Program

September 9 (Monday)

9:00 ～ 9:10　Opening Remark

The 26th Annual Meeting of the Japanese Society of Immunotoxicology

President: Minoru Satoh

The 76th Meeting of Allergy and Immunotoxicology study group of Japan Society for Occupational Health

Coordinator: Takahiko Yoshida

9:10 ～ 9:55　Oral Presentations ＜O-01 ～ O-03＞

Chairperson :　Yasuo Yoshioka　(Research Institute for Microbial Diseases, Osaka University)

O-01　Cholera toxin B subunit can induce production of pro-inflammtory cytokine IL-1β.

○Izumi Sasaki[1], Takashi Orimo[1], Hiroaki Hemmi[2], Keima Tsuchiya[1], Sho-ichi Inoue[1], Naomitsu Kumagai[1], Koichi Furukawa[3], Tsuneyasu Kaisho[11]

[1] Department of Immunology, Institute of Advanced Medicine, Wakayama Medical University, Japan

[2] Faculty of Veterinary Medicine, Okayama University of Science, Japan

[3] Department of Lifelong Sports and Health Sciences, Chubu University College of Life and Health Sciences, Japan

O-02　Investigation of the onset mechanism of HLA-mediated drug toxicities using keratinocytes

○Shigeki Aoki, Yushiro Yamada, Sota Fujimori, Takeshi Susukida, Tomohiro Shirayanagi, Saki Kuwahara, Kousei Ito

Laboratory of Biopharmaceutics, Graduate School of Pharmaceutical Sciences, Chiba University, Japan

O-03　TNF-α-stimulated macrophages undergo necroptosis-like death and secret 14-3-3η

○Gulzhan Trimova,[1] Kaoru Yamagata,[1] Shigeru Iwata,[1] Tong Zhang,[1] Fumi Uemura,[1] Minoru Satoh,[2] Michelle Zaharik,[3] Norma Biln,[3] Shintaro Hirata,[4] Shingo Nakayamada,[1] Yoshiya Tanaka[1]

[1] The First Department of Internal Medicine, University of Occupational and Environmental Health, Japan,

[2] Department of Clinical Nursing, School of Health Sciences, University of Occupational and Environmental Health, Japan,

[3] Augurex Life Sciences Corp, North Vancouver, BC, Canada

[4] Department of Clinical Immunology and Rheumatology, Hiroshima University Hospital, Japan

9:55 ～ 11:15　Students and Young Scientists Session　＜Y-01　～　Y-13＞

Chairperson :　Etsushi Kuroda　（Hyogo College of Medicine）

Eiko Koike　(National Institute for Environmental Studies)

Y-01　**Comparison of adjuvant mechanisms of short and medium chain triacylglycerols in an FITC-induced contact hypersensitivity.**

○Akimasa Orii, Kohta Kurohane, Masato Tsutsumi, Kota Sekiguchi, Yasuyuki Imai

Lab. Microbiology and Immunology, School of Pharmaceutical Sciences, University of Shizuoka

Y-02　**Short term oral exposure to inorganic arsenic exacerbates inflammatory and pruritic responses in a mouse model of contact allergic dermatitis**

○Yuri Ogata [1], Momoka Suzuki[1], Naoki Iwasita[1,2], Keigo Kurata[3], Tomoki Fukuyama[1]

[1] Azabu University Faculty of Veterinary Medicine, Pharmacology Laboratory

[2] Bioalchemis

[3] ITEA Inc. Institute of Tokyo Environmental Allergy

Y-03　**The importance of dose metrics in the forecasting onset risk rate of immediate- type hypersensitivity.**

○Kyosuke Yokozeki, Takuo Yuki, Akira Ogasawara, Asuka Katagiri, Yutaka Takahashi

Hitoshi Sakaguchi

Safety Science Research Laboratories, Kao Corporation, Tochigi, Japan

Y-04　**Responses to oral administration of estrogen receptor agonists PPT and DPN in a mouse model of imiquimod-induced psoriasis-like dermatitis**

