

**Tokyo Metropolitan Institute of Medical Science,
19th International Symposium**

**February 8, 2019
TOKYO JAPAN**

Chairs:

Yuji Okazaki, M.D. & Makoto Arai, Ph.D. & Masanari Itokawa, M.D, Ph.D.

Location:

**Tokyo Metropolitan Institute of Medical Science,
2-1-6 Kamikitazawa, Setagaya-ku, Tokyo 156-8506, Japan**

*Preventive medical research in areas of psychiatry, health, and social welfare:
Beneficial life course intervention in critical and sensitive periods for glycation,
oxidative stress, and nutritional epidemiology*

A life course approach is essential to understand population health and disease. It is established that an individual's health is strongly influenced by multiple genetic and environmental factors. Attempts to understand the molecular mechanisms underlying physical and mental health based on a life course trajectory are ongoing. Recently, specialists have revealed that advanced glycation end products (AGEs), and oxidative stress (OS) are closely associated with psychotic and systemic dysfunction. AGEs and OS have extremely diverse structures and are critical to many biological processes. However, these modifications appear, disappear, and undergo dynamic structural changes during aging and the development of various disease pathologies, making them very difficult to accurately characterise.

In this symposium, we discuss the trajectory of AGEs/OS information, adolescent development, and nutritional epidemiology, and how multifaceted technical approaches combining genetics, biology, chemistry, nutrition, and bioinformatics, can be used to accurately characterise spatiotemporal changes during each life stage. We hope that these data will provide information that may elucidate novel genetic and environmental factors involved in psychiatric and physical disorders in each life stage. Advancements made using glycated/oxidative marker data will highlight the molecular mechanisms underlying recovery from these disorders.

Schedule and Speakers

Update: 1/Feb/2019

Chairs:

Yoji Okazaki, M.D. & Makoto Arai, Ph.D. & Masanari Itokawa, M.D, Ph.D.

Opening remarks

- 9:00- Director Dr. Hisao Masai, Ph.D.
(Tokyo Metropolitan Institute of Medical Science)

Opening:

- 9:10- Makoto Arai, Ph.D. & Masanari Itokawa, M.D, Ph.D.

Session I: Health and well-being & Nutritional Epidemiology

- 9:20- Dr. Marcus Richards, Ph.D.
(MRC Unit for Lifelong Health and Ageing at UCL, University College London)

Title: Life course determinants and trajectories of mental health and wellbeing; a general population perspective

- 9:50- Dr. Satoshi Sasaki, M.D., Ph.D.
(Department of Social and Preventive Epidemiology, School of Public Health, The University of Tokyo)

Title: Nutritional epidemiology: gap between the roles and the methodological ability

Session II: Technology & Food Science & Disease (1)

- 10:30- Dr. Paul J Thornalley, Ph.D.
(Diabetes Research Center, Qatar Biomedical Research Institute (QBRI), Hamad Bin Khalifa University)

Title: Metabolic drivers of dicarbonyl stress and oxidative stress in diabetes and aging

- 11:00- Dr. Ryoji Nagai, Ph.D.
(Department of Bioscience, School of Agriculture, Tokai University)

Title: Advantages of both simple and precise analysis of AGEs for evaluating metabolic disorders

- 11:30- Dr. Frédéric J. Tessier, Ph.D.

(University Lille, Inserm, CHU Lille, U995-LIRIC-Lille Inflammation Research International Center)

Title: Dietary Advanced Glycation End Products and Health

- 12:00- Dr. Norma Frizzell, Ph.D.

(Department of Pharmacology, Physiology & Neuroscience, School of Medicine, University of South Carolina)

Title: Fumarate Derived Metabolic Stress Exacerbates Mitochondrial ATP Deficiency in Leigh Syndrome

Lunch

- 12:40 – 13:40

Session III: Technology & Food Science & Disease (2)

- 13:50- Dr. Akira Monji, MD, PhD.

(Department of Psychiatry, Faculty of Medicine, Saga University)

Title: A role of NADPH (NOX) system in the pathophysiology of neuropsychiatric disorders

- 14:20- Dr. Naila Rabbani, Ph.D.

(Clinical Sciences Research Laboratories, University of Warwick)

Title: Advanced glycation end products, dityrosine & arginine transporter dysfunction in autism - biomarkers for clinical diagnosis

- 14:50- Dr. Moeko Shinohara, MD, PhD

(Department of Neurology and Neurobiology of Aging, Kanazawa University Graduate School of Medical Sciences)

Title: Blood vitamin C levels are associated with reduction of Apolipoprotein E E4-related risks of cognitive decline in women: The Nakajima study

- 15:20- Dr. Chih-Kang Chiang, MD, PhD.

(Graduate Institute of Toxicology, National Taiwan University College of Medicine)

Title: The double-edged sword of endoplasmic reticulum stress in uremic sarcopenia through myogenesis perturbation.

Coffee & Tea Break, 20 min

- 16:10- Dr. Reiko Inagi, Ph.D.

(Division of CKD Pathophysiology, The University of Tokyo, Graduate School of Medicine, Tokyo)

Title: Oxidative/glycative stress, a culprit of organelle stress, in kidney disease

- 16:40- Dr. Ram H. Nagaraj, Ph.D.

(Department of Ophthalmology, University of Colorado School of Medicine)

Title: AGEs in extracellular matrix promote fibrosis

- 17:10- Dr. Monika Pischetsrieder, Ph.D.

(University of Erlangen-Nuremberg, Department of Chemistry and Pharmacy, Food Chemistry)

Title: Possible interaction of food components with glycative and oxidative protein damage in vivo

- 17:40- Dr. Yasuhiko Yamamoto, MD, PhD.

(Department of Biochemistry and Molecular Vascular Biology, Kanazawa University Graduate School of Medical Sciences)

Title: Pattern-recognition receptor RAGE in health and disease

Closing:

- 18:10- Drs. Yoji Okazaki, M.D. & Makoto Arai, Ph.D. & Masanari Itokawa, M.D, Ph.D.