



上海科技大学
ShanghaiTech University



SIAIS
ShanghaiTech
University

The 28th EAJS East Asia Joint Symposium on Biomedical Research

*Fighting Diseases: challenges and opportunities
for life sciences*

October 26-28 2022

Shanghai China

Organized by **SIAIS, ShanghaiTech University**

Member Institutions

IBMB, Institute of Biochemistry and Molecular Biology, National Taiwan University

IMBG, Institute of Molecular Biology and Genetics, Seoul National University

IMSUT, The Institute of Medical Science, The University of Tokyo

LiMe, Institute for Life and Medical Sciences, Kyoto University

NTNU, School of Life Science, National Taiwan Normal University

OIST, Okinawa Institute of Science and Technology Graduate University

SIAIS, Shanghai Institute for Advanced Immunochemical Studies, ShanghaiTech University

SIBCB, Shanghai Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences

SIMS, Soonchunhyang Institute of Medi-bio Science, Soonchunhyang University

第28届东亚会议 (the 28th EAJS) 由上海科技大学免疫化学研究所承办

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Day 1. October 26th (Wed.)**9:30-9:40 Instructions**

Jia Liu
[Assistant Professor/Chair of the organizing committee, Shanghai Institute for Advanced Immunochemical Studies (SIAIS), ShanghaiTech University]

9:40-10:00 Opening Remarks

Ge Jiang
[Vice President, ShanghaiTech University]

10:00-10:40 Self-introduction of each institution

Kan Wu
[Assistant Director, SIAIS, ShanghaiTech University]

Jianfeng Chen
[Assistant Director, Shanghai Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences (SIBCB)]

Jongkyeong Chung
[Director/Professor, Institute of Molecular Biology and Genetics, School of Biological Sciences, Seoul National University (IMBG)]

Hiroshi Kawamoto
[Director/Professor, Institute for Life and Medical Sciences, Kyoto University (LiMe)]

Ming-Shyue Lee
[Chair/Professor, Institute of Biochemistry and Molecular Biology, National Taiwan University (IBMB)]

Amy Shen
[Provost, Okinawa Institute of Science and Technology Graduate University (OIST)]

Yuji Yamanashi
[Dean/Professor, The Institute of Medical Science, The University of Tokyo (IMSUT)]

Jeong Kyo Yoon
[President/Professor, Soonchunhyang Institute of Medi-bio Science, Soonchunhyang University (SIMS)]

10:40-10:50 Tea Break**Session 1. Genome Science**

(Chair: Hai-Qiang Dai [Principle Investigator, SIBCB])

10:50-11:05 iMAP, a transformative platform for gene function discovery

P1-1 Tian Chi [Professor, School of Life Science and Technology (SLST), ShanghaiTech University]

11:05-11:20 Immuno-prophylaxis by innate and adaptive memory against infection and cancer

P1-2 Ken J. Ishii [Professor, IMSUT]

11:20-11:35 Decompose the learning products of a BERT model pre-trained on nucleotide sequences and the evaluation of different k-mer embeddings

P1-3 Yao-zhong Zhang [Project Associate Professor, IMSUT]

11:35-11:50 Lamins differentially regulate two distinct heterochromatin in mouse embryonic stem cells

P1-4 Youngjo Kim [Associate Professor, SIMS]

11:50-12:05 Telomere evolution in nematodes revealed by genome studies

P1-5 Junho Lee [Professor, IMBG]

12:05-13:00 Lunch Break**Session 2. Infection, inflammation and immunology**

(Co-chair: Lu Zhang [Assistant Professor, SIAIS, ShanghaiTech University]; Lu Wang [Principle Investigator, SIBCB])

13:00-13:15 Dynamics of growing bacterial cells

P2-1 Simone Pigolotti [Associate Professor, OIST]

13:15-13:30 Chromatin loop extrusion mediated antibody diversification and humanized mouse model

P2-2 Hai-Qiang Dai [Principle Investigator, SIBCB]

13:30-13:45 Structure of the Marburg virus nucleoprotein-RNA complex

P2-3 Takeshi Noda [Professor, LiMe]