○Rena Iwano[1], Naoki Iwasita[1,2], Tomoki Fukuyama[1]

[1] Azabu University Faculty of Veterinary Medicine, Pharmacology Laboratory

[2] Bioalchemis

Y-05　**Oral administration of Bisphenol A exacerbates the development of allergic response in an ovalbumin-induced mouse model of food allergy.**

○Takanori Oomoto, Tomoki Fukuyama,

Azabu University Faculty of Veterinary Medicine, Pharmacology Laboratory

Y-06　**Development of the skin sensitization test for proteins using differentiated THP-1 cells**

○Yumi Miura, Yuka Sawada, Hanae Kobayashi, Hiroshi Itagaki, Kazutoshi Iijima

Yokohama National University

Y-07 **Immunostimulatory effects of biopharmaceuticals associated with injection site reactions on THP-1 cells**

○Eri Hamamura[1], Tetsuo Aida[2], Yoshimi Tsuchiya[1], Kazuhiko Mori[1]

[1] Medicinal Safety Research Laboratories, Daiichi Sankyo Co., Ltd.

[2] Quantitative Clinical Pharmacology & Translational Sciences, Daiichi Sankyo, Inc.

Y-08 **Ursolic acid induced anti-tumor effect and mitochondrial disorder on adult T cell leukemia cells**

○Mengyue Shen, Kentaro Morita, Yusuke Sennari, Tamotsu Kanazawa, Yasuhiro Yoshida

Department of Immunology and Parasitology, School of Medicine, University of Occupational and Environmental Health, Japan

Y-09 **Immunomodulation by valproic acid under cancerous condition.**

○Zhiqi Xie[1], Tamami Ikegami[1], Yukio Ago[2, 3], Naoki Okada[1], Masashi Tachibana[1, 3]

[1] Proj. Vaccine Immune Reg., Grad. Sch. Pharm., Osaka Univ.

[2] Lab. Biopharm., Grad. Sch. Pharm., Osaka Univ.

[3] MEIC, Osaka Univ.

Y-10 **Antihistamines possibly induce colorectal cancer as adverse events**

○Yuta Masuda, Kiyoka Matsumoto, Rei Matsumoto, Keijo Fukushima, Hiromichi Fujino

Department of Pharmacology for Life Sciences, Graduate School of Pharmaceutical Sciences & Graduate School of Biomedical Sciences, Tokushima University, Tokushima, Japan.

Y-11 **Role of methionine in human B cell differentiation and the relevance to pathological processes of SLE**

○Mingzeng Zhang, Shigeru Iwata, Maiko Hajime, Naoaki Ohkubo, Yasuyuki Todoroki, Hiroko Miyata, Jie Fan, Shingo Nakayamada, Kaoru Yamagata and Yoshiya Tanaka

The First Department of Internal Medicine, School of Medicine,

University of Occupational &Environmental Health, Japan, Kitakyushu, Japan

Y-12 **Examination of dendritic cell activation and immunological function by Lactoferrin.**

○Daisuke Hanakita[1], Kenjiro Nagaoka[1],Tatsuo Ito[1], Keiki Ogino[1 2], Hideyuki Kanda[1]

[1] Department of Public Health, Graduate School of Medicine, Dentistry, and Pharmaceutical Sciences, Okayama University.

[2] Department of Environmental Medicine, Kochi Medical School.

Y-13 **Impact of size and surface modification on lung toxicity by intratracheal instillation of amorphous silica.**

○Masahide Inoue[1], Koji Sakamoto[1], Atsushi Suzuki[1], Yoshio Nakahara[1], Naozumi Hashimoto[1], Yoshinori Hasegawa[1] and Makoto Sawada[2]

[1] Department of Respiratory Medicine, Nagoya University Graduate School of Medicine, Japan.

