



# Symposia Synopsis

## Plenary Lecture I

### Exosomes as organelle therapeutics

Apr. 20<sup>th</sup> (Thu), 12:00-12:40, Convention Hall

Chronic diseases and detrimental diseases are complex, heterogenous and polygenic, but their diagnoses are often based on similar observed symptomology, even though these symptoms may result from multiple different pathways. How to target multiple pathways at the same time or sequentially remains to be considered. Chronic diseases are progressively making evolution, often in unpredictable ways. How to cope up with disease evolution should be taken into consideration. We agree that no more low-hanging targets are left leaving only harder targets. These undruggable harder targets are typically intracellular and require larger 'keys' rather than small chemicals, but such larger 'keys' such as proteins are usually not permeable. To address these issues in front of us, we are struggling to have new therapeutic modalities. Though many promising new therapeutic modalities have been suggested, here I suggest designer exosomes as a new therapeutic modality at the organelle level. Exosomes have a few advantages to carry out functions which are very hard to be attributed to conventional therapeutics. Data to address the above issues will be Presented.

## Plenary Lecture II

### Therapeutic approaches based on pathogenesis in Alzheimer's disease

Apr. 20<sup>th</sup> (Thu), 16:10-16:50, Convention Hall

Dementia is the most feared disease in modern society, owing to the tremendous increase in the aging population. Dementia affects 10% of the over-65 population these days. Alzheimer's disease (AD) is the most common type of dementia. Although Aducanumab and Lecanemab have received conditional approval from the US FDA as a disease-modifying drug for AD, more clinical trials for various aspects of the disease are ongoing. Studies into the molecular pathogenesis of AD are being conducted in a variety of disciplines, including immunological responses, autophagy, glucose metabolism, lipid metabolism, and even the gut-brain axis-related microbiome. These researches provide various targets for therapeutic development and clinical trials. I will discuss different elements of molecular etiology in AD in order to understand basic mechanisms and therapeutic approaches. Also, current insights and status for the drug development based on pathogenesis of AD will be discussed.

## Luncheon Symposium I

### 1<sup>st</sup> Outstanding Young Researcher Award

Apr. 20<sup>th</sup> (Thu), 12:50-13:50, Vega Hall

The inaugural Outstanding Young Researcher Award will be presented during the 2023 Spring International Convention of the Pharmaceutical Society of Korea. This award is a vital component of the Future Pharmacy Fund Initiative, which was launched by the 53rd Executive Committee to encourage and support high-quality research conducted by promising young scholars, including graduate students and postdoctoral fellows. The most exceptional researchers in the fields of drug/biopharmacy, pharmaceutical/industrial pharmacy, and clinical/social pharmacy have been meticulously evaluated, and the final four recipients have been selected based on their exceptional research accomplishments. The primary objective of this new award is to inspire the next generation of scholars in the field of pharmacy to strive for excellence in research. It is hoped that this award will act as a catalyst for academic excellence and research innovation. In this symposium, attendees will have the opportunity to learn about the exceptional research conducted by the 2023 awardees.

## Luncheon Symposium II

### Development cases and prospective future of digital therapeutics

Apr. 21<sup>st</sup> (Fri), 12:00-12:45, Vega Hall

By introducing the concept and development trends of digital therapeutics, which will be the new paradigm of shift for medical treatment in the future, and actual case study of DTx company, we will look at the development direction and plan of digital therapeutics in the world.



## Symposium 1

### New drug development using exosomes

(Joint Symposium of Pharmaceutical Biochemistry & Molecular Biology and life and pharmacy academic society)

Apr. 20<sup>th</sup> (Thu), 10:00-11:30, Convention I

Small extracellular vesicles (sEVs) are nanoparticles released by most cells and carry various bioactive molecules (proteins, lipids, metabolites, and nucleic acids) responsible for cell-to-cell communication in multicellular organisms. Compared to conventional nanoparticles such as viral and synthetic nanocarriers, endogenously derived sEVs can evade phagocytosis, retain high biocompatibility, and exhibit low immunogenicity. Considering these unique and beneficial characteristics, sEVs have recently attracted considerable attention in the field of nanoparticle-based therapeutics in many areas. The session consists of three presentations with leading scientists of the field. They will show research on anticancer activity using sEVs secreted by engineering immune cells, research on the treatment effect of osteoporosis using exosome-like nanovesicles from a plant (Yam), and basic research on sEVs related to glucose metabolism and homeostasis.

## Symposium 2

### Epigenetic regulation of chronic diseases

(Joint Symposium of WBF and PSK)

Apr. 20<sup>th</sup> (Thu), 10:00-11:40, Convention II

Cells are structurally and functionally heterogeneous owing to the differential expression of genes, although genetically homogeneous. The epigenome plays a key role in gene expression and is closely related to life phenomena such as cell development, differentiation, growth, and aging. The regulation of gene expression depends on epigenetic changes by epigenetic regulators, which determine which genes are “turned on” or “off”. Epigenetic regulatory proteins are involved in various chronic diseases, such as cancer, metabolic diseases, and immune diseases, and are also the subject of an explosively growing field of drug development. This symposium aims to provide a new perspective on understanding chronic diseases through the latest research results in molecular biology, pathology, and epigenetics. In addition, this symposium aims to provide useful information for discovering new epigenetic therapeutic targets and modulators for the treatment of chronic disease.

## Symposium 3

### Big data analysis technology in new drug development

Apr. 20<sup>th</sup> (Thu), 10:00-11:40, Convention III

This session is composed of data-based pharmacological research centered on pharmacologists. Recently, pharmacological research on cells, animals, and humans has been reconstructed and expanded with a focus on big data. In particular, there are many examples of using new approaches based on artificial intelligence, and the technique is being applied in clinical trials. The purpose of this session is to facilitate access to data in the field of pharmacology by introducing the research of pharmacologists working in the college of pharmacy and pharmacologists working in the medical school.

## Symposium 4

### Trends in new compounds research from natural products

Apr. 20<sup>th</sup> (Thu), 10:00-11:40, Dynasty Hall

With aging and COVID-19 affecting healthcare worldwide, a healthy lifestyle and disease prevention have become more important. This has led to an increasing emphasis on preventive care, health, and natural products, which can be a valuable source of discovery for new drugs. Natural products can be effective in preventing and treating diseases because they have fewer side effects and are safer. Therefore, research on the development of natural product-based drugs is one of the most important areas.

The global market for natural product-based drugs is expanding, and domestic pharmaceutical companies are also building various pipelines for the development of natural product-based drugs and accelerating research and development. To this end, the process of discovering natural active substances for diseases using various natural materials is important, and through this, new active natural products can be developed.

In this session, we will present research strategies for the development of natural product-based drugs and introduce the process of discovering natural active substances for diseases using various plants, mushrooms, and microorganisms. Through this, we aim to present strategies for successful natural product-based drug development to researchers in related fields and the pharmaceutical industry, and to further contribute to the development of the natural product-based drug market.



## Symposium 5

### The development strategies of new chemical entity from successful preclinical cases

Apr. 20<sup>th</sup> (Thu), 10:00-11:40, Capella Hall

The preclinical stage is a critical step for the confirmation of drug efficacy and toxicity for new drug candidates to proceed to clinical trials with human subjects in the course of drug developments. Recently, there have been lots of efforts to develop the new approaches which can replace the conventional animal experiments. Further, a variety of strategies are required to lower the failure rate in the clinical stage of new chemical entity development. In this session, we would like to introduce the strategies for successful synthetic drug development by sharing preclinical cases of new chemical entity development, which have been conducted by domestic pharmaceutical and bio-venture companies, and the concepts necessary for conducting preclinical trials. The first speaker, Dr. Kim, Sung-Eun, will talk about the strategy for the development of epidermal growth factor receptor inhibitor as an anti-cancer drug, and the second speaker, Dr. Kim, Yirang, will give us an overview of what need to know for the development of anti-cancer drugs in the course of preclinical trials. The third speaker, Dr. Park, Chan Sun, will present the preclinical study of ENPP1 inhibitor, TXN10128, and the fourth speaker, Dr. Han, Taedong, will present the strategy to improve DMPK through preclinical candidates. We hope that this symposium will give you all a good chance to share information and ideas for the strategies to make preclinical experiments successful for the new chemical entity development.

