

Plenary Lecture

Navigation for bioactive natural products

Oct. 26th (Thu), 15:50-16:30, Concert Hall

Chair Won Keun Oh (College of Pharmacy, Seoul National University)



Dr. Sang Kook Lee
(Professor, College of Pharmacy, Seoul National University)

PL

15:50-16:30

Natural products have been played major roles in drug discovery and development programs. We also tried to identify bioactive natural products with anticancer and anti-inflammatory activities. In this presentation, the antitumor activity of diverse classes of compounds isolated from natural sources will be briefly introduced with plausible mechanisms of action. In particular, phenanthroindolizidine alkaloids from *Cynanchum paniculatum* (Asclepiadaceae) exhibited a potent antitumor activity against a variety of cancer cells. The biological activity, underlying molecular mechanism, and approaches for development of further druggable candidates will be introduced. In addition, daphnane-type diterpenoids isolated from the flower of *Daphne genkwa* (Thymelaceae) showed a potent growth inhibition and a relatively strong selectivity against human lung cancer cells including epidermal growth factor receptor-tyrosine kinase inhibitor (EGFR-TKI)-resistant cancer cells. One plausible mechanism of action in the overcome of EGFR TKI-resistance by these compounds will be also suggested for better understanding the acquired drug resistance in lung cancer cells. In target-based screening program for identifying Wnt signaling pathway inhibitors from natural sources, periplocin, a cardiac glycoside isolated from the bark of *Telectadium dongnaiense* (Asclepiadaceae) (TDB), was found to exhibit antitumor activity by modulation of the Wnt/ β -catenin signalings in colon cancer cells. Some natural products-derived compounds will also be introduced with their biological activities. This presentation will highlight our experiences to explore biologically active natural products with the antitumor activity and elucidation of the underlying molecular mechanisms with the bioactive compounds.

2023 Ohdang Award Lecture

Pharmacological functions and action mechanisms of chitinase 3 like 1

Oct. 26th (Thu), 13:00-13:40, Concert Hall

Chair Jae-Hoon Cheong (School of Pharmacy, Jeonbuk National University)



Dr. Jin Tae Hong
(Professor, College of Pharmacy and Medical Research Center, Chungbuk National University)

OAL

13:00-13:40

Chitinase-3-like protein 1 (CHI3L1) has been called YKL-40 in humans and breast regression protein 39 (BRP-39) in mice. Since its initial detection in the culture supernatant of the MG63 osteosarcoma cell line, it has been subsequently discovered in human chondrocytes, synovialocytes, and vascular smooth muscle cells. CHI3L1 is a heparin-, chitin-, and collagen-binding 40-kDa glycoprotein that act as a lectin because of the presence of a preserved carbohydrate-binding domain; however, the identity of its ligands remains unknown. It is noteworthy that CHI3L1 has the ability to bind to multiple receptors, such as the receptor for advanced glycation end products (RAGE), syndecan-1/ α V β 3, and interleukin 13 receptor alpha 2 (IL-13R α 2), which induce inflammasome activation, apoptosis, carcinogenesis, and tissue remodeling. CHI3L1 is strongly expressed by macrophages in inflammatory diseases, such as rheumatoid arthritis, asthma, liver cirrhosis, atopy, encephalitis, stroke, multiple sclerosis, traumatic brain injury, and glioblastoma. Although the relationship of CHI3L1 and poor prognosis of cancers remains controversial, several studies provided that increased CHI3L1 expression promotes metastasis and progression of cancer development. However, its pharmacological and pathophysiological roles and action mechanisms remains unclear. As a pro-inflammatory biomarker, the application of CHI3L1 in the treatment of these diseases has been suggested. In this seminar, recent our findings of the roles of CHI3L1 in the several disease models and therapeutic approach targeting CHI3L1 in cancers and inflammatory diseases will be introduced. We will also provide interacting targets of CHI3L1 obtained using the search tool for the retrieval of interacting Genes/Proteins (STRING) as well as open targets platform and other data-analysis platforms.



2023 PSK Award Lecture

Molecular mechanism of epigenetic regulation by mTOR/S6K1 signal pathway

Oct. 27th (Fri), 13:00-13:40, Concert Hall

Chair Eun Ju Bae (School of Pharmacy, Jeonbuk National University)



Dr. Jeung-Whan Han
(Professor, School of Pharmacy, Sungkyunkwan University)

PAL
13:00-13:40

The dysregulation of the epigenetic machinery is widely recognized as a key contributor to various diseases. Therefore, gaining a comprehensive understanding of epigenetic mechanisms, their interactions, and alterations in both health and disease has emerged as a priority in the field of biomedical research. Over the past decade, numerous epigenetic drugs targeting DNA methylation or histone acetylation have received FDA approval or are currently in clinical trials. In addition to directly modulating histone modifications, various researchers have focused on unraveling the intricate network between signaling pathways and histone modifications to uncover the upstream mechanisms of epigenetic regulation. In this context, our study highlights the intricate cross-talk between the mTOR/S6K1 signaling pathway and the molecular mechanisms of epigenetic regulation. We demonstrate that S6K1-induced H2BS36P-EZH2-H3K27me3 plays a pivotal role in promoting adipogenic commitment by suppressing Wnt genes. Furthermore, our research reveals a dynamic transcriptional switch between EZH2 and BMAL1, controlled by S6K1, which governs adiponectin gene expression in mature adipocytes in response to nutrient status. Additionally, we also uncover that S6K1-mediated phosphorylation of Pygo2 is essential for the progression of mitosis through stimulating translation. Notably, we provide compelling evidence that S6K1 also plays an essential role in human brain development using human brain organoids generated from embryonic stem cells. While the clinical application of epigenetic modulation has primarily focused on inhibiting cancer initiation or progression, our findings underscore the immense therapeutic potential that exists for the therapeutic use of signaling-epigenome crosstalk in the treatment of various human diseases within the next decade.

Special Symposium 1

Research presentation program for undergraduate students

Oct. 25th (Wed), 14:20-15:14, Concert Hall

Chair	Keon Wook Kang (College of Pharmacy, Seoul National University) Wan Namkung (College of Pharmacy, Yonsei University) Sun-Young Han (College of Pharmacy, Gyeongsang National University)
SS1-1 14:20-14:26	FSLLRY-NH2, a protease-activated receptor 2 (PAR2) antagonist, activates mas-related G protein-coupled receptor C11 (MrgprC11) to induce scratching behaviors in mice 김혜인/이기백 (가천대학교 약학대학)
SS1-2 14:26-14:32	C-H allylation & cyclization of nitrones and 2-Methylidene cyclic carbonate: Novel approach to 2-formyl carbazoles 오예빈 (성균관대학교 약학대학)
SS1-3 14:32-14:38	Suaeda glauca attenuates liver fibrosis in mice by inhibiting TGFβ1-Smad2/3 signaling in hepatic stellate cells 홍유정 (전북대학교 약학대학)
SS1-4 14:38-14:44	조갑진균증 치료를 위한 항진균제의 손톱 내 약물 전달 방법의 개발 김성연/채승미 (경상국립대학교 약학대학)
SS1-5 14:44-14:50	A study on the anti-cancer activity of small molecular compounds JCH019, SNB035, SNB066, SNC118 홍지예 (순천대학교 약학대학)
SS1-6 14:50-14:56	Role of CXCL1 on acetaminophen-induced liver injury 김수현/심재민 (이화여자대학교 약학대학)
SS1-7 14:56-15:02	A study on the acute attack treatment and urate lowering therapy in gout patients in South Korea 이연지 (연세대학교 약학대학)
SS1-8 15:02-15:08	Gene cloning & Protein expression of CwIO 송해린 (영남대학교 약학대학)
SS1-9 15:08-15:14	Synthesis of keyintermediate for the preparation of novel natural product isolated from Jeju carrot origin 홍경수 (제주대학교 약학대학)



Special Symposium 2

Next generation of pharmaceutical research: A look at the latest advances

Oct. 25th (Wed), 14:20-15:20, Meeting Room 6

The session will explore the latest advances in pharmaceutical research that covers the chemical and biological improvements in this field.

Organizer	Dong-Kyu Lee (College of Pharmacy, Chung-Ang University)
Chair	Hyuk-Jin Cha (College of Pharmacy, Seoul National University)
SS2-1 14:20-14:35	Role of the Hippo pathway in liver disease progression Ja Hyun Koo (College of Pharmacy, Seoul National University)
SS2-2 14:35-14:50	Connection between portal venous system and hepatic inflammation Yong-Hyun Han (College of Pharmacy, Kangwon National University)
SS2-3 14:50-15:05	Tracking the metabolic origin of cancer cell-emitted biogenic volatile organic compounds Dong-Kyu Lee (College of Pharmacy, Chung-Ang University)
SS2-4 15:05-15:20	Targeted chemical knockdown of phosphorylated p38 MAPK as a novel approach for the treatment of Alzheimer's disease Nam-Jung Kim (College of Pharmacy, Kyunghee University)

Special Symposium 3

ChatGPT educational program

(Infinite industrial scalability of biotechnology)

Oct. 25th (Wed), 15:30-18:00, Concert Hall

This is an educational program that supports graduate students to conduct efficient research using ChatGPT and artificial intelligence. This educational program provides a usage guide including the principles of ChatGPT and information on how to use ChatGPT for efficient research and legal protection of the database.

