The 5th Korea-US Synthetic Biology Conference

2026.11.4 (Wed) - 6 (Fri)

Lahan Select Gyeongju, Vega Hall(B1)
Gyeongju, Republic of Korea



Hosted by

Ministry of Science and ICT

Organized by

KSBA Korea Synthetic Biology Association

Sponsored by

KOEST NRF KUSCO Chungnam National University CHONNAM NATIONAL UNIVERSITY KRIBB KOREA BIOFOUNDRY SynBio

JCVI J. CRAIG VENTER INSTITUTE ILLINOIS CJ CHEILJEDANG CutisBio DAESANG TWIST BIOSCIENCE

Committee

ORGANIZING COMITTEE

Dong-Myung Kim
Chungnam National University, Korea
Director of the Education & Network Division, Korea Synthetic Biology Association(KSBA)

Yong-Su Jin
University of Illinois at Urbana-Champaign, USA
Education & Network Division, KSBA

Tae Seok Moon
J. Craig Venter Institute, USA
Education & Network Division, KSBA

Seung-Goo Lee
Korea Research Institute of Bioscience and Bioengineering, Korea
Senior secretary to the Board, KSBA

Hyewon Lee
Korea Research Institute of Bioscience and Bioengineering, Korea
Education & Network Division, KSBA

Daehee Lee
Korea Research Institute of Bioscience and Bioengineering, Korea
Education & Network Division, KSBA

Haseong Kim
Korea Research Institute of Bioscience and Bioengineering, Korea
Convergence Division, KSBA

Soo-Jin Yeom
Chonnam National University, Korea
Education & Network Division, KSBA

Hosted by

Ministry of Science and ICT

Organized by

KSBA Korea Synthetic Biology Association

Sponsored by

KOFST · NRF · KUSCO KOREA - U.S. SCIENCE COOPERATION CENTER · Chungnam National University · CHONNAM NATIONAL UNIVERSITY
KRIBB Korea Research Institute of Bioscience & Biotechnology · KOREA BIOFOUNDRY · SynBio · JCVI J. CRAIG VENTER INSTITUTE · ILLINOIS
CJ CHEILJEDANG · CutisBio · DAESANG · TWIST BIOSCIENCE

Program

Day1 (Wed) November 4, 2026

TIME	MIN	PROGRAM
1:00–1:30 PM	30'	Registration & Coffee
1:30–1:50 PM	10'	**Opening Remarks** Moderator: Dong-Myung Kim, Yong-Su Jin
	10'	**Welcome Remarks** Sang Yup Lee President, Korea Synthetic Biology Association (KSBA), Korea Advanced Institute of Science and Technology (KAIST), Korea
1:50–2:40 PM	50'	**Keynote Lecture 1** Chair: Dong-Myung Kim *Genome Editing Beyond CRISPR: Organellar DNA Editing in Human Cells, Animals, and Plants* Jin-Soo Kim Korea Advanced Institute of Science and Technology (KAIST), Korea
2:40–3:30 PM	50'	**Keynote Lecture 2** Chair: Daehee Lee *Biology as a Strategic Domain* Drew Endy Stanford University, USA
3:30–3:50 PM	20'	**Coffee Break and Networking**
3:50–5:30 PM	100'	**Technical Session I: Programmable Enzymes and Protein Design** Chair: Seung-Ho Baek
	(30')	*Discovering and Engineering Biocatalysts for Plastic Degradation and Upcycling* Na Wei University of Illinois Urbana-Champaign, USA
	(20')	*Programmable Design of Functional Protein Complexes* Sangmin Lee Pohang University of Science and Technology, Korea
	(20')	*Enzyme Engineering for Sustainable Biomanufacturing* Hyun June Park Duksung Women's University, Korea
	(30')	**Open Discussion**
5:30–6:00 PM	30'	**Poster Flash Talks**
6:00–8:00 PM	120'	**Group photo, Dinner and Networking**

Day2 (Thu)