[2]Research Institute of Environmental Medicine, Nagoya University

11:15 ～ 12:05 Poster Discussion Session 1 ＜Y-01 ～ Y-13、P-1 ～ P-18＞
(Posters for Young Scientists Session <Y-01～Y-13> are also included in this session)

P-01 **Assessment of surfactant protein D as biomarkers for evaluating pulmonary toxicity of nanomaterials.**

○Taisuke Tomonaga, Hiroto Izumi, Yukiko Yoshiura, Chinatsu Nishida, Takashi Marui, Toshihiko Myojo, Takako Oyabu, Takami Okada, Yasuo Morimoto.

University of Occupational and Environmental Health, Japan,

Institute of Industrial and Ecological Sciences.

P-02 **Effect of IL-15 addition on function of CD8+ lymphocytes exposed to asbestos during MLR**

○Naoko Kumagai-Takei, Yasumitsu Nishimura, Suni Lee, Kei Yoshitome, Takemi Otsuki

Department of Hygiene, Kawasaki Medical School

P-03 **Role of Nephronectin in Pathophysiology in Silicosis**

○Suni Lee [1] , Machiko Honda [2] , Shoko Yamamoto [1] , Naoko Kumagai-Takei [1] , Kei Yoshitome [1] , Yasumitsu Nishimura [1] , Shigeyuki Kon [2], Takemi Otsuki [1]

[1] Department of Hygiene, Kawasaki Medical School

[2] Department of Pharmacy and Pharmaceutical Sciences, Fukuyama University

P-04 **Activation of aryl hydrocarbon receptor by benzo(a)pyrene induces increase in the expression of IL-33 and infiltration of eosinophils in a mouse model of allergic airway inflammation**

○Hitoshi Tajima[1], Risako Tajiki-Nishino[1], Yuko Watanabe[1], Keigo Kurata[2], Tomoki Fukuyama[1,3]

[1] Institute of Environmental Toxicology

[2] Institute of Tokyo Environmental Allergy, ITEA Inc.

[3] Azabu University Faculty of Veterinary Medicine, Pharmcology Laboratory

P-05 **Changes in peripheral blood and splenic lymphocytes in rats exposed to folic acid deficiency and excess**

○Emi Makinoi[1], Tomomi Murai[1], Koichi Hayshi[1], Aya Koyama[1], Naofumi Takahashi[1], Toshinori Yoshida[2], Ryoichi Ohtsuka[1]

[1] The Institute of Environmental Toxicology

[2]Tokyo University of Agriculture and Technology, Laboratory of Veterinary Pathology

P-06 **Comparison of endocytosis between DMSO or ATRA differentiated HL-60 derived neutrophils**

○Duo Wang, Kentaro Morita, Yusuke Sennari, Tamotsu Kanazawa, Yasuhiro Yoshida

Department of Immunology and Parasitology, School of Medicine, University of Occupational and Environmental Health, Japan

P-07 **Effect of co-treatment with Cucurbitacin D and API on cell proliferation in Blastic plasmacytoid dendritic cell neoplasm (BPDCN)-derived CAL-1 cells.**

○Yusuke Sennari, Kentaro Morita, Tamotsu Kanazawa, Yasuhiro Yoshida

Department of Immunology and Parasitology, School of Medicine, University of Occupational and Environmental Health, Japan

P-08 **In vitro toxicological support to establish specification limit for anti-CD3 monospecific impurity in a bispecific T cell engager drug, ERY974**

○Asako Harada[1], Akifumi Shioda[1], Tatsuya Ikuno[1], Yoshika Iwata[1], Hirotake Shiraiwa[1], Tetsuya Wakabayashi[1], Yuji Sano[1], Masayuki Mishima[2]

[1] Research Division, Chugai Pharmaceutical Co., Ltd.

[2] Translational Research Division, Chugai Pharmaceutical Co., Ltd.