## Symposium 6

### Trend of gene therapy for rare incurable diseases

Apr. 20<sup>th</sup> (Thu), 14:10-16:00, Convention I

Many studies have been conducted since the Cas9 genome editing was discovered to create new technologies that will increase the accuracy of precise genome editing while also increasing its safety. Genome editing in particular, with its ability to make precise and targeted modifications to DNA sequences, holds tremendous promise for the treatment of genetic diseases. This technology allows scientists to edit genes that cause genetic disorders, potentially curing the underlying cause of the disease. This session will discuss the current advance of genome editing tools and delivery of this system.

## Symposium 7

### Neurological diseases and innovative therapeutics

(Joint Symposium of KSBMB and PSK)

Apr. 20<sup>th</sup> (Thu), 14:10-16:00, Convention II

This PSK-KSBMB co-organized session aims to provide ample opportunities for the participants from two academic societies to discuss the cutting edge sciences and innovative therapeutic approaches regarding various neurological diseases. There are four renowned speakers invited from PSK and KSBMB, who are leading scientists in brain disorders.

## Symposium 8

### Stem cell based disease modeling and tissue regeneration

(Joint Symposium of KFRM and PSK)

Apr. 20<sup>th</sup> (Thu), 14:10-16:00, Convention III

Organoid, established by the recent advance of stem cell technology, mimics a certain type of tissue in vitro, which allows the researchers to study the underlying mechanism of pathogenicity and safety and efficacy of a therapeutic approach (e.g., small molecules or gene therapy). In addition, the in vivo cellular reprogramming, inducing cellular dedifferentiation promotes tissue regeneration. The recent interest in stem cells and tissue regeneration will be discussed in the session.



## Symposium 9

### Target identification for metabolic and immunologic disorders through innovative approaches

(Early-Stage PI)

Apr. 20<sup>th</sup> (Thu), 14:10-16:00, Vega Hall

The field of pharmaceutical research has been rapidly advanced in recent years. This session aims to ignite networking and cooperate between scientists in the field, and introduce the latest pharmacy studies. Metabolic diseases are often associated with immune disorders, and targeted therapy for curing both metabolic and immunologic diseases has yet to be established. In this session, latest findings from new generation scientists working on finding drug targets for metabolic diseases and/or immune regulation will be introduced. The first speaker, Prof. Hwang, will present on the pathologic roles and regulatory targets of neutrophils in the progression of non-alcoholic steatohepatitis (NASH). The second speaker, Prof. Koo, will discuss the new response of the Hippo pathway under hepatocellular stress conditions. The third speaker, Prof. Han, will present on the role of the portal venous system in guarding against liver pathology. Finally, the last speaker, Prof. Bae, will exhibit the identification of microbiome-derived lipid immunogens that regulate immunity in the body. Overall, this session will provide novel therapeutic approaches to deal with metabolic and immunologic diseases, and we hope to provide opportunities to connect established and emerging scientists to foster collaborative research among participants.

## Symposium 10

### Recent trends in pharmaceutical science and technology

(Early-Stage PI)

Apr. 20<sup>th</sup> (Thu), 14:10-15:50, Capella Hall

Over the last few years, there have been remarkable strides in pharmaceutical science and technology resulting in significant progress in therapy and a better understanding of the vital role dosage forms play in optimizing drug delivery within the body. This session will feature presentations on the latest developments and research in pharmaceutical technologies by a new generation of scientists. These include bilirubin-based nanomedicine, an oral delivery platform for cancer therapy, novel formulation strategies using AI, and lung delivery of mRNA by lipid nanoparticles. Additionally, the session aims to facilitate connections between established and emerging scientists, promoting collaborative research among all participants.

## Symposium 11

### Leading edge in the development of CAR- and Ab-based therapy

Apr. 21<sup>st</sup> (Fri), 10:00-11:40, Convention I

The use of antibodies and chimeric antigen receptors (CARs) in therapeutic applications has a long history that has recently culminated in the extraordinary success of these interventions. Patients with previously untreatable B cell leukaemias and lymphomas have been cured, and efforts are underway to extend this success to other tumours and non-tumour diseases. In this session, we will have four speakers who will discuss recent studies and emerging research aimed to extend the Ab- and CAR-based therapeutic approach. In particular, Dr. Sang Gyu Park will discuss recent advances in the field and in his group in developing antibody-drug conjugates. Dr. Sungrim Cho will be presenting cellular therapies using NK and CAR-NK approach. Drs Hyungseok Seo and Yong will be discussing new strategies for improving the therapeutic potential of CAR-T therapies. Ultimately this session aims to discuss updates in this emerging field, and to open opportunities of collaborative research.

## Symposium 12

### Quality by design (QbD) application to innovative drug development

Apr. 21<sup>st</sup> (Fri), 10:00-11:50 Convention II

Quality by Design (QbD) is a systemic approach to pharmaceutical development designing and developing formulations and manufacturing processes to ensure predefined product quality. In order to ensure industrial standards for safety and efficacy, the International Conference on Harmonization (ICH) has issued several guidelines. The ICH Q8 is the guideline where QbD is described. It is the pharmaceutical development stage at which the company may experiment to better understand the new product and test the finished product specifications at a great level of flexibility. This session is composed four speakers who are working in pharmaceutical industry. They introduce various applications of QbD approach to pharmaceutical developments.



## Symposium 13

### DNA-encoded library technology (DEL<sup>T</sup>), an innovative screening platform for small molecule drug discovery

(KMEDIhub)

Apr. 21<sup>st</sup> (Fri), 10:00-11:20, Convention III

Since its emergence in 1992 by Drs. Brenner and Lerner, DNA-encoded library technology (DEL<sup>T</sup>) has been recognized as a useful tool for hit finding process in small molecule drug discovery over 30 years. DNA-encoded library (DEL) are collections of molecules, individually coupled to distinctive DNA tags serving as identification barcodes for individual chemical compounds attached on the other side. Library synthesis proceeds through split-and-pool approach with three or four combinatorial cycles to reach library size of 10<sup>8</sup>-10<sup>9</sup> compounds. Through the solid-phase affinity-based DEL selection, the molecules bound to the target protein are collected, PCR amplified and sequenced to identify target binder molecules. Technical advantages that DEL<sup>T</sup> offers compared to traditional high-throughput screening (HTS) methods include improvements in the cost-effectiveness, productivity, and efficiency of the discovery process. Thus, it has been actively reported that the application of DEL<sup>T</sup> in drug discovery enables hit-to-lead optimization and the development of clinical candidates. This special session aims to discuss where we are in the development of DEL<sup>T</sup> and the road that we are following to establish the technology to serve our drug discovery community.

## Symposium 14

### Establishment of department of innovative drug discovery and development direction of pharmacy school in Korea

(Joint Symposium of KAPE and PSK)

Apr. 21<sup>st</sup> (Fri), 10:00-11:50, Vega Hall

## Symposium 15

### Current research of the key research institute program in pharmacy

(Key Research Institutes)

Apr. 21<sup>st</sup> (Fri), 10:00-11:50, Capella Hall

Currently, eight university research institutes are designated as “key research institutes” in the field of pharmacy.

The symposium will present the work of four university research centers—Seoul National University, Yonsei University, Sungkyunkwan University, and Gachon University—that are currently conducting university-key research projects in the field of pharmacy.

