

Plenary Lecture I

Chemical reprogramming: The path to the next generation of regenerative medicine

Apr. 18th (Thu), 11:00-11:40, Event Hall A

Chair Hyuk-Jin Cha (College of Pharmacy, Seoul National University)



Hongkui Deng
(Professor, School of Life Sciences, Peking University, China)

PL I

11:00-11:40

Cellular reprogramming can manipulate the identity of cells to generate the desired cell types. The use of cell intrinsic components, including oocyte cytoplasm and transcription factors, can enforce somatic cell reprogramming to pluripotent stem cells. By contrast, chemical stimulation by exposure to small molecules offers a novel approach that can manipulate cell fate in a simple and highly controllable manner. However, human somatic cells are refractory to chemical stimulation owing to their stable epigenome and reduced plasticity; it is therefore challenging to induce human pluripotent stem cells by chemical reprogramming. Recently, we achieved the chemical reprogramming of human somatic cells to pluripotent stem cells, and identified crucial steps and pathways that act as barriers to chemically induced reprogramming of human cells. Most interestingly, human cells undergoing chemical reprogramming transit a unique intermediate plastic state, showing the activation of a regeneration-like program resembling that in axolotl blastema cells arising during limb regeneration. Single-cell transcriptomic and histone modification profiling unveiled an epigenome remodeling process in which proinflammatory pathways and enhancer silence are crucial intrinsic barriers to the chemical manipulation of human cells. Targeting cell metabolic state also facilitated a reproducible, rapid, and efficient pathway for chemical reprogramming and the generation of pluripotent stem cells. Collectively, our work provides insights into human cell fate regulation through a chemical lens, which is promising for future development of pharmacological approaches for regeneration.



Plenary Lecture II

Future prospects and development direction of pharmaceutical industry through technical analysis

Apr. 18th (Thu), 15:20-16:00, Event Hall A

Chair Dong Hee Na (College of Pharmacy, Chung-Ang University)



Yunhong Noh
(Chairman, Korea Pharmaceutical and Bio-Pharma Manufacturers Association)

PL II

15:20-16:00

글로벌 제약산업의 트렌드를 바탕으로 전 세계적으로 중요하게 취급되는 기술들이 무엇인지 분석하고, 이를 국내 상황과 비교하여 한국의 현재 위치를 파악한다. 또한 제약산업 전문가들의 시각에서 국내 제약바이오산업의 발전 방향을 도출한다. 구체적으로는 첫째, 산업동향 분석에서는 제약산업의 글로벌 트렌드를 파악하고, 경쟁국과의 주요 지표 비교를 통하여 현재 한국의 위치를 확인한다. 또한 국내외 제약기업의 AI 기술 투자와 신약 파이프라인 현황을 파악한다. 둘째, 기술 분석을 통하여 글로벌 빅파마가 활발히 투자하고 있는 주요 기술들을 도출하고, 도출된 기술들의 개발 현황과 주목할 만한 플레이어들을 기술한다. 그리고 신약 개발 파이프라인에 활용되고 있는 AI 기술, 대표적인 사례, 국내 임상단계 AI 신약개발 파이프라인 현황을 분석한다. 셋째, 정책 분야에서는 신개념·신기술 상용화를 위한 국가별 정책을 테마별로 구분하고, 제약산업 전문가들의 시각에서 국내 제약바이오산업의 강점과 약점, 그리고 그에 따른 발전 방안과 중점과제를 제안한다.



Special Symposium 1

Educational program: Leveraging AI in pharmaceutical research

Apr. 17th (Wed), 15:30-17:00, Event Hall A

The "Leveraging AI in Pharmaceutical Research" educational program is designed to provide graduate students in pharmaceutical sciences with essential skills and knowledge at the intersection of artificial intelligence (AI) and pharmaceutical sciences. The program consists of three lectures tailored to provide practical insights and techniques relevant to current research practices. First, participants will learn simple transcriptome analyses tailored for those with limited familiarity with the statistical programming language R to facilitate their exploration of molecular biology data. Next, participants will explore the proper use and interpretation of AlphaFold, a state-of-the-art AI tool that is transforming protein structure prediction in pharmaceutical research. Finally, the program will explore the evolving landscape of academic writing in the ChatGPT era, offering strategies and guidelines for using advanced language models in research data acquisition and paper writing. Through these sessions, attendees will gain valuable skills and perspectives to effectively leverage AI advances in their pharmaceutical research endeavors.

Organizer	Keon Wook Kang (College of Pharmacy, Seoul National University) Sun-Young Han (College of Pharmacy, Gyeongsang National University)
Chair	Wan Namkung (College of Pharmacy, Yonsei University)
SS1-1 15:30-16:00	Simple transcriptome analysis for the "R-ignorant" Hyuk-Jin Cha (College of Pharmacy, Seoul National University) How to use and interpret AlphaFold correctly?
SS1-2 16:00-16:30	Juyong Lee (College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul National University) Academic writing in the ChatGPT era
SS1-3 16:30-17:00	Sangzin Ahn (College of Medicine, Inje University)

Special Symposium 2

Academic Committee Workshop: Cutting-edge pharmaceutical and biomedical research

Apr. 17th (Wed), 15:30-17:10, Event Hall B

This symposium is designed to facilitate in-depth discussion and interactive session, enabling attendees to connect with like-minded professionals and explore solutions to current challenges in pharmaceutical and biomedical research.