13:45-14:00 Retrotransposon activation during Drosophila metamorphosis conditions adult antiviral responses

P2-4 Lu Wang [Principle Investigator, SIBCB]

14:00-14:15 Structural biology in catching the MOA of anti-TB drug and drug development

P2-5 Lu Zhang [Assistant Professor, SIAIS, ShanghaiTech University]

14:15-14:30 Predator-prey interactions between carnivorous fungi and C. elegans

P2-6 Yen-Ping Hsueh [Associate Research Fellow, IBMB]

14:30-14:45 Proviral proteins for SARS-CoV-2 infection

P2-7 Akiko Makino [Associate Professor, LiMe]

14:45-15:00 Human immune and gut microbial parameters associated with COVID-19 vaccine responses

P2-8 Hiroki Ishikawa [Associate Professor, OIST]

15:00-15:20 Tea Break**15:20-17:00 Young Scientist Session/Student Session in Breakout room****15:20-15:25 Instructions and setting up for breakout room****//15:25-17:00 Breakout Room 1//****Young Scientist Session 1. Infection, inflammation and immunology**

(Chair: Masayuki Yamashita [Assistant Professor, IMSUT])

15:25-15:35 Structural insight into Hepatitis B virus entry via bile acid transporter NTCP

Y1-1 Kanako Kimura [Assistant Professor, LiMe]

15:35-15:45 Plasma membrane damage, immune response, and cellular senescence

Y1-2 Yohsuke Moriyama [Science and Technology Associate, OIST]

15:45-15:55 Pan-coronavirus epitope buried in spike

Y1-3 Xiaoyu Sun [Postdoc, SIBCB]

Young Scientist Session 2. Neuroscience, psychoscience and aging

(Chair: Kanako Kimura [Assistant Professor, LiMe])

15:55-16:05 MLKL mediates age-related attrition of hematopoietic stem cells and promotes ineffective hematopoiesis

Y2-1 Masayuki Yamashita [Assistant Professor, IMSUT]

16:05-16:15 Structure-based discovery of 5-HT_{2A}R agonists for the treatment of depression

Y2-2 Huan Wang [Research Assistant Professor, ShanghaiTech University]

16:15-16:25 Whole-brain mapping of effective connectivity by fMRI with cortex-wide patterned optogenetics

Y2-3 Seonghoon Kim [Postdoctoral Researcher, IMBG]

16:25-16:35 Lamin B1 is required for maintaining kidney functions upon aging

Y2-4 Miri Kim [Postdoctoral Researcher, SIMS]

16:35-16:45 LLPS of FXR1 drives spermiogenesis by activating translation of stored mRNAs

Y2-5 Jun-Yan Kang [Postdoctoral Researcher, SIBCB]

//15:25-17:00 Breakout Room 2//

Student Session 1. Neuroscience, psychoscience and aging

(Chair: Qin Hong [PhD Student, SIBCB])

15:25-15:35 **Structural mechanism of psychedelics with their targets and their mechanism in the treatment of depression**

S1-1 Dongmei Cao [Graduate Student, SIBCB]

15:35-15:45 **The radial contraction of axon mediates a novel mechanoprotective mechanism in brain**

S1-2 Xiaorong Pan [Graduate Student, ShanghaiTech University]

15:45-15:55 **A forebrain neural substrate for behavioral thermoregulation**

S1-3 Myungsun Lee [Graduate Student, IMBG]

15:55-16:05 **Analysis of defects in fetal cerebellar development and function caused by maternal immune activation**

S1-4 Yang Mi [PhD Student, OIST]

Student Session 2. Infection, inflammation and immunology

(Chair: Myungsun Lee [Graduate Student, IMBG])

16:05-16:15 **Discovery of SARS-CoV-2 entry disruptors by targeting the spike protein**

S2-1 Lin Wang [PhD Student, ShanghaiTech University]

16:15-16:25 **Plasmonic detection of COVID-19 biomarkers**

S2-2 Ainash Garifullina [PhD Student, OIST]

16:25-16:35 **Temporal regulations of MDA5-dependent type I interferon induction by 14-3-3 η sub-isoforms**