Organizer	Keon Wook Kang (College of Pharmacy, Seoul National University)
Chair	Wan Namkung (College of Pharmacy, Yonsei University)
SS3-1 15:30-16:30	Principle and usage of ChatGPT Chun-Bo Sim (School of ICT Convergence Engineering, Sunchon National University)
SS3-2 16:30-17:30	How to use ChatGPT for efficient research Hakyong Kim (IoT Strategy Labs)
SS3-3 17:30-18:00	Legal protection of databases Jongkhab Na (School of Law, Yonsei University)



Luncheon Symposium 1

Cutting-edge modality

(Infinite industrial scalability of biotechnology)

Oct. 26th (Thu), 11:50-12:50, Multipurpose Hall

The main topic of this Luncheon Symposium is to hear from experts in three representative fields about the impact of biotechnology that will have on various industries.

Organizer & Chair	
	Sang Ho Lee (College of Pharmacy, Jeju National University)
LS1-1 11:50-12:10	Possible opportunities with generative LLM/AI integration in pharmaceutical industry Jae-Mun Choi (Calici, Co., Ltd)
LS1-2 12:10-12:30	Technological trends of futuristic cars as biometric monitoring tools Daesub Yoon (Mobility UX Research Section, Electronics and Telecommunications Research Institute)
LS1-3 12:30-12:50	Organoid based drug discovery and development; From science to Industry Jong Man Yoo (Organoidsciences, Ltd)

Luncheon Symposium 2

2023 PSK Award Lecture

Oct. 27th (Fri), 11:50-12:30, Multipurpose Hall

Chair	
	Dong Hee Na (College of Pharmacy, Chung-Ang University) Kyeong Lee (College of Pharmacy, Dongguk University)
LS2-1 11:50-12:10	Yoon Gwang Yeol Pharmaceutical Achievement Award Dosage exploration strategy using population pharmacokinetic-pharmacodynamic models for precision therapy Yong-Bok Lee (College of Pharmacy, Chonnam National University)
LS2-2 12:10-12:30	Nokam Pharmaceutical Achievement Award C-H functionalization of N-Heterocycles in drug discovery In Su Kim (School of Pharmacy, Sungkyunkwan University)

Symposium 1

Advancing biochemistry for combatting infectious diseases and immune disorders: Innovations and strategies

(Joint Symposium of Microbiology · Immunology, Pharmaceutical biochemistry · Molecular biology, and Biopharmaceuticals)

Oct. 26th (Thu), 09:50-11:30, Concert Hall

In recent years, the world has witnessed the increasing global impact of infectious diseases and immune disorders. To address these complex challenges, the field of biochemistry has emerged as a powerful tool in understanding disease mechanisms, developing novel therapeutics, and designing effective strategies for combating infectious diseases and immune disorders.

We are pleased to announce the symposium on "Advancing Biochemistry for Combatting Infectious Diseases and Immune Disorders: Innovations and Strategies." This symposium aims to bring together leading researchers and scientists to explore the latest advancements, breakthroughs, and strategies in biochemistry that contribute to our understanding and management of infectious diseases and immune disorders.

The symposium will provide a platform for interdisciplinary discussions and knowledge exchange, fostering collaborations between experts in biochemistry, immunology, microbiology, pharmacology, and related fields. By sharing their research findings, innovative approaches, and practical applications, the participants will contribute to the collective effort of combating infectious diseases and immune disorders, ultimately improving global health outcomes.

Organizer	Jong-Sup Bae (College of Pharmacy, Kyungpook National University) Joon-Seok Choi (College of Pharmacy, Daegu Catholic University)
Chair	Hyun Ho Park (College of Pharmacy, Chung-Ang University)
S1-1 09:50-10:15	Anti-cancer peptide development via aminoacyl-tRNA synthetase Sang Bum Kim (College of Pharmacy, Sahmyook University)
S1-2 10:15-10:40	Ocular tropism of SARS-CoV-2 in animal models with retinal inflammation via neuronal invasion Young-Chan Kwon (Korea Research Institute of Chemical Technology)
S1-3 10:40-11:05	FRET-based screening of chimeric antigen receptor (CAR) in live cells Jihye Seong (College of Medicine, Seoul National University)
S1-4 11:05-11:30	The role of TET enzyme in immunotherapy Hyungseok Seo (College of Pharmacy, Seoul National University)



Symposium 2

The present and future of polypharmacy management in hospital settings

(Joint Symposium of Clinical pharmacy, Social · Managed care pharmacy, and Hospital pharmacy)

Oct. 26th (Thu), 09:50-11:45, Multipurpose Hall

As elderly people taking multiple medications has significantly risen, the importance of polypharmacy management is increasing. A pilot project for multidisciplinary polypharmacy management in hospital settings has been underway since 2020, organized by the National Health Insurance Service. In 2023, 48 hospitals are participating. This symposium examines the current status and performance of polypharmacy management programs and optimizing pharmacotherapy in hospital settings and discuss strategies for further improvement.

Organizer	Sunmee Jang (College of Pharmacy, Gachon University) Yunmi Yu (College of Pharmacy, Yonsei University) Kyung Suk Choi (Seoul National University Bundang Hospital)
Chair	Jeong Hyun Yoon (College of Pharmacy, Pusan National University) Kyeonghee Kwon (College of Pharmacy, Dongguk University)
S2-1 09:50-10:10	Experiences and directions for hospital-based polypharmacy programs Jung-jin Ka (National Health Insurance Service)
S2-2 10:10-10:30	A team approach to polypharmacy in the elderly: The pharmacist's role in multidisciplinary settings Mirinae Lee (Department of Pharmacy, Asan Medical Center)
S2-3 10:30-10:50	Case presentation of polypharmacy management in general hospital Jin Gyeong Kim (Department of Pharmacy, The Catholic University of Korea, Uijeongbu ST. Mary's Hospital)
S2-4 10:50-11:10	Health and economic outcomes of comprehensive medication management in hospital settings Sunmee Jang (College of Pharmacy, Gachon University)
S2-5 11:10-11:30	Optimizing pharmacotherapy in elderly patients using physiologically based pharmacokinetic approach Su-jin Rhee (College of Pharmacy, Wonkwang University)
S2-6 11:30-11:45	OYRA (Outstanding Young Researcher Award) Clinical impact and economic burden of post-transplant infections following heart transplantation: a retrospective nationwide cohort study Suk-Chan Jang (School of Pharmacy, Sungkyunkwan University)



Symposium 3

Cutting-edge analytical approaches for approving antibody drugs and small molecule pharmaceuticals

(Joint Symposium of Industrial pharmacy and MOTIE)

Oct. 26th (Thu), 09:50-11:30, Meeting Room 6

The Division of Industrial Pharmacy is organizing this Autumn Symposium, focusing on the latest analytical technologies for the approval of antibody drugs and small molecule drugs in the fields of biopharmaceuticals and synthetic pharmaceuticals.

The first speaker, Dr. Cho, Kun from the Korea Basic Science Institute (KBSI), represents the leading organization responsible for establishing the Medical Antibody Characterization Center in the Chungcheong region. Dr. Cho will introduce the center and present the accelerated antibody development and characterization analysis technologies. The second speaker, Dr. Woo, Ju Rang from KBIOhealth, will deliver a presentation on the concept and role of Analytical Quality by Design (AQbD) in the development of next-generation antibody therapies.

The third speaker is Professor Kim, HoonJoo from Jeonbuk National University, who currently serves as the Center Director of the recently established Pharmaceutical Industry Future Talent Development Center. This center plays a significant role as a practical education hub for pharmaceutical manufacturing processes, quality management, and GMP practical training within the region. Professor Kim will introduce the center and present its educational infrastructure and programs for the approval of small molecule drugs.

Lastly, Dr. Kim, Moo Sung from CMG Pharmaceuticals will provide insights into the latest trends in genetic toxicity impurity analysis of small molecules.

We extend our heartfelt gratitude to all the distinguished speakers for their valuable contributions to the symposium.

Organizer	Hyun Kyung Choi (College of Natural Sciences, Sogang University)
Chair	Hyun Joo Shim (College of Pharmacy, Jeonbuk National University)
S3-1 09:50-10:20	Project for accelerating medical antibody development and establishing a characterization analysis platform in the Chungcheong region Kun Cho (Korea Basic Science Institute)
S3-2 10:20-10:40	The role of AQbD (Analytical Quality by Design) in the development of antibody therapeutics Ju Rang Woo (New Drug Development Center, KBio health)
S3-3 10:40-11:10	Establishment of education infrastructure and education program for the drug approval Hoonjoo Kim (School of Pharmacy, Jeonbuk National University)
S3-4 11:10-11:30	Latest trend of genotoxic impurity (ICH M7) Moo Sung Kim (CMG Pharm Co., Ltd)



Symposium 4

Recent advances in pharmaceutical target discovery for cancer and neurological disorders

(Joint Symposium of The Pharmaceutical Society of Korea and The Pharmaceutical Society of Taiwan)

Oct. 26th (Thu), 09:50-11:40, Meeting Room 5

The Pharmaceutical Society of Korea (PSK) and the Pharmaceutical Society of Taiwan (PST) have collaborated to organize this inaugural joint symposium. Each society will feature two speakers who will present their latest discoveries and innovative therapeutic strategies, all aimed at advancing the treatment and cure of cancer and neurological disorders.

