Diet is the most important environmental factor for maintaining health and preventing disease. The goals and outcomes of this meeting include: 1) Bringing together researchers from traditionally rather separated disciplines: nutrition, (gen)omics, clinics, physiology, epidemiology, analytics, biomathematics; 2) Advancing nutrition research as a quantitative, holistic and molecular science; 3) Reviewing/challenging classical pre-clinical models and clinical study designs and incorporating improved translational in vitro and in vivo models, human intervention study designs, and innovative new tools/technologies for molecular phenotyping and capture of human diet and lifestyle; and 4) Connecting basic laboratory science to patient- and consumer-relevant outputs in terms of personalized dietary/nutritional counseling and monitoring/diagnostics.

Session Topics:
• The Interaction between Human Genome, Diet and Environment
• Translational Models for Human Nutrition and Health
• Human Nutritional and Lifestyle Interventions
• Capturing and Monitoring Human Individuality
• From Nutrigenomics to Systems Nutrition
• Nutrition 2.0 – Translation into Solutions for Human Health
• Global Nutrition and Sustainability
• Joint Session with Grand Challenges and Keystone Symposia
  plus one workshop

Note that special subsidized registration rates are available to meeting participants in China.
**KEYSTONE SYMPOSIA**

**Human Nutrition, Environment and Health (T1)**

October 14-18, 2015 • China World Hotel • Beijing, China

Scientific Organizers: Martin Kussmann, Hannelore Daniel and Jacqueline Pontes Monteiro

Organized in collaboration with BGI. Sponsored by Nestlé Institute of Health Sciences. Part of the Keystone Symposia Global Health Series, supported by the Bill & Melinda Gates Foundation.


**WEDNESDAY, OCTOBER 14**

Arrival and Registration

**THURSDAY, OCTOBER 15**

Welcome and Keynote Address

*Martin Kussmann*, University of Auckland, New Zealand

*Jacqueline Pontes Monteiro*, Universidade de São Paulo, Brazil

*Hannelore Daniel*, Technische Universität München, Germany

José M. Ordovás, Tufts University, USA

Human Health, Genes and Diet

The Interaction between Human Genome, Diet and Environment

*Martin Kussmann*, University of Auckland, New Zealand

Claudio Franceschi, University of Bologna, Italy

Genes and Environment for Human Longevity

**LEO E. Hood**, Institute for Systems Biology, USA

Systems Medicine and Proactive P4 Medicine: Transforming Healthcare and Nutrition through Wellness

**Liping Zhao**, Shanghai Jiao Tong University, China

Dietary Modulation of Gut Microbiota for Metabolic Dysfunction: From Association to Causation to Translation

Alexander M. Vaiserman, Institute of Gerontology, Ukraine

Short Talk: Developmental Nutritional Programming of Type 2 Diabetes: Evidence from the Ukraine Famine of 1932-1933

Translational Models for Human Nutrition and Health

*Kendal Hirschi*, Baylor College Medicine, USA

Vijayalakshmi Varma, National Center for Toxicological Research, FDA, USA

Adipocyte Responses to Fructose: A Characterization Using Systems Biology Approaches

**Aldons J. Lusis**, University of California, Los Angeles, USA

Systems Genetics Analysis of Host-Gut Microbiota Interactions

Patrick J. Stover, Cornell University, USA

In Search of a Common Pathway for Folic Acid-Responsive Neural Tube Defects, Neurodegeneration and Cancer

Sumei Hu, Institute of Food and Health, University College Dublin, Ireland

Short Talk: The Impact of Milk Derived Bioactives on Glycemic Management

**Poster Session 1**

**FRIDAY, OCTOBER 16**

Human Nutritional and Lifestyle Interventions

*Patrick J. Stover*, Cornell University, USA

Hannelore Daniel, Technische Universität München, Germany

Characterising Normal Human Metabolism

Ben van Ommen, TNO, Netherlands

Diet, Systems Flexibility and My Optimal Health

**Jacqueline Pontes Monteiro**, Universidade de São Paulo, Brazil

The Genomics of Micronutrient Requirements

**Robert Zeigler**, IRRI, USA

Rice as a Tool to Improve Nutrition for the World’s Poor

**Marie Pier Scott-Boyer**, University of Trento Centre for Computational Biol, Italy

Short Talk: Network-Based Analysis of Cofactor-Protein Interactions in Nutrition and Complex Diseases

Namita Parikshit Mahalle, Deenanath Mangeshkar Hospital and Research Center, India

Short Talk: A Study of Nutritional Factors and its Relation with Insulin Resistance and Inflammatory Markers in Patients with Coronary Artery Disease in Indian Population

Capturing and Monitoring Human Individuality

*Chris Evelo*, Maastricht University, Netherlands

Qiang Tian, , USA

Wellness, Diseases and P4 Medicine

Rui Chen, Stanford University, USA

Longitudinal Omics in Humans

**Rick Weiss**, Viocare, Inc, USA

Self-Monitoring of Diet and Lifestyle

Karsten Hiller, University of Luxembourg, Luxembourg

Short Talk: Combining Dried Blood Spots with Stable-Isotope Tracers to Profile Dynamics of Glucose Metabolism in Human Subjects

