

(사)한국독성학회/한국환경성독물연변이발암원학회

2025 제41차 정기학술대회

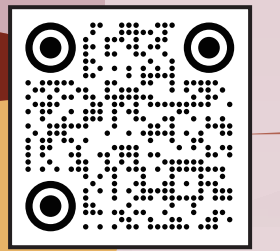
미래 세대를 위한 독성학: 안전을 넘어 건강하고 지속가능한 사회로

The 41st Annual Meeting of KSOT/KEMS

# Beyond Safety: Advancing Toxicology for a Healthier Future and Sustainable Society

November 17 (Mon) ~ 19 (Wed), 2025

- Venue : International Convention Center Jeju, Korea



The 41st Annual Meeting App.

## Plenary Lectures



Next-Generation Predictive Toxicology: Scaling Zebrafish in vivo Phenotypic Screening

**Robyn L. Tanguay**  
Vice President-Elect of SOT, Oregon State University, USA



Detoxification of Chalcogen Elements, Selenium and Tellurium in Animals

**Yasumitsu Ogra**  
Chiba University, Japan



Advancing Standards to Support Translation of Stem Cells and Organoids

**Tongbiao Zhao**  
Chinese Academy of Sciences, Beijing, China

## Scientific Sessions

**Session 1:** (JSOT-KSOT Joint Session) Human-relevant Toxicology: Stem Cells, Organoids, & MPS

**Session 2:** Reproductive Toxicity

**Session 3:** Development of Integrated Omics-based Safety Prediction Evaluation Technology Using AI

**Session 4:** Innovative Technologies in Toxicology

**Session 5:** AI Application in Toxicology

**Session 6:** Recent Cosmetics Risk Assessment

**Session 7:** Organoid-based Modeling for Respiratory Toxicity Assessment

**Session 8:** Young Scientist Forum

**Session 9:** KSOT Poster of Distinction

## Special Lectures



Bridging Science, Risk Assessment, and Regulatory Challenges in Inhalation Toxicology: Titanium Dioxide and Beyond

**Gustav Bruer**  
Fraunhofer ITEM, Germany



80th Anniversary of Liberation : The History and Future of Toxicology in Korea

**Ki Taek Nam**  
Yonsei University, Korea

## Award Lecture

KSOT Unbong Academic Research Award Presentation

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 식품의약품안전처 · 식품의약품안전평가원

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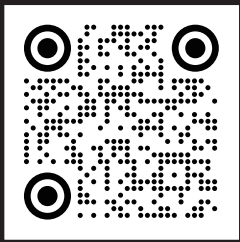
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The 41st Annual Meeting App.

November 17, 2025 (Monday)