Organizer	Dong-Gyu Jo (School of Pharmacy, Sungkyunkwan University)
Chair	Dong Hee Na (College of Pharmacy, Chung-Ang University)
SS2-1 15:30-15:55	Deciphering the molecular mechanisms of enigmatic pruritus Won-Sik Shim (College of Pharmacy, Gachon University) Total synthesis of natural products for their applications in medicinal chemistry and biological studies
SS2-2 15:55-16:20	Jae Hyun Kim (College of Pharmacy, Chung-Ang University) Integrating pharmacokinetics: A key player in drug development success
SS2-3 16:20-16:45	Yoon-Jee Chae (College of Pharmacy, Woosuk University) Role of adipocyte death in the development of fatty liver disease
SS2-4 16:45-17:10	Seonghwan Hwang (College of Pharmacy, Pusan National University)



Luncheon Symposium I

Pfizer: Making breakthroughs that change patients' lives

(Pfizer Pharmaceuticals Korea Ltd.)

Apr. 18th (Thu), 11:50-12:40, Event Hall B

Organizer & Chair	Jae-Young Lee (College of Pharmacy, Seoul National University)
LS I 11:50-12:40	Dongwook Oh (Country Manager, Pfizer Pharmaceuticals Korea Ltd.)

Luncheon Symposium II

Chromatography solutions for good pharmaceutical analysis

(Waters Korea Ltd.)

Apr. 19th (Fri), 12:10-13:00, Event Hall B

One of the most troublesome challenges in chromatography labs today is "analyte loss". One specific cause for some of this chromatographic challenge is related to metal-sensitive compounds. Unfortunately, these compounds include large biomolecules like oligonucleotides, glycans or peptides. Waters' new High Performance Surface(HPS) technology eliminates analyte/metal surface interactions, delivering new levels of chromatographic performance and productivity never before seen. For analytes that are more sensitive to metal-surface interactions, such as oligonucleotides, acids, and phosphorylated peptides, sensitivity, dynamic range, peak shape, and capacity can be dramatically improved. In this seminar, High Performance Surface technology and how biopharmaceutical analysis can be improved by this technology will be introduced.	
Organizer & Chair	Dong Hee Na (College of Pharmacy, Chung-Ang University)
LSII 12:10-13:00	Chromatography solutions for improving sensitivity and resolution in biopharmaceutical analysis Kyuyoung Choi (Principal Business Development Manager, Instrument Marketing, Waters Korea Ltd.)



Presentation by Exhibition Companies

Introduction of the Latest Technologies by Exhibiting Companies

Apr. 19th (Fri), 11:00-12:00, Event Hall B

Organizer & Chair	
	Dong Hee Na (College of Pharmacy, Chung-Ang University)
10:00-11:07	Introduction of 'Click! Global Biopharmaceutical Information' service and KoBIA(Korea Biomedicine Industry Association)
	Heekyung Kim (Business Intelligence Support, KoBIA)
11:07-11:14	Innovative in silico research support with schrödinger software solutions
	Kichul Park (LNPsolution)
11:14-11:21	In vivo cellular-level imaging using intravital microscope
	Sujin Park (IVIM Technology Corp.)
11:21-11:28	In vitro ADME for New Drug Development
	Eun-young Ahn (SPMED Co., Ltd.)
11:28-11:35	Automated live cell imaging system for drug screening
	Suna Kang (CHAYON Laboratories, Inc.)
11:35-11:42	Chromatography solutions for good pharmaceutical analysis
	Kyuyoung Choi (Waters Korea)

Symposium 1

The pharmacological insight of medical cannabis

(Joint symposium of Pharmacology and Korea Medical Cannabis Research Association)

Apr. 18th (Thu), 09:00-10:40, Event Hall A

Cannabis, a plant containing various ingredients, including cannabinoid, has been classified as a narcotic in many countries due to its psychoactive effects and its use has been strictly regulated. Recently, it has been reported that the active ingredients of cannabis, such as cannabidiol (CBD), possess various medical effects, including pain relief, epilepsy treatment, and anti-cancer effects, and interest for the medical use of cannabis is increasing. This session aims to present recent research findings on 1) the utilization of cannabis as a new medical resource, 2) the industrialization of medical cannabis, 3) the pharmacological actions and addictiveness/indulgence of cannabis from the perspectives of pharmacologists and medical cannabis researchers, and to share relevant research trends with the audience. Additionally, in light of the growing interest in the medical use of cannabis, this session will review various issues related to the regulation, utilization, and safety of cannabis.

