

# Program

## September 1 (Tuesday)

**14:00- Registration**

**16:45- Opening Remarks**

### Keynote Lecture

**Chairperson: Reiko Inagi** (The University of Tokyo, Japan)

17:00-17:45 Protein Quality Control by the Unfolded Protein Response  
**Kazutoshi Mori** (Kyoto University, Japan)

**Chairperson: Vincenzo Fogliano** (Wageningen UR, The Netherlands)

17:45-18:30 Multi-omics Approach for the Elucidation of Food Functionality  
**Hisanori Kato** (Tokyo University, Japan)

### President's Lecture

**Chairperson: Naoyuki Taniguchi** (Riken, Japan)

18:30-19:00 Why is the discrepancy between healthy “WASHOKU” and mystic  
“AGE/RAGE axis” ?  
**Teruo Miyazawa** (Tohoku University, Japan)

**19:00-20:30 Welcome Reception**

## September 2 (Wednesday)

### Plenary Lectures

**Chairperson: Masanobu Kawakami** (Nerima Hikarigaoka Hospital, Japan)

9:00-9:30 Glyco-redox: new Sake in an old bottle  
**Naoyuki Taniguchi** (Riken, Japan)

**Chairperson: Varoujan Yaylayan** (McGill University, Canada)

9:30-10:00 Physiological relevance of dietary melanoidins  
**Vincenzo Fogliano** (Wageningen UR, The Netherlands)

### YIA Presentations-1 (Medical)

**Chairpersons: Josephine Forbes** (University of Queensland, Australia)  
**Motoko Takahashi** (Sapporo Medical University, Japan)

10:00-10:15 Immunochemical detection of MG-H1 in human serum by specific monoclonal antibody and its correlation with LC-MS/MS analysis  
**Kota Hatano** (Tokai University, Japan)

10:15-10:30 Post-glucose load plasma  $\alpha$ -dicarbonyl concentrations are increased in individuals with impaired glucose metabolism and type 2 diabetes: the codam study  
**Dionne Maessen** (Maastricht University, The Netherlands)

10:30-10:45 Plasma levels of N $\epsilon$ -(carboxymethyl)lysine are inversely associated with central obesity and inflammation, and significantly explain a part of the central obesity-related increase in inflammation: the hoorn and codam studies  
**Katrien Gaens** (Maastricht University, The Netherlands)

10:45-11:00 RAGE mediates the vascular aging induced by dietary carboxymethyllysine  
**Nicolas Grossin** (Lille University, France)

### YIA Presentations-1 (Food)

**Chairpersons: Kiyotaka Nakagawa** (Tohoku University, Japan)  
**Varoujan Yaylayan** (McGill University, Canada)

11:00-11:15 Effect of prenatal dietary load of maillard reaction products on metabolic status of female wistar offspring  
**Radana Gurecká** (Comenius University, Slovakia)

11:15-11:30 New insights into bread melanoidins  
**Cynthia Helou** (LaSalle Beauvais, France)

- 11:30-11:45      Creatine is a scavenger for methylglyoxal *in vivo* and in food  
**Jürgen Löbner** (Technische Universität Dresden, Germany)
- 11:45-12:00      The role of amino acid metal complexes in the maillard and akabori reactions  
**Ossanna Nashalian** (McGill University, Canada)
- 12:00-13:00      Luncheon Seminar (MORINDA Community)**
- Antiglycation activity of iridoids and their food sources  
**Brett West** (Morinda, USA)

#### **YIA Presentations-2 (Medical)**

**Chairpersons: Casper Schalkwijk** (Maastricht University, The Netherlands)  
**Tomoko Oya-Ito** (Nagoya University, Japan)

