Program

September 18 (Tuesday)

9:20 ~ 9:30 Opening Remarks

The 25th Annual Meeting of the Japanese Society of Immunotoxicology
President: Keiko Nohara

The 74th Meeting of Allergy and Immunotoxicology study group of Japan Society for Occupational Health
Coordinator: Takahiko Yoshida

9:30 ~ 11:00 Oral Presentations <O-01 ~ O-06>
Chairpersons: Seishiro Hirano (National Institute for Environmental Studies)
Etsushi Kuroda (National Institutes of Biomedical Innovation, Health and Nutrition)

O-01 Altered expression of autophagy-related genes in human monocytes exposed to titanate nanosheets
○Yasumitsu Nishimura¹, Daisuke Yoshioka², Naoko Kumagai-Takei¹, Suni Lee¹, Kei Yoshitome¹, Takemi Otsuki¹
¹Department of Hygiene, Kawasaki Medical School,
²Department of Natural Sciences, Kawasaki Medical School.

O-02 Macrophage recognition of silica particles
○Masafumi Nakayama¹, Misato Tsugita¹, Nobuyuki Morimoto³, and Kengo Kinoshita⁴,⁵
¹Frontier Research Institute for Interdisciplinary Sciences, Tohoku Univ,
²PRESTO, Japan Science and Technology Agency,
³Department of Materials Processing, Graduate School of Engineering, Tohoku Univ,
⁴Graduate School of Information Sciences, Tohoku Univ,
⁵Tohoku Medical Megabank Organization.

O-03 The assessment of immunotoxicity using in vitro-differentiated alveolar macrophages, and its future prospects
○Etsushi Kuroda¹,²,³, Ken J Ishii¹,²
¹Center for Vaccine and Adjuvant Research, National Institutes of Biomedical Innovation, Health and Nutrition,
²Dept. Vaccine Science, Immunology Frontier Research Center, Osaka Univ.,
³PRESTO, Japan Science and Technology Agency.

O-04 Role of macrophage subtypes in thymus atrophy of zinc-deficient rats and effects of IL-4 administration
○Kido Takamasa, Yanagisawa Hiroyuki
Department of Public Health and Environmental Medicine, Jikei University School of Medicine
O-05  Oral administration of bisphenol A directly exacerbates allergic airway inflammation but not allergic skin inflammation in mice
  ○Risako Tajiki, Emi Makino, Yuko Watanabe, Hitoshi Tajima, Tomoki Fukuyama
  The Institute of Environmental Toxicology

O-06  IL-17-induced mRNA stabilization dictates the expression level of IκB-ζ in keratinocytes
  ○Ryuta Muramoto, Yui Ohgakiuchi, Yuka Saino, Ami Sato, Keisuke Tawa, Tadashi Matsuda
  Department of Immunology, Faculty of Pharmaceutical Sciences, Hokkaido University

11:10 ~ 12:00  Young Scientists Session  <Y-01 ~ Y-09>
Chairpersons: Yoshiro Saito (National Institute of Health Sciences)
  Eiko Koike (National Institute for Environmental Studies)

Y01  CpG-ODN contributes to flucloxacillin-induced acute liver injury through FasL/Fas mediated pathway
  ○Yuying Gao, Shigeki Aoki, Binbin Song, Akinori Takemura, Kousei Ito
  Laboratory of Biopharmaceutics, Graduate School of Pharmaceutical Sciences, Chiba University

Y02  nSP50-inducible hepatic damages would worsen via acquired immune system
  ○Shun-ichi Eto1,2, Kazuma Higashisaka1,3, Kenta Sato1, Aoi Koshida1, Kazuya Nagano1, Yasuo Tsutsumi1,4
  1 Laboratory of Toxicology and Safety Science, Grad. Sch. Pharm. Sci., Osaka Univ.,
  2 Interdisciplinary Program for Biomedical Sciences, Osaka Univ.,
  3 Department of Legal Medicine, Osaka Univ. Grad. Sch. Med.,
  4 The Center of Advanced Medical Engineering and Informatics, Osaka Univ.