Organizer	Woojin Lee (College of Pharmacy, Seoul National University)
Chair	Woojin Lee (College of Pharmacy, Seoul National University) Yoo Kyung Kang (College of Pharmacy, Gyeongsang National University) Kruppel-like factor 2 is a promising therapeutic target for the treatment of non-small-cell lung cancer cells
S4-1 09:50-10:20	Chieh-Hsi Wu (Department of Pharmaceutical Sciences, Taipei Medical University, Taiwan)
S4-2 10:20-10:50	Development of novel T Cell-based therapeutic strategies to treat solid tumor Kuo-Hsiang Chuang (Graduate Institute of Pharmacognosy, Taipei Medical University, Taiwan)
S4-3 10:50-11:15	Pathological role of AIMP2 oligomerization in α-synuclein neurotoxicity in Parkinson's disease Yunjong Lee (Department of Pharmacology, Sungkyunkwan University School of Medicine)
S4-4 11:15-11:40	From within: harnessing proteins' inherent potential with protein nanocluster technology in cancer therapy Jae-Young Lee (College of Pharmacy, Seoul National University)

Symposium 5

Causes, mechanisms, and target molecules for disease control and prevention

(The 6th Toward 100 Years Symposium I)

Oct. 26th (Thu), 09:50-11:30, Meeting Room 4

Understanding the factors that contribute to the development of diseases and the underlying cellular and molecular mechanisms is crucial to find potential therapeutic target molecules or biomarkers for disease control and prevention. In this session, we will explore the health effects and underlying molecular mechanisms of various factors in onset or progress of diseases including gut microbiomes, alcohol intake, environmental hazardous factors, and dysregulated metabolism, which can ultimately lead to finding effective strategies to control and prevent diseases.

Organizer	Aekyung Park (School of Pharmacy, Jeonbuk National University)
Chair	Eunyoung Yi (College of Pharmacy, Mokpo National University)
S5-1 09:50-10:15	Research on toxicity and biological response of arsenic Daigo Sumi (Faculty of Pharmaceutical Sciences, Tokushima Bunri University, Japan)
S5-2 10:15-10:40	Effects of excess alcohol intake on blood vessels and astrocytes in neurotoxicity Hiroshi Hasegawa (Laboratory of Hygienic Sciences, Kobe Pharmaceutical University, Japan)
S5-3 10:40-11:05	Discovery of a pH-responsive lipid immunogen from human gut microbes Munhyung Bae (College of Pharmacy, Gachon University)
S5-4 11:05-11:30	Hepatic sulfur-containing amino acid metabolism in non-alcoholic fatty liver disease Doyoung Kwon (College of Pharmacy, Jeju National University)



Symposium 6

The blueprint for the radiopharmaceutical development in future pharmacy

Oct. 26th (Thu), 09:50-11:30, Meeting Room 3

The development of diagnostic and therapeutic radiopharmaceuticals over the past half century has led to many advances in nuclear medicine and molecular imaging. New radiopharmaceuticals have facilitated the transition from planar imaging and limited therapies to the exciting era of SPECT, PET, and other imaging modalities, and have led to the development of therapeutics for a variety of conditions, including thyroid disease, hematologic disorders, inflammatory diseases, bone metastases, non-Hodgkin lymphoma, and liver metastases, as well as the development of radiotheranostics that combine diagnostic and therapeutic approaches. As such, radiopharmaceuticals are experiencing rapid growth in demand in the medical field as they aim for precision medicines customized to the patient, and in the pharmaceutical field, interest in education and research on radiopharmaceutical development, clinical application, production, and licensing is growing. This session will provide an overview of radiopharmaceuticals, which have great potential and growth to lead future pharmacy after the new normal, and present new perspectives on radiopharmaceutical development for the future of pharmaceutical sciences. The first speaker, Dr. Kweon Kim, CEO of CellBion Co., Ltd., will present Lu-177-DGUL, a prostate cancer drug, and the second speaker, Prof. Sang-Yoon Lee of College of Medicine, Gachon University, will introduce positron emission tomography imaging of the translocator proteins. The third speaker, Dr. Pyo Ayoung from College of Pharmacy, Gyeongsang National University, will present on the development of molecular imaging technology for invasive fungal infections, and the final speaker, Dr. Ho Seong Seo from the Korea Atomic Energy Research Institute, will present on low dose radiotherapy for COVID-19. The symposium will provide an opportunity to understand the latest research and development trends in radiopharmaceuticals, and provide a forum for active discussion on radiopharmaceutical education and research in the field of pharmacy.

Organizer	Youngjoo Byun (College of Pharmacy, Korea University)
Chair	Jong-Wha Jung (College of Pharmacy, Kyungpook National University)
S6-1 09:50-10:15	Reversioning prostate cancer treatment; Lu-177-PSMA-DGUL radioligand therapy Kweon Kim (CellBion Co., Ltd.)
S6-2 10:15-10:40	TSPO PET imaging Sang-Yoon Lee (College of Medicine, Gachon University)
S6-3 10:40-11:05	In vivo imaging of invasive aspergillosis with 18F-fluorodeoxyisobutyl positron emission tomography Ayoung Pyo (College of Pharmacy, Gyeongsang National University)
S6-4 11:05-11:30	Low dose radiation therapy (LDRT) for COVID-19: History, evidence, benefits, and risks Ho Seong Seo (Korea Atomic Energy Research Institute)



Symposium 7

The application of organoid platform in drug development

(The 14th Ohdang Symposium)

Oct. 26th (Thu), 13:50-15:30, Concert Hall

This pharmacology session introduces organoid platform technology for new drug development. Recently, there is a strong movement to research through human-like organoids instead of animal tests. We tried to expand the field of pharmacology by introducing organoid systems to pharmacologists and having them interact with experts. Lung organoids, organoids for toxicity evaluation, we introduce the latest findings on the development and application of kidney organoids. Nevada State University, Korea Research Institute of Bioscience and Biotechnology (KRIBB), Korea National Institute of Health, Institut Pasteur Korea invited top-notch researchers in stem cell and advanced organoid research to share their insights. This session is planned to be operated so that there is sufficient time for Q&A for exchange of pharmacologists.

Organizer	Han-Jung Chae (School of Pharmacy, Jeonbuk National University)
Chair	Keon Wook Kang (College of Pharmacy, Seoul National University)
S7-1 13:50-14:15	Advancing regenerative medicine in diabetes using therapeutic microRNAs and organoids Seungil Ro (University of Nevada Reno School of Medicine, USA)
S7-2 14:15-14:40	Applications of stem cell derived organoids/immune cells for overcoming infectious diseases Jung-Hyun Kim (Korea National Institute of Health)
S7-3 14:40-15:05	Identification of novel therapeutic targets for HCC therapy through utilization of multicellular hepatic spheroid model Haeng Ran Seo (Institut Pasteur Korea)
S7-4 15:05-15:30	Liver organoid platform for disease modeling and safety assessment Myung Jin Son (Korea Research Institute of Bioscience and Biotechnology)



Symposium 8

Small molecule-based strategies for intractable diseases

Oct. 26th (Thu), 13:50-15:45, Multipurpose Hall

An intractable disease is a chronic condition that is difficult to treat or cure. It may have an unknown cause, or there may be no effective treatments available. Among the strategies to treat intractable disease, small molecule-based approaches have the potential to revolutionize the treatment of intractable disease. In this session, the recent research achievements related to small molecule-based drug development will be shared and introduced by four speakers who are affiliated with industry, academia, or research institutes. The first speaker is Prof. Jung-Mi Hah who will discuss her research on protein kinase targets for Alzheimer's disease. Next, the discovery of small molecule adjuvant with multiple TLR activation will be presented by Dr. Eun Joo Roh from KIST. In the third presentation, Prof. Jeeyeon Lee will give a talk about recent development of aggregation-induced emission-based theranostics. Finally, Dr. Seon Mi Kim who is the director of the R&D center at TiumBio will present the recent development of TU2670 as an oral GnRH receptor antagonist for endometriosis and uterine fibroids.

Organizer	Yongseok Kwon (School of Pharmacy, Sungkyunkwan University)
Chair	Sujin Lee (College of Pharmacy, Daegu Catholic University)
S8-1 13:50-14:15	Unveiling promising protein kinase targets for Alzheimer's disease: Exploring JNK3 and CSF-1R inhibitors as therapeutic approaches Jung-Mi Hah (College of Pharmacy, Hanyang University)
S8-2 14:15-14:40	Discovery of small molecule adjuvant with multiple TLR activation Eun Joo Roh (Chemical and Biological Integrative Research Center, Korea Institute of Science and Technology)
S8-3 14:40-15:05	Development of AIE-based theranostics Jeeyeon Lee (College of Pharmacy, Seoul National University)
S8-4 15:05-15:30	Development of TU2670, an oral GnRH receptor antagonist for the treatment of endometriosis Seon Mi Kim (Tiumbio Co.) OYRA (Outstanding Young Researcher Award)
S8-5 15:30-15:45	Catalytic and Enantioselective Control of the C-N Stereogenic Axis via the Pictet-Spengler Reaction Ahreum Kim (School of Pharmacy, Sungkyunkwan University)



Symposium 9

Current status to control genotoxic impurities in pharmaceuticals

(National Institute of Food and Drug Safety Evaluation, Ministry of Food and Drug Safety)

Oct. 26th (Thu), 13:50-15:45, Meeting Room 6

Since the discovery of nitrosamine impurities in some types of human drugs in 2018, the Ministry of Food and Drug Safety (MFDS) has ramped up the continuous efforts to protect the public health. MFDS has been working with many experts to prevent the drugs with genotoxic impurities above the acceptable limits. Proactive inspection effort is a key to assuring drug safety during the manufacturing processes to minimize the possible presence of genotoxic impurities in drug products. In this context, MFDS published the guideline for industry on the control of nitrosamine impurities in drugs for human use. The guideline contains self-evaluation and other control strategies for nitrosamines. MFDS has also issued a compilation of analytical methods to support industry's efforts towards better control of the impurities. This symposium has been organized to facilitate knowledge sharing on the recent developments and efforts made by regulatory authorities, academia and industry to reduce and prevent the presence of the impurities in drug products.