P-09 **STAT1 acts as a negative regulator of IκB-ζ gene transcription.**

○Ryuta Muromoto, Ami Sato, Tadashi Matsuda

Department of Immunology, Faculty of Pharmaceutical Sciences, Hokkaido University

P-10 **Fbw7 contributes to regulation of T-cell development via targeting GATA3.**

○Kyoko Kitagawa[1, 2], Mayumi Tsuji[1], Masatoshi Kitagawa[2]

[1] University of Occupational and Environmental Health, Japan

[2] Hamamatsu University School of Medicine, Japan

P-11 **Asian sand dust delays the onset of cyclophosphamide-induced type 1 diabetes in NOD mice**

○Kentaro Morita[1], Duo Wang[1], Ryoko Baba[2], Hiroyuki Morimoto[2], Tamotsu Kanazawa[1], Yasuhiro Yoshida[1]

[1] Department of Immunology and Parasitology, School of Medicine, University of Occupational and Environmental Health, Japan

[2] Department of Anatomy (II), School of Medicine, University of Occupational and Environmental Health, Japan

P-12 **Development of safety and efficacy profiling system for vaccine and adjuvant using gene expression pattern**

○Eita Sasaki[1], Hideki Asanuma[2], Haruka Momose[1], Keiko Furuhata[1], Takuo Mizukami[1], Isao Hamaguchi[1]

[1] Department of Safety Research on Blood and Biological Products, National Institute of Infectious Diseases, Japan

[2] Influenza Virus Research Center, National Institute of Infectious Diseases, Japan

P-13 **Impact of oral exposure to tris(2-butoxyethyl) phosphate on allergic asthma in mice.**

○Rie Yanagisawa[1], Eiko Koike[1], Tin-Tin Win-Shwe[1], Hirohisa Takano[2]

[1] National Institute for Environmental Studies

[2] Kyoto University

P-14 **Effects of oral exposure to tris(2-butoxyethyl) phosphate on immune cells in a mouse model of allergic asthma.**

○Eiko Koike[1], Rie Yanagisawa[1], Tin Tin Win Shwe[1], Hirohisa Takano[2]

[1] National Institute for Environmental Studies

[2] Kyoto University

P-15 **Relationship between serum TARC levels in children and allergic diseases**

○Reiko Teshima[1], Takahiko Yoshida[2]

[1] Faculty of Veterinary Medicine, Okayama University of Sciences

[2] Asahikawa Medical University

P-16 **Progress of HLA marker analysis on severe advers drug reactions.**

○Yoshiro Saito[1], Ryosuke Nakamura[1], Takuya Imatoh[1], Noriaki Arakawa[1], Eri Tsukagoshi[1], JSAR Research Group[2], Kimie Sai[1]

[1] National Institute of Health Sciences, Japan

[2] JSAR Research Group

P-17 **The association between whole blood concentrations of heavy metals in pregnant women and premature births: The Japan Environment and Children's Study (JECS)**

○Mayumi Tsuji, Rie Tanaka, Toshihiro Kawamoto
University of Occupational and Environmental Health, Japan

P-18 **Self concept in the immunotoxicological area including pediatric & pediatric surgical medical supports**

○Toshiko Sawaguchi[1, 2]
[1]Tokyo University Social Welfare, [2]Graduate School of Tsukuba University

12:05 ～ 12:15 Break

12:15 ～ 12:55 Luncheon Seminar 1 （Japan EMF Information Center）

LS-01 **Health risk assessment of EMF and risk perception of EMF in general public**

○Chiyoji OHKUBO
Japan EMF Information Center

12:55 ～ 13:00 Break

13:00 ～ 13:45 General Assembly

13:50 ～ 14:40 Educational Lecture 1

Chairperson: Yasuo Morimoto (University of Occupational and Environmental Health, Japan)

EL-01 **Environmental factors and respiratory diseases**

○Kazuhiro Yatera
Department of Respiratory Medicine, School of Medicine, University of Occupational and Environmental Health, Japan

14:50 ～ 16:50 Symposium “Inflammation and pathophysiology from the viewpoint of immunotoxicology”

Chairperson : Yoshiro Saito (National Institute of Health Sciences)
Yasuhiro Yoshida (University of Occupational and Environmental Health, Japan)

