

## GENERAL INFORMATION

POSTECH was established to conduct in-depth research on profound theories and applications in science and engineering that are necessary for the advancement of nation and humanity, and to cultivate global leaders equipped with knowledge and intellect. Carrying on the late founding chairman Tae-joon Park's legacy on educational patriotism, POSTECH is leading the progress on education and science in Korea by taking on great challenges.

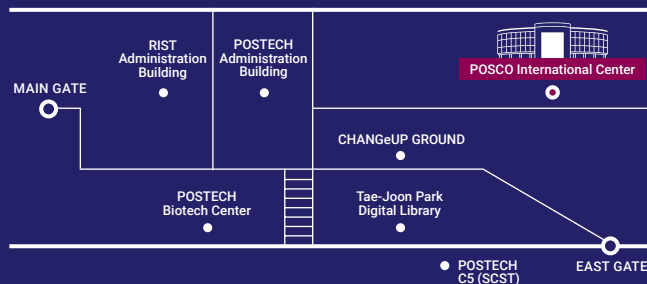
### Transportation

#### # BY TRAIN

- 1 Incheon International Airport to Seoul Station (Airport Railroad Express, 45 min)  
Seoul Station to Pohang Station (KTX, 160 min)
- 2 Gimpo International Airport to Seoul Station (Airport Railroad Express, 22 min)  
Seoul Station to Pohang Station (KTX, 160 min)
- 3 Pohang Station to POSTECH (Taxi, 15 min)

#### # BY AIRPORT

- 1 Incheon International Airport to Gimpo International Airport (Airport Railroad Express, 60 min)  
Gimpo International Airport to Pohang Airport (Domestic Airline, 50 min)
- 2 Pohang Airport to POSTECH (Taxi, 20 min)



### REGISTRATION

<https://pco.postech.ac.kr/>

### REGISTRATION FEE

Off-line Participants : 200,000 KRW

Off-line POSTECH Members : 100,000 KRW

On-line Participants : 100,000 KRW

### Conference Office

#### Before & after the meeting

SCHOOL OF CONVERGENCE SCIENCE AND TECHNOLOGY, POSTECH  
80 Jigok-ro, Nam-gu, Pohang, Gyeongbuk 37666, Korea

#### Heeyeong JEONG

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#### Ji YANG

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#### On-site

#### POSCO INTERNATIONAL CENTER

77 Cheongam-ro, Nam-gu, Pohang, Gyeongbuk 37673, Korea  
Tel : +82-54-279-8500

# POSTECH SIGNATURE CONFERENCE 2022

The 1<sup>st</sup> International Conference  
on Futuristic Medical Science and Engineering

**OCTOBER 11-12,**  
**2022 (Tue. - Wed.)**

### VENUE

Off-line : POSCO International Center,  
International Conference Hall (1F)

On-line : The live broadcast link will be shared only  
for online live broadcast participants

### PRE-REGISTRATION

September 7, 2022. (Wed.) 09:00 ~  
October 5, 2022. (Wed.) 24:00

### Co-management

POSTECH School of Convergence Science and Technology  
Innovative Program for Graduate School Development  
POSTECH School of Molecular Science (Chemistry)  
Next-Generation Bio-Leaders (Life Sciences)  
Education and Research Center for Future Materials (Materials Science & Engineering)  
Education Program for Frontier Leadership in Advanced Machinery Technology (Mechanical Engineering)  
Education Program for Innovative Chemical Engineering Leaders (Chemical Engineering)  
POSTECH Mathematical Science Division (Mathematics)  
Educational Institute for Intelligent Information Integration (Electrical Engineering)  
School of Interdisciplinary Bioscience & Bioengineering  
Advanced Materials Science  
Convergence IT Engineering  
Medical Device Innovation Center

### Sponsor

경상북도 포항시청 경북대학교 BK21  
일기메이트 기업 한국과학기술연구원 T&R Biofab 스마트 헬스케어 소재 연구소

### Hosting

POSTECH

# WELCOME MESSAGE

On behalf of the organizing committees, I would like to welcome you to Pohang, Korea, for the first POSTECH Signature Conference 2022. The POSTECH Signature Conference is a newly designed international conference by POSTECH to promote innovations and collaborations in science and engineering.

Under the theme of the conference “Futuristic Medical Science and Engineering”, the POSTECH Signature Conference 2022 provides a rich program, including plenary speeches by Prof. Wayne Yokoyama and Prof. Jonathan Sessler in immunology and drug discovery and Prof. Zhenan Bao, Prof. Kam Leong, and Prof. Taeghwan Hyeon in biomaterials, drug delivery, and regenerative medicine. We offer a unique opportunity to bring together world-leading researchers and serve as a platform to deliver innovative research and the latest trends and facilitate discussions, networking, and collaboration.

This year, POSTECH has launched a new graduate program, Medical Science and Engineering, to foster next-generation physician-scientists and have a solid plan to establish a research-oriented medical school and affiliated hospital. We will lead the future of medicine by focusing on drug discovery, precision, and regenerative medicine. We hope to have an opportunity for potential collaborations and partnerships with the world’s leading research institutes through this conference.

Before closing, I would like to thank all members of the organizing committees, collaborating partners, companies, and volunteers for their tremendous efforts to organize this conference successfully. The committee has scheduled a vibrant scientific program and invited highly respected and world-renowned speakers. I hope you have a productive meeting with exciting and encouraging discussions and an exchange of knowledge so that we together can anticipate a future of groundbreaking innovations in medicine and healthcare.

I look forward to a successful conference and wish you all delightful and stimulating days.