Organizer	Soo Jung Sohn (Pharmaceutical and Medical Device Research Department, National Institute of Food and Drug Safety Evaluation)
Chair	Jung Yun Chang (Drug Research Division, National Institute of Food and Drug Safety Evaluation) Seh Hyon Song (College of Pharmacy, Kyungshung University)
S9-1 13:50-14:10	Nitrosamines in pharmaceuticals – What does the future hold? Aloka Srinivasan (Principal and Managing Partner, Raaha LLC, USA)
S9-2 14:10-14:30	Assessment and control of N-nitrosamine impurities in pharmaceutical to limit potential carcinogenic risk Masamitsu Honma (The National Institute of Health Sciences, Japan)
S9-3 14:30-14:50	Regulatory perspective on managing nitrosamine impurities-MFDS Mijeong Kim (Drug Evaluation Department, National Institute of Food and Drug Safety Evaluation)
S9-4 14:50-15:10	Genotoxic impurities control strategy - Case study for APIs Kyoung Min Lee (Analysis team, R&D Center, Hanmi Fine Chemical Co., Ltd.)
S9-5 15:10-15:30	Causes and mitigation studies of nitrosamine impurities in pharmaceuticals Sang Beom Han (College of Pharmacy, Chung-Ang University)
S9-6 15:30-15:45	Current efforts to develop analytical methods for mutagenic impurities control in drugs Ilyoung Ahn (Drug Research Division, National Institute of Food and Drug Safety Evaluation)



Symposium 10

Future strategies for overcoming infectious diseases

(Joint symposium of PSK, KAMS, SKOM, and KADS)

Oct. 26th (Thu), 13:50-15:30, Meeting Room 5

In the post-COVID-19 era, the four major healthcare fields of medicine, dentistry, traditional Korean medicine, and pharmacy are coming together in unity to explore diverse strategies for addressing future infectious threats. This collaborative effort underscores the importance of a multidisciplinary approach. Medicine focuses on rapid detection and advanced therapeutics, while dentistry highlights the impact of oral health on immunity. Traditional Korean medicine contributes holistic remedies, and pharmacy advances personalized drug selection using machine learning approach. Together, they aim to create a comprehensive healthcare system capable of effectively combating any future infectious diseases.

Organizer & Chair	Hyuk-Jin Cha (College of Pharmacy, Seoul National University)
	Early responses of medical professionals against SARS-CoV-2 and the lessons learned
S10-1 13:50-14:15	Jaeseok Kim (Department of Laboratory Medicine, Kangdong Sacred Heart Hospital, Hallym University College of Medicine)
S10-2 14:15-14:40	Transition of machine learning-based prediction algorithms to personalized empiric antibiotic selections Jeong Yeon Rhie (College of Pharmacy, Ewha Womans University)
S10-3 14:40-15:05	Preliminary experiments on proposals for the spread of droplets due to tooth brushing in schools Dong Hun Han (School of Dentistry, Seoul National University)
S10-4 15:05-15:30	Research for KM response on COVID-19 Heejae Jung (College of Korean Medicine, Kyung Hee University)

Symposium 11

The present and future of the biopharmaceutical R&BD in Jeonnam

Oct. 26th (Thu), 13:50-15:30, Meeting Room 4

This session was organized to understand the current status of the bio-industry in Jeonnam and to discuss the future of the bio-industry in the region. For this purpose, the bio-industry experts in Jeonnam, including Jeonnam Bio Foundation (JBF), JBF Nano Bio Research Center, Chonnam National University Hwasun Hospital, and VaxCell-Bio, will introduce the present and future of the Jeonnam bio-industry. As the first speaker, James Yoon's presentiaon director of JBF, will focus on providing an overview of the current status of the bio-industry in Jeonnam. Additionally, he will outline the vision and strategies for the future of the bio-industry in the region. The second speaker, Prof. Jung-Joon Min will present the development of bacterial engineering-based immunotheranostics for the cancer immunotherapy and diagnosis as cutting-edge and highly relevant technology. Yong Joo Kim, chief of JBF Nano Bio Research Center, will introduce supercritical fluid chromatography, which is probably an opportunity to showcase a specific technological advancement in biopharmaceutical industry. Finally, Prof. Je-Jung Lee, CEO of VaxCell-Bio, will present innovative cancer immunotherapy using NK cells and CAR-based cells, and provide a detailed explanation of the science behind his approach and the progress made so far. Ultimately, this session aims to provide an informative experience for attendees, promoting knowledge sharing, collaboration, and advancements within the bio-industry in Jeonnam.

Organizer & Chair	Dong-Jo Chang (College of Pharmacy, Sunchon National University)
S11-1 13:50-14:15	The future of Jeonnam bioindustry Hoyeol Yoon (Jeonnam Bio Industry Foundation)
S11-2 14:15-14:40	Bioengineering of bacteria for cancer immunotheranostics Jung-Joon Min (Chonnam National University Medical School)
S11-3 14:40-15:05	Application of supercritical fluid chromatography to the pharmaceutical industry Yong Joo Kim (Nano Bio Research Center, Jeonnam Bio Foundation)
S11-4 15:05-15:30	Innovative cellular immunotherapy using NK cells and CAR-based cells for cancer Je-Jung Lee (VaxCell Biotherapeutics Co., Ltd./Chonnam National University Medical School)



Symposium 12

Drug discovery and development in Medical Research Center

(Medical Research Center)

Oct. 26th (Thu), 13:50-15:30, Meeting Room 3

Currently, eight university research centers are designated as "Medical Research Center (MRC)" in College of Pharmacy from National Research Foundation: Chungbuk National University, Dongguk University, Seoul National University, Ewha Womans University, Sungkyunkwan University, Kyungpook National University, Sookmyung Women's University, and Hanyang University. These collective leading research centers are conducting a variety of new drug development studies and are making efforts to develop original technologies and foster master's and doctoral-level human resources. In 2023, at the Spring International Conference, the key research institutes of the College of Pharmacy were introduced, and at the Fall International Conference, we will introduce the latest trends in drug development research focused on the five medical research centers.

Organizer	Kyeong Lee (College of Pharmacy, Dongguk University)
Chair	Hyunwoo Kim (College of Pharmacy, Dongguk University)
S12-1 13:50-14:10	Cyclodextrin-based renal-clearable nanocarrier for tumor-targeted drug delivery Dae-Duk Kim (College of Pharmacy, Seoul National University)
S12-2 14:10-14:30	Targeting the oncogenic role of E74 Like ETS transcription factor 3 (ELF3) through modulation of its protein-protein interaction Youngjoo Kwon (College of Pharmacy, Ewha Womans University)
S12-3 14:30-14:50	The emerging insight into ubiquitination profiling as the potential therapeutic targets Key-Hwan Lim (College of Pharmacy, Chungbuk National University)
S12-4 14:50-15:10	Strategies and current status for therapeutic development of muscle wasting Jae-Hyun Park (Business Development Headquarter, AniMusCure Inc.)
S12-5 15:10-15:30	Pharmacomicrobiomics: Interactions between drugs and microbiome Hye Hyun Yoo (College of Pharmacy, Hanyang University)

Symposium 13

Emerging targets for metabolic diseases

(The 6th Toward 100 Years Symposium II)

Oct. 27th (Fri), 09:50-11:30, Concert Hall

This symposium session features a dynamic lineup of four distinguished speakers, each presenting groundbreaking research that illuminates the intricate connections between metabolism, cellular function, and overall health. From uncovering novel signal transduction pathways to exploring the role of key regulators in metabolic diseases, this session offers valuable insights into the underlying mechanisms that drive cellular processes in adipocytes and liver cells. The first two speakers explore the intricate signaling pathways mediated by GPR84 and SPARC, respectively, and their impact on the function of brown and white adipocytes, providing valuable insights into metabolic health. The last two talks aim to deepen our understanding of metabolic flexibility and potential therapeutic interventions for fatty liver and liver fibrosis.

Organizer	Eun Ju Bae (School of Pharmacy, Jeonbuk National University)
Chair	Yoon Mee Yang (College of Pharmacy, Kangwon National University)
S13-1 09:50-10:15	Multifaceted role of GPR84 in metabolism Dayoung Oh (Touchstone Diabetes Center, UT Southwestern Medical Center, USA)
S13-2 10:15-10:40	Adipokine SPARC integrates metabolic balance with inflammation to extend healthspan Seungin Ryu (College of Medicine, Hallym University)
S13-3 10:40-11:05	PAK4 as a novel regulator of fatty acid oxidation and ketogenesis Eun Ju Bae (School of Pharmacy, Jeonbuk National University)
S13-4 11:05-11:30	Hexokinase 2-mediated gene expression via histone lactylation is required for hepatic stellate cell activation and liver fibrosis Hyunsoo Rho (School of Pharmacy, Jeonbuk National University)



Symposium 14

Recent trends in gene therapeutics and gene delivery

Oct. 27th (Fri), 09:50-11:45, Multipurpose Hall

Gene delivery systems play a crucial role in the field of gene therapy for treating various diseases. Gene therapy offers a unique approach by utilizing adjustable genes to effectively cure various ailments. It holds great promise as a potential treatment for inherited disorders, viral infections, and cancers. The success of gene therapy largely depends on the development of sophisticated targeting gene delivery systems. Recent advancements in this area have yielded several successful gene delivery systems, paving the way for practical applications of gene therapy. In this symposium, four distinguished speakers, who are actively engaged in researching gene therapeutics and gene delivery, will present the latest technological trends in the field of gene delivery. Additionally, they will provide insights into future research directions.