S-01 **Particulate matter-induced modulation of immune responses**

○Yoshida Y, Morita K.
Department of Immunology and Parasitology, School of Medicine, University of Occupational and Environmental Health, Japan

S-02 **Rat-specific pulmonary responses induced by phagocytosis of overloaded chemicals by macrophage**

○Yasuo Morimoto[1], Taisuke Tomonaga[1], Hiroto Izumi[1],Chinatsu Nishida[2]

[1] Department of Occupational Pneumology, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, Japan

[2] Department of Respiratory Medicine, School of Medicine, University of Occupational and Environmental Health, Japan

S-03 **Asbestos exposure and immune functions, biomarkers based on immunological analyses for malignant mesothelioma**

○Yasumitsu Nishimura, Takemi Otsuki

Department of Hygiene, Kawasaki Medical School

S-04 **Glutaminolysis and mitochondrial functions in plasmablast differentiation and its relevance to the pathogenesis of autoimmune diseases**

○Maiko Hajime[1], Shigeru Iwata[1], Mingzeng Zhang[1], Shingo Nakayamada[1], Kazuo Yamamoto[2], Yosuke Okada[1] and Yoshiya Tanaka[1]

[1] Department of Occupational Pneumology, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, Japan

[2] Biomedical Research Support Center, Nagasaki University School of Medicine

16:50 ～ 17:00 Break

17:00 ～ 18:00 Special Lecture

Chairperson : Minoru Satoh (University of Occupational and Environmental Health, Japan)

SL-01 **Immunotoxicology of inhaled nanoparticles and the implications for lung disease susceptibility**

○James C. Bonner, Ph.D.

Professor, Toxicology Program, Department of Biological Sciences, North Carolina State University

18:30 ～ 20:30 Banquet and Award Ceremony for Students and Young Scientists
(JR Kyushu Station Hotel Kokura 5F)

September 10 (Tuesday)

8:50 ～ 10:20　Oral Presentations　＜O-04　～　O-09＞

Chairperson :　Yasumitsu Nishimura（Department of Hygiene, Kawasaki Medical School）

Katunori Yamaura　（Keio University）

O-04　The mechanism of thymus atrophy in zinc deficiency and effects of IL-4 injection or zinc supplementation

○Kido Takamasa, Yoshii Hinano, Yoshioka Wataru, Yanagisawa Hiroyuki

Department of Public Health and Environmental Medicine,

The Jikei University School of Medicine

O-05　Human induced pluripotent stem cell-derived mast cells useful for in vitro mast cell activation assay exhibiting phenotypes and morphological characteristics of human mast cells.

○Tatsuya Ikuno, Shunsuke Ito, Tomoaki Inoue

Research Division, Chugai Pharmaceutical Co., Ltd.

O-06　Factors influencing the immunogenicity of therapeutic proteins.

○Chiyomi Kubo, Shunsuke Ito, Nobuo Sekiguchi, Tatsuya Ikuno, Mariko Yano, Masayuki Mishima, Mitsuyasu Tabo, Tomoaki Inoue, Shuichi Chiba

Chugai Pharmaceutical Co., Ltd.

O-07　Analysis of bronchoalveolar lavage fluid in patients with drug-induced pneumonia caused by immune checkpoint inhibitor

○Masahiro Tahara, Kei Yamasaki, Hiroaki Ikegami, Kazuhiro Yatera

Department of Respiratory Medicine, University of Occupational and Environmental Health, Japan

O-08　The effect of “super Th1 cells”-derived IL-22 on Th1-type lung inflammation.

○Masakiyo Nakahira[1], Tomohiro Yoshimoto[1], Etsushi Kuroda[1, 2]

[1] Department of Immunology, Hyogo College of Medicine

[2] Lab. of Adjuvant Innovation, National Institutes of Biomedical Innovation, Health and Nutrition

O-09　Migratory dendritic cells in skin-draining lymph nodes have Ni-binding capability and elicit Ni allergy.

