13th Congress of the International Society of Nutrigenetics and Nutrigenomics
NNEdPro, University of Cambridge, UK | July 12–13, 2019

Integrating the omics data of nutrition science
Expanding the evidence base for use in practice

The time has come for the use of nutrigenomics in practice, but with which specific information, and what interventions should follow? This meeting will be the place to talk to the experts, learn about best practices, and network with colleagues from around the world.

**ISNN 2019 Program Committee**

Donato Angelino  
Emma Beckett  
Adela Chirita  
Daniele Del Rio  
Martin Kohlmeier  
Mihai Niculescu

**THURSDAY July 11th**

**NNEdPro Summit at Homerton College** 14:30–15:30

Teaching students and health professionals the foundations and practice of nutrigenomics

- NGx case studies as teachable moments in health professionals' education  
  Martin Kohlmeier
- IUNS task force efforts for better NGx education and practice  
  J. Alfredo Martinez
- The state of nutrigenomics education  
  Agata Chmurzynska
- Nutrigenetics education in Eastern Europe: opportunities and challenges  
  Mihai Niculescu

ISNN 2019 events will take place in the William Harvey Lecture Theatre at the School of Clinical Medicine, co-located with Addenbrooke’s Hospital on the Cambridge Biomedical Campus, and nearby Homerton College.

The NNEdPro Global Centre for Nutrition and Health in Cambridge is delighted to be co-hosting the 13th ISNN Congress alongside the 5th edition of its annual international summit on medical and public health nutrition education and research which features an ISNN mini symposium setting the tone for the main congress.
FRIDAY July 12th

ISNN Congress Registration at University of Cambridge School of Clinical Medicine .................................................. 8:00

Opening of the 2019 Congress of the International Society of Nutrigenetics/Nutrigenomics ............................................. 8:30

MORNING SESSION chaired by Louis Pérusse .............. 8:40–10:30

Weaving together omics and food intake patterns Martin Kohlmeier
Keynote Lecture: Can genetics teach us about the causes and consequences of obesity? Sadaf Farooqi
Nutrigenomics of human energy balance Competition winner
Exercise intensity-dependent regulation of FTO mRNA expression Jessica Danaher
Greek adolescents with higher BMI have better diet adherence Maria Kafyra

★ Break | Meet with poster presenters ................................. 10:30

MIDDAY SESSION chaired by Daniele Del Rio ............ 11:00–13:00

Biological basis of human variability: genetic influences on weight loss John Mathers
Genetics of obesity and eating behavior Louis Pérusse
Novel genotype-driven weight loss strategies Lu Qi
Pharmconutrigenetics of antipsychotic-induced weight gain Olivia Dong

Reports of ISNN Activities .................................................. 12:20

Presentation of the ISNN textbook
Principles of Nutrigenetics and Nutrigenomics Raffaele De Caterina

Summary of Nutrigenomics education session at the NNEdPro Summit Sumantra Ray

★ Lunch Break | Meet with poster presenters ........................ 13:00

FRIDAY July 12th

AFTERNOON SESSION I chaired by Alfredo Martinez ...... 14:00–17:00

Keynote Lecture: The interaction of dietary polyphenols with the human gut microbiota: interindividual variability and effects on human health Daniele Del Rio
Human genetics of the gut microbiome Competition winner
The postprandial metabolome: genotype versus phenotype Guy Vergères
Responder status of the gut microbiome for calcium absorption Corrie Whisner

★ Tea break | Meet with poster presenters .......................... 15:30

AFTERNOON SESSION II chaired by Martin Kohlmeier ..... 16:00–17:00

Nutrigenetics of the gut microbiome, a cautionary tale Hannelore Daniel
Nutrigenetics of the gut microbiome, intestinal processing of bioactives Katie Meyer
Anchoring of the gut microbiome by the host genome Victor Schmidt
Genotype-specific dietary effects on the gut microbiome J. Alfredo Martinez

Reception & Award Ceremony ................................................ 17:30

SATURDAY July 13th

ISNN Congress Registration at University of Cambridge School of Clinical Medicine .................................................. 8:00

WORKING GROUPS ............................................................. 8:30

Genetics, Epigenetics, and genomics of Vitamin D Emma Beckett, Martin Kohlmeier, Inez Schoenmakers
Choline Steven Zeisel, Mihai Niculescu, Katie Meyer, Agata Chmurzynska, Olivia Dong, Raffaele De Caterina

ISNN NGX Training Course ................................................ 11:30–16:00
**Vitamin D Working Group**

**Mission:** Consider how specific genetic signatures are suitable for use in practice to estimate likely choline needs.

**Choline Working Group**

**Mission:** Consider how specific genetic signatures are suitable for use in practice to predict likely higher-than-average vitamin D needs.