|             |                                                                                                                                                                                                                                               |                                                                                                                                                                                |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12:00       | Registration                                                                                                                                                                                                                                  |                                                                                                                                                                                |
| 12:00-13:00 | Council Meeting                                                                                                                                                                                                                               |                                                                                                                                                                                |
| 13:00-13:20 | Welcome Remarks<br>Kyung-Chul Choi (President of KSOT, Chungbuk National University)<br>Seogyoun Kang (Director General, National Institute of Food and Drug Safety Evaluation)<br>Jeong-Doo Heo (President of Korea Institute of Toxicology) |                                                                                                                                                                                |
| 13:20-14:00 | Plenary Lecture I<br>Chairperson: Young-Jin Chun (Chung-Ang University)                                                                                                                                                                       |                                                                                                                                                                                |
|             | Next-Generation Predictive Toxicology: Scaling Zebrafish in vivo Phenotypic Screening<br>Robyn L. Tanguay (Vice President-Elect of SOT, Oregon State University, USA)                                                                         |                                                                                                                                                                                |
| 14:00-15:30 | Session 1:<br>(JSOT-KSOT Joint Session) Human-relevant Toxicology: Stem Cells, Organoids, & MPS<br>Chairperson: Minsoo Noh (Seoul National University)                                                                                        | Session 2:<br>Reproductive Toxicity<br>Chairperson: Jeong-Hwan Che (Seoul National University Hospital)                                                                        |
| 14:00-14:25 | Development of an Intestinal Model for Drug Discovery Using iPSC Cell, Organoid, and Organ-on-a-Chip Technologies<br>Kazuo Takayama (Institute of Science Tokyo, Japan)                                                                       | 14:00-14:30<br>Development and Relevance Validation of High-throughput Methods for Developmental Toxicity Screening<br>Seung-Jin Lee (Korea Institute of Toxicology)           |
| 14:25-14:45 | Development of hiPSC-Derived Liver Organoids as an Alternative Toxicity Testing Model<br>Han-Jin Park (Korea Institute of Toxicology)                                                                                                         | 14:30-15:00<br>Deep Learning Model to Predict Synergistic Reproductive Toxicity of Consumer Product Mixtures<br>Jongwoon Kim (Korea Research Institute of Chemical Technology) |
| 14:45-15:10 | Practical Applications and Challenges of Safety Evaluation Using Complex in vitro Models in the Pharmaceutical Industry<br>Takuma Iguchi (Daiichi Sankyo Co., Ltd., Japan)                                                                    | 15:00-15:30<br>Evaluation of Exosome-derived BPA on the Reproductive and Developmental Toxicity<br>Beum-Soo An (Pusan National University)                                     |
| 15:10-15:30 | Neurotoxicity Evaluation of Spironolactone Using Neural Stem Cells<br>Hyun-Jung Kim (Chung-Ang University)                                                                                                                                    |                                                                                                                                                                                |
| 15:30-15:50 | Coffee Break / Poster Session                                                                                                                                                                                                                 |                                                                                                                                                                                |
| 15:50-16:30 | Plenary Lecture II<br>Chairperson: Keon Wook Kang (Seoul National University)                                                                                                                                                                 |                                                                                                                                                                                |
|             | Detoxification of Chalcogen Elements, Selenium and Tellurium in Animals<br>Yasumitsu Ogra (Chiba University, Japan)                                                                                                                           |                                                                                                                                                                                |
| 16:30-18:00 | Session 3:<br>Development of Integrated Omics-based Safety Prediction Evaluation Technology Using AI (Sponsored by NIFDS)<br>Chairperson: SangAeh Park (National Institute of Food and Drug Safety Evaluation)                                | Session 4:<br>Innovative Technologies in Toxicology<br>Chairperson: Hyun-Jung Kim (Chung-Ang University)                                                                       |
| 16:30-17:00 | A Cohort Study Integrating Multi-Omics for Precision Therapeutics in Cardiovascular, Kidney, and Metabolic Health<br>Soo-Heon Kwak (Seoul National University Hospital)                                                                       | 16:30-17:00<br>Bridging Data Gaps and Biases in Public Bio-Big Data for AI-driven Alternatives to Animal Testing<br>Minsoo Noh (Seoul National University)                     |
| 17:00-17:30 | Data Science Approaches to Multi-Omics Analysis for Drug Response and Toxicity Prediction<br>Seungeun Lee (Seoul National University)                                                                                                         | 17:00-17:30<br>Holotomography and Artificial Intelligence: Label-free 3D Imaging, Classification, and Inference of Live Unlabeled Organoids<br>YongKeun Park (KAIST, Tomocube) |
| 17:30-18:00 | Translational Metabolomics: LC-MS/MS-Driven Biomarker Discovery in Diabetic Kidney Disease and Glaucoma<br>Hyunbeom Lee (Korea Institute of Science and Technology)                                                                           | 17:30-18:00<br>Toxicity Evaluation Platform Using a Respiratory Airway Organoid Model<br>Sang-Yun Lee (Chungnam National University)                                           |
| 18:00-18:20 | General Assembly                                                                                                                                                                                                                              |                                                                                                                                                                                |
| 18:20       | Banquet                                                                                                                                                                                                                                       |                                                                                                                                                                                |

November 18, 2025 (Tuesday)

