(사)한국독성학회 Korean Society of Toxicology

한국환경성돌연변이발암원학회 Korean Environmental Mutagen Society

The 42nd Annual Meeting App.

2026 제42차 정기학술대회

The 42nd Annual Meeting of KSOT/KEMS

신약개발 전주기 안전성 평가와 규제독성

From Drug Discovery to Approval: Safety Assessment and Regulatory Toxicology

November 2 (Mon) ~ 4 (Wed), 2026 Venue : Convention Hall, BEXCO, Busan, Korea

Plenary Lectures



Simple Solutions for Complex Problems: Mixtures and Cumulative Risk

Cynthia V. Rider

President of SOT, National Institute of Environmental Health Sciences, USA



Pathomimetic Human Gut-on-a-Chip for Next-Generation Toxicology: Advancing New Approach Methodologies (NAMs) from Disease Modeling to Precision Safety Assessment

Hyun Jung Kim

Cleveland Clinic, USA

Special Lectures



NAMs and Read-Across in Food Safety Assessment: Current Applications and Challenges in Japan

Akihiko Hirose

President of JSOT, Chemicals Evaluation and Research Institute, Japan



Principles and Practice of First-in-Human Dose Selection

Jangik Lee

Seoul National University, Korea

Award Lecture

KSOT Unbong Academic Research Award Presentation

Environmental Exposures and Health: Insights from Cigarette Smoke and Microplastics

Bumseok Kim (Jeonbuk National University)

Scientific Sessions

Session 1: Joint Session with KSNS - Industry Perspectives on Nonclinical Safety Assessment Across Diverse Pharmaceuticals

Session 2: Development of Integrated Omics-Based Biomarkers for Efficacy and Safety Prediction

Session 3: International Standardization Achievements and Plans for NAMs Developed by MFDS

Session 4: Leveraging Disease Models for Regulatory Science, Mechanistic Safety Assessment, and AI-Driven Toxicity Prediction

Session 5: Mechanistic Insights and Quantitative Approaches for Drug Development and Safety Assessment

Session 6: AOP-Based Read-Across Technology for Nanomaterial Hazard Assessment

Session 7: Trends in NAMs-Based Drug Discovery

Session 8: Young Scientist Forum

Session 9: KSOT Poster of Distinction

주최 (사)한국독성학회/한국환경성돌연변이발암원학회, 식품의약품안전처 · 식품의약품안전평가원, KMPC 국가모델동물연구소 Korea Model animal Priority Center, 중앙대학교-미얀마 약학연구소 CAU-Myanmar Pharmaceutical Research Center, Chung-Ang University, 한양대학교 ERICA 약학대학 AI + PRISM 의약품·헬스케어 안전망 구축 BK 교육연구단, 부산대학교 PUSAN NATIONAL UNIVERSITY BIT 융합기술기반 대사염증표적 혁신신약개발 교육연구단, 전북대학교 생체안전성연구소, PF Biologics CBNU-Pharm MRC

후원 KIT 국가독성과학연구소 Korea Institute of Toxicology, 산업재해예방 안전보건공단, KITECH 한국생산기술연구원, bto 부산관광공사 BUSAN TOURISM ORGANIZATION

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November 2, 2026 (Monday)

12:00 Registration

12:00-13:00 Council Meeting — Summit Hall

13:00-13:20 — Grand Hall

Welcome Remarks
Keon Wook Kang (President of KSOT, Seoul National University)
Seogyoun Kang (Director General, National Institute of Food and Drug Safety Evaluation)
Jeong-Doo Heo (President, Korea Institute of Toxicology)

13:20-14:00 — Grand Hall

Plenary Lecture I — Eng
Chairperson: Sang Geon Kim (Seoul National University)

Simple Solutions for Complex Problems: Mixtures and Cumulative Risk
Cynthia V. Rider (President of SOT, National Institute of Environmental Health Sciences, USA)

14:00-14:10 Coffee Break

14:10-15:40

Session 1: Grand Hall
Joint Session with KSNS - Industry Perspectives on Nonclinical Safety Assessment Across Diverse Pharmaceuticals
Chairperson: Bongtae Kim (Dt&CRO)

14:10-14:40
Evaluation of Toxicity in Drug Development
DaeHoon Kim (Hyundai Pharmaceuticals)

14:40-15:10
Nonclinical Evaluation of Long Acting Injectable
Jooyoung Cha (Inventage Lab)

15:10-15:40
Juvenile Toxicity Assessment of Natural Product Based on ICH S11 and OECD Test Guidelines: Industrial Regulatory Applications and Case Studies
Eunji Kim (Korea Ginseng Corporation)

