■ Program

Day 1 March 5 (Tue), 2019

Registration (9:00 –)

Opening Session (9:30 – 10:00)

Opening remarks

Keiko Nakayama

Program Coordinator, Advanced Graduate Program for Future Medicine and Health, Tohoku University

Opening Address

Hiroo Yugami

Associate Executive Vice President for Graduate School Reform, Tohoku University

(Photograph)

Special Session- Advanced Graduate Program in Future Medicine (10:00 – 12:00)

Chair: Nobuhiro Takahashi, Tohoku University Graduate School of Dentistry

FM1 **Improving health and wellbeing through co-design: the Westmead Living Lab**

Christopher Peck, Director, The University of Sydney Westmead Initiative

FM2 **Chinese Medical Device Regulation Update**

Jianmin Han, Associate Professor, Peking University School and Hospital of Stomatology

FM3 **Aiming for Future Medicine and Healthcare: Tohoku University Open Innovation**

Wataru Uchida, General Creative Manger, Specially Appointed Professor, Head Office for Open Innovation Strategy, Tohoku University

(Lunch Break: 12:00-13:00)

Plenary Lecture (13:00 – 13:50)

Chair: Hozumi Motohashi, Institute of Development, Aging and Cancer, Tohoku University

PL1 **Roles of RUNX genes in tissue stem cells**

Yoshiaki Ito

Senior Principal Investigator, Cancer Science Institute of Singapore, National University of Singapore

(Coffee Break 13:50-14:00)

Scientific Session 1- Inflammation and Immune Response (14:00 – 15:35)

Chair: Akihiko Muto, Tohoku University Graduate School of Medicine

SS1.1 (14:00-14:30)

Lipidomics revealed a novel role of omega-3-containing lysophospholipid in activating vagal nerve via LPA_3 receptor to protect heart from ischemic damage

Junken Aoki, Graduate School of Pharmaceutical Sciences, Tohoku University

SS1.2 (14:30-15:05)

Regulation of mitochondrial respiratory chain by innate immunity

Johan Garaude, INSERM U1211, France

SS1.3 (15:05-15:35)

The roles of leukotriene B4 receptor in macrophage and dendritic cell

Takehiko Yokomizo, Graduate School of Medicine, Juntendo University

(Coffee Break15:35-15:50)

Scientific Session 2 - Redox Biology 1 (15:50 – 17:30)

Chair: Hisatoshi Sugiura, Tohoku University Graduate School of Medicine

SS2.1 (15:50-16:25)

Hydrogen sulfide in oxidative stress resistance, metabolic fitness and longevity

James R. Michell, Harvard T. H. Chan School of Public Health, USA

SS2.2 (16:25-16:55)

Cysteine persulfide synthases mediate sulfur respiration and energy metabolism

Takaaki Akaike, Tohoku University Graduate School of Medicine

SS2.3 (16:55-17:30)

Causal role for glutathione-induced protein oxidation in tissue fibrosis: New avenues for redox-based therapeutics?

Yvonne M.W. Janssen-Heininger, Larner College of Medicine, University of Vermont, USA

Poster Presentation and Discussion (17:40 – 19:30)

Poster view (17:40-18:20) at Entrance Hall, Seiryo Auditorium

Day 2 March 6 (Wed), 2019

Registration (8:30 –)

Scientific Session 3 - Redox Biology 2 (9:00 – 10:30)

Chair: Atsushi Matsuzawa, Graduate School of Pharmaceutical Sciences, Tohoku University

SS3.1 (9:00-9:30)

KEAP1-NRF2 System and Its Future

Masayuki Yamamoto, Tohoku University Graduate School of Medicine

SS3.2 (9:30-10:00)

Regulation of Mg^{2+} levels and ROS generation by PRL/CNNM protein complexes

Hiroaki Miki, Research Institute for Microbial Diseases, Osaka University

SS3.3 (10:00-10:30)

Intrinsic mechanism for separating blood and lymphatic vascular systems in development and cancer

Yoshiaki Kubota, Keio University School of Medicine

(Coffee Break 10:30-10:40)

Scientific Session 4 - Neuroscience (10:40 – 12:20)

Chair: Hiromu Tanimoto, Tohoku University Graduate School of Life Sciences

SS4.1 (10:40-11:15)

Targeting the metabolism of innate immune cells as a therapeutic strategy for progressive multiple sclerosis