Organizer	Pil-Hoon Park (College of Pharmacy, Yeungnam University)
Chair	Han-Jung Chae (School of Pharmacy, Jeonbuk National University)
S1-1	Challenges in the health use of cannabis in Korea
09:00-09:25	Jae Hoon Cheong (Institute for New Drug Development, School of Pharmacy, Jeonbuk National University)
S1-2	Cannabis as an emerging medical resource: Exploring future value
09:25-09:50	Sanghyuck Park (Institute of Cannabis Research, Colorado State University – Pueblo, USA)
S1-3	Abuse liability and psychotoxic effects of new synthetic cannabinoid psychoactive substances
09:50-10:15	Choon-Gon Jang (School of Pharmacy, Sungkyunkwan University)
S1-4	Industrialization research utilizing the pharmacological effects of medical cannabis
10:15-10:40	HyunJoo Shim (School of Pharmacy, Jeonbuk National University)



Symposium 2

Advancement of pharmaceutical management in the era of digital transformation

(Joint symposium of Community Pharmacy, Pharmacal Management Network Society, and KYPG)

Apr. 18th (Thu), 09:00-10:40, Event Hall B

In the era of digital transformation, changes in the pharmacy ecosystem are also accelerating. The pharmacy ecosystem, as a network convergence of pharmaceuticals, distribution, pharmacies, and pharmaceutical services, requires not only optimal platforms, systems, software, and service content for successful digital transformation, but also the establishment and application of management theories suitable for the times. In this session, we aim to share various theoretical frameworks and successful cases of pharmacy management used in pharmacy services, pharmaceutical distribution, and the pharmaceutical industry field, in order to advance pharmacy management suitable for the digital transformation era.

Organizer	Hyunji Koo (College of Pharmacy, Kyungshung University)
Chair	Hye yoon Choi (Hyundai Onnuri Pharmacy)
S2-1 09:00-09:20	Digital pharmaceutical technology and pharmacy management of the future Byoung-ju Kim (Charmacist Corp.)
S2-2 09:20-09:40	Pharmaceutical distribution platform development process and desirable digital transformation direction for pharmacies Dong-Han Lee (Graduate School of Business, Sookmyung Women's University)
S2-3 09:40-10:00	Beyond distributor by digital innovation; BlueMTec Bung Chan Chung (BlueMTec)
S2-4 10:00-10:20	A study on factors affecting the continuous use intention of pharmacy medication platforms by applying the Extended Technology Acceptance Model(ETAM) Choong Woo Lee (Graduated School of Professional Studies, Sookmyung Women's University)
S2-5 10:20-10:40	The pharmacist's role and the future of pharmacy in the era of digital transformation Jooyoung Kim (Welt Corp.)

Symposium 3

Biopharmaceutical tech transfer; What' s the key point? (feat, Recruiting)

(Academic Committee 1)

Apr. 18th (Thu), 09:00-10:40, Conference Hall A

The concept of open innovation emerged as part of the innovation of socialization of pharmaceutical companies. And, domestic pharmaceutical companies are also reporting the recent technology transfer deal. Technology transfer can secure competitiveness by accelerating innovation and further lower the threshold for entering the global market. Therefore, it is necessary to be familiar with the considerations to be considered when transferring technology in advance so that it can have a positive direction. In this symposium, we introduce the cases of pharmaceutical companies that have recently succeeded in technology transfer agreement and their core technologies and share strategies for successful technology transfer. In addition, we would like to review the considerations for technology transfer and consider ways to achieve practical success in mid- to long-term cooperation.

Organizer	Sang Ho Lee (College of Pharmacy, Jeju National University)
Chair	Minsun Chang (College of Science, Sookmyung Women's University)
S3-1 09:00-09:25	Development of bersiporocin, a PRS inhibitor for the treatment of fibrotic diseases Joon Seok Park (Drug Discovery Center, Daewoong Pharmaceutical Co., Ltd)
S3-2 09:25-09:50	BD behind the scenes: from partnering to deal closing Kyuri Kim (Orum Therapeutics)
S3-3 09:50-10:15	LCB84, a novel next-generation TROP-2 direct ADC Changsik Park (LigaChem Biosciences, Inc.)
S3-4 10:15-10:40	A collaborative drug development journey of lazertinib for NSCLC patients Se-Woong Oh (R&D Institute, Yuhan Corporation)



Symposium 4

Establishment of department of innovative new drug and direction of pharmacy education

(Korean Association of Pharmacy Education)

Apr. 18th (Thu), 09:00-10:40, Conference Hall B

In addition to introducing the current establishment and operation of the innovative new pharmacy department, we would like to examine and discuss the educational direction that pharmacy education should promote for cultivating talented people in the new drug development and direction of pharmacy education in the future.

Organizer	Younghwa Na (College of Pharmacy, CHA University)
Chair	Sang Beom Han (College of Pharmacy, Chung-Ang University))
S4-1 09:00-09:20	Department of Biologics, Gachon University Dongyun Shin (College of Pharmacy, Gachon University)
S4-2 09:20-09:40	Education objectives of the innovative new drug program in the School of Transdisciplinary Innovations at Seoul National University Keon Wook Kang (College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul National University)
Topic Discussion (09:40-10:40) Establishment of department of innovative new drug and direction of pharmacy education	

Symposium 5

Promoting women talents and big data insights on gender differences in pharmacy

(Joint symposium of Korea Foundation of Women in Science, Engineering and Technology (WISSET) and PSK)

Apr. 18th (Thu), 09:00-10:40, Conference Hall C

This jointly organized session by PSK and WISSET aims to promote women talents and big data insights for gender differences in pharmacy. We are delighted to host five distinguished speakers. The first segment will feature two speakers who will delve into policies for promoting the women talents in the science and technology. Following this, three speakers will subsequently share insights on gender difference research utilizing big data and AI in the pharmaceutical field.