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|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 09:00-09:30 | KSOT Unbong Academic Research Award Presentation<br>Chairperson: Kyu-Bong Kim (Dankook University)                                                            |                                                                                                                                                                             |
|             | To be announced                                                                                                                                               |                                                                                                                                                                             |
| 09:30-11:00 | Session 5:<br>AI Application in Toxicology<br>Chairperson: Ji-Eun Kim (The Catholic University of Korea)                                                      | Session 6:<br>Recent Cosmetics Risk Assessment<br>Chairperson: Kyung-Min Lim (Ewha Womans University)                                                                       |
| 09:30-10:00 | Adverse Outcome Pathway Framework Based Explainable AI Model for Toxicity Prediction<br>Jinhee Choi (University of Seoul)                                     | 09:30-10:00<br>Advancement of Cosmetic Risk Assessment : Current Trends and Challenges in Cosmetics Ingredients (Others) and Colorants<br>Jung Dae Lee (Dankook University) |
| 10:00-10:30 | Toxicity Prediction in AI Agent Era<br>Hyun Kil Shin (Korea Institute of Toxicology)                                                                          | 10:00-10:30<br>Safety Assessment of Cosmetic Ingredients: Practical Case Studies<br>Woo-hyuck Choi (LG H&H)                                                                 |
| 10:30-11:00 | Machine Learning-driven Prediction of Clinical Toxicity from a Curated Database<br>Myeong Gyu Kim (Ewha Womans University)                                    | 10:30-11:00<br>Recent Trends in New Approach Methodologies for Safety Assessment of Cosmetics<br>Taehyung Yoon (National Institute of Food and Drug Safety Evaluation)      |
| 11:00-11:20 | Coffee Break                                                                                                                                                  |                                                                                                                                                                             |
| 11:20-12:00 | Plenary Lecture III<br>Chairperson: Mi-Kyoung Kwak (The Catholic University of Korea)                                                                         |                                                                                                                                                                             |
|             | Advancing Standards to Support Translation of Stem Cells and Organoids<br>Tongbiao Zhao (Chinese Academy of Sciences, Beijing, China)                         |                                                                                                                                                                             |
| 12:00-13:30 | Lunch<br>Poster Session                                                                                                                                       |                                                                                                                                                                             |
| 13:30-14:10 | Special Lecture I<br>Chairperson: Kyuhong Lee (Korea Institute of Toxicology)                                                                                 | Special Lecture II<br>Chairperson: Donghak Kim (Konkuk University)                                                                                                          |
|             | Bridging Science, Risk Assessment, and Regulatory Challenges in Inhalation Toxicology: Titanium Dioxide and Beyond<br>Gustav Bruer (Fraunhofer ITEM, Germany) | 80th Anniversary of Liberation : The History and Future of Toxicology in Korea<br>Ki Taek Nam (Yonsei University)                                                           |
| 14:10-15:40 | Session 7:<br>Organoid-based Modeling for Respiratory Toxicity Assessment<br>Chairperson: Taehoon Shin (Jeju National University)                             | Session 8:<br>Young Scientist Forum<br>Chairperson: Bumseok Kim (Jeonbuk National University)                                                                               |
| 14:10-14:40 | Lung Organoids as a Model for Unraveling the Cellular and Molecular Toxicity of Air Pollutants<br>Seok-Ho Hong (Kangwon National University)                  | 14:10-14:35<br>3D Human Liver Organoids to Model "Liver Disease in a Dish"<br>Hyun Young Kim (Dankook University)                                                           |
| 14:40-15:10 | Organoid Modelling of Human Alveolar Development and Lung Diseases<br>Kyungtae Lim (Korea University)                                                         | 14:35-15:00<br>Induction of IgE in Non-allergic Conditions<br>Jaechul Lim (Seoul National University)                                                                       |
| 15:10-15:40 | Toxicity Assessment of Industrial Chemical Substances in the Respiratory System<br>Se-Ran Yang (Kangwon National University)                                  | 15:00-15:25<br>Next-Generation Gene and Cell Therapeutics in Alzheimer's Disease<br>Hanseul Park (Chungbuk National University)                                             |
|             |                                                                                                                                                               | 15:25-15:50<br>Leveraging Chief Cell-derived Organoids to Study Cancer Development Mechanisms<br>Haengdueng Jeong (Hanyang University)                                      |
| 15:50-16:10 | Awards Ceremony & Closing Remarks                                                                                                                             |                                                                                                                                                                             |

November 19, 2025 (Wednesday)

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| 09:00-11:00 | Session 9:<br>KSOT Poster of Distinction<br>Chairperson: Doyoung Kwon (Jeju National University)<br>Ji Won Kim (Jeju National University) | Rm. 202 |
|             | Eight awardees oral presentation                                                                                                          |         |