Tong-Shin Chang, a professor at the Seoul National University College of Pharmacy and director of the Research Institute of Pharmaceutical Science, Seoul National University, will present on the topic of “Research Institute of Pharmaceutical Sciences, Seoul National University.”

and Hyo-Jong Lee, Director of the Global Drug Development Research Institute, School of Pharmacy, Sungkyunkwan University, will present his research on “Allostasis-Based New Drug Development.”

Dong-yun Shin, Director of the Gachon Institute of Pharmaceutical Sciences, presents his research on “Discovery of a PROTAC-based Selective Degradator of KEAP1 and Its Antioxidant Properties.”

and Wan NamKung, Director of the Yonsei Institute of Pharmaceutical Sciences, will present on “Identification of Novel Modulators of Membrane Proteins Using High-Throughput Screening.

## Symposium 16

### Infectious diseases in post-pandemic era: pathogenesis and treatment

Apr. 21<sup>st</sup> (Fri), 15:00-16:20, Convention I

The COVID-19 pandemic has had a profound impact on the world and has brought attention to the importance of infectious diseases. In the post-pandemic era, it is expected that the threat from infectious diseases will continue to be a major concern for public health. Despite the rollout of vaccines, new variants of the virus and bacterias are emerging and other infectious diseases, such as new class of influenza and tuberculosis, are still affecting populations around the world.

In this aspect, in this symposium, we will discuss about current researches on the new infectious diseases in post pandemic era focusing on the its pathogenesis and treatment.



## Symposium 17

### Intelligent continuous process for manufacturing innovation in the bio-pharmaceutical field (Joint Symposium of Industrial Pharmacy and MOTIE)

Apr. 21<sup>st</sup> (Fri), 15:00-16:40, Convention II

Recently, the biopharmaceutical industry is pursuing for the digitalization and the 4th industrial revolution. More documentation work is taking place to provide evidence of who, what, where, and when drug manufacturing processes are being done. The linking work between the documentation and the drug production is essential to collect relevant data and information that can help to successfully and safely market drugs. To address the issue, the high-tech pharmaceutical bio-industry is paving the new way of the future strategy for the development of advanced drugs by the introduction of Pharma 4.0 and mass data collection. In this session, we would like to introduce Pharma4.0 of the advanced pharmaceutical bio-industry, continuous process technology, AI-based formulation design and manufacturing process technology, and the direction of manufacturing innovation suitable for the domestic biopharmaceutical environment of multi-kind and small-quantity production.

The first speaker, Park, Young-joon, CEO of IMD Pharm, will talk out the intelligent pharmaceutical drug design platform using AI, and the second speaker, Professor Park, Eun-seok, Sungkyunkwan University College of Pharmacy, will give a presentation on the strategy of how to introduce continuous process systems into Korea. The speaker, Kim, Hyung-chul who works as a PD at the Korea Evaluation Institute of Industrial Technology, will present about the domestic direction and prospects of manufacturing innovation in the bio-pharmaceutical field, and Dr. Lee, Hae-woo of the KMEDI hub will give a talk about the technological trends and application examples of continuous manufacturing process for oral solid preparations. The last speaker, Yi, Hyun-joo, the team leader of the LG Electronics Production Technology Institute, will make a introducing continuous manufacturing system for oral solid dosage form by direct compression

Through this symposium, it will be able to present new knowledge in the field of future industrial bio-pharmaceuticals.

## Symposium 18

### Small molecule-based drug development in industry-academy-research institute

Apr. 21<sup>st</sup> (Fri), 15:00-16:50, Convention III

Small molecules still occupy an important part in pharmaceutical industry as well as drug discovery, and pharmaceutical chemistry has played a crucial role in pre-clinical research for decades. In this session, the research achievements related to small molecule-based drug development will be shared and introduced by four speakers who are affiliated industry, academy, or research institute. The first speaker is Prof. YoungSoo Kim who investigated chemical-driven disaggregation of misfolded proteins to treat Alzheimer disease. Next, DNA-encoded library, which has recently attracted significant attention, will be presented by Dr. Hyun Jin Kim. In the third presentation, Prof. Youngjoo Byun will give a talk about recent development of 2-aryloxazole analogs to target IL-33 and NLRP3 Inflammasome. Finally, Prof. Seung Bum Park, who is the professor of chemistry department at SNU and CEO of SPARK Biopharma, will present the recent development on the targeted protein upregulation for STING against immunotherapy.

## Symposium 19

### Strategies for advancing evidence-based patient safety

Apr. 21<sup>st</sup> (Fri), 15:00-16:40, Vega Hall

Improving patient safety is an ongoing concern for healthcare providers, managers and policymakers.

First, in this session, we look at the changing field due to the application of new information and communication technology (ICT) from the perspective of patient safety. Smart hospitals that integrate new technologies into the medical field and electronic provision of drug information are all ways to overcome the limitations of the existing management system and optimize the efficient use of technology. This session will discuss ways to balance innovation and safety and implement evidence-based management strategies.

Second, as one of the strategies for enhancing evidence-based patient safety, we will discuss the utilization of electronic medical record data to assess the safety of the conditionally approved drugs (regdanvimab). We will also discuss the strategies to provide patient-centered safe and effective pharmacotherapy using pharmacokinetic and pharmacodynamic modeling.

Third, as part of the Regional Patient Safety Center (RPSC) activity, the status of medication errors, in particular, among patient safety incidents reported to the Korean Pharmaceutical Association, was analyzed. Based on this, a strategy to activate patient safety in community pharmacies, including the advancement of the reporting system, was proposed.

## Symposium 20

### Symposium on structure and folding of disease related proteins

Apr. 21<sup>st</sup> (Fri), 15:00-16:40, Capella Hall

Recently, the number of FDA approved drugs is not increasing. Therefore, SBDD (Structure Based Drug Discovery) method get a great attention for the discovery of novel drugs. The information on structure and folding of disease related proteins is essential for essential for SBDD. Through this symposium, the basic information about the discovery of novel global drug could be obtained.

The symposium is consisted of following lectures.

- \* The study on the structure and folding of disease related proteins by X-ray Crystallography.
- \* The study on the structure and folding of disease related proteins by NMR.
- \* The study on the structure and folding of disease related proteins by Cryo EM.
- \* Novel drug discovery by in-silo screening, molecular modeling and FBDD (fragment-based drug discovery)

**Plenary Lecture I**

**Exosomes as organelle therapeutics**

Apr. 20<sup>th</sup> (Thu), 12:00-12:40, Convention Hall

Moderator	Dong Hee Na (College of Pharmacy, Chung-Ang University)
 PL1 12:00-12:40	<p><b>Exosomes as organelle therapeutics</b></p> <p><b>In-San Kim</b>                  (Biomedical Research Institute, Korea Institute of Science and Technology /                  KU-KIST School of Converging Science and Technology, Korea University)</p>

Chronic diseases and detrimental diseases are complex, heterogenous and polygenic, but their diagnoses are often based on similar observed symptomology, even though these symptoms may result from multiple different pathways. How to target multiple pathways at the same time or sequentially remains to be considered. Chronic diseases are progressively making evolution, often in unpredictable ways. How to cope up with disease evolution should be taken into consideration. We agree that no more low-hanging targets are left leaving only harder targets. These undruggable harder targets are typically intracellular and require larger ‘keys’ rather than small chemicals, but such larger ‘keys’ such as proteins are usually not permeable. To address these issues in front of us, we are struggling to have new therapeutic modalities. Though many promising new therapeutic modalities have been suggested, here I suggest designer exosomes as a new therapeutic modality at the organelle level. Exosomes have a few advantages to carry out functions which are very hard to be attributed to conventional therapeutics. Data to address the above issues will be presented.