- 13:00-13:15      Protein damage markers in diagnosis, progression and treatment of arthritis  
**Usman Ahmed** (Queen Elizabeth Hospital, UK)
- 13:15-13:30      High dietary intake of advanced glycation end products during pregnancy and lactation produces insulin secretory defects in offspring of nonobese diabetic 8.3 TCR transgenic mice  
**Danielle J Borg** (University of Queensland, Australia)
- 13:30-13:45      RAGE-DNA aptamer improves aldosterone-induced renal injury possibly via inhibition of Rac1-MR axis in mice with hypertensive nephropathy  
**Kensei Taguchi** (Kurume University, Japan)
- 13:45-14:00      AGER1 overexpression in glomerular podocytes results in renal disease which is exacerbated by diabetes  
**Aowen Zhuang** (University of Queensland, Australia)

#### **YIA Presentations-2 (Food)**

**Chairpersons: Ryoji Nagai** (Tokai University, Japan)  
**Takahiro Eitsuka** (Niigata University of Pharmacy and Applied Life Science, Japan)

- 14:00-14:15      Multiresponse kinetic modelling of maillard reaction and caramelisation in hazelnuts during roasting  
**Neslihan Göncüoğlu Taş** (Hacettepe University, Turkey)
- 14:15-14:30      Amadori products formation in emulsified systems  
**Antonio Dario Troise** (Wageningen University, The Netherlands)
- 14:30-14:45      A kinetic approach to evaluate inhibition of protein glycation during heating  
**H. Gül Akillioglu** (Hacettepe University, Turkey)

14:45-15:00 The maillard reaction: A source for the formation of desired aroma-active compounds and undesired foodborne toxicants  
**Michael Granvogl** (Technical University of Munich, Germany)

### Plenary Lectures

**Chairperson: Toshio Miyata** (Tohoku University, Japan)

15:00-15:30 Physiological glycation by methylglyoxal, glyoxalase 1 and developments in Disease mechanisms and clinical therapeutics  
**Paul Thornalley** (University of Warwick, UK)

**Chairperson: Vincenzo Fogliano** (Wageningen UR, The Netherlands)

15:30-16:00 Proteomic methods to study the maillard reaction in food  
**Monika Pischetsrieder** (University of Erlangen-Nürnberg, Germany)

**Chairperson: Satoshi Miyata** (JCHO Osaka Hospital, Japan)

16:00-16:30 Skin AGEs, fluorescence and the progression of macrovascular complications in type 1 diabetes : The plot thickens  
**Vincent Monnier** (Case Western Reserve University, USA)

**Chairperson: Ryoji Nagai** (Tokai University, Japan)

16:30-17:00 The role of sugar conjugated binary complexes of amino acids with Cu (II) in controlling the maillard reaction  
**Varoujan Yaylayan** (McGill University, Canada)

### Oral Presentations ~ Glycation and inflammation ~

**Chairpersons: Eric Boulanger** (Lille University, France)  
**Takefumi Mori** (Tohoku University, Japan)

17:00-17:15 Role of RAGE during intestinal inflammation and its therapeutic potential in IBD  
**Mathilde Body-Malapel** (Lille University, France)

17:15-17:30 Acrylamide, a dietary glycated product implicated in intestinal inflammation  
**Cécile Vignal** (Lille 2 University, France)

17:30-17:45 Possible role of glycation in skin aging, inflammaging and photoaging as evidenced by a reconstructed skin model  
**Pageon Hervé** (L'Oreal, France)

17:45-18:00 Alagebrium chloride (ALT-711) short-term therapy for the treatment of experimental type I diabetes  
**Danielle Borg** (University of Queensland, Australia)

**Oral Presentations ~ Chemistry ~**

**Chairpersons: Siyun Wang** (University of British, Canada)  
**Tatiana Bilova** (University of Leipzig, Germany)

18:00-18:15 Amide advanced glycation endproducts – Mechanisms and Relevance  
**Marcus Glomb** (Martin-Luther-University, Germany)

18:15-18:30 A proposal of a browning mechanism via 4-hydroxy-5-methyl-3(2*H*)-furanone (HMFO) in xylose-lysine maillard reaction system  
**Masatsune Murata** (Ochanomizu University, Japan)

18:30-18:45 Model optimization and antioxidant activity of blue maillard reaction products  
**Hao Jing** (China Agricultural University, China)

18:45-19:00 The potential of carbohydrates and corresponding early glycated peptides for the formation of advanced glycation end-products  
**Andrej Frolov** (Universität Leipzig, Germany)

