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
on Molecular and Cellular Biology

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, Frontiers Media S.A., Switzerland
* 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, Frontiers Media S.A., Switzerland
Claudio Franceschi, University of Bologna, Italy
Genes and Environment for Human Longevity

Leroy 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 and Rutgers University, USA
Dietary Modulation of Gut Microbiota for Obesity Management: 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 Hirsch, 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. Luiss, 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, Frontiers Media S.A., Switzerland
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 29, 2018. Program subject to change. Meal formats are based on meeting venue.
For the most up-to-date details, visit www.keystonesymposia.org/16T1.
**Global Nutrition and Sustainability**

*Ben van Ommen*, TNO, Netherlands  
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*, Frontiers Media S.A., Switzerland  

**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 Naive 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)*