

2025 KIST-Purdue University International Symposium on
“Innovations and Future Directions in Addiction Treatment”
Room 3235-3236, L3 Laboratory Building, Korea Institute of Science and Technology, Seoul, Korea
Thursday - Friday, 10 - 11 July 2025

[Thursday, 10 July 2025]

Time	Contents
12:30 – 12:50	Registration
<i>Moderator: Dr. Hong Yeol Yoon (KIST)</i>	
12:50 – 13:10	Opening Remarks Global Collaboration Initiative for Addressing Addiction in the Digital and Pharmaceutical Era Dr. Sun Hwa Kim (KIST)
Session I: Advanced Biomaterials and Nanotechnology for Drug Delivery and Regenerative Medicine <i>Chair: Dr. Hong Nam Kim (KIST)</i>	
13:10 – 13:30	Bio-functionalized Nanostructured Particle for Healthcare Dr. Hyojin Lee (KIST)
13:30 – 13:50	Bio-reducible Inorganic/Organic Hybrid Nanomaterials for ROS-related Diseases Dr. Hong Yeol Yoon (KIST)
13:50 – 14:10	Development of Drug Delivery Systems Using Customizable Polymer Technology Dr. Young-Min Kim (KIST)
14:10 – 14:30	Integrated Bioengineering Strategies for Volumetric Muscle and Vascular Regeneration Using Stem Cell-Instructive Systems Dr. Myung Chul Lee (KIST)
Session II: Advanced In Vitro Models for Brain and Health Research <i>Chair: Dr. Hyojin Lee (KIST)</i>	
14:30 – 14:50	Advancing Addiction Research and Targeted Therapies using Human Cell-based Model Systems Prof. Sunghee (Estelle) Park (Purdue University)
14:50 – 15:10	Brain-on-a-Chip Technology for Studying Brain Diseases Dr. Hong Nam Kim (KIST)
15:10 – 15:30	Platform Wars: What is Coming Next Dr. Ji-Hoon Kim (KIST)
15:30 – 15:50	Coffee Break
Session III: Smart Technologies for Addiction Monitoring and Treatment <i>Chair: Dr. Hong Yeol Yoon (KIST)</i>	
15:50 – 16:10	Wearable Biomedical Devices for Applications Toward Addiction Detection and Treatment Monitoring Prof. Chi Hwan Lee (Purdue University)
16:10 – 16:30	Smart Closed-Loop Medical Devices with μSensors and μActuators for Addiction Prevention and Treatment Prof. Hyowon (Hugh) Lee (Purdue University)
16:30 – 16:50	Spectral Vision for mHealth Applications Toward Addiction Detection and Treatment Monitoring Prof. Young L Kim (Purdue University)
16:50 – 17:10	Physics Meets Artificial Intelligence: Biocybernetics and Computational Principles Dr. Kyungreem Han (KIST)
17:10 – 17:30	Closing Remarks Dr. Sun Hwa Kim (KIST)

[Friday, 11 July 2025]

Time	Contents
Collaboration and Research Networking Session	
<i>Moderator: Dr. Hong Yeol Yoon (KIST)</i>	
10:30 – 11:30	Lab Tour Biomedical Research Division, KIST - Medicinal Materials Research Center - Biomaterials Research Center - Center for Advanced Biomolecular Recognition - Bionics Research Center - Chemical and Biological Integrative Research Center
11:30 – 12:30	Discussion and Research Collaboration