

SCIENTIFIC PROGRAM

SESSION LECTURE

No. 60

Synthetic biology

Room: 309B

Co-Chairs: Guoping Zhao



Jens Nielsen



Day 1 October 27th (Saturday) 8:30 – 12:00

Time	Speaker	Title
8:30-8:40	Guoping Zhao <i>Shanghai Institute of Plant Physiology and Ecology, Chinese Academy of Sciences, China</i>	Opening Speech
8:40-9:10	Jens Nielsen <i>Novo Nordisk Foundation Center for Biosustainability, Chalmers University of Technology, Sweden</i>	Engineering Yeast Metabolism Using Synthetic Biology
9:10-9:40	Farren Issacs <i>Yale University, USA</i>	Genome Engineering Technologies for Programming and Recoding Organisms
9:40-10:00	Tea Break	
10:00-10:30	Harris Wang <i>Columbia University, USA</i>	An engineered temporal cellular memory system on CRISPR tape
10:30-11:00	Zhongjun Qin <i>Shanghai Institute of Plant Physiology, CAS, China</i>	Creating a functional single chromosome yeast
11:00-11:30	Lixin Zhang <i>molecular regulation of secondary metabolism of microorganisms laboratory, China</i>	Learn from microbial intelligence for avermectins overproduction



Guoping Zhao

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Prof. Guo-Ping ZHAO is the Chairman of the Advisory Committee of CAS-Key Laboratory of Synthetic Biology at the Shanghai Institute of Plant Physiology and Ecology (SIPPE) and the Chief Scientist of the Big Data Center for BioMedicine at the CAS-MPG Partner Institute for Computational Biology (PICB), both affiliated to the Chinese Academy of Sciences (CAS) and the Director of Department of Microbiology and Microbial Engineering at the School of Life Sciences, Fudan University.



Jens Nielsen

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Professor Nielsen's research focus on understanding and engineering metabolism. For the latter he is using synthetic biology tools to in particular engineer the metabolism of yeast such that this cell factory can be used for efficient production of fuels, chemicals and pharmaceuticals. He is particular interested in rewiring of the central carbon metabolism of yeast in order to enable high yield and productivity of target chemicals.



Farren Issacs

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Farren Isaacs is Associate Professor of Molecular, Cellular and Developmental Biology and Systems Biology at Yale University. As a research fellow in genetics at Harvard, he invented enabling technologies for genome engineering. His research is focused on the development of genome engineering technologies to construct alternative genetic codes and for global reprogramming of cellular behavior to uncover new biological phenomena and expand the functions of living systems with applications in energy supply, materials science, environmental health, and medicine.



Harris Wang

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Assistant Professor at Columbia University jointly appointed in the Department of Systems Biology and the Department of Pathology and Cell Biology. Dr. Wang received his B.S. degrees in Mathematics and Physics from MIT and his Ph.D. in Biophysics from Harvard University. His research group at Columbia is developing enabling synthetic biology technologies to engineer microbes that improve gut health and modify mammalian cells that better produce therapeutics. In early 2017, Dr. Wang was recognized by President Obama as a recipient of the Presidential Early Career Award for Scientists and Engineers (PECASE), which is "the highest honor bestowed by the United States Government on science and engineering professionals in the early stages of their independent research careers."



Lixin Zhang

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In 2001, he defended through the "plan to bring in outstanding foreign talents" and was employed as a researcher and doctoral supervisor by Shanghai Institute of Plant Physiology of the Chinese Academy of Sciences. In 2002, he served as director of the open laboratory for research on molecular regulation of secondary metabolism of microorganisms. In 2003, he was funded by the national science fund for distinguished young people.



Zhongjun Qin

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Dr. Zhongjun Qin is a professor of synthetic biology and at serves as director of the key laboratory of synthetic biology at Shanghai Institute of Plant Physiology and Ecology (SIPPE), Chinese Academy of Sciences (CAS). He has been working on microbial molecular genetics since 1995. Currently, his laboratory is interested in synthetic biology of *Escherichia coli* and *Saccharomyces cerevisiae*.