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.
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, Nuritas Ltd., Ireland
* 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, Nuritas Ltd., Ireland
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 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
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 COSBI, Italy
Short Talk: Network-Based Analysis of Cofactor-Protein Interactions in Nutrition and Complex Diseases
Namita Parikhsh 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, Nuritas Ltd., Ireland
Omics-Rooted Systems Studies of Human Phenotypes
Lorraine Brennan, University College Dublin, Ireland
Metabotyping in Nutrition Research
Marijana 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 Gautier, Nestle Health Science S1216, 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
Maria-Carolita Dao, Institute of Cardiometabolism and Nutrition, ICAN, France
Gut Microbiota and Cardiometabolic Risks

* Session Chair † invited but not yet accepted Program current as of May 15, 2021. Meal formats are based on meeting venue. For the most up-to-date details, visit https://www.keystonesymposia.org.
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, Nuritas Ltd., Ireland
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
Padmapriyadarshini 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, Corporacion 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
Metabolomic 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