Organizer	Jin-Seok Kim (College of Pharmacy, Sookmyung Women's University)
Chair	Shin Dae Hwan (College of Pharmacy, Chungbuk National University)
S14-1 09:50-10:15	Development of RNA structures for the cancer therapeutic vaccine system Kyuri Lee (College of Pharmacy, Gyeongsang National University)
S14-2 10:15-10:40	Remodeling cold tumors into hot tumors using lipid-based genome editing delivery systems Gayong Shim (School of Systems Biomedical Science and Integrative Institute of Basic Sciences, Soongsil University)
S14-3 10:40-11:05	Genetic target detection and CRISPR/Cas9 gene editing using micro/nano systems Yoo Kyung Kang (College of Pharmacy, Gyeongsang National University)
S14-4 11:05-11:30	Oral TNF- α siRNA delivery via milk-derived exosomes for successful treatment of inflammatory bowel disease Yoosoo Yang (Korea Institute of Science and Technology)
S14-5 11:30-11:45	OYRA (Outstanding Young Researcher Award) Design considerations for tumor-targeted renal-clearable cyclodextrin nanocarriers Min-Jun Baek (College of Pharmacy, Seoul National University)



Symposium 15

Recent advances in a multidisciplinary approach towards Alzheimer's diseases

Oct. 27th (Fri), 09:50-11:30, Meeting Room 6

Alzheimer's disease (AD) is a complex neurodegenerative disorder that affects millions of people worldwide. Over the years, there have been significant advancements in our understanding of the disease and the development of multidisciplinary approaches for its diagnosis, treatment, and management. In this seminar, some recent advances in the multidisciplinary approach towards Alzheimer's disease: Prof. Hak Young Rhee will show non-pharmacologic management options for Alzheimer's disease. Prof. Jaechol Lee will introduce novel brain delivery platform for AD treatment, which is targeting reactive astrocyte and glial checkpoint in the brain of AD model. Prof. Won-Jea Cho will present a structure-based rational strategy to develop novel O-GlcNAcase Inhibitors as Anti-AD Agents. Prof. Jong Kil Lee will present a novel TPD (Targeted Protein Degradation) strategy to selectively degrade a PTM-derived pathological protein for the treatment of AD.

Organizer	Nam-Jung Kim (College of Pharmacy, Kyung Hee University)
Chair	Min Duk Seo (College of Pharmacy, Ajou University)
S15-1 09:50-10:15	Non-pharmacologic management of Alzheimer's disease Hak Young Rhee (College of Medicine, Kyung Hee University, Kyung Hee University Hospital at Gangdong)
S15-2 10:15-10:40	TRANSMAB®, super-selective brain delivery platform for AD treatment targeting reactive Astrocytes & Glial checkpoint Jaechol Lee (School of Pharmacy, Sungkyunkwan University)
S15-3 10:40-11:05	Structure-based rational design and development of novel O-GlcNAcase inhibitors as anti-Alzheimer's disease agents Won-Jea Cho (College of Pharmacy, Chonnam National University)
S15-4 11:05-11:30	Chemical knockdown of phosphorylated P38 Mitogen-Activated Protein Kinase (MAPK) as a novel approach for the treatment of Alzheimer's disease Jong Kil Lee (College of Pharmacy, Kyung Hee University)



Symposium 16

Harnessing the power of antibodies: Innovations in ADC development

(KBIO Health)

Oct. 27th (Fri), 09:50-11:30, Meeting Room 5

Antibody-drug conjugates (ADCs) represent a promising class of targeted cancer therapeutics that have gained significant attention in recent years. Combining the specificity of monoclonal antibodies (mAbs) with the cytotoxic potency of small-molecule drugs, ADCs offer a unique approach to selectively deliver potent drugs directly to cancer cells, minimizing off-target effects and enhancing therapeutic efficacy. This symposium aims to delve into the research trends for antibody drug conjugates (ADCs). Topics include innovative antibody selection and engineering, payload selection and optimization, linker technologies for ADCs, Combination therapies and personalized medicine approaches, Drug Delivery Systems(DDS) for ADCs, safety and toxicity considerations, and future directions in ADC research.

Organizer & Chair	Je Wook Lee (Osong Medical Innovation Foundation)
S16-1 09:50-10:15	Peptide-directed photocrosslinking reaction for site-specific conjugation of antibodies Tae Hyeon Yoo (College of Pharmacy, Ajou University)
S16-2 10:15-10:40	Advanced purification of antibodies using calcium ion dependent affinity precipitation Sung Hyun Kim (Bio-Healthcare Materials Center, Korea Institute of Ceramic Engineering & Technology)
S16-3 10:40-11:05	Next generation antibody-drug conjugates(ADC) development from payload and linker perspective Hyun Yong Cho (Pinotbio Co., Ltd.)
S16-4 11:05-11:30	Physicochemical and pharmacokinetic analysis of antibody-Drug conjugates (ADCs) for development of ADC analytical platforms Jonghwa Jin (New Drug Development Center, Medical Innovation Foundation)

Symposium 17

Analytical advances for new psychoactive substances of abuse testing

Oct. 27th (Fri), 09:50-11:30, Meeting Room 4

In recent years, there has been a tremendous increase in the prevalence of new psychoactive substances (NPS) use in Korea. These substances pose a substantial threat to public health and safety. To mitigate the harms associated with drug abuse, drug and substance testing have become crucial tools employed globally. However, the effectiveness of conventional testing approaches has been compromised due to the rapid turnover rate and extensive variety of NPS. Thus, this session seeks to explore pioneering strategies for the new psychoactive substances of abuse testing, with the ultimate goal of safeguarding public health and well-being.

Organizer	Man-Jeong Paik (College of Pharmacy, Sunchon National University)
Chair	Kyuri Lee (College of Pharmacy, Gyeongsang National University)
S17-1 09:50-10:15	Postmortem distribution of ADB-BUTINACA, ADB-CHMINACA, and metabolites in whole blood and urine using LC-MS/MS Jihyun Kim (National Forensic Service Seoul Institute)
S17-2 10:15-10:40	Hyphenated mass spectrometry techniques for the analysis of illicit and new psychoactive substances Jin-Young Kim (Forensic Genetics and Chemistry Division, Supreme Prosecutors' Office)
S17-3 10:40-11:05	Regulatory and research trends regarding new psychoactive substances Hye-Jin Cha (College of Veterinary Medicine, Gyeongsang National University)
S17-4 11:05-11:30	Development of new psychoactive substance screening method using HR-MS data mining Suncheon Kim (Daejeon Institute, National Forensic Service)



Symposium 18

Innovative research in drug discovery based on medicinal and microbial chemistry

(Early-career Scientists in Pharmacy I)

Oct. 27th (Fri), 09:50-11:30, Meeting Room 3

This session is composed of remarkable studies about medicinal and microbial chemistry contributing to prominent progress in drug discovery. This session will introduce the latest research achievements for the synthesis and analysis of new compounds in the fields of medicinal and microbial chemistry. As the first speaker, Prof. Yoonji Lee will show the innovative medicinal analysis of purinergic receptors to find potential drug candidates. Prof. Jang will present on the discovery of allosteric EGFR inhibitors for mutant-specific cancer therapy. The third speaker, Prof. Moon will introduce the latest insights for natural products research based on microbial chemistry. The last speaker, Prof. Hyunji Lee will exhibit the advanced production of microbial-derived natural macrocycles. Ultimately, this session aims to discuss innovative scientific updates performed by early-stage PIs and support to open opportunities for active collaboration.

Organizer	Yong-Hyun Han (College of Pharmacy, Kangwon National University)
Chair	Hwayoung Yun (College of Pharmacy, Pusan National University)
S18-1 09:50-10:15	Systematic analyses of the sequence conservation and ligand interaction patterns of purinergic receptors Yoonji Lee (College of Pharmacy, Chung-Ang University)
S18-2 10:15-10:40	Discovery of mutant selective allosteric EGFR inhibitors Jaebong Jang (College of Pharmacy, Korea University)
S18-3 10:40-11:05	Natural products research based on microbial chemistry Kyuhoo Moon (College of Pharmacy, Chonnam National University)
S18-4 11:05-11:30	Improved production of thioether-containing natural macrocycles in E. coli Hyunji Lee (College of Pharmacy, Kyungsoo University)



Symposium 19

Pharmaceutical target discovery for cancer, neurological disorders, and viral infections

(Early-career Scientists in Pharmacy II)

Oct. 27th (Fri), 13:50-15:30, Concert Hall

The field of discovering pharmaceutical targets for disease control has been producing rapid progress, recently fueled by the adoption of advanced biochemical techniques. Cancer biology, virology and neuroscience have emerged as prominent examples, representing the forefront of these advancements. This session introduces inspiring recent advances led by early-career researchers to showcase their exceptional work and foster collaborations with the scientists of the Pharmaceutical Society of Korea. Throughout the session, Prof. Yoon Pyo Kang and Prof. Ji Won Kim will introduce novel therapeutic targets and signal transduction circuits in cancer biology, discovered by utilizing the latest research techniques. Intriguing results on neurological disorders will be introduced by Prof. Ji-Woon Kim and Prof. Min-Kyoo Shin, covering new mechanistic insights into antidepressant action and neurodegenerative diseases, respectively. This session aims to serve as a platform inspiring future research and collaboration across generations for innovative biological approaches in pharmaceutical target discovery. The session will open with introducing our special guest, Prof. Luis Martinez-Sobrido. He will share his insights on target discovery for inhibition of viral infection and replication.

