design to Synthetic Biology Richard Kitney (Imperial College, UK)
	Construction of the Simplified Genomes of Escherichia Coli and Streptomyces Coelicolor
02:15 pm	

	Zhong-jun Qin (Shanghai Institutes for Biological Sciences, CAS, China)
02:40 pm	<i>Biological Network Engineering in Synthetic Biology</i>
	Qi Ou-yang (Peking University, China)
03:05 pm	Tea and Coffee Break
03:35 pm	<i>Design and Evolution of Biological Pathways and Networks</i>
	Hui-min Zhao (University of Illinois at Urbana-Champaign, USA)
04:00 pm	<i>Synthetic Production of 3-hydroxybutyrate (3HB) Monomers and Biobutanol Directly from CO₂ in Cyanobacteria</i>
	Wei-wen Zhang (Tianjing University)
04:25 pm	Panel discussion
05:05 pm	<i>From Single Cell Biotechnology towards Synthetic Biology</i>
	Wei Huang (University of Sheffield, UK)
05:30 pm	End of Session A

**Oct. 13 (Thursday) , National Engineering Center for Biochip at Shanghai,
151 Libing Road, Pudong**

Morning	09:00 am –12:00 noon
09:00 am	Opening Address Chair: Guo-ping Zhao
09:00 am	Jing-hai Li (Vice President, Chinese Academy of Sciences)
	Session B*: Synthetic Genome and Cell
	Session chairs: Peter Leadlay & Drew Endy
09:10 am	<i>The Emergence of Synthetic Life with De Novo Chemical Alphabets</i>
	Jeffrey Tze Fei Wong (Hong Kong University of Science & Technology, China)
09:35 am	<i>Genome Engineering Technologies for Rapid Programming & Evolution of Organisms</i>
	Farren Isaacs (Yale University, USA)
10:00 am	<i>Size Dependent Genome Synthesis/Cloning</i>
	Mitsuhiko Itaya (Keio University, Japan)
10:25 am	<i>Towards Development of a Robust Simplified Cell</i>
	Barry L. Wanner (Purdue University, USA)
10:50 am	Tea and Coffee Break
11:20 am	Panel discussion
12:00 noon	Lunch Break
Afternoon	01:30 pm – 04:55 pm

	Session C*: Synthetic Biology from an Industrial Perspective Session Chair: Roel Bovenberg
01:30 pm	Rational Design - Applications in Industrial Biotechnology Liang Wu (DSM Biotechnology Center, Netherlands)
01:55 pm	Building an Efficient Yeast Cell Factory for the Production of Isoprenoids Lishan Zhao (Amyris Inc., USA)
02:20 pm	Panel discussion
03:00 pm	Tea and Coffee Break
	Session D: iGEM: Scientific, Technological, and Educational Impact upon Synthetic Biology Session Chairs: Ying-jin Yuan & Qi Ou-yang
03:30 pm	Building a Re-Coded Yeast Genome Powered by an Army Of Undergraduates *Yizhi Patrick Cai (Johns Hopkins University School of Medicine, USA)
03:55 pm	A Novel Approach for Synthetic Biology: Exploiting Wisdom in Natural Systems **Haoqian Zhang (Peking University, China)
04:15 pm	Rule-based Modeling Approach for Synthetic Biology **Chen Liao (University of Science and Technology of China, China)
04:35 pm	Modular Design and Synthesis of Energy Products **Duo Liu (Tianjin University, China)
04:55 pm	End of Session D

Oct. 14 (Friday) , Grand Lecture Hall, SIBS, 320 Yueyang Road

Morning	9:00 am –12:10 noon
	Session E**:Ethical, Legal and Social Implications (ELSI) for Synthetic Biology Session Chair: Huan-ming Yang
09:00 am	Life in the Gray Zone: From ELSI to Responsible Innovation Sheila Jasanoff (Harvard University, USA)
09:20 am	Legal Implications for Synthetic Biology: Intellectual Property Rights in Biologicals Rochelle Dreyfuss (New York University School of Law, USA)
09:40 am	Intellectual Property and Technology Transfer Issues Associated with Synthetic Biology Gordon Zong (Shanghai Institutes for Biological Sciences, CAS, China)
10:00 am	The Ethics of Synthetic Biology: The Perspectives of the US Presidential Commission

	Anita L. Allen (University of Pennsylvania Law School, USA)
10:20 am	<i>The UK Research Councils' Synthetic Biology Dialogue</i>
	Paul Gemmill (Biotechnology and Biological Sciences Research Council, UK)
10:40 am	Tea and Coffee Break
11:00 am	Discussion – Synthetic Biology Futures
12:00 noon	Close Speech
12:10 noon	End of Symposium

* For per speaker we allocate 20 min talk plus 5 min Q&A.

** For per speaker we allocate 15 min talk plus 5 min Q&A.