Y03  In silico approach for structural analysis of HLA complexes associated with idiosyncratic drug toxicities
  ○Kenji Watanabe1, Shigeki Aoki1, Takahiro Goto2, Liang Qu3, Tyuji Hoshino3, Kousei Ito1
  1 Laboratory of Biopharmaceutics, Graduate School of Pharmaceutical Sciences, Chiba University
  2 Drug Metabolism and Pharmacokinetics Research Laboratories, Sohyaku. Innovative Research Division, Mitsubishi Tanabe Pharma Co., Ltd.
  3 Department of Physical Chemistry, Graduate School of Pharmaceutical Sciences, Chiba University

Y04  Prediction method of HLA-polymorphism dependent drug hypersensitivity using phage display technology
  ○Tomohiro Shirayanagi1, Shigeki Aoki1, Tetsuo Aida2, Makoto Hirasawa2, Kousei Ito1
  1 Laboratory of Biopharmaceutics, Graduate School of Pharmaceutical Sciences, Chiba University
  2 Medicinal Safety Research Laboratories, Daiichi Sankyo Co., Ltd.
  3 Drug Metabolism & Pharmacokinetics Research Laboratories, Daiichi Sankyo Co., Ltd.
Y-05  Development of a new skin sensitization test method by real-time RT-PCR
○Maho Nishikawa¹, Megumi Iwaki¹, Kosuke Tashiro², Kouichi Kurose¹
¹ Tokyo Univ. Marine Sci. & Tech., ² Kyusyu Univ.

Y-06  Facilitated antigen sensitization on the skin by triacylglycerol in an FITC-induced contact hypersensitivity mouse model
○Masato Tsutsumi, Kota Sekiguchi, Erina Ogawa, Kohta Kurohane, Yasuyuki Imai
Lab. Microbiology and Immunology, School of Pharmaceutical Sciences, University of Shizuoka

Y-07  Subacute oral administration of folic acid elicits anti-inflammatory response in a mouse model of allergic dermatitis
○Emi Makino, Tomoki Fukuyama, Yuko Watanabe, Risako Tajiki, Hitoshi Tajima, Aya Ohnuma-Koyama, Naofumi Takahashi, Ryoichi Ohtsuka, Yoshimasa Okazaki
The Institute of Environmental Toxicology

Y-08  Direct activation of aryl hydrocarbon receptor displays pro-inflammatory responses in a mouse model of allergic dermatitis
○Hitoshi Tajima, Yuko Watanabe, Risako Tajiki, Tomoki Fukuyama
The Institute of Environmental Toxicology

Y-09  Immunotoxicity evaluation by subchronic oral administration of clothianidin in SD rats
○Kanoko Ohnaru, Shuji Ohno, Toshifumi Yokoyama, Nobuhiko Hoshi
Laboratory of Animal Molecular Morphology, Graduate School of Agricultural Science, Kobe University

12:10 ～ 13:00  Luncheon Seminar 1 (Covance Japan Co., Ltd.)

LS-01  Nonclinical Assessment of Immuno Oncology Drugs
○Shawn Heidel
Global Safety Assessment, Metabolism and Lead Optimization, Covance Laboratories, Inc.

13:05 ～ 13:50  General Assembly

14:00 ～ 14:50  Master’s Lecture
Chairperson: Keiko Nohara (National Institute for Environmental Studies)

EL-01  Immune modulation by epigenetic modification of regulatory Tregs
○Akihiko Yoshimura, Hiroko Nakatsukasa, Hidenori Kasahara
Department of Microbiology and Immunology, Keio University School of Medicine
15:00 ~ 17:00 Symposium 「Gut microbiota and immune diseases - A new perspective on immunotoxicology」

Chairpersons: Rie Yanagisawa (National Institute for Environmental Studies)  
Tomoki Fukuyama (The Institute of Environmental Toxicology)

S-01 Association between gut microbiota and environmental chemicals  
○Rie Yanagisawa  
Center for Health and Environmental Risk Research, National Institute for Environmental Studies

S-02 Relation between gut microbiome and allergic diseases in childhood: clinical perspective  
○Naoki Shimojo  
Department of Pediatrics, Graduate School of Medicine, Chiba University

S-03 Involvement of epithelial indigenous flora in allergy and inflammation  
○Akira Shibuya1,2  
1 Life Science Center for Survival Dynamics, TARA, Tsukuba University,  
2 Department of Immunology, Faculty of Medicine, Tsukuba University.

