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.
**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  
**Leroy E. Hood**, Institute for Systems Biology, USA  
**Patrick J. Stover**, Cornell University, USA  
**Aldons J. Lusis**, University of California, Los Angeles, USA  
**FVA**, Institute of Food and Health, University College Dublin, Ireland  
**Vijayalakshmi Varma**, National Center for Toxicological Research, USA  
**Jim Kaput**, Nestlé Institute of Health Sciences, Switzerland  
**Namita Parikshit Mahalle**, Deenanath Mangeshkar Hospital and Research Center, India  
**José M. Ordovás**, Tufts University, USA  
*Human Health, Genes and Diet*

**Translational Models for Human Nutrition and Health**

**Kendal Hirschi**, Baylor College Medicine, USA  
**Vijayalakshmi Varma**, National Center for Toxicological Research, 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  
**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*  
**Marijan 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  
*Personalized Nutrition in Critical Care*  
**Juan B. Ochoa**, Nestlé Health Science, USA  
**Xu Lin**, Shanghai Institutes for Biological Sciences Chinese Academy of Sciences, China  
*Genetic Variants, Nutrient-Related Biomarkers on Metabolic Diseases in Chinese*
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)