## Plenary Lecture II

### Therapeutic approaches based on pathogenesis in Alzheimer's disease

Apr. 20<sup>th</sup> (Thu), 16:10-16:50, Convention Hall

Moderator	<b>Sang-Geon Kim</b> (College of Pharmacy, Dongguk University)
 <p>PL2 16:10-16:50</p>	<h3>Therapeutic approaches based on pathogenesis in Alzheimer's disease</h3> <p><b>Inhee Mook-Jung</b> (College of Medicine, Seoul National University)</p>

Dementia is the most feared disease in modern society, owing to the tremendous increase in the aging population. Dementia affects 10% of the over-65 population these days. Alzheimer's disease (AD) is the most common type of dementia. Although Aducanumab and Lecanemab have received conditional approval from the US FDA as a disease-modifying drug for AD, more clinical trials for various aspects of the disease are ongoing. Studies into the molecular pathogenesis of AD are being conducted in a variety of disciplines, including immunological responses, autophagy, glucose metabolism, lipid metabolism, and even the gut-brain axis-related microbiome. These researches provide various targets for therapeutic development and clinical trials. I will discuss different elements of molecular etiology in AD in order to understand basic mechanisms and therapeutic approaches. Also, current insights and status for the drug development based on pathogenesis of AD will be discussed.

## Luncheon Symposium I

### 1<sup>st</sup> Outstanding Young Researcher Award

Apr. 20<sup>th</sup> (Thu), 12:50-13:50, Vega Hall

Organizer & Moderator **Won-Sik Shim** (College of Pharmacy, Gachon University)

12:50-12:54 **Awards ceremony**



LS1-1  
12:54-13:08

**Prenatal and infant exposure to acid-suppressive medications and risk of allergic diseases in children**

**Yunha Noh**  
(School of Pharmacy, Sungkyunkwan University)



LS1-2  
13:08-13:22

**Tolerogenic nanovaccine for prevention and treatment of autoimmune encephalomyelitis**

**Jinwon Park**  
(College of Pharmacy, Seoul National University)



LS1-3  
13:22-13:36

**A therapeutic nanovaccine that generates anti-amyloid antibodies and amyloid-specific regulatory T cells for Alzheimer's disease**

**Songmin Lee**  
(College of Pharmacy, Yonsei University)



LS1-4  
13:36-13:50

**Adipocyte lysoplasmalogenase TMEM86A regulates plasmalogen homeostasis and protein kinase A-dependent energy metabolism**

**Yoon Keun Cho**  
(College of Pharmacy, Seoul National University)



## Luncheon Symposium II

### Development cases and prospective future of digital therapeutics

Apr. 21<sup>st</sup> (Fri), 12:00-12:45, Vega Hall

Organizer &  
Moderator

**Sang Ho Lee** (College of Pharmacy, Jeju National University)



LS2-1  
12:00-12:15

#### Overview and development status of digital therapeutics

**Jaeyong Shin**  
(College of Medicine, Yonsei University)



LS2-2  
12:15-12:30

#### Case study of digital therapeutics

**Do Hyun Lee**  
(WELT Corp.)



LS2-3  
12:30-12:45

#### The insight of future for digital therapeutics

**Tyson Kim**  
(RADEXEL Inc.)

## Symposium 1

### New drug development using exosomes

(Joint Symposium of Pharmaceutical Biochemistry & Molecular Biology and life and pharmacy academic society)

Apr. 20<sup>th</sup> (Thu), 10:00-11:30, Convention I

Organizer **Chang Hoon Lee** (College of Pharmacy, Dongguk University)

Moderator **Jong-Sup Bae** (College of Pharmacy, Kyungpook National University)



S1-1  
10:00-10:30

**Reprogramming of T cell-derived small extracellular vesicles using IL2 surface engineering induces potent anti-cancer effects through miRNA delivery**

**Moon-Chang Baek**  
(School of Medicine, Kyungpook National University)



S1-2  
10:30-11:00

**Liver-originated small extracellular vesicles with TM4SF5 target brown adipose tissue for homeostatic glucose clearance**

**Jung Weon Lee**  
(College of Pharmacy, Seoul National University)



S1-3  
11:00-11:30

**Yam-derived exosome-like nanovesicles stimulate osteoblast formation and prevent osteoporosis in mice**

**Young-Eun Cho**  
(Department of Food and Nutrition, Andong National University)



## Symposium 2

### Epigenetic regulation of chronic diseases

(Joint Symposium of WBF and PSK)

Apr. 20<sup>th</sup> (Thu), 10:00-11:40, Convention II

Organizer **So Hee Kwon** (College of Pharmacy, Yonsei University)  
**Eun Ju Bae** (School of Pharmacy, Jeonbuk National University)

Moderator **YunJae Jung** (College of Medicine, Gachon University)  
**Wan Namkung** (College of Pharmacy, Yonsei University)



S2-1  
10:00-10:25

#### Therapeutic approach of metabolic diseases by development of deubiquitinase inhibitor

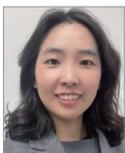
**Kyung-Hee Chun**  
(College of Medicine, Yonsei University)



S2-2  
10:25-10:50

#### The noncoding RNA-mediated chromatin compartmentalization and the prevention of muscle atrophy

**Eun-Jung Cho**  
(School of Pharmacy, Sungkyunkwan University)



S2-3  
10:50-11:15

#### S-Nitrosylation of HDAC2 by nNOS as a mechanism of diastolic dysfunction

**Somy Yoon**  
(College of Pharmacy, Chonnam National University)



S2-4  
11:15-11:40

#### Tobacco-induced development of pulmonary emphysema and lung cancer via alveolar stem cell dysfunction

**Ho-Young Lee**  
(College of Pharmacy, Seoul National University)

## Symposium 3

### Big data analysis technology in new drug development

Apr. 20<sup>th</sup> (Thu), 10:00-11:40, Convention III

Organizer **Hyun Dong Je** (College of Pharmacy, Daegu Catholic University)

Moderator **Han-Jung Chae** (College of Pharmacy, Jeonbuk National University)



S3-1  
10:00-10:25

#### The potential role of prolactin as a treatment of Alzheimer's disease

**Min-Sun Kim**  
(College of Pharmacy, Sunchon National University)



S3-2  
10:25-10:50

#### Epigenetic regulation of VCAM1 expression in endothelial cells and its application for the drug development of brain diseases

**Sangmee Ahn**  
(College of Pharmacy, Dankook University)



S3-3  
10:50-11:15

#### Selection of Alzheimer's disease mouse model and efficacy evaluation method using it

**Hyung-Gun Kim**  
(College of Medicine, Dankook University)



S3-4  
11:15-11:40

#### The utilization of externally controlled trials using EHRs-based RWD

**Min-Gul Kim**  
(Medical School, Jeonbuk National University)



## Symposium 4

### Trends in new compounds research from natural products

Apr. 20<sup>th</sup> (Thu), 10:00-11:40, Dynasty Hall

Organizer **Ki Yong Lee** (College of Pharmacy, Korea University)

Moderator **Min Kyun Na** (College of Pharmacy, Chungnam National University)



S4-1  
10:00-10:25

#### Approach to inhibit pulmonary fibrosis using natural products

**Yun-Sil Lee**  
(College of Pharmacy, Ewha Womans University)



S4-2  
10:25-10:50

#### Genomic and spectroscopic signature-based discovery of genetically-encoded small molecules

**Dong-Chan Oh**  
(College of Pharmacy, Seoul National University)



S4-3  
10:50-11:15

#### The therapeutic potential of Lions' Mane mushroom and its active ingredient against cognitive impairment

**Sun Yeou Kim**  
(College of Pharmacy, Gachon University)



S4-4  
11:15-11:40

#### Bioactive natural products: tetramic acid alkaloids

**Sang Hee Shim**  
(College of Pharmacy, Seoul National University)

## Symposium 5

### The development strategies of new chemical entity from successful preclinical cases

Apr. 20<sup>th</sup> (Thu), 10:00-11:40, Capella Hall

Organizer **Hyun Kyung Choi** (College of Natural Sciences, Sogang University)