Organizer	Ja Hyun Koo (College of Pharmacy, Seoul National University)
Chair	Wondong Kim (College of Pharmacy, Hanyang University) Moon Jung Song (Department of Biotechnology, Korea University)
S19-1 13:50-14:10	SARS-CoV-2 reverse genetics and its implications for antiviral screening Luis Martinez-Sobrido (Texas Biomedical Research Institute, USA)
S19-2 14:10-14:30	Targeting cysteine metabolism accelerates ferroptosis in lung cancer cells Yun Pyo Kang (College of Pharmacy, Seoul National University)
S19-3 14:30-14:50	The tumor suppressor CIC directly regulates YAP1 to control drug resistance and tumor progression Ji Won Kim (College of Pharmacy, Jeju National University)
S19-4 14:50-15:10	The non-canonical role of NMDA receptors in mediating the antidepressant action of ketamine Ji-Woon Kim (College of Pharmacy, Kyung Hee University)
S19-5 15:10-15:30	Acetylated tau: A missing link between brain injury and Alzheimer's disease Min-Kyoo Shin (College of Pharmacy, Seoul National University)



Symposium 20

Convergence research of natural products

Oct. 27th (Fri), 13:50-15:30, Multipurpose Hall

As the global population ages and healthcare services face the impact of COVID-19, the significance of healthy lifestyles and disease prevention has amplified. Natural products, derived from diverse sources such as plants, animals, and microorganisms, have long served as valuable reservoirs of medicines, agricultural products, and other beneficial compounds. Convergence research focusing on natural products holds immense potential in critical domains including drug development, sustainable agriculture, and environmental enhancement. Thus, this session aims to foster the exploration of natural products' potential and address global healthcare challenges by facilitating interdisciplinary collaboration and introducing convergence research methodologies.

Organizer	Ki Yong Lee (College of Pharmacy, Korea University)
Chair	Kyo Bin Kang (College of Pharmacy, Sookmyung Women's University)
S20-1 13:50-14:10	Preparation, characterization, and pharmacological application of oral Honokiol-loaded solid lipid nanoparticles for diabetic neuropathy Salman Khan (Department of Pharmacy, Quaid-i-Azam University, Islamabad, Pakistan)
S20-2 14:10-14:30	Application of <i>Lespedeza bicolor</i> and <i>Acer tegmentosum</i> in drug discover Namki Cho (College of Pharmacy, Chonnam National University)
S20-3 14:30-14:50	Discovery of bioactive substances from natural sources Jun Lee (Herbal Medicine Resources Research Center, Korea Institute of Oriental Medicine)
S20-4 14:50-15:10	A single-scan ultraselective heteronuclear polarization transfer technique for the structural analysis of complex organic compounds and mixtures Jin Wook Cha (Natural Product Informatics Research Center, Korea Institute of Science and Technology Gangneung Institute)
S20-5 15:10-15:30	Open drug discovery platform, pharmaco-net: Synergistic effect of applying artificial intelligence (AI) to the field of natural products research Young Bin Park (Calici Co.)

Symposium 21

Exploring the convergence of cancer research from bench to clinics

Oct. 27th (Fri), 13:50-15:30, Meeting Room 6

Understanding cancer biology, finding target factors, and medicinal chemical strategies for the development of anti-cancer drugs, and appropriate pharmaceutical formulation would be needed for the proper anticancer drug development. After FDA approval, clinical consideration still exists for efficient cancer treatment. The symposium aims to discuss 'cancer research' from bench to clinic together for understanding cancer, the development of anticancer drugs, and cancer treatment. The session consists of four speakers with leading scientists in the field of cancer metabolism, pharmaceuticals, medicinal chemistry, and onco-clinics. The first speaker, Dr. Sunghyoun Park, will talk about the function of GPX8 during clear cell renal cell carcinoma tumorigenesis through promoting lipogenesis and the second speaker, Dr. Yong-Chul Kim, will present with the title "Discovery of a highly potent and selective 3rd generation FLT3 inhibitors for drug-resistant FLT3-ITD-TKD mutated Acute Myeloid Leukemia" as a medicinal chemistry scientist. The third speaker, Dr. Jong Oh Kim, will talk about nanoparticle-based combinational cancer therapy. The final speaker, Dr. Sung Gwe Ahn, will discuss the landscape of protein oncology in ER+ breast cancer. This symposium aims to provide valuable information for discovering new therapeutic targets and modulators for anticancer drug development and cancer treatments. In addition, combination therapy for cancer treatment will provide for effective cancer therapy.

Organizer	Hyungshin Yim (College of Pharmacy, Hanyang University)
Chair	Hyungshin Yim (College of Pharmacy, Hanyang University) Chang Hoon Lee (College of Pharmacy, Dongguk University)
S21-1 13:50-14:15	GPX8 regulates clear cell renal cell carcinoma tumorigenesis through promoting lipogenesis by NNMT Sunghyoun Park (College of Pharmacy, Seoul National University)
S21-2 14:15-14:40	Discovery of a highly potent and selective 3rd generation FLT3 inhibitors for drug-resistant FLT3-ITD-TKD mutated acute myeloid leukemia Yong-Chul Kim (Gwangju Institute of Science & Technology)
S21-3 14:40-15:05	Nanoparticle-based combinational cancer therapy Jong Oh Kim (College of Pharmacy, Yeungnam University)
S21-4 15:05-15:30	Landscape of precision oncology in estrogen receptor-positive breast cancer Sung Gwe Ahn (Gangnam Severance Hospital, Yonsei University College of Medicine)



Symposium 22

Advanced manufacturing technologies in solid dosage forms and biopharmaceuticals

(Joint Symposium of The Pharmaceutical Society of Korea and Digital Manufacturing Innovation Centre for medicines)

Oct. 27th (Fri), 13:50-15:30, Meeting Room 5

Research on pharmaceutical manufacturing processes to achieve both quality and productivity of medicines has been steadily progressing. There are scientific areas where each industrial sector and academia sector show their strengths in this topic. Therefore it is thought that innovative results can be obtained when these are harmoniously linked. The purpose of the symposium is to discuss recent advances of pharmaceutical manufacturing processes for biopharmaceuticals and oral solid dosage forms. The session consists of three speakers from pharmaceutical companies, one speaker from a research institute and one speaker from Ministry of Food and Drug Safety. As one of examples of the innovation process, the continuous process will be discussed and it is a main research topic of Digital Manufacturing Innovation Centre for medicines which co-hosts the symposium. Furthermore, pre-filled syringe development and HTS-based biologics development are presented.

Organizer	Young-Joon Park (College of Pharmacy, Ajou University) Hunjoo Lee (Drug product group, Samsung Bioepis)
Chair	Dong Hee Na (College of Pharmacy, Chung-Ang University) Min-Soo Kim (College of Pharmacy, Pusan National University)
S22-1 13:50-14:10	Regulatory considerations on continuous manufacturing in Korea SangAeh Park (Ministry of Food and Drug Safety)
S22-2 14:10-14:30	Process systems engineering approaches for continuous manufacturing of solid dosage forms Hae Woo Lee (Daegu Gyeongbuk Medical Innovation Foundation)
S22-3 14:30-14:50	Continuous manufacturing system for oral solid dosage form by direct compression Jaesoon Ahn (Formulation Technology Team, CMC R&D, LG Chem corp.)
S22-4 14:50-15:10	Pre-filled syringe development –issues and solutions Jineon So (LG Chem corp.)
S22-5 15:10-15:30	Biologics drug formulation development using high-throughput technologies Jaewoon Son (DP Team, MSAT, GC Biopharma corp.)

Symposium 23

Exploring the nexus: Convergence of biophysical studies on biomacromolecules and lipid-based drug delivery systems

Oct. 27th (Fri), 13:50-15:50, Meeting Room 4

Through the last decade and COVID-19 pandemic, new standards and perspectives have emerged across society, including pharmaceutical research and the pharmaceutical industry. The post-pandemic era has witnessed the rise of novel pharmaceutical technologies that have played a crucial role in overcoming COVID-19. Notably, the world's first mRNA vaccine, the COVID-19 vaccine, represents the fruition of extensive research in biophysics and pharmaceutical science, combining mRNA, a biomacromolecule, liposome and lipid-based drug delivery systems. This breakthrough has not only saved humanity from a global health threat but has also brought forth a new frontier in pharmaceutical research, where biophysical insights about biomacromolecules converge with the development of lipid-based drug delivery systems. We believe that this converging nexus will suggest a new concept for innovative new drug development.