Luca Peruzzotti-Jametti, University of Cambridge, UK

SS4.2 (11:15-11:45)

Trans-cranial magnetic stimulation (TMS): a powerful tool for neuromodulation and functional mapping of the cerebral cortex

Kenichiro Tsutsui, Tohoku University Graduate School of Life Sciences

SS4.3 (11:45-12:20)

Computational approaches in action vision and control and implications in basic and clinical research

Martin A. Giese, University Clinic Tübingen, Germany

(Lunch Break: 12:20-13:00)

Young Scientists Oral Sessions (13:00 – 17:40)

Young Scientists Oral Session 1- Oncology & Chromosome (13:00 – 14:30)
Young Scientists Oral Session 2- Neuroscience & Pharmacology (14:40 – 16:15)
Young Scientists Oral Session 3- Stem Cell & Differentiation (16:25 – 17:40)

Workshop on Global Career Development in Future Medicine (17:45 – 19:15)

Panel discussion with NIH, NUS, JNCACR and Tohoku University young scientists

Global career opportunities & Future Medicine

Day 3 March 7 (Thu), 2019

Registration (8:30 –)

Scientific Session 5 - Epigenetic Regulation (9:00 – 10:40)

Chair: Yasuhisa Matsui, Institute of Development, Aging and Cancer, Tohoku University

SS5.1 (9:00-9:35)

Master Epigenetic Enzyme p300 in Life and Death

Tapas Kumar Kundu, Jawaharlal Nehru Centre for Advanced Scientific Research, India

SS5.2 (9:35-10:05)

Gene regulatory network for hematopoietic stem and progenitor cell differentiation

Kazuhiko Igarashi, Tohoku University Graduate School of Medicine

SS5.3 (10:05-10:40)

Identifying epigenetic regulators for targeted therapy in rhabdomyosarcoma

Reshma Taneja, National University of Singapore, Singapore

(Coffee Break 10:40-10:55)

Scientific Session 6- Carcinogenesis (10:55 – 12:30)

Chair: Natsuko Chiba, Institute of Development, Aging and Cancer, Tohoku University

SS6.1 (10:55-11:25)

Resistance to EGFR Tyrosine Kinase Inhibitors

Susumu Kobayashi, National Cancer Center, Japan

SS6.2 (11:25-11:55)

Regulation of cell survival through post-translational modifications of MCL-1 in tumorigenesis

Hiroyuki Inuzuka, Tohoku University Graduate School of Dentistry

SS6.3 (11:55-12:30)

CRL3/SPOP promotes Nanog destruction to suppress stem cell traits and prostate cancer progression

Wenyi Wei, Beth Israel Deaconess Medical Center, Harvard Medical School, USA

Closing remarks (12:30 – 12:40)

Kazuhiko Igarashi, Dean, Tohoku University Graduate School of Medicine

(Lunch Break: 12:40-13:30)

Tour of Tohoku Medical Megabank Organization (ToMMo) in Tohoku University

■ Young Scientists Oral Sessions（13:00 – 17:40 on March 6 (Wed)）

Young Scientists Oral Session 1- Oncology & Chromosome (13:00 – 14:30)

YSOS1-1
Analysis of the *CDKN2A* gene in FAMMM Syndrome families reveals early age of onset for additional syndromic cancers
Candace Middlebrooks, National Human Genome Research Institute, NIH, USA
YSOS1-2
Pathways of Progression from Intraductal Papillary Mucinous Neoplasm to Pancreatic Ductal Adenocarcinoma Based on Molecular Features
Yuko Omori, Tohoku University Graduate School of Medicine
YSOS1-3
The mitochondria gain-of-function phenotype in oncogenic Ras-driven metastatic breast cancer
May Yin Lee, Genome Institute of Singapore, National University of Singapore, Singapore
YSOS1-4
Regulation of chromatin dynamics and autophagy by non-histone chromatin protein PC4: Implications in Breast cancer
Sweta Sikder, Jawaharlal Nehru Centre for Advanced Scientific Research, India
YSOS1-5
Quantifying transcription at Single Molecule level reveals linked cycles of chromatin remodeling and transcription factor binding at gene promoter
Gunjan Mehta, National Cancer Institute, NIH, USA
YSOS1-6
A novel machinery for maintenance of faithful chromosome segregation
Kenji Iemura, Institute of Development, Aging and Cancer, Tohoku University