Moderator **Hyun Joo Shim** (College of Pharmacy, Jeonbuk National University)



S5-1  
10:00-10:25

#### Development of EGFR inhibitors as anticancer drug

**Sung-Eun Kim**  
(ONCOBIX.Co., Ltd.)



S5-2  
10:25-10:50

#### Overview of anti-cancer drugs to know for anti-cancer drug development

**Yirang Kim**  
(ONCOCROSS Co., Ltd.)



S5-3  
10:50-11:15

#### Preclinical study of ENPP1 inhibitor TXN10128

**Chan Sun Park**  
(Txinno Bioscience Inc.)



S5-4  
11:15-11:40

#### DMPK improvement strategy through preclinical candidates

**Taedong Han**  
(Dong-A ST Research Institute)



## Symposium 6

### Trend of gene therapy for rare incurable diseases

Apr. 20<sup>th</sup> (Thu), 14:10-16:00, Convention I

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

Moderator **Sangsu Bae** (College of Medicine, Seoul National University)



S6-1  
14:10-14:35

#### Precision targeting tumor cells using cancer specific InDel mutations with CRISPR-Cas9

**Kyungjae Myung**

(The Institute for Basic Science (IBS), Ulsan National Institute of Science & Technology (UNIST))



S6-2  
14:35-15:00

#### Current status and challenges in genome editing

**Sangsu Bae**

(College of Medicine, Seoul National University)



S6-3  
15:00-15:25

#### Development of gene editing therapy for genetic diseases with triple nucleotide repeats

**Yong-Sam Kim**

(GenKOre)



S6-4  
15:25-15:50

#### Development of LNP for targeted delivery of RNA therapeutics

**Hyukjin Lee**

(College of Pharmacy, Ewha Womans Univeersity)

## Symposium 7

### Neurological diseases and innovative therapeutics

(Joint Symposium of KSBMB and PSK)

Apr. 20<sup>th</sup> (Thu), 14:10-16:00, Convention II

Organizer &  
Moderator

Moon Jung Song (Department of Biotechnology, Korea University)  
Seung-Hoi Koo (Department of Life Sciences, Korea University)



S7-1  
14:10-14:35

#### Investigating the mechanisms and the functions of reactive astrocytes in brain disorders

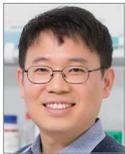
Heejung Chun  
(College of Pharmacy, Yonsei University)



S7-2  
14:35-15:00

#### Healing via connections: NS101 for neurodegenerative diseases

Jae-Young Seong  
(College of Medicine, Korea University)



S7-3  
15:00-15:25

#### Antisense oligonucleotide therapy for genetic diseases in the brain

Jinkuk Kim  
(Korea Advanced Institute of Science and Technology (KAIST))



S7-4  
15:25-15:50

#### New era: Brain diseases approach through AI fusion research

Jae-Yeol Joo  
(College of Pharmacy, Hanyang University)



## Symposium 8

### Stem cell based disease modeling and tissue regeneration

(Joint Symposium of KFRM and PSK)

Apr. 20<sup>th</sup> (Thu), 14:10-16:00, Convention III

Organizer &  
Moderator

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



#### Advanced regenerative medicine technology trend and role of Korean Fund for Regenerative Medicine (KFRM)

Inho Jo  
(Korean Fund for Regenerative Medicine)

S8-1  
14:10-14:35



#### Human spinal cord organoid for disease modeling and drug screening

Woong Sun  
(Department of Anatomy, College of Medicine, Korea University)

S8-2  
14:35-15:00



#### Partial in vivo reprogramming enables injury-free intestinal regeneration via autonomous Ptgs1 induction

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

S8-3  
15:00-15:25



#### Rare disease modeling using patient-specific induced pluripotent stem cells

Jaecheol Lee  
(School of Pharmacy, Sungkyunkwan University)

S8-4  
15:25-15:50

## Symposium 9

### Target identification for metabolic and immunologic disorders through innovative approaches

(Early-Stage PI)

Apr. 20<sup>th</sup> (Thu), 14:10-16:00, Vega Hall

Organizer **Dong-Jo Chang** (College of Pharmacy, Sunchon National University)

Moderator **Yun-Hee Lee** (College of Pharmacy, Seoul National University)



S9-1  
14:10-14:35

#### Role of p38MAPK in the development of neutrophil-driven nonalcoholic steatohepatitis

**Seonghwan Hwang**  
(College of Pharmacy, Pusan National University)



S9-2  
14:35-15:00

#### Stress-driven suppression of the Hippo pathway in hepatic inflammation

**Ja Hyun Koo**  
(College of Pharmacy, Seoul National University)



S9-3  
15:00-15:25

#### Roles of portal lipoprotein and immunity as guardians for the liver

**Yong-Hyun Han**  
(College of Pharmacy, Kangwon National University)



S9-4  
15:25-15:50

#### Cross-talk between bacterial lipid immunogens and human immune system

**Munhyung Bae**  
(College of Pharmacy, Gachon University)



## Symposium 10

### Recent trends in pharmaceutical science and technology

(Early-Stage PI)

Apr. 20<sup>th</sup> (Thu), 14:10-15:50, Capella Hall

Organizer **Dong-Jo Chang** (College of Pharmacy, Sunchon National University)

Moderator **Jin-Wook Yoo** (College of Pharmacy, Pusan National University)



S10-1  
14:10-14:35

#### Hyaluronic acid-bilirubin nanomedicine for biomedical applications

**Yonghyun Lee**  
(College of Pharmacy, Ewha Womans University)



S10-2  
14:35-15:00

#### Oral lymphatic delivery of alpha-galactosylceramide and ovalbumin evokes anti-cancer immunization

**Jeong Uk Choi**  
(College of Pharmacy, Chonnam National University)



S10-3  
15:00-15:25

#### New strategies to develop novel drug formulation using novel drug formulation using machine learning with artificial intelligence

**Chulhun Park**  
(College of Pharmacy, Jeju National University)



S10-4  
15:25-15:50

#### Inhalable lipid nanoparticles for pulmonary delivery of messenger RNA therapy

**Jung-Hwan Kim**  
(College of Pharmacy, Yeungnam University)

## Symposium 11

### Leading edge in the development of CAR- and Ab-based therapy

Apr. 21<sup>st</sup> (Fri), 10:00-11:40, Convention I

Organizer &  
Moderator

Yeonseok Chung (College of Pharmacy, Seoul National University)



S11-1  
10:00-10:25

#### Strategy for antibody-drug conjugate development

Sang Gyu Park  
(College of Pharmacy, Ajou University)



S11-2  
10:25-10:50

#### Harnessing NK cells for cancer immunotherapy

Sungrim Cho  
(Research Center, R&D Division, GC Cell)



S11-3  
10:50-11:15

#### Unlocking the potential of CAR-T: Transcriptional and epigenetic strategies for enhanced persistence

Hyungseok Seo  
(College of Pharmacy, Seoul National University)



S11-4  
11:15-11:40

#### Novel insights into the development of effective combination therapy using CAR-T and small molecules

Yong Gu Lee  
(College of Pharmacy, Hanyang University)



## Symposium 12

### Quality by design (QbD) application to innovative drug development

Apr. 21<sup>st</sup> (Fri), 10:00-11:50, Convention II

Organizer &  
Moderator

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



S12-1  
10:00-10:25

#### Application of Quality by Design (QbD) to Rolvedon development

**Taein Eom**

(Biomanufacturing Process Development, Hanmi Pharm. Co., Ltd.)