Aligned with this new paradigm, this symposium aims to provide an integrative understanding and insights into the latest research trends in the molecular and atomic-level understanding of biomacromolecules and the nano-drug delivery systems employed for new drug development. As the first speaker, Professor Min-Duk Seo will discuss the biophysical and structural research on huntingtin protein, which is involved in the pathogenesis of Huntington's disease. The second speaker, Professor Sung Min Kang, will extend the application of structural research in microbiology to elucidate the structure of infectious bacteria. Professor Ki-Young Lee, the third speaker, will showcase the potential of lipid-based nanodiscs for pharmaceutical innovations. Lastly, Professor Jeonghwan Kim, the fourth speaker, will present the possibilities of developing therapeutics using lipid nanoparticle-encapsulated mRNA. Professor Fakhar-Ud-Din from Pakistan will give a presentation on nanotechnology for brain diseases.

Organizer	Kwan Hyung Cho (College of Pharmacy, Inje University)
Chair	Soyeun Park (College of Pharmacy, Keimyung University)
S23-1 13:50-14:10	Biophysical and structural investigation of huntingtin protein Min-Duk Seo (College of Pharmacy, Ajou University)
S23-2 14:10-14:30	Structure based approach on pathogenic bacteria Sung Min Kang (College of Pharmacy, Duksung Women's University)
S23-3 14:30-14:50	Pharmaceutical application of lipid-based nanodiscs Ki-Young Lee (College of Pharmacy, CHA University)
S23-4 14:50-15:10	Nanoparticles for messenger RNA delivery : reaching beyond the Liver Jeonghwan Kim (College of Pharmacy, Yeungnam University)
S23-5 15:10-15:30	Nanotechnology based drug delivery systems for the treatment of brain disorders Fakhar-Ud-Din (Department of Pharmacy, Quaid-I-Azam University, Islamabad, Pakistan)
S23-6 15:30-15:50	Qbd-based fabrication of transferrin-anchored nanocarriers for targeted drug delivery to macrophages and colon cells for mucosal inflammation healing Hussain Ali (Department of Pharmacy, Quaid-I-Azam University, Islamabad, Pakistan)



Symposium 24

Unlocking the potential: Exploring AI in drug discovery

(Joint Symposium of The Pharmaceutical Society of Korea and Global AI Drug Discovery Center, Ewha Womans University)

Oct. 27th (Fri), 13:50-15:45, Meeting Room 3

The symposium on AI-assisted drug discovery aims to bring together leading researchers, scientists, industry experts, and professionals in the field to explore the latest advancements, challenges, and future prospects in leveraging artificial intelligence (AI) for accelerating drug discovery. The purpose of this symposium is to provide a platform for participants to exchange knowledge, share insights, and foster collaboration in the rapidly evolving intersection of AI and pharmaceutical research. By attending this symposium, participants will gain a comprehensive understanding of the current state-of-the-art in AI-assisted drug discovery, learn about the latest advancements, and discover opportunities to contribute to this rapidly evolving field.

Organizer	Juyong Lee (College of Pharmacy, Seoul National University)
Chair	Yoonji Lee (College of Pharmacy, Chung-Ang University)
S24-1 13:50-14:15	Applications of AI and big data for computer-aided drug design to enhance drug discovery Sun Choi (College of Pharmacy, Ewha Womans University)
S24-2 14:15-14:40	AI-based drug design in <i>Galux</i> Taeyong Park (Galux Inc.)
S24-3 14:40-15:05	Practical AI-powered drug discovery Junsu Ko (Arontier Co., Ltd.)
S24-4 15:05-15:30	AI-powered drug discovery and development Hojung Nam (School of Electrical Engineering and Computer Science, Gwangju Institute of Science and Technology)
S24-5 15:30-15:45	OYRA (Outstanding Young Researcher Award) Integrative Multi-omics Analysis and Validation Strategies for Predicting Phenotypic Changes Eunji Kwon (College of Pharmacy, Seoul National University)

Poster Posting & Presentation

Date & Venue	Research Regions
Oct. 26th (Thu) Poster posting: 08:00-08:50 Poster viewing and standing: 16:40-17:40 Exhibition Hall within the Multipurpose Hall	P1. Pharmacology P4. Biochemistry / Molecular Biology P5. Microbiology / Immunology P6. Medicinal Chemistry P10. Clinical Pharmacy / Hospital Pharmacy P12. Social Pharmacy
Oct. 27th (Fri) Poster posting: 08:00-08:50 Poster viewing and standing: 15:50-16:50 Exhibition Hall within the Multipurpose Hall	P2. Toxicology / Preventive Pharmacy P3. Pathology / Physiology P7. Pharmacognosy / Oriental Medicine P8. Analytical Chemistry P9. Pharmaceutics / Physical Pharmacy P11. Industrial Pharmacy P13. Practice (실무실습)



Young Scientists Session 1

Oct. 26th (Thu), 09:00-09:45 Concert Hall

Research regions:

P1. Pharmacology

YSS1-1(P1-14) 09:00-09:09	Potential biomarkers for autism spectrum disorder (ASD) obtained from integrated proteomic analysis of the cortex and serum of mice and patients exhibiting ASD Leandro Val Sayson (College of Pharmacy, Sahmyook University)
YSS1-2(P1-18) 09:09-09:18	Potential mechanism of human milk oligosaccharide on lipopolysaccharide-induced endothelial hyperpermeability Dung Van Nguyen (College of Pharmacy, Chungnam National University)
YSS1-3(P1-19) 09:18-09:27	6'-sialyllactose abolishes angiotensin II-infused abdominal aortic aneurysm formation via inhibiting p90RSK activation Thuy Le Lam Nguyen (College of Pharmacy, Chungnam National University)
YSS1-4(P1-22) 09:27-09:36	Antiproliferative and apoptosis-inducing potential of ellagitannins isolated from <i>Cornus alba</i> L. as chemopreventive agents in prostate cancer Siyeon Jin (College of Pharmacy, Chung-Ang University)
YSS1-5(P1-31) 09:36-09:45	Reanalyzing rat striatal microarray data reveals insights into the role of reward circuit in methamphetamine addiction. Jayhyun Cho (College of Pharmacy, Seoul National University)

Young Scientists Session 2

Oct. 26th (Thu), 09:00-09:36 Multipurpose Hall

Research regions:

P5. Microbiology / Immunology

YSS2-1(P5-11) 09:00-09:09	Fluoxetine modulates gut microbiota and alters 5-HT receptor expression via the vagus nerve to ameliorate depression and anxiety in mice. YuBin Lee (School of Pharmacy and Institute of New Drug Development, Jeonbuk National University)
YSS2-2(P5-15) 09:09-09:18	Ginsenoside Rg3(S) protects ARPE-19 cells against hydrogen peroxide-induced oxidative stress Bo-Kyeong Kim (College of Pharmacy, Chung-Ang University)
YSS2-3(P5-20) 09:18-09:27	Anticancer and anti-invasive effects to hypoxic-induced HCC cells through a blocking of IL-6 or MCP-1 Hwan Hee Lee (College of Pharmacy, Duksung Women's University)
YSS2-4(P5-24) 09:27-09:36	Exploring the impact of nano-plastics on immune cells and health with a developmental focus Kang-bin Dan (College of Pharmacy, Chung-Ang University)



Young Scientists Session 3

Oct. 26th (Thu), 09:00-09:36 Meeting Room 6

Research regions:

P4. Biochemistry / Molecular Biology

YSS3-1(P4-1) 09:00-09:09	Metallothionein 3 inhibits 3T3-L1 adipocyte differentiation via reduction of reactive oxygen species Sung ho Lee (College of Pharmacy, Chonnam National University)
YSS3-2(P4-6) 09:09-09:18	Isolinderalactone sensitizes oxaliplatin-resistant colorectal cancer cells via activation of the JNK/p38 MAPK signaling pathways Seung-On Lee (Department of Biomedicine, Health & Life Convergence Sciences, BK21 Four, Biomedical and Healthcare Research Institute, Mokpo National University)
YSS3-3(P4-11) 09:18-09:27	Anti-inflammatory effect of DPE derivatives against AQ-mediated lung epithelial cell damage So heun Lee (College of Pharmacy and Graduate School of Pharmaceutical Sciences, Ewha Womans University)
YSS3-4(P4-27) 09:27-09:36	Analysis of random walk patterns of cytokine-induced killer cells in a cancer cell environment Ji yeon Kim (College of Pharmacy, Chungbuk National University)

Young Scientists Session 4

Oct. 26th (Thu), 09:00-09:45 Meeting Room 5

Research regions:

P10. Clinical Pharmacy / Hospital Pharmacy

P12. Social Pharmacy

YSS4-1(P10-3) 09:00-09:09	Angiotensin II receptor blockers in delaying the progression of Alzheimer's disease: a nationwide population-based cohort study Hyun Woo Lee (Colleges of Medicine and Pharmacy, Yonsei University)
YSS4-2(P10-6) 09:09-09:18	Adherence to dual antiplatelet therapy and cardiovascular outcomes: a real-world cohort study Dal Ri Nam (College of Pharmacy, Chung-Ang University)
YSS4-3(P12-4) 09:18-09:27	Lifetime cost of male patients with Hemophilia B using Health Insurance Review & Assessment Service's Disease subclassifications Statistics of South Korea Jae-Hoon Jung (School of Pharmacy, Sungkyunkwan university)
YSS4-4(P12-15) 09:27-09:36	The incidence of thyroid-related adverse events in cancer patients on immune checkpoint inhibitors: A real-world and retrospective cohort study WonJung Jung (College of Pharmacy and Research Institute for Drug Development, Pusan National University)
YSS4-5(P12-16) 09:36-09:45	Identify various factors associated with health literacy among auditory disordered people : Results of the HLS-EU-Q16 measure Yeonwoo You (College of Pharmacy, Yonsei University)