Organizer	Eun Joo Song (College of Pharmacy, Ewha Womans University) Aree Moon (Korea Foundation for Women in Science, Engineering and Technology (WISSET))
Chair	Sung Won kwon (College of Pharmacy, Seoul National University) Eun Joo Song (College of Pharmacy, Ewha Womans University)
S5-1 09:00-09:20	Strategy for future talent of science and technology in digital transformation era Aree Moon (Korea Foundation for Women in Science, Engineering and Technology (WISSET))
S5-2 09:20-09:40	Projects and policies for Korean women scientists Hyewhon Rhim (The association of Korean Woman Scientists and Engineers)
S5-3 09:40-10:00	Gender differences: Women and drugs Heesun Chung (Department of Forensic Science, Sungkyunkwan University)
S5-4 10:00-10:20	Estrogen effect on sex-difference in liver cancer: Target discovery for AI-assisted drug screening Sang Geon Kim (College of Pharmacy, Dongguk University)
S5-5 10:20-10:40	Men are from Mars? Women are from Venus?: Gender differences and their implications in developmental disorders Chan Young Shin (School of Medicine, Konkuk University / Neuroventi Inc.)



Symposium 6

Entering the era of a great step forward in artificial intelligence drug discovery

(Korea Pharmaceutical and Bio-Pharma Manufacturers Association)

Apr. 18th (Thu), 13:20-15:00, Event Hall A

In recent years, the integration of artificial intelligence (AI) into drug discovery processes has revolutionized the pharmaceutical industry. This symposium aims to explore the forefront of AI-driven drug discovery, showcasing cutting-edge research, innovative methodologies, and transformative applications. From predictive modeling and virtual screening to molecular design and target identification, AI offers unprecedented opportunities to expedite the development of novel therapeutics and address complex medical challenges. Join us as we delve into the interdisciplinary realm of AI-powered drug discovery, where machine learning algorithms, deep neural networks, and big data analytics converge to redefine the future of medicine.

Organizer	Hwa Jong Kim (Convergence AI Institute for Drug Discovery)
Chair	Jae-Sung Hwang (Korea Pharmaceutical and Bio-Pharma Manufacturers Association)
S6-1 13:20-13:45	FAM (Federated ADMET Model) for drug discovery Hwa Jong Kim (Convergence AI Institute for Drug Discovery)
S6-2 13:45-14:10	AI empowered biomarker discovery and drug development strategy Junhee Pyo (D5 Therapeutics)
S6-3 14:10-14:35	AI-based manufacturing quality management trends and responses Jin Hyun Jeong (WHO GBC Education Center, Seoul National University)
S6-4 14:35-15:00	Chembiinformatic approach for developing novel anti-tubercular agent Inhee Choi (Medicinal Chemistry, Institut Pasteur Korea)

Symposium 7

Innovative molecules and organic synthesis for drug discovery

Apr. 18th (Thu), 13:20-15:00, Event Hall B

Innovative molecules and organic synthesis are crucial for drug discovery because they drive advancements in pharmaceutical research by introducing novel compounds and efficient synthetic routes. This focus on innovation accelerates the process of drug discovery by streamlining synthesis methods, ultimately contributing to the expansion of the pharmaceutical industry and the betterment of global healthcare. In this session, the research achievements related to innovative molecules and organic synthesis will be shared by four speakers. The first speaker is Prof. Kyungsoo Oh at Chung-Ang University who investigates the development of aerobic nitro-nitrite isomerization-driven chemical transformations. Next, Prof. Tomoyasu Hirose at Kitasato University in Tokyo, Japan, will introduce the utilization of hydrophobic TAGs for synthesizing unique peptide natural products. In the third presentation, Prof. Sunkyu Han at KAIST will give a talk about the synthesis of complex Securinega alkaloids. Finally, Prof. Yongseok Kwon at Sungkyunkwan University will present crafting atropisomers method as a catalytic approach to dynamic kinetic resolution.

Organizer	Yohan Park (College of Pharmacy, Chungnam National University)
Chair	Dongjoo Lee (College of Pharmacy, Ajou University)
S7-1 13:20-13:45	Development of aerobic nitro-nitrite isomerization-driven chemical transformations Kyungsoo Oh (Center for Metareceptome Research, Graduate School of Pharmaceutical Sciences, Chung-Ang University)
S7-2 13:45-14:10	Utilization of hydrophobic TAGs for synthesis of unique peptide natural products Tomoyasu Hirose (Ômura Satoshi Memorial Institute, Kitasato University, Japan)
S7-3 14:10-14:35	Synthesis of complex securinega alkaloids Sunkyu Han (Department of Chemistry, Korea Advanced Institute of Science and Technology)
S7-4 14:35-15:00	Crafting atropisomers: Catalytic approaches to dynamic kinetic resolution Yongseok Kwon (School of Pharmacy, Sungkyunkwan University)



Symposium 8

Symposium exploring the future of natural product research: Experience and outlook

Apr. 18th (Thu), 13:20-15:15, Conference Hall A

Over the past decades, natural products have been invaluable sources of inspiration for medicine, agriculture, and industry. From traditional remedies to modern pharmaceuticals, the study of natural products continues to offer vast potential for innovation and discovery. We face to examine the intersection of traditional knowledge with cutting-edge science, highlighting the importance of collaboration and interdisciplinary approaches in advancing natural product research. Through shared experiences and forward-looking perspectives, we aim to explore emerging trends, challenges, and opportunities shaping the future of this field.