S-04 Microbiota in immune disorders  
○Kiyoshi Takeda  
Graduate School of Medicine, Immunology Frontier Research Center, Osaka University

17:05 ~ 17:55 Poster Discussion Session <Y-01 ~ Y-09, P-01 ~ P-17>  
(Posters for Young Scientists Session <Y-01 ~ Y-09> are also included in this session)

P-01 Evaluation of chemical-specific IgG antibodies in male workers from a urethane foam factory  
○Mayumi Tsuji1, Yasuhiro Ishihara2, Toyohi Isse1, Chihaya Koriyama3, Megumi Yamamoto4, Rie Tanaka1, Toshihiro Kawamoto1  
1 Department of Environment Health, University of Occupational and Environmental Health,  
2 Laboratory of Molecular Brain Science, Graduate School of Integrated Arts and Sciences, Hiroshima University,  
3 Department of Epidemiology and Preventive Medicine, Kagoshima University Graduate School of Medical and Dental Sciences,  
4 Department of Environment and Public Health, National Institute for Minamata Disease.
P-02  Effects of age and radiation on serum iron and intracellular ROS (H\textsubscript{2}O\textsubscript{2}) in blood of atomic-bomb survivors
○Tomonori Hayashi\textsuperscript{1}, Kyoji Furukawa\textsuperscript{2}, Kengo Yoshida\textsuperscript{1}, Yoichiro Kusunoki\textsuperscript{1}, Seishi Kyoizumi\textsuperscript{1}, Waka Ohishi\textsuperscript{3}
\textsuperscript{1}Departments of Molecular Biosciences, Radiation Effects Research Foundation,
\textsuperscript{2}Biostatistics Center, Kurume University,
\textsuperscript{3}Clinical Studies, Radiation Effects Research Foundation.

P-03  Sulforaphane suppresses cell growth and collagen expression of keloid fibroblasts
○Mano Horinaka\textsuperscript{1}, Ayako Kawarazaki\textsuperscript{1,2}, Shusuke Yasuda\textsuperscript{1}, Toshiaki Numajiri\textsuperscript{2}, Kenichi Nishino\textsuperscript{3}, Toshiyuki Sakai\textsuperscript{1}
\textsuperscript{1}Dept. Mol.-Target. Cancer Prev., Kyoto Pref. Univ. Med.,

P-04  Analysis of risk management plans on immunogenicity of biotechnology-derived pharmaceuticals
○Yoshiro Saito\textsuperscript{1}, Ryosuke Nakamura\textsuperscript{1}, Hiroko Shibata\textsuperscript{2}, Akiko Ishii-Watabe\textsuperscript{2}
\textsuperscript{1}Division of Medicinal Safety Science, National Institute of Health Sciences,
\textsuperscript{2}Division of Biological Chemistry and Biologicals, National Institute of Health Sciences.

P-05  Method development and validation of anti-drug antibody assay for therapeutic proteins
○Akiko Ishii-Watabe\textsuperscript{1}, Kazuko Nishimura\textsuperscript{1}, Hiroko Shibata\textsuperscript{1}, Hiroki Wakabayashi\textsuperscript{2}, Tamiki Mori\textsuperscript{2}, Takahiro Nakamura\textsuperscript{3}, Tatsuki Nomura\textsuperscript{3}, Tetsu Saito\textsuperscript{4}, Kyoko Minoura\textsuperscript{5}, Muneho Aoyama\textsuperscript{5}, Jun Hosogi\textsuperscript{6}, Masako Soma\textsuperscript{7}, Kenta Kadotsuji\textsuperscript{8}, Kazuhiro Nishimiya\textsuperscript{9}, Norihisa Sakamoto\textsuperscript{10}, Noriko Katori\textsuperscript{1}, Yoshiro Saito\textsuperscript{1}
\textsuperscript{1}National Institute of Health Sciences, \textsuperscript{2}LSI Medience, \textsuperscript{3}Shin Nippon Biomedical Laboratories, \textsuperscript{4}Astellas Pharma, \textsuperscript{5}Eisai, \textsuperscript{6}Kyowa Hakko Kirin, \textsuperscript{7}Daiichi Sanko, \textsuperscript{8}Sumitomo Dainippon Pharma, \textsuperscript{9}Chugai Pharmaceutical, \textsuperscript{10}Tachikawa Chuo Hospital