Young Scientists Session 5

Oct. 26th (Thu), 09:00-09:36 Meeting Room 4

Research regions:

P6. Medicinal Chemistry

YSS5-1(P6-1) 09:00-09:09	Visible—light—driven photocatalyst—free sulfonamidation of benzoyl amine and arylazo tetrafluoroborate Truong Giang Luu (Department of Nuclear Medicine, Jeonbuk National University Medical School)
YSS5-2(P6-5) 09:09-09:18	Anmindenol A derivative AM-18002 enhances ionizing radiation—induced mouse breast cancer cell death Da-Young Eum (Research Center, Dongnam Institute of Radiological & Medical Sciences)
YSS5-3(P6-8) 09:18-09:27	Identification of benzofuran—based EGFR antagonists for the treatment of NSCLC Sunhee Lee (College of Pharmacy, Yonsei University)
YSS5-4(P6-16) 09:27-09:36	Discovery of potent inhibitors through virtual screening of a rationally designed combinatorial library Sungdo Kim (College of Pharmacy, Dongguk University)

Young Scientists Session 6

Oct. 26th (Thu), 09:00-09:27 Meeting Room 3

Research regions:

P6. Medicinal Chemistry

YSS6-1(P6-31) 09:00-09:09	Synthesis of 2—formyl carbazoles through the C—H allylation—cycloaddition—aromatization sequence of nitrones under Rh(III) catalysis Sujin Min (School of Pharmacy, Sungkyunkwan University)
YSS6-2(P6-46) 09:09-09:18	Synthesis and biological evaluation of 2—benzylidene—indandione and —indanone derivatives Jungjin Park (College of Pharmacy, Chungbuk National University)
YSS6-3(P6-47) 09:18-09:27	Novel 1,4,5,6—tetrahydrocyclopenta[d]imidazole—based JNK3 inhibitors as potential therapeutics in neurodegenerative diseases Joonhong Jun (College of Pharmacy, Hanyang University)



Young Scientists Session 7

Oct. 27th (Fri), 09:00-09:36 Concert Hall

Research regions:

P2. Toxicology / Hygienics

YSS7-1(P2-5) 09:00-09:09	NOXI-015, a pan-NOX inhibitor, prevents platelet activation signaling via reducing ROS production <i>in vitro</i> and <i>in vivo</i> Joara Jang (College of Pharmacy, Seoul National University)
YSS7-2(P2-14) 09:09-09:18	17-beta-estradiol modulates drug resistance via multidrug resistance protein 1 expression in triple-negative breast cancer cells Poyonov Muslimbek (College of Pharmacy, Chungnam National University)
YSS7-3(P2-17) 09:18-09:27	Apoptotic effect of terfenadine, the histamine H1 receptor antagonist, through the downregulation of STAT3 signaling in HCT116 human colorectal cancer cells Manoj Kumar Baniya (Department of pharmacy, Keimyung University)
YSS7-4(P2-22) 09:27-09:36	Suppression of A3 adenosine receptor activity enhances non-alcoholic steatohepatitis treatment via HIF1 α activation and mitochondrial-induced apoptosis in Kupffer cells JeongSu Park (College of Pharmacy and Medical Research Center, Chungbuk National University)

Young Scientists Session 8

Oct. 27th (Fri), 09:00-09:27 Multipurpose Hall

Research regions:

P3. Pathology / Physiology

YSS8-1(P3-1) 09:00-09:09	1'-O-methyl-averantin suppresses colorectal cancer stemness through Hedgehog signaling independent of SMO Mücahit Varlı (College of Pharmacy, Sunchon National University)
YSS8-2(P3-8) 09:09-09:18	Identification of chloroquine as novel MRGPRX2 agonist and its MRGPRX2-mediated degranulation in RBL-2H3 mast cells Junghwan Park (College of Pharmacy and Yonsei Institute of Pharmaceutical Sciences)
YSS8-3(P3-10) 09:18-09:27	Exploring the mechanisms of sphingosylphosphorylcholine-induced itch: Involvement of <i>Chrm3</i> in the skin and a TRP channel in sensory neurons Da Eun Song (College of Pharmacy, Gachon University)



Young Scientists Session 9

Oct. 27th (Fri), 09:00-09:45 Meeting Room 6

Research regions:

P7. Pharmacognosy / Oriental Medicine

YSS9-1(P7-1) 09:00-09:09	Saikosaponin D suppresses the survival and lung metastasis of colorectal cancer cells Yoon-Seung Lee (College of Pharmacy, Wonkwang University)
YSS9-2(P7-9) 09:09-09:18	1,8-Dihydroxy-3-methoxy-anthraquinone inhibits tumor angiogenesis through HIF-1α Seung Hye Cho (School of Pharmacy, Sungkyunkwan University)
YSS9-3(P7-16) 09:18-09:27	Biological investigation of the compounds from the leaves of <i>Perilla frutescens</i> var. <i>acuta</i> against inflammation Isoo Youn (College of Pharmacy, Ewha Womans University)
YSS9-4(P7-18) 09:27-09:36	<i>Bambusae caulis</i> in <i>Liquamen</i> protects hepatocyte death by ROS Jae Min Kim (College of Korean Medicine, Dongshin University)
YSS9-5(P7-23) 09:36-09:45	<i>Poncirus trifoliata</i> extract attenuates dexamethasone-induced muscle atrophy by modulating of mitochondrial function and gut microbiota Hyejin Ko (Natural Product Research Center, Korea Institute of Science and Technology)

Young Scientists Session 10

Oct. 27th (Fri), 09:00-09:45 Meeting Room 5

Research regions:

P8. Analytical Chemistry

P11. Industrial Pharmacy

YSS10-1(P11-3) 09:00-09:09	Study on comprehensive contamination control strategy for sterile product manufacturing facilities Bukyung Na (College of Pharmacy, Yonsei University)
YSS10-2(P11-10) 09:09-09:18	Formulation studies of pitavastatin calcium and fenofibrate FDC dual-layer tablets Do-Hyub Kim (Department of Biopharmaceutical Chemistry, Kookmin University)
YSS10-3(P8-5) 09:18-09:27	Effects of different water contents and hydrogen bond acceptor/donor ratios of deep eutectic solvents on the silver nanoparticle synthesis Jingyan Chen (School of Pharmacy, Sungkyunkwan University)
YSS10-4(P8-10) 09:27-09:36	Advanced profiling of glutathione adducts in vitro: utilizing feature-based molecular networking and multivariate analysis Young-Heun Jung (College of Pharmacy, Yeungnam University)
YSS10-5(P8-31) 09:36-09:45	Comparative study on in vivo toxicity of deep eutectic solvent depending on the preparation methods Yua Kang (School of Pharmacy, Sungkyunkwan University)



Young Scientists Session 11

Oct. 27th (Fri), 09:00-09:45 Meeting Room 4

Research regions:

P9. Pharmaceutics / Physical Pharmacy

YSS11-1(P9-25) 09:00-09:09	Development of bupivacaine-loaded multivesicular liposomal depot using coaxial nozzle Juseung Lee (College of Pharmacy, Yonsei University)
YSS11-2(P9-37) 09:09-09:18	Optimization of lipid nanoparticle formulation for repeated administration of mRNA therapeutics Yeji Lee (College of Pharmacy, Ewha Womans University)
YSS11-3(P9-38) 09:18-09:27	Nanoemulsion eye drops containing 20(S)-protopanaxadiol with enhanced solubility and physiologically acceptable properties Jun Hak Lee (Department of Pharmacy, Inje University)
YSS11-4(P9-44) 09:27-09:36	Mechanical interplay-driven tumor targetability of lipid nanoparticles for amplified anti-tumoral effects Eunhee Lee (College of Pharmacy, Keimyung University)
YSS11-5(P9-50) 09:36-09:45	Anti-oxidative hyaluronic acid-bilirubin nanomedicine targeting activated hepatic stellate cells for anti-hepatic fibrosis therapy Jongyoon Shin (College of Pharmacy, Ewha Womans University)



Young Scientists Session 12

Oct. 27th (Fri), 09:00-09:36 Meeting Room 3

Research regions:

P9. Pharmaceutics / Physical Pharmacy

YSS12-1(P9-54) 09:00-09:09	Recombinant monoclonal antibodies against cell adhesion molecules using hybridoma technology for targeted drug therapy in cancer Ha-Yul Park (College of Pharmacy, Ajou University)
YSS12-2(P9-55) 09:09-09:18	Triple-strengthened paclitaxel formulation strategies: polymeric nanoparticles modified with D- α -tocopheryl polyethylene glycol succinate and coated with platelet membrane Bomin Song (College of Pharmacy, Chungnam National University)
YSS12-3(P9-58) 09:18-09:27	LTolerogenic nanovaccines for immunotherapy of rheumatoid arthritis Yina Wu (College of Pharmacy and Research Institute of Pharmaceutical Science, Seoul National University)
YSS12-4(P9-64) 09:27-09:36	Preparation and evaluation of the influence of non-ionic surfactants in lysozyme-loaded liposomal dry powder inhalation Jong-Ju Lee (College of Pharmacy, Yonsei University)