Organizer	Ki Yong Lee (College of Pharmacy, Korea University)
Chair	Min Hye Yang (College of Pharmacy, Pusan National University)
S8-1 13:20-13:45	Research of natural product medicine through bioconversion Minwon Lee (College of Pharmacy, Chung-Ang University)
S8-2 13:45-14:10	Natural product research: What is the best way? Youn-Chul Kim (College of Pharmacy, Wonkwang University)
S8-3 14:10-14:35	Introduction to narcotic <i>Papaver spp.</i> plants and <i>umbelliferae</i> herbal medicines of various origins Wan Kyunn Whang (Department of Global Innovative Drugs, Graduate School of Chung-Ang University)
S8-4 14:35-15:00	Discovery of small molecules targeting anti-osteoclastogenic activity from herbal medicinal plants Byeong Sun Min (College of Pharmacy, Daegu Catholic University)
S8-5 15:00-15:15	Discovery of terminal oxazole-bearing natural products by a targeted metabolomic approach Jiyeon Park (College of Pharmacy, Seoul National University)

Symposium 9

A new horizon for prevention and treatment of diseases based on microbiome

Apr. 18th (Thu), 13:20-15:00, Conference Hall B

The microbiome is composed of numerous microorganisms in the human body. It has now become clear that this microbiome interacts with human organs and is deeply involved in health and diseases. Therefore, in the future, it is expected to understand the multidimensional interconnected networks established by the microbiome and utilize it for development of new drugs and treatment of diseases. This symposium aims to introduce the current status of domestic research and future development directions related to the microbiome.

Organizer & Chair	Kyu-Won Kim (College of Pharmacy, Seoul National University)
S9-1 13:20-13:45	The role of gut/vaginal microbiota in the occurrence of psychiatric disorders Dong-Hyun Kim (College of Pharmacy, Kyung Hee University)
S9-2 13:45-14:10	Microbiome & probiotics as a reason & solution of oral disease Hyesung Kim (Apple Tree Medical Foundation, Dental Hospital)
S9-3 14:10-14:35	Gut-lung axis in antimicrobial host defense Eun-Kyeong Jo (College of Medicine, Chungnam National University)
S9-4 14:35-15:00	Modulation of senoinflammation by novel probiotics during aging Hae Young Chung (College of Pharmacy, Pusan National University)



Symposium 10

Accelerating the development of innovative medicines through regulatory science collaborations

(Joint symposium of Ministry of Food and Drug Safety and Korea Regulatory Science Center)

Apr. 18th (Thu), 13:20-15:15, Conference Hall C

The 8th Regulatory Science Innovation Forum, hosted by the Ministry of Food and Drug Safety and organized by the Korea Regulatory Science Centre, will be held at the 2024 Spring International Convention of the Pharmaceutical Society of Korea. With the recent development of innovative medical products and the rapid growth of the global biohealth market, the role of regulatory science in facilitating the commercialization of innovative drugs is critical. This session will discuss the need and strategies for an industry-academia-government-collaboration system based on the regulatory science platform, so that Korean innovative medical products can be made available to the public safely and quickly.

Organizer	Jin-hwi Kim (Innovative Regulatory Science Policy Division, Ministry of Food and Drug Safety)
Chair	In-sook Park (Korea Regulatory Science Center)

Opening Address (13:20-13:25)

Youn-joo Park (National Institute of Food and Drug Safety Evaluation)

	MFDS strategical approaches for innovative product development
S10-1 13:25-13:50	Jeewon Joung (Innovative Products Development Support Department, Ministry of Food and Drug Safety)
S10-2 13:50-14:15	A comprehensive guide to developing iPS cell-derived therapies Yoojun Nam (YiPSCell Inc.)
S10-3 14:15-14:40	Application of regulatory science in development of rivoceranib and camrelizumab Seong Hoon Jang (Elevar Therapeutics, USA)

Topic Discussion (14:40-15:15)

Chair: Kyung Won Seo (Department of Food& Medical products Regulatory Policy, Dongguk University)

Panel: Jeewon Joung (Innovative Products Development Support Department, Ministry of Food and Drug Safety)

Yoojun Nam (YiPSCell Inc.)

Seong Hoon Jang (Elevar Therapeutics, USA)

Sukhyang Lee (College of Pharmacy, Ajou University)

Hae Sun Suh (College of Pharmacy, Kyung Hee University)



Symposium 11

Exploring innovations in aging research and healthy aging strategies

Apr. 19th (Fri), 09:00-10:40, Event Hall A

In organisms, senescent cells contribute to aging-related diseases and chronic conditions, yet their exact roles and interactions with neighboring cells remain unclear in terms of promoting issues like inflammation and tissue dysfunction. Recent advancements in bioinformatics, such as single-cell transcriptomics, provide fresh insights into this domain. Techniques like "senolysis" are designed to target and eliminate senescent cells selectively in vivo. These subjects will be covered in an upcoming session by experts. Specific topics will include epigenetic reprogramming for reversing Aging, metabolic changes in senescence, senotherapeutic approaches for adipose tissue aging, and the impact of multiparity on diabetes risk by limiting pancreatic β cell proliferation.