## September 3 (Thursday)

### Plenary Lectures

**Chairperson: Kei Fukami** (Kurume University, Japan)

9:00-9:30      The critical role of reactive dicarbonyls in diabetic complications  
**Mark Cooper** (Baker IDI Heart & Diabetes Institute, Australia)

**Chairperson: Frederik Tessier** (LaSalle Beauvais, France)

9:30-10:00      Acrylamide: Formation in Foods and Reactions during Digestion  
**Vural Gökmen** (Hacettepe University, Turkey)

### Oral Presentations ~ AGEs and fibrosis ~

**Chairpersons: Mark Cooper** (Baker IDI Heart & Diabetes Institute, Australia)  
**Reiko Inagi** (The University of Tokyo, Japan)

10:00-10:15      RAGE: A new frontier in intestinal fibrosis  
**Silvia Speca** (Lille University, France)

10:15-10:30      Overexpression of the AGE detoxification receptor AGER1 results in hepatic fibrosis and hepatic insulin resistance  
**Aowen Zhuang** (University of Queensland, Australia)

10:30-10:45      Hypohalous acids contribute to extracellular matrix damage  
**Paul Voziyan** (Vanderbilt University Medical Center, USA)

10:45-11:00      A novel *in vivo* approach to study endoplasmic reticulum stress induction by advanced glycation end products  
**Christina Piperi** (University of Athens, Greece)

### Oral Presentations ~ Dietary AGEs and analysis ~

**Chairpersons: Masatsune Murata** (Ochanomizu University, Japan)  
**Hao Jing** (China Agricultural University, China)

11:00-11:15      Dietary and lifestyle predictors of skin autofluorescence  
**Melinda Coughlan** (Baker IDI Heart & Diabetes Institute, Australia)

11:15-11:30      Bread mrps and gut microbiota: focus on *enterobacteriaceae*  
**Pascale Gadonna-Widehem** (LaSalle Beauvais, France)

11:30-11:45      Computer vision prediction of furan content in fried starchy model systems  
**Franco Pedreschi** (Pontificia Universidad Católica de Chile, Chile)

**12:00-13:00      Luncheon Seminar    (SHARP Corporation)**

Non-invasive measurement of skin AGEs to evaluate diabetic complications  
**Ryoji Nagai** (Tokai University)

**13:00-              Excursion**

**19:00-              Banquet at KKR Hotel**

## September 4 (Friday)

### Oral Presentations ~ Disease biomarker ~

**Chairpersons:** **Naila Rabbani** (University of Warwick, UK)  
**Yukio Fujiwara** (Kumamoto University, Japan)

- 9:00-9:15 Excess consumption of dietary advanced glycation end products induce changes in gut microbiota which is associated with inflammation  
**Melinda Coughlan** (Baker IDI Heart & Diabetes Institute, Australia)
- 9:15-9:30 MS based quantification of individual glycation sites in plasma proteins as potential type 2 diabetes biomarkers  
**Sandro Spiller** (Universität Leipzig, Germany)

### Oral Presentations ~ Kinetics ~

**Chairpersons:** **Marcus Glomb** (Martin-Luther-University, Germany)  
**Andrej Frolov** (Universität Leipzig, Germany)

- 9:30-9:45 Kinetic of furan formation in fried starchy food model systems: influence of oil adsorption and non-enzymatic browning  
**María Mariotti** (Pontificia Universidad Católica d Chile, Chile)
- 9:45-10:00 Multiresponse kinetic modeling of 1,2-dicarbonyl compound formation in wheat flour-glucose model dough system under dry heating conditions  
**Tolgahan Kocadağlı** (Hacettepe University, Turkey)