P-06  Effect of aromatic antiepileptic drugs on the peptide repertoire of HLA-B*15:02
○Ryosuke Nakamura\textsuperscript{1}, Yoshiomi Okamoto-Uchida\textsuperscript{1}, Noriaki Arakawa\textsuperscript{1}, Noritaka Hashii\textsuperscript{2}, Yumiko Matsuzawa\textsuperscript{1}, Akiko Ishii\textsuperscript{1}, Yoshiro Saito\textsuperscript{1}
\textsuperscript{1}Division of Medicinal Safety Science, National Institute of Health Sciences,
\textsuperscript{2}Division of Biological Chemistry and Biologicals, National Institute of Health Sciences.
P-07  Fine structure in formation of rods and rings structure (RR) induced by ribavirin and methotrexate (MTX)
○Tamii Nakashima1, Shin Tanaka1, Minoru Satoh2
1 Dept. of Human, Information and Life Sciences, School of Health Sciences,
2 Dept. of Clinical Nursing University of Occupational and Environmental Health.

P-08  The ROS independent mechanisms of suppression of cell proliferation in A20 cells by arsenite exposure
○Kazuyuki Okamura, Takehiro Suzuki, Keiko Nohara
Center for Health and Environmental Risk Research, National Institute for Environmental Studies

P-09  Increased NNT (nicotinamide nucleotide transhydrogenase) in human T cell MT-2 sub cell line continuously exposed to asbestos fibers suppressed asbestos inducing ROS production
○Shoko Yamamoto1, Suni Lee1, Hidenori Matsuzaki2, Tamayo Hatayama1, Naoko Kumagai-Takei1, Kei Yoshitome1, Yasumitsu Nishimura1, Takemi Otsuki1
1 Department of Hygiene, Kawasaki Medical School,
2 Department of Life Sciences, Prefectural Univ. Hiroshima.

P-10  Evaluation of rat peritoneal mesothelioma of chrysotile and forsterite using p16 FISH
○Toshiaki Hitomi1, Ayako Takata1, Yang Cao1, Masahito Aminaka2, Hiroshi Yamauchi1
1 Department of Preventive Medicine, St. Marianna University School of Medicine,
2 Kurashiki Sakuyo University.

P-11  Identification of responsible components for respiratory and immune diseases exacerbated by ambient particulate matter
○Michitaka Tanaka1, Toshinori Onishi1, Akiko Honda1, Pratiti H Chowdhury1, Hitoshi Okano1, Tomoaki Okuda1, Shuichi Hasegawa4, Takayuki Kameda3, Susumu Tohno5, Masahiko Hayashi6, Chiharu Nishita-Hara6, Keiichiro Hara6, Kozo Inoue7, Hirohisa Takano1
1 Grad Sch of Eng, Kyoto Univ, 2 Kyoto Pref Univ of Medicine, 3 Keio Univ, 4 Center for Environ Sci in Saitama, 5 Grad Sch of Energy Sci, Kyoto Univ, 6 Fukuoka Univ, 7 Tokyo Dylec Corp.

P-12  LPS levels adherent to PM2.5 is an important factor for particulate matter induced-immunosuppressive effects in splenocytes
○Yasuhiro Yoshida1, Cuiying He1, Takamichi Ichinose2, Kentaro Morita1
1 Department of Immunology and Parasitology, University of Occupational and Environmental Health,
2 Department of Health Sciences, Oita University of Nursing and Health Sciences.
P-13 Decabromodiphenyl ether alters immune responses in obese mice and in adipocyte-macrophage coculture
○Eiko Koike¹, Rie Yanagisawa¹, Tin Tin Win Shwe¹, Hirohisa Takano²
¹ National Institute for Environmental Studies, ² Kyoto University.