Organizer	Eun Ju Bae (School of Pharmacy, Jeonbuk National University)
Chair	Eunok Im (College of Pharmacy, Pusan National University)
S11-1 09:00-09:25	Epigenetic reprogramming for reversing aging clocks in mammals Jae-Hyun Yang (Department of Genetics – Blavatnik Institute, Harvard Medical School, USA)
S11-2 09:25-09:50	Metabolic alterations in senescence: mechanisms and opportunities for intervention Chanhee Kang (School of Biological Sciences, Seoul National University)
S11-3 09:50-10:15	Identification of a novel senotherapeutic agent for adipose tissue aging So-Young Park (Department of Physiology, College of Medicine, Yeungnam University)
S11-4 10:15-10:40	Multiparity elevates diabetes risk by limiting pancreatic β cell proliferation Joon Ho Moon (Division of Endocrinology and Metabolism, Seoul National University Bundang Hospital)



Symposium 12

Biological drug products: Development and strategies

Apr. 19th (Fri), 09:00-10:40, Event Hall B

Biopharmaceutical drug products are crucial for delivering safe and effective drugs to patients. Successful development requires a comprehensive strategy that integrates understanding of biomaterial properties, selection of excipients, optimization of manufacturing processes, and careful consideration of container and delivery device. This symposium presents the key considerations and strategies for biopharmaceutical drug product development, along with recent research trends in the industry.

Organizer	Jae-Woon Son (MSAT, GC Biopharma Corp.)
Chair	Dong-Hee Na (College of Pharmacy, Chung-Ang University)
S12-1 09:00-09:25	Formulation development for therapeutic antibody Yoonseok Lee (Biotherapeutics CMC Center, Chong Kun Dang pharmaceutical Corp.)
S12-2 09:25-09:50	DEVELOPICK: Samsung Biologics developability assessment tool for biologics Heon-chang Lim (CDO center, Samsung Biologics)
S12-3 09:50-10:15	Lyophilized formulation development for biopharmaceuticals Jihoon Kim (KBIOHealth (Osong Medical Innovation Foundation))
S12-4 10:15-10:40	Development of injection devices: trends and case studies Jineon So (CMCR&D, Life Sciences, LG Chem)

Symposium 13

Development and optimization of biodrugs using cutting-edge technology

(KBIO Health)

Apr. 19th (Fri), 09:00-10:40, Conference Hall A

The OSONG Medical Innovation foundation(KBIOHealth®) aims to foster innovation and growth in the Korean medical industry by facilitating research activation, commercialization, and the development of high-tech medical solutions. As an organization, KBIOHealth® supports medical research and development, leading the way in innovative advancements within the biomedical field. The **New Drug Development Center**, a vital component of this foundation, establishes and maintains infrastructure for identifying global-level bio drug candidates, enhancing new drug development efficiency, and bolstering pharmaceutical industry competitiveness. Additionally, this symposium has been organized to assist researchers and developers by exploring cutting-edge technologies relevant to biopharmaceutical development, including artificial intelligence, live imaging, synchrotron radiation accelerator utilization, and spatial biology

Organizer	Won-Kyu Lee (OSONG Medical Innovation Foundation)
Chair	Je-wook Lee (OSONG Medical Innovation Foundation)
S13-1 09:00-09:20	Platform for advancing and utilizing generative AI technology for protein drug discovery Junsu Ko (Arontier Co., Ltd.)
S13-2 09:20-09:40	Holotomography and artificial intelligence: label-free 3D imaging, classification, and inference of live cells, tissues, and organoids YongKeun Park (College of Basic Sciences, Korea Advanced Institute of Science and Technology / Tomocube Inc.)
S13-3 09:40-10:00	AI-based Acceleration of drug discovery Woo Youn Kim (Department of Chemistry, Korea Advanced Institute of Science and Technology / HITS Inc.)
S13-4 10:00-10:20	Ambient temperature serial crystallography Ki Hyun Nam (College of General Education, Kookmin University)
S13-5 10:20-10:40	Understanding Biology through Spatiotemporal Omics Minji Lim (Bio-Medical Science Co., Ltd.)



Symposium 14

Evidence-based pharmaceutical advancement: Research and education through collaboration with healthcare institutions

(Joint symposium of Clinical Pharmacy and Hospital Pharmacy)

Apr. 19th (Fri), 09:00-10:40, Conference Hall B

With the restructuring of the educational system to a six-year curriculum, pharmacy schools and healthcare institutions have been collaborating to provide students with practical training education. Beyond offering education to students, pharmacy schools and healthcare institutions can also create synergy in both educational and research aspects for the development of evidence-based pharmaceutical care. Faculty members from pharmacy schools can contribute to the advancement of pharmacist education and research in healthcare institutions, while pharmacists in these institutions can strive to educate future generations and practice advancement. The current collaboration models between pharmacy schools and healthcare institutions are diverse, necessitating an understanding of the current status and the development of more progressive models through the exploration of various models. This necessitates a review of collaboration models between pharmacy schools and healthcare institutions in other advanced countries. This symposium will serve as a platform to discuss these issues together.