### Oral Presentations ~ Clinical evidence and therapeutic approach ~

**Chairpersons:** **Paul Thornalley** (University of Warwick, USA)  
**Ram Nagaraj** (University of Colorado, USA)

- 10:00-10:15 Alpha dicarbonyl derived advanced glycation end products correlate with progression of diabetic nephropathy in type 2 diabetes  
**Kevin Wheelock** (NIDDK, USA)
- 10:15-10:30 Accumulation of advanced glycation endproducts is associated with macrovascular complications and mortality, and glycaemic control with microvascular complications in type 2 diabetes mellitus: the AURORA follow-up study  
**Kadir Yozgatli** (University of Groningen, The Netherlands)
- 10:30-10:45 Methylglyoxal metabolism and lipoprotein modification and link to risk of cardiovascular disease  
**Naila Rabbani** (University of Warwick, UK)
- 10:45-11:00 Development of screening technology for discovery of glyoxalase 1 inducers  
**Mingzhan Xue** (University of Warwick, UK)



**Oral Presentations ~ Glycation ~**

**Chairpersons: Fumitaka Hayase** (Meiji University, Japan)  
**David Kitts** (University of British, Canada)

- 11:00-11:15      Maillard glycation of proteins  
**Hugo Cardoso** (Wageningen University, The Netherlands)
- 11:15-11:30      Monitoring Maillard Reaction during storage of skim milk powders by  
measuring available lysine  
**Kataneh Aalaei** (Lund University, Sweden)
- 11:30-11:45      Quantitative correlation between maillard induced glycation and protein  
enzymatic hydrolysis  
**Yuxi Deng** (Wageningen University, The Netherlands)
- 11:45-12:00      Plant protein glycation: possible effects on physiology and food quality  
**Tatiana Bilova** (University of Leipzig, Germany)

**12:00-14:00      Poster presentation**

**Plenary Lectures**

**Chairperson: Yuichi Kaji** (Tsukuba University, Japan)

- 14:00-14:30      AGEs in basement membrane proteins promote  $\text{tgf} \cdot$ -mediated epithelial to  
mesenchymal transition of cells: implications for age and diabetes associated  
fibrosis  
**Ram Nagaraj** (University of Colorado, USA)

**Chairperson: Vural Gökmen** (Hacettepe University, Turkey)

- 14:30-15:00      Absorption, distribution in the organs and elimination of dietary  
carboxymethyllysine  
**Frederik Tessier** (LaSalle Beauvais, France)

**Oral Presentations ~ Glycation and obesity ~**

**Chairpersons: Vincent Monnier** (Case Western Reserve University, USA)  
**Yasuhiko Yamamoto** (Kanazawa University, Japan)

- 15:00-15:15      Dicarbonyl stress in adipose tissue of mice fed an obesogenic diet  
**Jinit Masania** (University of Warwick, UK)
- 15:15-15:30      Dicarbonyl stress in clinical obesity and effect of a low calorie diet  
**Jinit Masania** (University of Warwick, UK)

- 15:30-15:45      Delayed intervention with pyridoxamine improves metabolic function and prevents adipose tissue inflammation and insulin resistance in high-fat diet-induced obese mice  
**Mathias Van den Eynde** (Maastricht University, The Netherlands)
- 15:45-16:00      Anti-sRAGE autoimmunity in obesity: downturn after bariatric surgery is independent of previous diabetic status  
**Eric Boulanger** (Lille University, France)

**Oral Presentations ~ Antioxidants / Health effects ~**

**Chairpersons:**                      **Pascale Gadonna-Widehem** (LaSalle Beauvais, France)  
**Hiroshi Nishida** (Niigata University of Pharmacy and Applied Life Science, Japan)

- 16:00-16:15      Characterization of anti-inflammatory activity of an advanced glucose-lysine maillard reaction product  
**David Kitts** (University of British, Canada)
- 16:15-16:30      Effects of maillard reaction products on salmonella enterica under stress conditions  
**Siyun Wang** (University of British, Canada)
- 16:30-16:45      The association between dietary intake of advanced glycation endproducts and plasma levels of advanced glycation endproducts: The CODAM study  
**Jean Scheijen** (Maastricht University, The Netherlands)
- 16:45-17:00      Long term modification of microbiota and antioxidant defenses in colon by high formula derived ages in iugr individuals  
**Abdennebi-Najar Latifa** (LaSalle Beauvais, Beauvais, France)

**17:00-              Closing Remark**