Best regards,

Changill BAN  
Conference Chair

# OCTOBER 11. 2022 Tue.

TIME	TITLE
08:00 ~ 08:40	Registration
08:40 ~ 08:44	Welcome and Opening Remarks <i>President. Moo Hwan KIM</i> <span>POSTECH, KR</span>
08:44 ~ 08:50	Congratulatory Remarks <i>Cheol Woo LEE</i> <span>Governor of Gyeongbuk Province, KR</span>
	Congratulatory Remarks <i>Kang-deok LEE</i> <span>Mayor of Pohang City, KR</span>
08:50 ~ 09:00	Group Photograph
SESSION I	Plenary Session <i>/Session Chair / Prof. Jongshin KIM, Unyong JEONG</i>
09:00 ~ 09:40	Control of viral infections by natural killer cell inhibitory receptors <i>Prof. Wayne M. YOKOYAMA</i> <span>Washington University in St. Louis, US</span>
09:40 ~ 10:20	Skin-inspired electronics for bioelectronics applications <i>Prof. Zhenan BAO</i> <span>Stanford University, US</span>
10:20 ~ 10:40	Coffee Break
10:40 ~ 11:20	Texas-inspired drug discovery efforts <i>Prof. Jonathan L. SESSLER</i> <span>University of Texas at Austin, US</span>
11:20 ~ 12:00	Unexpected applications of cationic biomaterials <i>Prof. Kam W. LEONG</i> <span>Columbia University, US</span>
12:00 ~ 12:40	Designed synthesis and assembly of inorganic nanomaterials for medical and healthcare applications <i>Prof. Taeghwan HYEON</i> <span>Seoul National University/IBS, KR</span>
12:40 ~ 13:30	Lunch
13:30 ~ 15:00	Poster Session <i>/Session Chair / Prof. Sekyu CHOI</i>
SESSION II	Drug Discovery Session <i>/Session Chair / Prof. Jie-Oh LEE, Sang Ki PARK</i>
15:00 ~ 15:30	Ligand-directed chemistry of protein in live cells and brain <i>Prof. Itaru HAMACHI</i> <span>Kyoto University, JP</span>
15:30 ~ 16:00	The AUTOTAC chemical platform: targeted protein degradation via the autophagy-lysosome system <i>Prof. Yong Tae KWON</i> <span>Seoul National University, KR</span>
16:00 ~ 16:20	Coffee Break
16:20 ~ 16:50	T cell immune responses against SARS-CoV-2 <i>Prof. Eui-Cheol SHIN</i> <span>KAIST/IBS, KR</span>
16:50 ~ 17:20	Microbiome therapeutics to enhance anti-cancer immunity <i>Prof. Sin-Hyeog IM</i> <span>POSTECH, KR</span>
16:20 ~ 17:50	Make invisible target cells visible by magic bullet probe <i>Prof. Young-Tae CHANG</i> <span>POSTECH/IBS, KR</span>
17:50 ~ 18:00	Futuristic medical technology and industry for human welfare <i>Minister. Yu-Kyoung OH</i> <span>Minister of Food and Drug Safety, KR</span>
18:30 ~ 20:00	Banquet

# OCTOBER 12. 2022 Wed.

TIME	TITLE
SESSION III	Medical Engineering Session <i>/Session Chair / Prof. Sungjee KIM, Junmin LEE</i>
09:00 ~ 09:30	Laser particles for single cell analysis <i>Prof. Seok Hyun (Andy) YUN</i> <span>Harvard Medical School, US</span>
09:30 ~ 10:00	Pollen-based materials innovation for sustainable technologies <i>Prof. Nam-Joon CHO</i> <span>Nanyang Technological University, SG</span>
10:00 ~ 10:30	Bioprinting for fabrication of structurally and functionally relevant tissues <i>Prof. Y. Shrike ZHANG</i> <span>Harvard Medical School, US</span>
10:30 ~ 10:50	Coffee Break
10:50 ~ 11:20	Smart wearable devices for on-demand healthcare applications <i>Prof. Sei Kwang HAHN</i> <span>POSTECH, KR</span>
11:20 ~ 11:50	Multi-modal imaging: photoacoustic imaging plus more <i>Prof. Chulhong KIM</i> <span>POSTECH, KR</span>
11:50 ~ 12:20	Recapitulating human physiological system using 3D bioprinting technology <i>Prof. Jinah JANG</i> <span>POSTECH, KR</span>
12:20 ~ 14:00	Lunch
SESSION IV	Regenerative Medicine Session <i>/Session Chair / Prof. Yong Joo AHN, Jinah JANG</i>
14:00 ~ 14:30	Bioconvergence: harnessing cell-instructive materials and regenerative engineering technologies for biofabrication of functional tissues <i>Prof. Tim B. F. WOODFIELD</i> <span>University of Otago, NZ</span>
14:30 ~ 15:00	Precision targeting tumor cells using cancer-specific InDel mutations with CRISPR-Cas9 <i>Prof. Kyungjae MYUNG</i> <span>UNIST/IBS, KR</span>
15:00 ~ 15:20	Coffee Break
15:20 ~ 15:50	Dynamics of stem cells and niches during lung regeneration and disease <i>Prof. Joo-Hyeon LEE</i> <span>University of Cambridge, UK</span>
15:50 ~ 16:20	Innovative adhesive biomaterials for regenerative medicine and drug delivery <i>Prof. Hyung Joon CHA</i> <span>POSTECH, KR</span>
16:20 ~ 16:50	A hair-raising tale: stress and tissue regeneration <i>Prof. Sekyu CHOI</i> <span>POSTECH, KR</span>
16:50 ~ 17:00	Closing Remarks <i>Dean. Changill BAN</i> <span>POSTECH, KR</span>

※ The above program may be subject to some changes.