Session 2: Medium Hall
Development of Integrated Omics-Based Biomarkers for Efficacy and Safety Prediction
Chairperson: Hyun Young Kim (Dankook University)

14:10-14:35
Modification of Cadmium Toxicity by Transcriptional Pathway
Jin-Yong Lee (Aichi Gakuin University, Japan)

14:35-15:00
DNMT1-Mediated Epigenetic Remodeling in MASLD
Mirang Kim (Korea Research Institute of Bioscience and Biotechnology)

15:00-15:20
Advances in Spatial Transcriptomics for Infectious Disease Research
Taehwan Oh (Dankook University)

15:20-15:40
Single-Cell Genomics of Drug Response Heterogeneity:From Disease Cell States to Host Genetic Regulation
Hyungtai Sim (Yonsei University)

15:40-16:00 Coffee Break
Poster Session

16:00-17:30

Session 3: Grand Hall
International Standardization Achievements and Plans for NAMs Developed by MFDS (Sponsored by NIFDS)
Chairperson: Kikyung Jung (National Institute of Food and Drug Safety Evaluation)

16:00-16:20
Development of NAMs and Achivements of KoCVAM in OECD TG Adoption: Focus on Phototoxicity Assay
Nam Hee Kang (KoCVAM, National Institute of Food and Drug Safety Evaluation)

16:20-16:50
Comprehensive Cardiac Toxicity Profiling Using Human Induced Pluripotent Stem Cell-Derived Cardiomyocytes
Dong-Hun Woo (NEXEL Co., Ltd.)

16:50-17:10
Evaluation of the Applicability of NAMs for Immunotoxicity Assessment of Monoclonal Antibody Therapeutics
Min Seong Jang (Korea Institute of Toxicology)

17:10-17:30
MFDS's NAMs Development and Global Standardization Strategy
Tae Sung Kim (National Institute of Food and Drug Safety Evaluation)

Session 4: Medium Hall
Leveraging Disease Models for Regulatory Science, Mechanistic Safety Assessment, and AI-Driven Toxicity Prediction (Sponsored by KMPC)
Chairperson: Je Kyung Seong (Seoul National University)

16:00-16:30
Impact of Underlying Diseases on Liver Function: Implications for Nonclinical Toxicity Assessment
Jun-Won Yun (Seoul National University)

16:30-17:00
Animal Disease Models in Pharmacology and Toxicology Studies: A Regulatory Perspective
Yangmee Shin (Regulatory Expert, USA)

17:00-17:30
A Cross-Species Transcriptomic Framework for Predicting Biologics-Induced T-Cell Activation and Cytokine-Mediated Toxicity
Daeui Park (Korea Institute of Toxicology)

17:30-18:00 General Assembly — Grand Hall
18:00 Banquet — Summit Hall

November 3, 2026 (Tuesday)

09:00-09:30 — Grand Hall

KSOT Unbong Academic Research Award Presentation
Chairperson: Mi-Kyoung Kwak (The Catholic University of Korea)

Environmental Exposures and Health: Insights from Cigarette Smoke and Microplastics
Bumseok Kim (Jeonbuk National University)

09:30-10:10 — Grand Hall

Plenary Lecture II — Eng
Chairperson: Ji-Eun Kim (The Catholic University of Korea)

Pathomimetic Human Gut-on-a-Chip for Next-Generation Toxicology: Advancing New Approach Methodologies (NAMs) from Disease Modeling to Precision Safety Assessment
Hyun Jung Kim (Cleveland Clinic, USA)

10:10-10:20 Coffee Break

10:20-12:00

Session 5: Grand Hall
Mechanistic Insights and Quantitative Approaches for Drug Development and Safety Assessment
Chairperson: Jung-Hyun Kim (Ajou University)

10:20-10:45
Physiologically-Based in Silico Modeling Approaches for Toxicity Assessment: Application to High-Dose Methotrexate in Children with Blood Cancer
Eun Kyong Chung (Kyung Hee University)

10:45-11:10
Systems-Based Quantitative Modeling for Clinical Safety Assessment: Role and Perspectives of QSP
Sungpil Han (The Catholic University of Korea)

11:10-11:35
From Genetic Discovery to Drug Development: A Translational Journey in URAT1
Sung Kweon Cho (Ajou University)

11:35-12:00
New Insights into Methylmercury Toxicity and Pain Sensitivity
Gi-Wook Hwang (Tohoku Medical and Pharmaceutical University, Japan)

