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*, Saria International, Switzerland

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

*Hannelore Daniel*, Technische Universität München, Germany

José M. Ordovás, Tufts University, USA

**The Interaction between Human Genome, Diet and Environment**

Claudio Franceschi, University of Bologna, Italy

*Martin Kussmann*, Saria International, Switzerland

Leroy E. Hood, Institute for Systems Biology, USA

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

Piping 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: The Impact of Milk Derived Bioactives on Glycemic Management**

Jim Kaput, Nestlé Institute of Health Sciences, Switzerland

**Poster Session 1**

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**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

Wells, 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

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**SATURDAY, OCTOBER 17**

**From Nutrigenomics to Systems Nutrition**

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

**Martin Kussmann**, Saria International, Switzerland

Omics-Rooted Systems Studies of Human Phenotypes

Claudia Franceschi, University of Bologna, Italy

Metabotyping in Nutrition Research

Lorraine Brennan, University College Dublin, Ireland

Marjana Radonjic, EdgeLeap, Netherlands

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

Paloma K. Barrera, Nestlé Health Science, USA

**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**

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* Session Chair † Invited but not yet accepted     Program current as of October 27, 2018. 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-Carolota 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, Saria International, Switzerland
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