S2-3 Yun-Jui Chan [Graduate Student, IBMB]

16:35-16:45 **Molecular basis of receptor binding and antibody neutralization of Omicron**

S2-4 Qin Hong [PhD Student, SIBCB]

16:45-16:50 Instructions for closing breakout room

16:50-17:10 Tea Break

Session 3. Developmental biology, stem cell and regenerative medicine

(Chair: Hiroki Ishikawa [Associate Professor, OIST])

17:10-17:25 **Adipose tissue remodeling in obesity**

P3-1 Jae Bum Kim [Professor, IMBG]

17:25-17:40 **Understanding and reconstitution of germline development in rats**

P3-2 Toshihiro Kobayashi [Project Associate Professor, IMSUT]

17:40-17:55 **Characterization of pluripotent stem cells required for whole body regeneration**

P3-3 An Zeng [Principle Investigator, SIBCB]

17:55-18:10 **Exploring extraembryonic differentiation using human primed pluripotent stem cells**

P3-4 Masatoshi Ohgushi [Associate Professor, LiMe]

18:10-18:25 **Ultrashort peptides induce biomineralization**

P3-5 Shao-Qing Zhang [Principle Investigator, SIBCB]

Day 2. October 27th (Thur.)

9:25-9:30 Instructions

Session 4. Neuroscience, psychoscience and aging

(Chair: Chan-Yen Ou [Assistant Professor, IBMB])

9:30-9:45 **Stiffened microenvironment induces epidermal stem cell differentiation in aged skin**

P4-1 Fumiko Toyoshima [Professor, LiMe]

9:45-10:00 **Atlas construction in non-model brains**

P4-2 Samuel Reiter [Assistant Professor, OIST]

10:00-10:15 **Regulatory role of autophagy in WNT signaling during neuronal differentiation**

P4-3 Jae-won Shim [Associate Professor, SIMS]

10:15-10:30 **Pandemic disorders of consciousness**

P4-4 Tom Froese [Assistant Professor, OIST]

10:30-10:45 **Structural pharmacology study of bitter taste receptors**

P4-5 Tian Hua [Assistant Professor, iHuman, ShanghaiTech University]

10:45-10:55 Tea Break

Session 5. Cell biology, cancer biology and biomedicine

(Chair: Masatoshi Ohgushi [Assistant Professor, LiMe])

10:55-11:10 **Creation of human assembloids that recapitulate human diseases**

P5-1 Kunyoo Shin [Associate Professor, IMBG]

11:10-11:25 **The cutting-edge cancer therapy; novel factor in DNA repair pathway**

P5-2 Wootae Kim [Assistant Professor, SIMS]

11:25-11:40 **The regulation of microtubule organization in patterning dendritic and axonal development**

P5-3 Chan-Yen Ou [Assistant Professor, IBMB]

11:40-11:55 **Role of adipose tissue inflammation in weight cycling-induced metabolic diseases**

P5-4 Kae Won Cho [Associate Professor, SIMS]

11:55-12:10 **Identification of molecules deregulated by the canonical Wnt signaling and their application for inhibitor-screening**

P5-5 Yoichi Furukawa [Professor, IMSUT]

12:10-13:25 Lunch Break

13:25-15:00 **Young Scientist Session/Student Session in Breakout room**

13:25-13:30 Instructions and setting up for breakout room

//13:30-15:00 Breakout Room 1//

Young Scientist Session 3. Cell biology, cancer biology and biomedicine

(Chair: TBD)

13:30-13:40 **Site-specific ubiquitination dictates the intracellular localization of MLKL and modulates its function**

Y3-1 Seongmin Yoon [Research Professor, SIMS]

13:40-13:50 **Tracing the evolutionary history of blood cells to the unicellular ancestor of animals**

Y3-2 Yosuke Nagahata [Program Researcher, LiMe]

13:50-14:00 **CCR4-NOT complex regulation of circadian rhythm**

Y3-3 Haytham Mohamed [Postdoctoral Researcher, OIST]

14:00-14:10 **Matriptase-2 enhances the tumor-suppressor effect of TGF- β via NR4A3/Smad2/p21 and PAI-1 axis**