Session 6: Medium Hall
AOP-Based Read-Across Technology for Nanomaterial Hazard Assessment (Sponsored by Development of Safety Assessment Technologies for the Advanced Nanomaterials Industry)
Chairperson: Jin-Sung Ra (Korea Institute of Industrial Technology)

10:20-10:40
Hazard Assessment Approach Based on TpA (AID·AEP·AOP) Considering Silver Nanomaterials' Particulate and Ionization Behavior
Dahee Han (Korea Institute of Industrial Technology)

10:40-11:00
Development of TpA (AID-AEP-AOP)-Based Read-Across Approach for Fibrous Nanomaterials
Youngtae Choe (Korea Institute of Industrial Technology)

11:00-11:20
Substance Identification Profile Analysis and Equivalence Assessment Algorithm Design for Nanomaterials
Sunmi Kim (Korea Research Institute of Chemical Technology)

11:20-11:40
Grouping and Read-Across Strategies for Environmental Hazard Assessment of Nanomaterials
Eunki Min (Seoul National University of Science and Technology)

11:40-12:00
Mechanistic Evidence-Based Grouping and Human Health Risk Assessment of Manufactured Nanoparticles
Donghyun Kim (Keimyung University)

12:00-13:30 Lunch / Poster Session

12:10-12:55 — Medium Hall

Luncheon Seminar BIOCYTOGEN
Advancing Translational Safety Assessment with Target Humanized Mouse Models and NHP Studies for Next-Generation Biotherapeutics
Chairperson: Wan-Seob Cho (Dong-A University)

12:10–12:35 Application Advances and Strategies of Target Humanized Mice in Drug Toxicological Evaluation — Eng
Xiaofei Zhou (Biocytogen Pharmaceuticals (Beijing) Co., Ltd., China)

12:35–12:55 Practical Perspectives on ADC Nonclinical Safety Evaluation
Jung-Ho Noh (Keyprime Research Co. Ltd.)

13:30-14:00

Special Lecture I — Eng, Grand Hall
Chairperson: Kouichi Yoshinari (University of Shizuoka, Japan)

NAMs and Read-Across in Food Safety Assessment: Current Applications and Challenges in Japan
Akihiko Hirose (President of JSOT, Chemicals Evaluation and Research Institute, Japan)

Special Lecture II — Medium Hall
Chairperson: Ja Hyun Koo (Seoul National University)

Principles and Practice of First-in-Human Dose Selection
Jangik Lee (Seoul National University)

14:00-15:30

Session 7: Grand Hall
Trends in NAMs-Based Drug Discovery
Chairperson: Ha Ryong Kim (Korea University)

14:00-14:30
Mature Human Gut MPS for Understanding Drug Responses
Tae-Eun Park (UNIST)

14:30-15:00
Non-Destructive Electrochemical Monitoring of Cellular Metabolism for Drug Toxicity Assessment in Kidney Organoids
Tae-Hyung Kim (Sungkyunkwan University)

15:00-15:30
Brain-on-a-Chip Technology for Assessing Environmental Toxicity and Metabolic Disruption
Hong Nam Kim (Korea Institute of Science and Technology)

Session 8: Medium Hall
Young Scientist Forum
Chairperson: Yoon-Seok Roh (Chungbuk National University)

14:00-14:30
GalNAc-Conjugated Antisense Oligonucleotides Targeting DDR1 Inhibit Hepatocellular Carcinoma Progression in Fibrotic Liver
Wonseok Lee (Gachon University)

14:30-15:00
A Small Molecule Targeting Somatic CAG Repeat Expansion: Toward Disease-Modifying Therapies
Sangyoon Ko (KAIST)

15:00-15:30
Next-Generation Drug Screening Platform: Unveiling DMD Cardiomyopathy Using Novel MEA-Integrated Cardiac Organoids
Ye Seul Kim (Gyeongsang National University)

15:30-16:00 Awards Ceremony & Closing Remarks — Grand Hall

November 4, 2026 (Wednesday)

09:00-11:00

Session 9: Rm. 208
KSOT Poster of Distinction
Chairperson: Beum-Soo An (Pusan National University)
Yong Joo Park (Kyungsung University)

Eight awardees oral presentation

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중앙대학교-미얀마 약학연구소 · 한양대학교 ERICA 약학대학 AI + PRISM 의약품·헬스케어 안전망 구축 BK 교육연구단 · 부산대학교 BIT 융합기술기반 대사염증표적 혁신신약개발 교육연구단
전북대학교 생체안전성연구소 · PF Biologics CBNU-Pharm MRC

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