Organizer	Ju-Yeun Lee (College of Pharmacy, Seoul National University) Kyung Suk Choi (Seoul National University Bundang Hospital)
Chair	Jeong Hyun Yoon (College of Pharmacy, Pusan National University) Jung Tae Kim (Kyung Hee University Hospital at Gangdong) Collaborative Models in Practice, Research, and Education: Insights from Pharmacy Schools and Healthcare Institutions in the United States
S14-1 09:00-09:25	Jaekyu Shin (School of Pharmacy, University of California San Francisco, USA) Collaborative models in pharmacy practice, research and education: Perspectives of Korean pharmacy school
S14-2 09:25-09:50	Eun Kyoung Chung (College of Pharmacy, Kyung Hee University) Collaborative models in pharmacy practice, research, and education: Perspectives of hospitals in Korea
S14-3 09:50-10:15	Kyung Suk Choi (Seoul National University Bundang Hospital / Korea Hospital Pharmaceutical Education & Research Center) Collaborative models in pharmacy practice, research, and education: Future directions for better collaborations
S14-4 10:15-10:40	Eunkyoung Euni Lee (College of Pharmacy, Seoul National University)

Symposium 15

Novel biochemical approaches for drug development

(Early-career Scientists in Pharmacy I)

Apr. 19th (Fri), 09:00-10:40, Conference Hall C

Drug development depends heavily on understanding the complex biochemical landscape of diseases. Recent years have seen tremendous strides in powerful biochemical techniques, opening new avenues for therapeutic intervention. This session features presentations by early-career researchers who are applying these cutting-edge approaches, driving fresh discoveries with translational potential. Throughout the session, Prof. Inwha Baek and Prof. Hanseul Park will present innovative biochemical strategies to dissect disease-associated signaling mechanisms and identify promising drug targets. Topics may include the detection and targeted regulation of transcription either in vitro and in vivo. Prof. Soah Lee and Prof. Hanjun Kim will offer compelling insights into method development for functional investigation of living cells. This session creates a dynamic forum for young scientists to showcase their research and aims to inspire further collaborations within the Pharmaceutical Society of Korea, pushing the frontier of biochemical drug discovery.

Organizer	Ja Hyun Koo (College of Pharmacy, Seoul National University)
Chair	Tae Hyun Kim (College of Pharmacy, Sookmyung Women's University)
S15-1 09:00-09:25	Transcriptional regulation for cell fate engineering Inwha Baek (College of Pharmacy, Kyung Hee University)
S15-2 09:25-09:50	Current advanced in gene and cell therapy for incurable disease Hanseul Park (College of Pharmacy, Chungbuk National University)
S15-3 09:50-10:15	Cardiac tissue engineering using human induced pluripotent stem cells for disease modeling Soah Lee (College of Pharmacy, Sungkyunkwan University)
S15-4 10:15-10:40	Organ-on-a-chip technology for disease modeling Hanjun Kim (College of Pharmacy, Korea University)



Symposium 16

Biochemical and molecular biological application in target and drug discovery

Apr. 19th (Fri), 13:40-15:35, Event Hall A

The biochemical and molecular biological research on new targets is a basic step for drug discovery and development providing fundamental methods for overcoming the limitations of existing disease treatments. This session introduces recent outstanding achievements in this research field by domestic researchers.

Organizer	Young Jun Im (College of Pharmacy, Chonnam National University)
Chair	Chang Yeob Han (School of Pharmacy, Jeonbuk National University)
S16-1 13:40-14:05	Enhancer activation and phase separation in transcription Soohwan Oh (College of Pharmacy, Korea University)
S16-2 14:05-14:30	Structure-guided discovery of novel chemical scaffolds that fit the active site of β-lactamases Sun-Shin Cha (Department of Chemistry & Nanoscience, Ewha Womans University)
S16-3 14:30-14:55	Defining the tumor microenvironment in various cancer models towards new therapeutic strategies Miso Park (College of Pharmacy, Kangwon National University)
S16-4 14:55-15:20	The functional relevance of an immuno-metabolic crosstalk in lung inflammation Dong Wook Choi (College of Life Sciences and Biotechnology, Korea University)
S16-5 15:20-15:35	Partial in vivo reprogramming enables injury-free intestinal regeneration via autonomous Ptgsl induction Jumee Kim (College of Pharmacy, Seoul National University)

Symposium 17

Strengthening pharmaceutical and biotech technologies

(Industry-Academia Cooperation Committee)

Apr. 19th (Fri), 13:40-15:20, Event Hall B

We introduce technology advancement and business strategies for pharmaceutical and bio industries inevitably requiring global development and advancement of innovative technologies. Dr. Lee at Green Cross makes a presentation on the challenges of domestic pharmaceutical companies in global new drug development. Dr. Kim at Inventage Lab presents a novel microfluidic Drug Delivery System (DDS) platform technology. Dr. Ko at GI Innovation presents the latest research on the development of dual-specific proteins using an innovation platform and out-licensing cases. Dr. Kim at MThera Pharma presents research on identifying the mechanism of action of active ingredients in botanical drug using artificial intelligence and omics data research. Through these great achievements, domestic pharmaceutical companies seek to play a leading role in new drug development and secure global competitiveness by utilizing innovative technologies and global networks.

Organizer	Mi Won Sohn (Mthera Pharma Co., Ltd.)
Chair	Kwon Yeon Weon (College of Pharmacy, Daegu Catholic University)
S17-1 13:40-14:05	Global new drug development challenge of domestic pharmaceutical company Jaewoo Lee (Development Department, GC Biopharma Corp.)
S17-2 14:05-14:30	Novel microfluidic DDS platform Juhee Kim (Inventage Lab Inc.)
S17-3 14:30-14:55	Exploring new avenues in bispecific immunotherapy: Advancements in drug development Young Jun Koh (Clinical and Strategy Division, GI Innovation, Inc.)
S17-4 14:55-15:20	Application of systems biology network modeling in botanical drug development Sinyeon Kim (Efficacy team, Mthera Pharma Co., Ltd.)



