The 21st International Symposium of the Institute Network for Biomedical Sciences
Frontiers in Infection, Cancer, Immunity, and Inflammation

The Alumni Hall "Frate", School of Medicine, Hokkaido University,

Keynote lecture : 50 min
L: Long talk 18 min (15 min + 3 min)
S: Short talk 12 min (10min + 2 min)

22 October 2026 (Thursday)

12:00 Registration

13:00 **Opening Remarks** Fumio Motegi (IGM, Hokkaido Univ.)

Session 1

Chairperson : Youlee Son (IGM, Hokkaido Univ.)

13:05 - 14:23

13:05 **L-01** Tadahiro Kitamura (IMCR, Gunma Univ.)
Clinical applications of Glucagon for the treatment of obesity-related metabolic diseases

13:23 **S-02** Emi Ishida (IMCR, Gunma Univ.)
Regulation of adipose tissue inflammation by dietary brown algae polysaccharides and its association with the gut microbiota

13:35 **L-03** Hiroshi Inoue (IAMS, Tokushima Univ.)
Modal shift of hepatocyte death in metabolic dysfunction-associated steatotic liver disease

13:53 **S-04** Tsuyoshi Fukushima (IMS, UTokyo)
Hematopoietic stem cells undergo bidirectional fate transitions in vivo

14:05 **L-05** Hiroshi Ochiai (MIB, Kyushu Univ.)
A dynamic acetylation balance tunes gene-state switching in living stem cells

14:23 - 14:48 Coffee break

Session 2

Chairperson : Akinori Takaoka (IGM, Hokkaido Univ.)

14:48 - 15:54

14:48 **L-06** Fan-Yan Wei (IDAC, Tohoku Univ.)
The physiology of intracellular and extracellular epitranscriptome

15:06 **S-07** Masaki Takasugi (IDAC, Tohoku Univ.)
The role of autophagy in shaping age-related post-transcriptional dysregulation

15:18 **L-08** Norifumi Shioda (IMEG, Kumamoto Univ.)
G-quadruplexes in neurobiology

15:36 **L-09** Masaaki Murakami (IGM, Hokkaido Univ.)
Human immunology–driven challenge: regulatory mechanisms of tissue specific inflammatory diseases

15:54 - 16:20 Coffee break

Keynote lecture

Chairperson : Masaaki Murakami (IGM, Hokkaido Univ.)

16:20 - 17:10 Keynote lecture 1 Eric Huseby (UMass Chan Medical School)
How MHC-II polymorphisms regulate T cell orchestrators of type-1 diabetes

17:10 - 18:00 Keynote lecture 2 Han-Yu Shih (National Institutes of Health (NIH))
Decoding Spatial Neuroimmune Crosstalk in Neurodegeneration

Reception

18:00 - 20:00 School of Medicine Centennial Hall

23 October 2026 (Friday)

Session 3

Chairperson : Fumio Motegi (IGM, Hokkaido Univ.)

9:00 - 10:06

9:00 **L-10** Keiko Nonomura (LiMe, Kyoto Univ.)
Involvement of PIEZO mechanically activated channel in the control of cerebrospinal fluid dynamics during postnatal brain development

9:18 **S-11** Taro Cyaya (IPR, UOsaka)
Analysis of the regulatory mechanisms underlying protein transport at the tip of primary cilia

9:30 **S-12** Motonori Matsusaki (IAMS, Tokushima Univ.)
Dissolve to Resolve: Dissecting Context-Dependent Functions of Protein Condensates with a Photo-Switchable Chaperone

9:42 **S-13** Nanami Senoo (IMEG, Kumamoto Univ.)
Disturbed mitochondrial maturation in cardiolipin remodeling-deficient cardiomyocytes

9:54 **S-14** Yusuke Mii (LiMe, Kyoto Univ.)
Wnt11 regulates planar cell polarity through polarized accumulation with core PCP components

10:06 - 10:30 **Coffee break**

Session 4

Chairperson : Masahiro Sonoshita (IGM, Hokkaido Univ.)

10:30 - 11:30

10:30 **S-15** Tomohiko Okazaki (IGM, Hokkaido Univ.)
Membrane Topology Inversion

10:42 **S-16** Kazufumi Kunimura (MIB, Kyushu Univ.)
Sulfated cholesterol prevents maternal–fetal immune conflict during pregnancy

10:54 **S-17** Tomohiro Kotaki (RIMD, UOsaka)
Recovery of Infectious Recombinant Human Norovirus Using Zebrafish Embryos

11:06 **S-18** Aya Kobayashi (MRL, IIR, Science Tokyo)
Rewiring Cytokine Signaling in CAR T and NK Cells to Overcome the Immunosuppressive Tumor Microenvironment

11:18 **S-19** Kojiro Ishibashi (CRI, Kanazawa Univ.)
Microglia induce cancer cell death through intercellular DNA transfer

11:30 - 11:40 **Photo session**

11:40 - 13:15 **Lunch / Organizing Committee**

Poster Session

Foyer (2nd floor)

13:15 - 13:55 odd number

13:55 - 14:35 even number

Session 5

Chairperson : Ken-ichiro Seino (IGM, Hokkaido Univ.)

