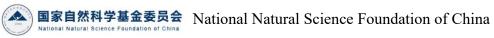
## The 25th Northeast Asia Symposium: Synthetic Biology 2024. 09.09(Mon)-09.12(Thu) Seoul National University HOAM Faculty House

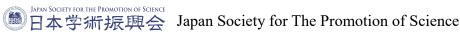
Organized by Junho LEE(Seoul National University)
George Guo-Qiang CHEN(Tsinghua University)
Takeshi OMASA(Osaka University)

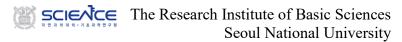
Local organizer Ji-Sook HAHN (Seoul National University)

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## **Sep. 10 (Tue)**

Opening remarks by organizers	
09:00-09:15	Junho LEE(Seoul National University) George Guo-Qiang CHEN(Tsinghua University) Takeshi OMASA(Osaka University)
Session 1: New tools in synthetic	ic biology-1 Chair: Junho LEE
9:15-9:40 Genetically encoded bioorthogona	Peng CHEN(Peking University) 1 chemistry in living systems
<del>_</del>	NG(Tianjin Institute of Industrial Biotechnology)
10:05-10:30 Engineering extracellular electron	Hao SONG(Tianjin University) transfer pathways for bioelectricity applications
Coffee Break 10:30-10:50	
Session 2: AI-based design	Chair: Donghyuk KIM
10:50-11:15 AI-aided design of augmented RN	Jin-Wu NAM(Hanyang University) (A molecules22
11:15-11:40 AI-based protein structure predicti	Minkyung BAEK(Seoul National University) ion and its application to protein design 24
11:40-12:05 Machine learning-assisted molecu	Hikaru NAKAZAWA(Tohoku University) lar evolution for stable enzyme engineering26
	Weidong TIAN(Fudan University) n-specific expanded short tandem repeats with
Lunch 12:30-14:00	

Session 3: Synthetic bio	ology in therapeutics and diagnostics-1 Chair: Takeshi OMASA
<u> </u>	Hyongbum (Henry) KIM(Yonsei University) rofiling of EGFR variants against tyrosine kinase inhibitors
14:25-14:50 Cybergenetics for contr	Haifeng YE(East China Normal University) rollable living therapeutics34
14:50-15:15 Small molecule gated T	Huishan LI(KAIST)  Cells for next generation of immunotherapy36
15:15-15:40 Tailoring synthetic rece	Masahiro KAWAHARA(National Institutes of Biomedical Innovation, Health and Nutrition) eptors toward precision cell fate control38
Coffee Break 15:40-16:00	
Session 4: Synthetic bio	ology in therapeutics and diagnostics-2 Chair: Haifeng YE
16:00-16:25 Chinese hamster-derived	Takeshi OMASA(Osaka University) d cell line – An artificial workhorse for biologics production42
16:25-16:50 Cellular agents for mi	Norichika OGATA(Nihon BioData Corporation) cro environmental measurement44
16:50-17:15 Complex behaviors er	Ping WEI(Shenzhen Institute of Advanced Technology) merged from synthetic cell signaling systems46
17:15-17:40 Engineered live biothe	Daehee LEE(KRIBB) erapeutics for gut inflammation48

Dinner 17:40-19:30

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	Chair: Ji-Sook HAHN
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9:25-9:50 Synthetic membraneless o	Xiaoxia XIA(Shanghai Jiao Tong University) organelles for cellular and metabolic engineering54
9:50-10:15 Optogenetic technologies	Yoshihiro TOYA(Osaka University) for microbial metabolic engineering56
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10:30-10:55 Next generation industry l	George Guo-Qiang CHEN(Tsinghua University) biotechnology based on synthetic biology of Halomonas
10:55-11:20 Yeast metabolic engineeri	Ji-Sook HAHN(Seoul National University) ng for sustainable chemical production62
11:20-11:45 Microbial sequestration ca	Liming LIU(Jiangnan University) arbon dioxide to synthesis chemicals64
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	Chair: Liming LIU
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