Symposium 18

Applications of outcome-based education

(Korean Accreditation Council for Pharmacy Education)

Apr. 19th (Fri), 13:40-15:20, Conference Hall A

Outcome-based education (OBE) is an educational approach that focuses on defining specific learning outcomes or competencies that students are expected to achieve by the end of a course or program. In the context of pharmacy education, OBE aims to ensure that pharmacy graduates possess the necessary knowledge, skills, and attitudes required to meet the evolving needs of the profession for new drug development and provide high-quality patient care. By defining clear learning outcomes, OBE enables educators to design curricula, instructional methods, and assessment strategies that align with these outcomes. Therefore, the Korean Accreditation Council for Pharmacy Education aims to revise the second-cycle accreditation criteria for the global standard in pharmacy education in accordance with the social demands for competent pharmacists. Through this symposium, we introduce the practical application of the OBE in healthcare education for medical and pharmacy students.

Organizer	Yun Kyoung Song (College of Pharmacy, The Catholic University of Korea)
Chair	Joo Young Lee (College of Pharmacy, The Catholic University of Korea)
S18-1 13:40-14:05	Perspective on the upcoming ACPE Standards 2025, the evolution from the 2016 standards Jan Engle (American Council on Pharmaceutical Education, USA)
S18-2 14:05-14:35	Outcome-based education in medical education – Achievements and challenges Bo Young Yoon (Inje University College of Medicine)
S18-3 14:50-15:20	Strategies and limitations for application of outcome-based education in healthcare : Focusing on medical and dental education Jaebeum Bang (College of Dentistry, Kyung Hee University)

Symposium 19

Biopharmaceutics & DMPK for exploring innovation in the pharmaceutical industry

(Academic Committee II)

Apr. 19th (Fri), 13:40-15:20, Conference Hall B

The process of developing and producing new drugs in the pharmaceutical industry requires a combination of various specialties and technologies. To date, biopharmaceutics and DMPK(drug metabolism & pharmacokinetics) played crucial roles in the new drug development process. This symposium will primarily focus on topics of development strategies for the clinical entry of new drug candidates applicable to the pharmaceutical industry as well as recent advanced technologies related to DMPK. Thus, it will provide a valuable opportunity for pharmaceutical industry, academic and regulatory authority experts to come together to discuss effective strategies for new drug development and advancements in relevant technologies.

Organizer	Dong Hee Na (College of Pharmacy, Chung-Ang University)
Chair	Hye Suk Lee (College of Pharmacy, The Catholic University of Korea)
S19-1 13:40-14:05	<i>in vitro</i> ADME research for smart new drug development Jae-Gook Shin (Inje University College of Medicine / Busan Paik Hospital / SPMD Co., Ltd.)
S19-2 14:05-14:30	Evaluation of liver organoid metabolism as a screening platform for drug development Im-Sook Song (College of Pharmacy, Kyungpook National University)
S19-3 14:30-14:55	Model-informed development of new formulations for GLP-1 receptor agonists: Opportunities and challenges in pharmaceutical industry Soyoung Shin (College of Pharmacy, Chung-Ang University)
S19-4 14:55-15:20	PBPK modeling and simulation for biopharmaceutical aspects: Application to bioactive natural products In-Soo Yoon (College of Pharmacy and Research Institute for Drug Development, Pusan National University)



Symposium 20

Development of DNA/RNA and peptide delivery

(Early-career Scientists in Pharmacy II)

Apr. 19th (Fri), 13:40-15:20, Conference Hall C

This session introduces remarkable studies about RNA and peptide-based drug delivery contributing to prominent progress in field of drug delivery system. This session will exhibit the latest findings from young scientists for the innovative pharmaceuticals. The first speaker, Prof. Chaemin Lim, will present on the innovative drug delivery for brain tumor therapy of based on transcriptomics. Prof. Jeonghwan Kim will discuss the discovery of mRNA-based therapy for pulmonary diseases. The third speaker, Prof. In-Gyun Lee will present on the latest insights for designing of protein cages inspired by 'origami' principle. The last speaker, Prof. Hyo-Eon Jin will exhibit the advanced drug delivery systems of functional peptides. Ultimately, this session aims to discuss innovative scientific reports conducted by early-stage PIs and support to open opportunities for active collaboration.

Organizer	Yong-Hyun Han (Collage of Pharmacy, Kangwon National University)
Chair	Simmyung Yook (School of Pharmacy, Sungkyunkwan University)
S20-1 13:40-14:05	Enhancing brain tumor therapy through RNA-seq guided drug delivery Chaemin Lim (College of Pharmacy, CHA University)
S20-2 14:05-14:30	Nanoparticle-assisted messenger RNA therapy for pulmonary diseases Jeonghwan Kim (College of Pharmacy, Yeungnam University)
S20-3 14:30-14:55	Polymorphic self assembly of DegQ protein inspired by origami strategies In-Gyun Lee (College of Pharmacy, Seoul National University)
S20-4 14:55-15:20	Functional peptide-based drug delivery systems Hyo-Eon Jin (College of Pharmacy, Ajou University)