P-14 Gene expression profiles of nuclear receptor agonists in human macrophage-like THP-1 cells
○Hiroyuki Kojima¹, Shinji Takeuchi¹, Ryuta Muromoto², Reiko Kishi³, Atsuko Araki³
¹ Hokkaido Institute of Public Health, ² Graduate School of Pharmaceutical Sciences, Hokkaido University,
³ Center for Environmental and Health Sciences, Hokkaido University

P-15 Involvement of estrogen receptor α in pro-pruritic and pro-inflammatory responses in a mouse model of allergic dermatitis
Yuko Watanabe, Emi Makino, Risako Tajiki, Hitoshi Tajima, Aya Koyama, ○Tomoki Fukuyama
The Institute of Environmental Toxicology

P-16 Contribution of Estrogen receptor α and β to development of allergic airway inflammation in mice - a possible link via IL-33
○Yuko Watanabe, Risako Tajiki, Hitoshi Tajima, Tomoki Fukuyama
The Institute of Environmental Toxicology

P-17 Alterations of immunological markers in the brain of rats prenatally exposed to valproic acid
○Tin-Tin Win-Shwe¹, Hidehiro Watanabe²
¹ Center for Health and Environmental Risk Research, National Institute for Environmental Studies,
² Center for Environmental Measurement and Analysis, National Institute for Environmental Studies.

18:30 ~ 20:30 Banquet and Award Ceremony for Young Scientists
(Hotel Grand Shinonome)
O-07  **Tumoricidal effect of palmitic acid through the regulation of myeloid-lineage cells**  
○Masashi Tachibana¹,²,³, Naosuke Morikawa¹, Hiroshi Goda¹, Kyoko Tomita¹, Fuminori Sakurai¹,  
Kouji Kobiyama⁴,⁵, Ken J. Ishii⁴,⁵, Shizuo Akira⁶,⁷, Hiroyuki Mizuguchi¹,³,⁸  
¹ Biochemistry and Molecular Biology, Graduate School of Pharmaceutical Sciences, Osaka Univ,  
² Vaccine and Immune Regulation, Graduate School of Pharmaceutical Sciences, Osaka Univ,  
³ The Center of Advanced Medical Engineering and Informatics, Osaka Univ,  
⁴ Laboratory of Adjuvant Innovation, Center for Vaccine and Adjuvant Research (CVAR), National Institute of Biomedical Innovation, Health and Nutrition (NIBIOHN),  
⁵ Laboratory of Vaccine Science, Immunology Frontier Research Center (IFReC), Osaka Univ,  
⁶ Laboratory of Host Defense, Immunology Frontier Research Center (IFReC), Osaka Univ,  
⁷ Department of Host Defense, Research Institute for Microbial Diseases, Osaka Univ,  
⁸ Hepatocyte Regulation, National Institute of Biomedical Innovation, Health and Nutrition (NIBIOHN).

O-08  **Creation of dendritic cell-targeting peptides as vaccine delivery vehicle**  
Kazuki Misato¹, Taiki Aoshi¹,², Michiko Fukuda³, ○Yasuo Yoshioka¹,²,⁴  
¹ Vaccine Creation Project, Research Institute for Microbial Diseases, Osaka Univ,  
² Vaccine Dynamics Project, Research Institute for Microbial Diseases, Osaka Univ,  
³ The National Institute of Advanced Industrial Science and Technology,  
⁴ The Center of Advanced Medical Engineering and Informatics, Osaka Univ.

O-09  **Vaccine safety evaluation using human peripheral blood mononuclear cells and humanized mouse**  
○Eita Sasaki¹, Haruka Momose¹, Hideki Asanuma², Keiko Furuhata¹, Takuo Mizukami¹,  
Isao Hamaguchi¹  
¹ Department of Safety Research on Blood and Biological Products, National Institute of Infectious Disease, ² Influenza Virus Research Center, National Institute of Infectious Diseases.