S12-2  
10:25-10:50

#### QbD6 sigma application example for strengthening QbD execution ability

**Kang Hee Kim**

(Life Science Division, LG Chem)



S12-3  
10:50-11:15

#### Quality-by-design (QbD) approaches to biologics development

**Jae Woon Son**

(DP Team, MSAT, GC Biopharma corp.)



S12-4  
11:15-11:40

#### Single-use concept in purification process & understanding of large molecule chromatography mode

**Junhyuk Ryu**

(Sartorius Korea Biotech)

## Symposium 13

### DNA-encoded library technology (DEL<sup>T</sup>), an innovative screening platform for small molecule drug discovery (KMEDIhub)

Apr. 21<sup>st</sup> (Fri), 10:00-11:20, Convention III

Organizer Moonho Son (K-Medi Hub)

Moderator Youngho Seo (College of Pharmacy, Keimyung University)



S13-1  
10:00-10:20

#### Expanding the 3D chemical space of DNA-encoded libraries using photoredox catalysis

Jaehoon Sim  
(College of Pharmacy, Kyung Hee University)



S13-2  
10:20-10:40

#### Affinity based selections and screening of DNA-Encoded Library to Protein targets

Eunmi Hong  
(K-Medi Hub)



S13-3  
10:40-11:00

#### Strategies for advancing DEL<sup>T</sup> (DNA-Encoded Library Technology) with artificial intelligence technologies

Keunsoo Kang  
(College of Pharmacy, Dankook University)



S13-4  
11:00-11:20

#### Progress report of K-MEDI hub on the development of DNA-encoded library (DEL) platform technology

Minsoo Song  
(K-Medi Hub)



## Symposium 14

### Establishment of department of innovative drug discovery and development direction of pharmacy school in Korea (Joint Symposium of KAPE and PSK)

Apr. 21<sup>st</sup> (Fri), 10:00-11:40, Vega Hall

Organizer **Keon Wook Kang** (College of Pharmacy, Seoul National University))

Moderator **Younghwa Na** (College of Pharmacy, CHA University)



S14-1  
10:00-10:25

**Introduction to the department of innovative technology, innovative drug discovery and development major at college of pharmacy, Seoul National University**

**Keon Wook Kang**  
(College of Pharmacy, Seoul National University))



S14-2  
10:25-10:50

**Introduction to the department of cutting-edge pharmaceutical science at school of pharmacy, Sungkyunkwan University**

**Jaecheol Lee**  
(School of Pharmacy, Sunkyunkwan University)



S14-3  
10:50-11:15

**Implementation strategies for changing the academic discipline of pharmacy**

**Seung-Mi Lee**  
(College of Pharmacy, Daegu Catholic University))



S14-4  
11:15-11:40

**Feasibility study on the introduction of the basic pharmacy comprehensive evaluation system**

**Yi-Sook Jung**  
(College of Pharmacy, Ajou University)

## Symposium 15

### Current research of the Key research institute program in pharmacy (Key Research Institutes)

Apr. 21<sup>st</sup> (Fri), 10:00-11:50, Capella Hall

Organizer **Kyeong Lee** (College of Pharmacy, Dongguk University)

Moderator **Jung-Mi Hah** (College of Pharmacy, Hanyang University)



S15-1  
10:00-10:25

#### Research Institute of Pharmaceutical Sciences, Seoul National University

**Tong-Shin Chang**  
(College of Pharmacy, Seoul National University)



S15-2  
10:25-10:50

#### Allostasis-based new drug development

**Hyo-Jong Lee**  
(Global Drug Development Research Institute, School of Pharmacy, Sungkyunkwan University)



S15-3  
10:50-11:15

#### Discovery of PROTAC-based selective degrader of KEAP1 and its antioxidant properties

**Dongyun Shin**  
(College of Pharmacy, Gachon University)



S15-4  
11:15-11:40

#### Identification of novel modulators of membrane proteins using high-throughput screening

**Wan Namkung**  
(College of Pharmacy, Yonsei University)



## Symposium 16

### Infectious diseases in post - pandemic era: pathogenesis and treatment

Apr. 21<sup>st</sup> (Fri), 15:00-16:20, Convention I

Organizer **Hyun Ho Park** (College of Pharmacy, Chung-Ang University)

Moderator **Wonsik Lee** (School of Pharmacy, Sungkyunkwan University)



S16-1  
15:00-15:20

#### Beyond antimicrobials: New approaches for new hits

**You-Hee Cho**  
(College of Pharmacy, CHA University)



S16-2  
15:20-15:40

#### Development of antimicrobial agents targeting bacterial persisters

**Wooseong Kim**  
(College of Pharmacy, Ewha Womans University)



S16-3  
15:40-16:00

#### Genetic infectious microbiology and real-world effects

**Jongseo Mo**  
(College of Pharmacy, Yeungnam University)



S16-4  
16:00-16:20

#### Chronic viral infections (HBV and HHV4) in Korea and future prospects

**Sung-Gyoo Park**  
(College of Pharmacy, Seoul National University)

## Symposium 17

**Intelligent continuous process for manufacturing innovation in the bio-pharmaceutical field**  
(Joint Symposium of Industrial Pharmacy and MOTIE)

Apr. 21<sup>st</sup> (Fri), 15:00-16:40, Convention II

Organizer **Hyun Joo Shim** (College of Pharmacy, Jeonbuk National University)

Moderator **Joo-Eun Kim** (Biopharmaceutical major, Kookmin University)



S17-1  
15:00-15:20

**AI(Artificial Intelligence) based pharmaceutical drug formulation- manufacturing design platform**

**Young-Joon Park**  
(IMDpharm)



S17-2  
15:20-15:40

**A strategic approach to implement continuous manufacturing in Korea's pharmaceutical industry**

**Eun-Seok Park**  
(School of Pharmacy, Sungkyunkwan University)



S17-3  
15:40-16:00

**Trends and prospects for manufacturing innovation in bio-pharmaceutical field**

**Hyoung-chul Kim**  
(Korea Evaluation Institute of Industrial Technology)



S17-4  
16:00-16:20

**Recent progress on continuous manufacturing technology and its application to oral solid dosage forms**

**Hae U Lee**  
(KMEDI hub)



S17-5  
16:20-16:40

**Continuous manufacturing system for oral solid dosage form by direct compression**

**Hyun-Ju Yi**  
(LG Electronics Inc.)



## Symposium 18

### Small molecule-based drug development in industry-academy-research institute

Apr. 21st (Fri), 15:00-16:50, Convention III

Organizer **Yongseok Kwon** (School of Pharmacy, Sungkyunkwan University)

Moderator **Dongyun Shin** (College of Pharmacy, Gachon University)



S18-1  
15:00-15:25

#### Chemical-driven clearance of aggregated proteins for Alzheimer drug candidate discovery

**YoungSoo Kim**  
(College of Pharmacy, Yonsei University)



S18-2  
15:25-15:50

#### Water-compatible three-component reactions for the construction of DNA-encoded libraries

**Hyun Jin Kim**  
(Korea Research Institute of Chemical Technology)



S18-3  
15:50-16:15

#### Targeting IL-33 and NLRP3 inflammasome by 2-Aryloxazole analogs

**Youngjoo Byun**  
(College of Pharmacy, Korea University)



S18-4  
16:15-16:40

#### Targeted protein upregulation strategy potentiates STING agonist immunotherapy

**Seung Bum Park**  
(College of Natural Sciences, Seoul National University)

## Symposium 19

### Strategies for advancing evidence-based patient safety

Apr. 21<sup>st</sup> (Fri), 15:00-16:40, Vega Hall

Organizer

Ju-Yeun Lee (College of Pharmacy, Seoul National University)  
SeungJin Bae (College of Pharmacy, Ewha Womens University)  
Kwang Joon Kim (College of Pharmacy, Mokpo National University)