○Toshinbu Kuroishi[1], Kanan Bando[1, 2], Shunji Sugawara[1]

[1]Division of Oral Immunology, [2]Division of Orthodontics and Dentofacial Orthopedics, Tohoku University Graduate School of Dentistry, Sendai, Japan

10:20 ～ 10:30　Break

10:30 ～ 11:50　Award Ceremony “JSIT Research Award” and Award Lecture

Chairperson : Reiko Teshima（Faculty of Veterinary Medicine, Okayama University of Sciences)

JSIT Award Lecture

AL-01　An immunotoxicological study in the drug development

○Koichi Ueno

Center for Preventive Medical Sciences, Chiba University, Japan

JSIT Young Investigator Award Lecture

AL-02　Vaccine safety evaluation using human peripheral blood mononuclear cells and humanized mouse model

○Eita Sasaki

Department of Safety Research on Blood and Biological Products, National Institute of Infectious Diseases

AL-03　Interaction between allergy development and exposure to environmental chemicals including pesticide.

○Tomoki Fukuyama

Azabu University Faculty of Veterinary Medicine, Pharmacology Laboratory

11:50 ～ 12:00　Break

12:00 ～ 12:45　Luncheon Seminar 2 (Charles River Laboratories, Inc.)

LS-02　Cell therapy/Gene Therapy/ nucleotide based immunotoxicity assessment

○Séverine Sarlang, Ph.D.

Charles River Evreux, France

12:45 ～ 13:30　Poster Discussion Session 2　＜Y-01 ～ Y-13、P-1 ～ P-18＞

(All posters are presented in this session)

13:30 ～ 13:40　Break

13:40 ～ 14:30　Educational Lecture 2

Chairperson :　Minoru Satoh (University of Occupational and Environmental Health, Japan)

EL-02　Pros and cons of biological agents in rheumatic diseases

○Yoshiya Tanaka

The First Department of Medicine, University of Occupational and Environmental Health, Japan

14:35 ～ 16:35　Workshop :　"Adverse Outcome Pathway (AOP) of immunotoxicity and its goal"

Chairpersons :　Shigeru Hisada　(ASKA Pharmaceutical Co., Ltd.)

Tadashi Kosaka（Study Management Division, The Institute of Environmental Toxicology）

14:35 ～ 14:55

WS-01　AOP project in OECD

○Hajime Kojima

Division of Risk Assessment, Biological Safety Research Center, National Institute of Health Sciences (NIHS)

14:55 ～ 15:05

WS-02　Development of AOP for immunotoxicity.

○Shigeru Hisada[1,2]

[1] Testing Methodology Committee, the Japanese Society of Immunotoxicology

[2] Innovative Drug Discovery Division, ASKA Pharmaceutical Co., Ltd.

15:05 ～ 15:25

WS-03　Development of AOP -Inhibition of Calcineurin Activity Leading to Impaired T-Cell Dependent Antibody Response-

○Takumi Ohishi[1, 2]

[1] AOP Working Group, Testing Methodology Committee, The Japanese Society of Immunotoxicology

[2] Gotemba Laboratory, BoZo Research Center Inc.

15:25 ～ 15:55

WS-04　Adverse Outcome Pathways on immunotoxicity under development

○Shogo Matsumura[1]

[1] AOP Working Group, Testing Methodology Committee, The Japanese Society of Immunotoxicology

[2] Drug Safety Research Laboratories, Astellas Pharma Inc.

15:55 ～ 16:20

WS-05 **AOP for immunotoxicity caused by inhibition of IL-1 signaling**

○Setsuya Aiba, Yutaka Kimura

Department of Dermatology, Toyoku University School of Medicine, Japan

16:20 ～ 16:30

WS-06 **The goal of immunotoxicity AOP development**

○Takao Ashikaga[1, 2]

[1] AOP Working Group, Testing Methodology Committee, The Japanese Society of Immunotoxicology

[2] National Institute of Health Sciences, Biological Safety Research Center, Division of Risk Assessment

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

Closing Remarks