November 5, 2026

TIME	MIN	PROGRAM
10:00–10:50 AM	50'	**Keynote Lecture 3** Chair: Sung Sun Yim *Decoding Host Physiology Through Programmable Microbial Interfaces* Matthew Wook Chang National University of Singapore, Singapore
10:50–11:40 AM	50'	**Keynote Lecture 4** Chair: Hyeoncheol Francis Son *Sustainable Recycling of PET Plastics Using PET Hydrolases* Kyung-Jin Kim Kyungpook National University, Korea
11:40 AM–1:00 PM	80'	Lunch and Networking
1:00–3:00 PM	120'	**Technical Session II: Programmable Sensing and Autonomous Systems: The Next Frontier in Synthetic Biology** Chair: Haseong Kim
	(30')	*Engineering Synthetic Post-Translational Sense-and-Response Programs in Human Cells* Caleb Bashor Rice University, USA
	(20')	*Minimal-Equipment Protein Sensing Using Cell-Free Systems* Mark P. Styczynski Georgia Institute of Technology, USA
	(20')	*Supporting Enzyme Engineering in the DBTL Cycle with a Multi-Modal AI Framework* Chungoo Park Chonnam National University, Korea
	(20')	*Toward Autonomous Lab System for Biotechnology Research* Hyuneui Lim Korea Institute of Machinery and Materials (KIMM), Korea
	(30')	Open Discussion
3:00–3:30 PM	30'	Coffee Break and Networking

Day2 (Thu)

November 5, 2026

TIME	MIN	PROGRAM
3:30–5:30 PM	120'	**Technical Session III: Synthetic Biology Solutions for Food, Health, and Sustainability** Chair: Nam Kyu Kang
	(30')	*Engineering Food-Safe Microorganisms for Fermented Food Applications* Yong-Su Jin University of Illinois Urbana-Champaign, USA
	(20')	*From Ecological Function to Synthetic Production: Rewiring Plant Specialized Metabolism* Sang-Gyu Kim Korea Advanced Institute of Science and Technology (KAIST), Korea
	(20')	*Identification and Characterization of Biological Parts for Plant Synthetic Biology* Young-Min Kim Korea Research Institute of Bioscience and Biotechnology (KRIBB), Korea
	(20')	*Research on Plant Specialized Metabolism and Synthetic Biology: How to Produce Natural Rubber from Nature to Synthetic* Moonhyuk Kwon Gyeongsang National University, Korea
	(30')	**Open Discussion**
5:30–6:00 PM	30'	**Poster Flash Talks**
6:00–8:00 PM	120'	**Dinner and Networking**

Day3 (Fri)

November 6, 2026

TIME	MIN	PROGRAM
10:00–12:20 PM	140'	**Technical Session IV: Rewiring Microbial Metabolism for Biomanufacturing** Chair: Hyewon Lee
	(30')	*Isoprenol and Prenol Production in Microbial Hosts via the "IPP-bypass" and "Repass" Pathways* Taek Soon Lee Lawrence Berkeley National Laboratory, USA
	(20')	*Unlocking the Full Potential of Streptomyces by Synergizing Systems and Synthetic Biology* Namil Lee Korea Advanced Institute of Science and Technology (KAIST), Korea
	(20')	*Engineering Yeast Cell Factories: Products, Pursuits, and the Path to Automation* Stephan Lane Cornell University, USA
	(20')	*Leveraging Yeast as a Robust Platform for Microbial Cell Factories* Seung-Ho Baek Duksung Women's University, Korea
	(20')	*Synthetic Biology for Precision Fermentation and Functional Foods* Seung-Oh Seo Seoul National University of Science and Technology, Korea
	(30')	**Open Discussion**
12:20–12:30 PM	10'	**Wrap-up Suggestions, Future Plans and Closing Remarks**
12:30–1:30 PM	-	**Lunch and Networking**

Poster Flash Talks

Day1 (Wed)

November 4, 2026

NAME	Affiliation	Title
Hong Sujin	Korea Research Institute of Bioscience and Biotechnology (KRIBB)	*Standardize, Program, and Scale: A Modular Framework for Yeast Synthetic Biology*
Areum Lee	Chonnam National University	*Engineering Strategies to Improve Cellulose Degradation in Sulfolobus acidocaldarius*
Gyu Min Lee	Korea Research Institute of Bioscience and Biotechnology (KRIBB)	*Screening AI-Prioritized Variants for Isoprene Synthase Engineering on a Semi-Automated Biofoundry Workflow*
Jae-Yun Lee	Korea Advanced Institute of Science and Technology (KAIST)	*Toward Decoding Human Microbiome Ecology with Synthetic Biology*
Euijin Seo	Pohang University of Science and Technology	*Computational and AI-Driven Approaches to Genetic Systems Design*

Day2 (Thu)