Moderator

Kyenghee Kwon (College of Pharmacy, Dongguk Umiversity)



S19-1  
15:00-15:20

#### Strategy for pharmacists of smart hospital that patient are safe

Jinhee Baek  
(Seoul National University Hospital Pharmacy Department)



S19-2  
15:20-15:40

#### Exploring rational electronic drug information system based on the patient safety perspectives

Jinwook Yang  
(Department of Food&Medical products Regulatory Policy, Dongguk University)



S19-3  
15:40-16:00

#### Utilization of EMR data for evidence-based patient safety of conditionally approved drugs

Susin Park  
(College of Pharmacy, Woosuk University)



S19-4  
16:00-16:20

#### Patient-centered optimal pharmacotherapy based on pharmacokinetics and pharmacodynamics

Yun Kim  
(College of Pharmacy, Daegu Catholic University)



S19-5  
16:20-16:40

#### Current status and activation strategies of medication errors in community pharmacy

Mo-Se Lee  
(Korean Pharmaceutical Association)



## Symposium 20

### Symposium on structure and folding of disease related proteins

Apr. 21<sup>st</sup> (Fri), 15:00-16:40, Vega Hall

Organizer &  
Moderator

**Bong-Jin Lee** (College of Pharmacy, Seoul National University)



S20-1  
15:00-15:20

#### Structural studies of voltage-sensing phosphatase

**Atsushi Nakagawa**  
(IPR, Osaka University, Japan)



S20-2  
15:20-15:40

#### Structural and computational approaches for discovery of JNK3 inhibitors

**Hee-Chul Ahn**  
(College of Pharmacy, Dongguk University)



S20-3  
15:40-16:00

#### Studies on E3 ligase platforms for PROTAC compounds

**Sung-Jean Park**  
(College of Pharmacy, Gachon University)



S20-4  
16:00-16:20

#### Exploiting the interaction between Aurora Kinase A and its activator for therapeutic intervention

**In-Gyun Lee**  
(Korea Institute of Science and Technology (KIST))



S20-5  
16:20-16:40

#### Disease-causing protein misfolding and aggregation

**Young-Ho Lee**  
(Korea Basic Science Institute(KBSI))

## Young Scientists Session 1

Apr. 21<sup>st</sup> (Fri), 13:20-14:50 Convention I

### Research regions:

P2. Toxicology / Preventive Pharmacy

P4. Biochemistry / Molecular Biology

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YSS1-1(P2-5) 13:20-13:25	<b>The effect of Platycodin D on the phosphorylation of eNOS and NO synthesis via CaMKK<math>\beta</math>/AMPK/CaMKII signaling pathway</b> Ju Yeon Chae (College of Pharmacy, Chungnam National University)
YSS1-2(P2-17) 13:25-13:30	<b>The role of peroxiredoxin III in protection against Hypoxia/Reoxygenation injury in cardiomyocytes</b> Ji Won Park (College of Pharmacy, Seoul National University)
YSS1-3(P2-22) 13:30-13:35	<b>Effect of mitochondrial uncoupler CCCP in hepatic stellate cell activation</b> Ji Hyun Lee (College of Pharmacy, Chosun University)
YSS1-4(P2-26) 13:35-13:40	<b>Real-time analysis of bioenergetics and metabolic toxicity using genetically encoded fluorescent sensors</b> Oh Hyun-Taek (College of Pharmacy, Ajou University)
YSS1-5(P2-28) 13:40-13:45	<b>A3 adenosine receptor signaling regulates kupffer cell activation and NASH progression by mitochondrial dysfunction</b> Jeong-Su Park (College of Pharmacy, Chungbuk National University)
YSS1-6(P4-5) 13:45-13:50	<b>Role of small cajal body-specific RNA (scaRNA) in Alzheimer's disease</b> Sumin Yang (College of Pharmacy, Hanyang University)
YSS1-7(P4-7) 13:50-13:55	<b>In silico discovery of 5-modified 7-deoxy-7-ethynyl-4-adenosine as a potent novel HASPIN inhibitor and its synergistic anti-cancer effect with PLK1 inhibitor</b> Eun-Ji Kwon (College of Pharmacy, Seoul National University)
YSS1-8(P4-15) 13:55-14:00	<b>YANK3 promotes lung cancer progression through S6K1-mediated pathway: Implications for a new therapeutic target</b> Ji Yun Jang (National Cancer Center)
YSS1-9(P4-22) 14:00-14:05	<b>Neurotoxic Effects of Benzalkonium Chloride on Neural Stem Cells and Hippocampal Neurogenesis</b> Seonguk Yang (College of Pharmacy, Pusan National University)
YSS1-10(P4-25) 14:05-14:10	<b>E2Fs stability regulation mediated by FBXO1 plays an essential role in cancer cell proliferation by modulation of G1/S cell cycle transition</b> Ga-Eun Lee (College of Pharmacy, The Catholic University of Korea)

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## Young Scientists Session 2

Apr. 21<sup>st</sup> (Fri), 13:20-14:50 Convention II

### Research regions:

P1. Pharmacology

P3. Pathology / Physiology

P5. Microbiology / Immunology

YSS2-1(P1-3) 13:20-13:25	<b>Control of IRF3 activity by GPCR-Gas signaling determines hepatic gluconeogenesis</b> Yu Jae Hyun (College of Pharmacy, Seoul National University)
YSS2-2(P1-13) 13:25-13:30	<b>The role of circulating small extracellular vesicles in promoting vascular smooth muscle cell proliferation and migration</b> Young Joo Lee (College of Pharmacy, Seoul National University)
YSS2-3(P1-20) 13:30-13:35	<b>Role of CYFIP2 on dopaminergic pathway affected by methamphetamine administration</b> Hee-Won Min (School of Pharmacy, Sungkyunkwan University)
YSS2-4(P1-23) 13:35-13:40	<b>Globular adiponectin inhibits activation of hepatic stellate cells via modulation of NLRP3 inflammasomes</b> Ananda Baral (College of Pharmacy, Yeungnam University)
YSS2-5(P3-2) 13:40-13:45	<b>Protective effect of cannabidiol against anaphylaxis</b> Yang Xiaohui (School of Pharmacy, Jeonbuk National University)
YSS2-6(P3-4) 13:45-13:50	<b>Anti-inflammatory effects of BRL-50481 on the ovalbumin induced murine asthma model with co-exposure to lipopolysaccharide</b> Oh seong Kwon (College of Pharmacy, Chung-Ang University)
YSS2-7(P3-8) 13:50-13:55	<b>Targeting ketone metabolism suppresses tamoxifen-resistant breast cancer growth by augmenting mitochondrial oxidative stress-mediated cell death</b> Sewon Hwang (College of Pharmacy, Seoul National University)
YSS2-8(P3-13) 13:55-14:00	<b>Tumor suppressor RUNX3 restricts endothelial cell activity and maintains vascular integrity during angiogenesis.</b> Jihye You (College of Pharmacy, Kyungpook National University)
YSS2-9(P5-1) 14:00-14:05	<b>Therapeutic role of epithelial cell microRNAs in DSS-induced colitis mouse model</b> Ki-Uk Kim (College of Pharmacy, Chung-Ang University)
YSS2-10(P5-7) 14:05-14:10	<b>Hyperglycemic environment influences myeloid-derived suppressor cells through retinoic acid receptor alpha modulation</b> Jisu Kim (College of Pharmacy, Chung-Ang University)