Y3-4 Hsin-Ying Lin [Postdoctoral Researcher, IBMB]

Young Scientist Session 4. Molecular biology, protein chemistry and biotechnology

(Chair: TBD)

14:10-14:20 **Comprehensive mapping of extracellular nanoparticles by high-resolution flow cytometry**

Y4-1 Tomoya Hayashi [Postdoctoral Researcher, IMSUT]

14:20-14:30 **Probing proteins with light: scattering enhancement and interferometry**

Y4-2 Guillaume Graciani [Research Professor, IMBG]

14:30-14:40 **Structural insights into the stereospecific cyclization reaction catalyzed by deoxypodophyllotoxin synthase**

Y4-3 Min-Hao Wu [Postdoctoral Researcher, IBMB]

14:40-14:50 Protein structure and dynamics revealed by versatile mass spectrometry techniques

Y4-4 Jingwen Li [Engineer, ShanghaiTech University/National Center for Protein Science Shanghai]

//13:30-15:00 Breakout Room 2//

Student Session 3. Cell biology, cancer biology and biomedicine

(Chair: Vincencius Vidyawan [Graduate Student, SIMS])

13:30-13:40 Lineage heterogeneity underlies the multiple origins and functions of type 1 innate lymphoid cells

S3-1 Takuma Asahi [Graduate Student, LiMe]

13:40-13:50 CRMP/UNC-33 organizes microtubule bundles for KIF5-mediated mitochondrial distribution to axon

S3-2 Ying-Chun Chen [Graduate Student, IBMB]

13:50-14:00 Identification of genes negatively regulated by the Wnt/ β -catenin signaling pathway in liver cancer cells

S3-3 Saya Nakagawa [Graduate Student, IMSUT]

14:00-14:10 Mild reduction of cell surface proteins reduces adipogenic potential through enhanced cell adhesion

S3-4 Ji Hoon Jeong [Graduate Student, SIMS]

Student Session 4. Molecular biology, protein chemistry and biotechnology

(Chair: Takuma Asahi [Graduate Student, LiMe])

14:10-14:20 Establishment of double-tag LC3B system as autophagy reporter cell lines

S4-1 Vincencius Vidyawan [Graduate Student, SIMS]

14:20-14:30 Two-dimensional condensation of the cytosolic tail of PD-1 amplifies its inhibitory signaling capacity

S4-2 GeeSung Eun [Graduate Student, IMBG]

14:30-14:40 Identification of bacteriophage genome sequences with representation learning

S4-3 Zeheng Bai [Master Student, IMSUT]

14:40-14:50 Unveiling DNA twisting mechanisms by fluorescence imaging of underwound DNA in the cell nucleus

S4-4 Jumpei Fukute [PhD Student, LiMe]

14:50-15:00 Tea Break

15:00-16:50 Poster Session

16:50-17:00 Instructions for Voting for presenters and posters

18:00 Deadline for voting

Day 3. October 28th (Fri.)

9:25-9:30 Instructions

Session 6. Molecular biology, protein chemistry and biotechnology

(Chair: TBD)

9:30-9:45 Bloodmeals fuel dengue virus replication in the female *Aedes aegypti* mosquito

P6-1 Ming-Jiun Yu [Professor, IBMB]

9:45-10:00 Designing de novo proteins for fluorescence imaging and optical control of biological systems

P6-2 Jiayi Dou [Assistant Professor, ShanghaiTech University]

10:00-10:15 Molecular insights into substrate recognition and discrimination by the N-terminal domain of Lon protease

P6-3 Shiou-Ru Tzeng [Assistant Professor, IBMB]

10:15-10:30 Charperonin-directed protein folding pathways

P6-4 Soung-Hun Roh [Associate Professor, IMBG]

10:30-10:40 Tea Break

10:40-10:50 Ken-Ichi Arai Award Ceremony

10:50-11:40 Ken-Ichi Arai Award Lecture (40 min talk + 10 min QA)

11:40-12:00 Award ceremony of best presenters and best posters

12:00-12:10 Greetings from next host institution (SIMS)

12:10-12:20 Closing remarks