14:40 - 16:10

14:40 **L-20** Kazuo Takayama (MRL, IIR, Science Tokyo)
Development of human lung organoids and organ-on-a-chip systems for antiviral drug discovery

14:58 **L-21** Masanobu Oshima (CRI, Kanazawa Univ.)
Cancer cell clusters and the tumor microenvironment driving cancer progression

15:16 **L-22** Tetsuo Shibuya (IMS, UTokyo)
Privacy preserving strategies for medical big data science

15:34 **L-23** Kenji Kamimoto (RIMD, UOsaka)
Data-Driven Predictive Modeling of Genetic Programs: Towards the Understanding of Infection, Inflammation, and Cancer

15:52 **L-24** Genji Kurisu (IPR, UOsaka)
Protein Data Bank: the single global archive of 3D protein structural data

16:10 - 16:30 Awards Ceremony & Closing Remarks Masahiro Sonoshita (IGM, Hokkaido Univ.)

Poster List

October 23, Friday 13:20 odd number / 14:00 even number

P-01 Naoko Kamiya (IGM, Hokkaido Univ.)
Early embryonic loss of PAR1b unmasks a cryptic redundancy with PAR1a in BRCA1 regulation

P-02 Ryodai Yamamura (IGM, Hokkaido Univ.)
Microbiome-derived acetate deficiency defines a targetable metabolic vulnerability of the PDAC tumour microenvironment

P-03 Yu Kikuta (IDAC, Tohoku Univ.)
Aurora A ubiquitinates BRCA1 as an E3 ubiquitin ligase promoting centrosome maturation

P-04 Hardiani Alexandra (IDAC, Tohoku Univ.)
Functional characterization of Prdm13-expressing neurons in the dorsomedial hypothalamus (DMH)

P-05 Yuta Moriguchi (CRI, Kanazawa Univ.)
Elucidating the molecular mechanisms underlying reprogramming-induced rejuvenation of senescent cells

P-06 Yichun Wang (CRI, Kanazawa Univ.)
Lipid Nanoparticle-Mediated APOBEC3 Silencing Prevents Acquired Resistance to Lung Cancer Targeted Therapy

P-07 Tsukasa Oda (IMCR, Gunma Univ.)
p53 Deficiency Promotes Colorectal Stemness via SOX2-Mediated Activation of TCF/LEF and LGR5

P-08 Genki Yamagishi (IMCR, Gunma Univ.)
Molecular Evolution and Biological Properties of Japanese gecko Insulin

P-09 Ryuya Iida (IMS, UTokyo)
Development of severe immunodeficient rats for human hematopoietic stem cell xenotransplantation

P-10 Masahito Tukahara (IMS, UTokyo)
Efficient approximation algorithms for protein structural alignment

P-11 Yanai Shogo (MRL, IIR, Science Tokyo)
Accumulation of PI(3,4,5)P3 in the adrenal cortex induces adrenal lipoma

P-12 Rina Hashimoto (MRL, IIR, Science Tokyo)
Research on respiratory syncytial virus infection using human lung organoids

P-13 Ng Yen Ni (LiMe, Kyoto Univ.)

RNA-binding-deficient Ebola Virus Nucleoprotein Reveals the Role of RNA in the Helical Nucleocapsid Assembly

P-14 Yusuke Takeuchi (LiMe, Kyoto Univ.)

Tissue-restricted secondary TCR engagement drives pathogenic diversification of arthritogenic Th17 cells

P-15 Haruhiko Miyata (RIMD, UOsaka)

Formation of a complex between TMEM217 and the sodium-proton exchanger SLC9C1 is important for mouse sperm motility and male fertility

P-16 Yuki Akieda (RIMD, UOsaka)

Endogenous cell competition kills pathogenic de novo mutant cells but declines under pH stress

P-17 Yoshinori Taguchi (IPR, UOsaka)

Chemical Synthesis of Site-Specifically O-GlcNAcylated 4E-BP1 for Structural Analysis

P-18 Yuya Fujita (IPR, UOsaka)

Structural insights into the molecular evolution of light-harvesting systems in red algae

P-19 Tatsuki Yasuda (IAMS, Tokushima Univ.)

Disrupted mitochondrial dynamics activate RNA-sensing innate immunity through mitochondrial RNA release

P-20 Izumi Ohigashi (IAMS, Tokushima Univ.)

Ccl21a, rather than Ccl21b, is essential for thymocyte migration and the establishment of T cell self-tolerance

P-21 Ayato Yamasaki (MIB, Kyushu Univ.)

CNS border-associated macrophages govern brain development

P-22 Sakura Ouchi (MIB, Kyushu Univ.)

Physiological roles of SPCA1 in Golgi function

P-23 Kazuya Matsuo (IMEG, Kumamoto Univ.)

Nuclear myelin basic protein links phase separation to oligodendrocyte epigenome

P-24 Akira Oike (IMEG, Kumamoto Univ.)

Signaling Center-Driven Gastruloids Model Early Human Organogenesis