November 5, 2026

Name	Affiliation	Title
Byeongmin Chae	Pohang University of Science and Technology	*Automated, modular assembly of reconstituted cell-free systems from in vitro-produced translation factors*
Sanghyeon Choi	Korea Advanced Institute of Science and Technology (KAIST)	*Computational Design of Monomeric Fc for FcRn-Mediated Serum Half-Life Extension*
Jooseong Oh	Korea Research Institute of Bioscience and Biotechnology (KRIBB)	*Fine-Tuned Open LLMs for Protein–Chemical Compound Relation Extraction*
Seung-Do Yun	Chonnam National University	*Microbial and Enzymatic Approaches to Polyethylene Degradation*
Dong-Yeon Song	Chungnam National University	*Let There Be Lights: Taming Collateral Cleavage to Orient Mirror-Faced Particles for Pathogen Detection*

Getting to the Venue

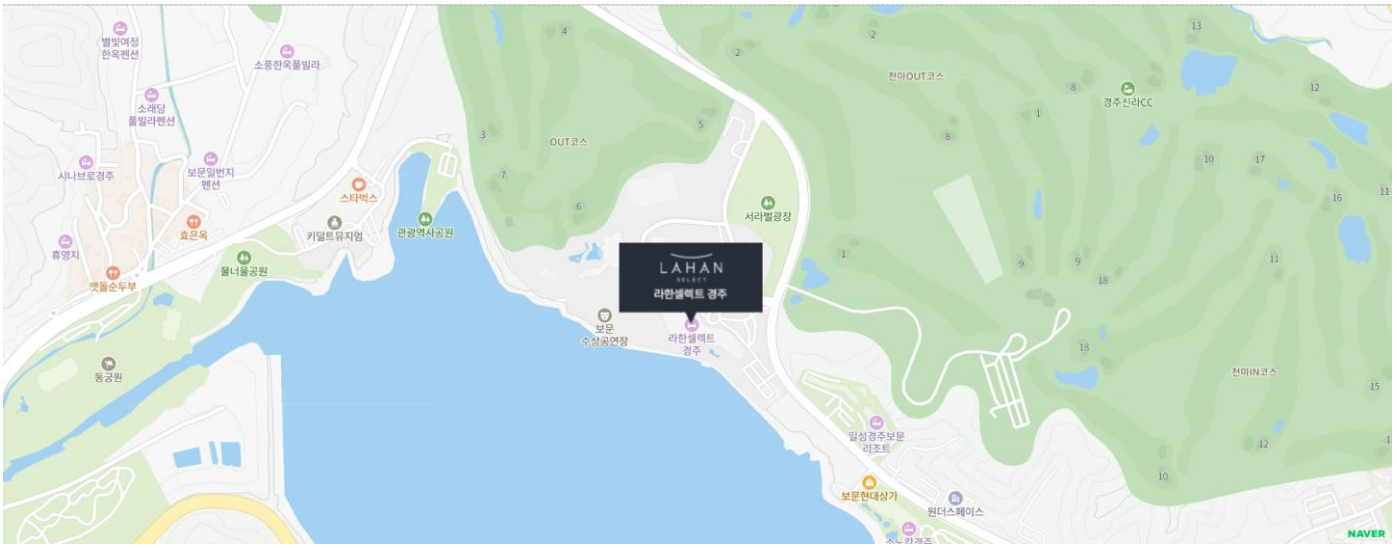


Lahan Select Gyeongju Vega Hall(B1)

Address
338, Bomun-ro, Gyeongju-si,
Gyeongsangbuk-do, Republic of Korea

Tel
+82) 054-748-2233

Website
https://www.lahanhotels.com/gyeongju



Transportation

From	Transportation	Approx. Time
Gyeongju Station(KTX)	· Taxi/Car · City Bus No. 700, 710	· 35 min · 60 min
Gyeongju Intercity Bus Terminal	· Taxi/Car · City Bus No. 10, 710	· 20 min · 50 min
Gimhae International Airport	· Taxi/Car · Limousine Bus → Gyeongju Station → Taxi	· 20 min · 80 min

KSBA Korea Synthetic Biology Association

Stay Connected

KOREA SYNTHETIC BIOLOGY ASSOCIATION

Stay up to date on our news and events
while connecting with the synthetic biology community

Join US

https://naver.me/FQW7pcV

Visit US

http://www.synbio.or.kr

Follow US

https://www.linkedin.com/ksba