## Young Scientists Session 3

Apr. 21<sup>st</sup> (Fri), 13:20-14:50 Convention III

### Research regions:

P6. Medicinal Chemistry

P7. Pharmacognosy / Oriental Medicine

YSS3-1(P6-7) 13:20-13:25	<b>Design, synthesis, and assessment of a novel microtubule-targeting agent utilizing bioactive conformation</b> Jaebeom Park (Korea Research Institute of Chemical Technology)
YSS3-2(P6-17) 13:25-13:30	<b>Rapid access to diabetes medicine glitazones: Methylene thiazolidinediones as alkylation reagents by Rh(III) catalysis</b> Kyeongwon Moon (School of Pharmacy, Sungkyunkwan University)
YSS3-3(P6-18) 13:30-13:35	<b>The direct formation of 2-amino pyrrole and imidazole</b> ChanHyun Jung (College of Pharmacy, Chungbuk National University)
YSS3-4(P6-19) 13:35-13:40	<b>Total synthesis, structural revision, and biological activity of a natural product from <i>Agelatina grandifolia</i></b> Changmin Oh (College of Pharmacy, Kyungpook National University)
YSS3-5(P7-1) 13:40-13:45	<b>Protective effect of BS012 against the non-alcoholic steatohepatitis-induced liver injuries</b> SIQI ZHANG (Korea Institute of Science & Technology)
YSS3-6(P7-6) 13:45-13:50	<b>Anti-proliferative effect of Alnustone on colorectal cancer cells</b> Park Shin Young (College of Pharmacy, Wonkwang University)
YSS3-7(P7-8) 13:50-13:55	<b>Comprehensive bioactivity prediction strategy of flavonoids on Peroxisome Proliferator-Activated Receptor Gamma(PPAR<math>\gamma</math>) modulation</b> Seok Young Hwang (College of Pharmacy, Seoul National University)
YSS3-8(P7-25) 13:55-14:00	<b>Network pharmacological analysis of a new herbal combination targeting hyperlipidemia and efficacy validation in vitro</b> Kim Tae-Hyoung (College of Korean Medicine, Dongguk University)
YSS3-9(P7-30) 14:00-14:05	<b>Benzofuran glucosides isolated from the leaves of <i>Glehnia littoralis</i></b> Sainan Li (College of Pharmacy, Chungnam National University)
YSS3-10(P7-34) 14:05-14:10	<b>Combination therapy strategy to overcome resistance to EGFR inhibitors in NSCLC with <i>Paeoniae Radix</i></b> Heerim Yeo (College of Pharmacy, Chungnam National University)
YSS3-11(P7-36) 14:10-14:15	<b>Uncovering the chemical diversity of monoterpene indole alkaloids from 275 plant species of Apocynaceae, Loganiaceae, and Rubiaceae</b> Kyungha Lee (College of Pharmacy, Sookmyung Women's University)



## Young Scientists Session 4

Apr. 21<sup>st</sup> (Fri), 13:20-14:50 Vega Hall

### Research regions:

#### P9. Pharmaceutics / Physical Pharmacy

YSS4-1(P9-7) 13:20-13:25	<b>Modification of nanosphere type and microenvironmental pH for enhanced solubility and oral bioavailability of poorly water-soluble celecoxib</b> Mi Ran Woo (College of Pharmacy, Hanyang University)
YSS4-2(P9-13) 13:25-13:30	<b>Development of cathepsin K inhibitor loaded PLGA nanoparticles with peptide to overcome TRAIL-resistant cancer cells</b> KIM THOA NGUYEN THI (College of Pharmacy, Keimyung University)
YSS4-3(P9-19) 13:30-13:35	<b>Phase II metabolic profiling of echinochrome A, a medicinal pigment from the sea urchin Scaphechinus mirabilis, and its clinical pharmacokinetic modeling/simulation</b> Dong-Gyun Han (College of Pharmacy, Pusan National University)
YSS4-4(P9-20) 13:35-13:40	<b>Enhancing T cell lipid metabolism in the tumor microenvironment with nanoparticles for immunometabolic therapy</b> Yina Wu (College of Pharmacy, Seoul National University)
YSS4-5(P9-22) 13:40-13:45	<b>Application of extended IVIVC model to develop sustained-release injections for semaglutide, a GLP-1 receptor agonist</b> Tae Suk Lee (School of Pharmacy, Sungkyunkwan University)
YSS4-6(P9-29) 13:45-13:50	<b>Itraconazole nanoparticle-in-microparticles for dry powder inhalation : mucus membrane permeability and In-vivo pharmacokinetic study</b> Min-Seok Yang (College of Pharmacy, Chungbuk National University)
YSS4-7(P9-31) 13:50-13:55	<b>Novel pulsatile release drug delivery systems of naproxen and esomeprazole: in vitro and in vivo evaluations</b> Yejin An (College of Pharmacy, Wonkwang University)
YSS4-8(P9-39) 13:55-14:00	<b>Preparation of alginate beads for sustained-release self-microemulsifying drug delivery system loaded with ticagrelor</b> Yu-Rim Hwang (College of Pharmacy, Chungnam National University)
YSS4-9(P9-50) 14:00-14:05	<b>Predicting the distribution and elimination of WIN-1001X bioactive components in rat via physiologically based pharmacokinetic modeling</b> Seok-jin Cho (College of Pharmacy, CHA University)

## Young Scientists Session 5

Apr. 21<sup>st</sup> (Fri), 13:20-14:50 Capella Hall

### Research regions:

**P8.** Analytical Chemistry

**P10.** Clinical Pharmacy / Hospital Pharmacy

**P11.** Industrial Pharmacy

**P12.** Social Pharmacy

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YSS5-1(P8-9) 13:20-13:25	<b>Metabolomic profiling analysis in brain tissues of aging rats by GC-MS/MS</b> Byeongchan Choi (College of Pharmacy, Sunchon National University)
YSS5-2(P8-11) 13:25-13:30	<b>Development and validation of LC-MS/MS method for determination of ketamine and its major metabolites for evaluating pharmacokinetic interaction between ketamine and alcohol in rats</b> Jin Ah Won (College of Pharmacy, Hanyang University)
YSS5-3(P8-16) 13:30-13:35	<b>In vitro metabolism study of eutylone, dibutylone, and dimethylone through human liver microsomes</b> Jun Sang Yu (College of Pharmacy, Hanyang University)
YSS5-4(P10-2) 13:35-13:40	<b>Acute kidney injury risk prediction model for older outpatients</b> Mee Yeon Lee (College of Pharmacy, Seoul National University)
YSS5-5(P10-16) 13:40-13:45	<b>Development and validation of a machine learning-based fall risk prediction model using nationwide claims database in Korean community-dwelling older population</b> Kyu-Nam Heo (College of Pharmacy, Seoul National University)
YSS5-6(P11-3) 13:45-13:50	<b>A study on the strategies for the development of advanced biopharmaceutical industry in South Korea - focused on cell and gene therapy products</b> HyeonKyeong Oh (College of Pharmacy, Yonsei University)
YSS5-7(P11-7) 13:50-13:55	<b>Genotoxicity studies for impurities of rabeprazole dry-coated tablets though Derek and Sarah Nexus program</b> Seung-Hoon Song (Department of Biopharmaceutical Chemistry, Kookmin University)
YSS5-8(P11-18) 13:55-14:00	<b>Study on clinically optimized sitagliptin and dapagliflozin fixed-dose combination dual-layer tablet for human bioequivalence studies</b> So-Jin Kang (Department of Biopharmaceutical Chemistry, Kookmin University)
YSS5-9(P12-1) 14:00-14:05	<b>The association of opioid use following long-term tramadol use</b> Miryoung Kim (College of Pharmacy, Kyung Hee University)
YSS5-10(P12-9) 14:05-14:10	<b>Fetal and early life exposure to antibiotics and the risk of neurodevelopmental disorders: A nationwide population-based cohort study with sibling analysis</b> Ahhyung Choi (School of Pharmacy, Sungkyunkwan University)

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