**SATURDAY, OCTOBER 17**

From Nutrigenomics to Systems Nutrition

*Jim Kaput*, Nestlé Institute of Health Sciences, Switzerland

**Martin Kussmann**, University of Auckland, New Zealand

Omics-Rooted Systems Studies of Human Phenotypes

Lorraine Brennan, University College Dublin, Ireland

Metabotyping in Nutrition Research

**Marija Radonjic**, EdgeLeap, Netherlands

From Disconnected Data to Emerging Insights: Unraveling Complexity of Food-Health Interactions

**Paloma K. Barrera**, INMEGEN, Mexico

Short Talk: Antioxidant-Related Gene Expression Changes by Cocoa Polyphenols Intake

**Xiaojie Tan**, Waters, China

Short Talk: Markers of Health: Molecular Phenotyping Unveils the Healthy Biosignature of “Omega-3” Transgenic Mice

**Nutrition 2.0 - Translation into Solutions for Human Health**

*Jacqueline Pontes Monteiro*, Universidade de São Paulo, Brazil

Juan B. Ochoa, Nestlé Health Science, USA

Personalized Nutrition in Critical Care

**Xu Lin**, Shanghai Institutes for Biological Sciences Chinese Academy of Sciences, China

Genetic Variants, Nutrient-Related Biomarkers on Metabolic Diseases in Chinese

* Session Chair † Invited but not yet accepted  Program current as of December 21, 2017. Program subject to change. Meal formats are based on meeting venue. For the most up-to-date details, visit [www.keystonesymposia.org/16T1](http://www.keystonesymposia.org/16T1).
**Maria-Carlota Dao**, Institute of Cardiometabolism and Nutrition, ICAN, France
*Gut Microbiota and Cardiometabolic Risks*

**Michael Fenech**, CSIRO Food and Nutrition, Australia
*Short Talk: Plasma Micronutrient Levels and Telomere Length in Children*

**Poster Session 2**

**SUNDAY, OCTOBER 18**

**Global Nutrition and Sustainability**

*Ben van Ommen*, TNO, Netherlands

**Jim Kaput**, Nestlé Institute of Health Sciences, Switzerland
*Enabling Nutrient Security and Sustainability through Systems Research*

**Nina V. Fedoroff**, Pennsylvania State University, USA
*The Safety, Nutritional Value, and Sustainability of Organically and Conventionally Grown Food*

**Panel Discussion: Perspectives and Needs for research in the Food, Diet and Health Relationship**

*Martin Kussmann*, University of Auckland, New Zealand

**Jim Kaput**, Nestlé Institute of Health Sciences, Switzerland

**Ben van Ommen**, TNO, Netherlands

**Lorraine Brennan**, University College Dublin, Ireland

**Claudio Franceschi**, University of Bologna, Italy

**Meeting Wrap-Up: Outcomes and Future Directions (Organizers)**

**Workshop**

*Jacqueline Pontes Monteiro*, Universidade de São Paulo, Brazil

**G. Bhanuprakash Reddy**, National Institute of Nutrition, India
*Influence of Micronutrients on Biochemical Pathways Involved in Diabetic Complications*

**Padmapriyadarsini Chandrasekaran**, National Institute for Research in Tuberculosis, India
*Dietary Intake, Nutritional Status and Relationship to Serum Lipids among Antiretroviral Naïve HIV-Infected Children in South India*

**Neil A. Hanchard**, Baylor College of Medicine, USA
*Dna Methylation Changes in Severe Childhood Malnutrition*

**Shuxin Han**, Case Western Reserve University, USA
*Circadian Control of Bile Acid Synthesis by a KLF15-Fgf15 Axis*

**Efrat Monsonego Ornan**, Hebrew University of Jerusalem, Israel
*Nutritional Aspects of Skeletal Development*

**Abena S. Amoah**, Noguchi Memorial Institute for Medical Research, Ghana
*Breastfeeding Duration and Asthma in Urban Schoolchildren in Ghana*

**Edwin Andres Higuita**, Corporación Universitaria Remington, Colombia
*Immunomodulation of T Cells Subpopulations and NK Cells in Elderly Adults during a 12 Weeks Intervention with a Nutritional Complement Enriched with Biotechnologically Ganoderma lucidum Extracted Beta Glucans (ISRCTN 53126301)*

**Pieter Johan Giesbertz**, Technische Universität München, Germany
*Metabolic Signatures of Obesity and Diabetes Revealed in Corresponding Genetic Mouse Models*

**Joint Session with Grand Challenges and Keystone Symposia**

**Godfrey Oakley**, Emory University, USA
*Epidemic Folic Acid Preventable Spina Bifida and Anencephaly--Important Preventable Contribution to Perinatal, Neonatal, Infant and Under 5 Child Mortality*

**Daniel L. Marks**, Oregon Health & Science University, USA
*A Comprehensive Approach to Healthy Birth, Growth and Development*

**MONDAY, OCTOBER 19**

**Departure**