(Coffee Break14:30-14:40)

Young Scientists Oral Session 2- Neuroscience & Pharmacology (14:40 – 16:15)

YSOS2-1
***In vitro and in vivo* knock-out system labelled by fluorescent protein via microhomology-mediated end joining**
Shota Katayama, Tohoku University Graduate School of Medicine
YSOS2-2
Categorizing Autism Spectrum Disorder Candidate Genes
Victoria Heigh, *Eunice Kennedy Shriver* National Institute of Health and Human Development, NIH, USA
YSOS2-3
Multifunctional fibers for elucidating astroglial basis of anxiety
Yuanyuan Guo, Tohoku University Graduate School of Life Sciences
YSOS2-4
Association of Amyloid Positivity with Volume Loss in Temporal Lobes Differs between Men and Women in Cognitively Normal Older Adults
Nicole Armstrong, National Institute on Aging, NIH, USA

YSOS2-5

Structural biology of β-sheet ligand-type PET probes and monoamine oxidase

Ryuichi Harada, Tohoku University Graduate School of Medicine

YSOS2-6

Interactions of synthetic cannabinoids with the 5HT1A receptor

Hideaki Yano, National Institute on Drug Abuse, NIH, USA

YSOS2-7

A Novel Allosteric Drug That Stimulates Insulin Secretion by Acting on β-Cell M3 Muscarinic Acetylcholine Receptors

Jonathan Pham, National Institute of Diabetes and Digestive and Kidney Diseases, NIH, USA

(Coffee Break16:15-16:25)

Young Scientists Oral Session 3- Stem Cell & Differentiation (16:25 – 17:40)

YSOS3-1

Surprise at tissue-resident macrophages in development: brain-resident macrophages control radial glia and cortex development

Chang Liu, National Heart, Lung, and Blood Institute, NIH, USA

YSOS3-2

How TLR9 Signaling shapes the survival, differentiation and the metabolism of B cells

Munir Akkaya, National Institutes of Allergy and Infectious Diseases, NIH, USA

YSOS3-3

PRMT5 Modulates Splicing for Genome Integrity and Preserves Proteostasis of Hematopoietic Stem Cells

Darren Qiancheng Tan, Cancer Science Institute of Singapore, National University of Singapore, Singapore

YSOS3-4

Identification of the tooth-specific novel transcription factor AmeloD and its role during tooth development

Yuta Chiba, Tohoku University Graduate School of Dentistry

YSOS3-5

The transcription factor Foxc1 is necessary for Ihh–Gli2-regulated endochondral ossification

Michiko Yoshida, Tohoku University Graduate School of Dentistry

■ Poster Session（17:40 – 19:30 on March 5 (Tue)）

Presenters of Young Scientists Oral Sessions (March 6) also mount their posters in this session.

PS1

Tyrosine kinase receptor TIE-1 serves as a novel therapeutic target in PI3K highly expressing ovarian cancer

Xuewei Zhang, Tohoku University Graduate School of Medicine

PS2

The mechanism of epigenetic regulation by the interaction between nuclear FABP7 and ACLY

Yoshiteru Kagawa, Tohoku University Graduate School of Medicine

PS3

Cortical processing of prediction error and self-agency in patients with schizophrenia

Koichi Abe, Institute of Development, Aging and Cancer, Tohoku University

PS4

Chronic poor condition enhances preference to rewarding substances through dopamine system

Toshiharu Ichinose, Tohoku University Graduate School of Life Sciences

PS5

The involvement of fatty acid-binding protein 5 in the blood-brain barrier transport of docosahexaenoic acid and cognition

Yijun Pan, Tohoku University Graduate School of Medicine

PS6

The effect of UGT1A9, CYP2B6, CYP2C9 genes polymorphism on individual differences in propofol pharmacokinetics among Japanese patients

Akihiro Kanaya, Tohoku University Graduate School of Medicine

PS7

Blood Pressure Correlates with 90-Day Mortality in Sepsis Patients: A Retrospective Multicenter Derivation and Validation Study Using High-Frequency Continuous Data

Naoya Kobayashi, Tohoku University Graduate School of Medicine

PS8

Functions of a cancer/testis antigen gene, Tekt5 in cancer cells and male germ cells

Nana Aoki, Institute of Development, Aging and Cancer, Tohoku University