O-10  **Hydroxypropyl-β-cyclodextrin (HP-β-CD) as IL-33 inducer in the lung**  
Kobari Shingo¹, ○Takato Kusakabe¹,², Etsushi Kuroda¹,², Ken J Ishii¹,²  
¹ Laboratory of Adjuvant Innovation, Center for Vaccine and Adjuvant Research (CVAR), National Institute of Biomedical Innovation, Health and Nutrition (NIBIOHN),  
² Laboratory of Vaccine Science, Immunology Frontier Research Center (IFReC), Osaka University.
10:00 ~ 10:40  International Session  <I-01, I-02>
Chairperson: Tin Tin Win Shwe (National Institute for Environmental Studies)

I-01  Arsenic exposure and Th2-driven immunotoxicity
○Khaled Hossain¹, Seiichiro Himeno²
¹ Department of Biochemistry and Molecular Biology, University of Rajshahi,
² Laboratory of Molecular Nutrition and Toxicology, Faculty of Pharmaceutical Sciences, Tokushima Bunri University.

I-02  Serum C-reactive protein and alpha-fetoprotein concentrations in human subject with cirrhosis or hepatocellular carcinoma
○Myint Myint Nyein¹, Phyo Zaw Min²
¹ University of Medicine 1, Yangon, ² University of Medicine 2, Yangon.

10:50 ~ 11:40  Special Lecture
Chairperson: Keiko Nohara (National Institute for Environmental Studies)

SL-01  Developmental exposure alters cellular processes critical for T cell functions, and affects some T cell properties across generations
○B. Paige Lawrence
Department of Environmental Medicine, Environmental Health Science Center, University of Rochester School of Medicine & Dentistry

11:50 ~ 12:40  Luncheon Seminar 2 (Charles River)

LS-02  Implementing Pharmacology and Pharmacodynamic Endpoints in Non-Human Primate Studies
○Christina M. Satterwhite
Global Laboratory Sciences, Charles River

12:40 ~ 13:35  Award Ceremony and Lectures
Chairperson: Seiichiro Himeno (Tokushima Bunri University)

Lecture for the JSIT Award
AL-01  Immunotoxicological evaluation of food allergens
○Reiko Teshima
Faculty of Veterinary Medicine, Okayama University of Science

Lecture for the JSIT Research Award
**AL-02** **Promotion of Developmental ImmunoToxicology (DIT) assessment and Adverse Outcome Pathway (AOP)**

○ Kiyoshi Kusima\textsuperscript{1,2}

\textsuperscript{1} Astellas Pharma Inc, Drug Safety Research Labs., \textsuperscript{2} Astellas Research Institute of America

**13:45 ~ 15:45** **Workshop: 「Development of cancer immunotherapy and safety assessment of immune checkpoint inhibitors」**

Chairpersons: Shigeru Hisada (ASKA Pharmaceutical Co., Ltd.)
Tetsuo Aida (DAIICHI SANKYO Co., Ltd.)

**WS-01** **Guidances for Development of Cancer Immunotherapy**

○ Hiroshi Shiku

Department of Immuno-GeneTherapy/Personalized Cancer Immunotherapy Mie Univ

**WS-02** **Nonclinical assessment of CTLA-4 and PD-1 inhibitors for predicting adverse events in clinical studies**

○ Kazuhiko Taguchi

Translational Research, Japan Medical & Development, Bristol-Myers Squibb K.K.

**WS-03** **Autoantibodies as biomarkers for predicting risk to develop autoimmune diseases following treatment with immune checkpoint inhibitors**

○ Minoru Satoh\textsuperscript{1}, Takanobu Jotatsu\textsuperscript{2}, Tomoko Hasegawa\textsuperscript{1}, Shin Tanaka\textsuperscript{3}, Kazuhiro Yatera\textsuperscript{2}

\textsuperscript{1} Department of Clinical Nursing,

\textsuperscript{2} Department of Respiratory Medicine, University of Occupational and Environmental Health.

**WS-04** **Panel discussion**

**15:50 ~ 16:30** **Poster Discussion Session  <Y-01 ~ Y-09, P-01 ~ P-17>**

(All posters are presented in this session)

**16:35 ~ 16:45** **Award Ceremony “The Best Presenter Award”**

Closing Remarks