Vitamin D recommendations are still far from settled. An important reason is the recognition that the significance of adequate vitamin D status extends well beyond bone health and is now thought to also encompass a range of infectious and non-communicable diseases. Another reason is the mounting evidence that requirements can greatly differ between individuals, not least due to several known common genetic variants.

The ISNN Vitamin D Working Group will critically examine proposed rules for the use of specific genetic signatures to predict likely risk of vitamin D deficiency. For each proposition the evidence needs to be examined whether carriers of a risk signature in a particular population or group are likely to substantially benefit from the proposed rather than otherwise recommended exposure amounts.

**Proposed rule GC:** For each rs2282679G/rs4588A allele in people with European or Asian ancestry increase recommendation for vitamin D intake or equivalent UVB exposure by 8%.

**Proposed rule VDR:** For those homozygous for BsmI (rs1544410; G; variant) or FokI (rs2228570; A; ancestral) increase recommended intake from food or supplements only (not via UVB exposure) by 800-2800IU.

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KEYNOTE SPEAKERS

Sadaf Farooqi, PhD, FRCP, FMedSci
Sadaf Farooqi was a Wellcome Trust Senior Research fellow in Clinical Science, professor of Metabolism and Medicine at the University of Cambridge and a consultant physician at Addenbrooke’s Hospital in Cambridge, UK. Her works include using a candidate gene approach in patients with severe, early onset obesity recruited to the Genetics Of Obesity Study (GOOS). Her most recent work includes using neuroimaging particularly functional MRI to study the brain response to hunger and satiety in defined subsets of patients with molecularly defined causes for their obesity.

Daniele Del Rio, PhD
Daniele is the Head of the University of Parma School of Advanced Studies on Food and Nutrition, in Italy. He also acts as Scientific Director of the Need For Nutrition Education/Innovation Programme Global Centre for Nutrition & Health, in Cambridge, UK. He serves as Editor in Chief of the International Journal of Food Sciences and Nutrition (Taylor & Francis). He is a proud Commandatore (Knight Commander) of the Order of Merit of the Italian Republic, and he is proudly growing a team of brilliant scientists.

Emma Beckett, PhD (FoodSci), MScMgt, GDipClinEpi, BBiomedSci (HonsI)
Dr. Beckett is a Lecturer in Food Science and Human Nutrition and a National Health and Medical Research Council Early Career Fellow at the University of Newcastle, Australia. Emma studies gene-nutrient-environment interactions, particularly the consequences of these interaction for healthy aging. Her work focuses on taste receptors, vitamin D and folate and how these and genomic factors interact with exposures such as UV-light and the microbiome.

Raffaele De Caterina, MD, PhD, FESC
Raffaele De Caterina is Professor of Cardiology at the University of Pisa, and Director, University Cardiology Division, at Pisa University Hospital. He is also Scientific Advisor for the “G. Monasterio” Foundation, Pisa, Italy. He has been Vice-President of the European Society of Cardiology (2008-2010) and President (2009-2013) of the International Society on Nutrigenetics/Nutrigenomics. He is Editor-in-Chief of the journal Vascular Pharmacology, and author of >600 peer-reviewed manuscripts. Major research interests: Cardiovascular Pharmacology, Atrial Fibrillation, Coronary Artery Disease, Cardiovascular Thrombosis, Nutrigenetics and Nutrigenomics.

Agata Chmurzynska, PhD, MSc
Dr. Chmurzynska is Associate Professor and Director of the Human Nutrition of Dietetics Institute at Poznan University of Life Sciences. She received her M.Sc. in Biotechnology from Poznan University of Life Sciences and her Ph.D. in genetics from Adam Mickiewicz University in Poland. Her research interests include fetal programming, determination of body mass, links between one-carbon and lipid metabolism, choline, and personalized nutrition.

SPEAKERS

Using twitter during ISNN 2019:

Hashtags (e.g., #ISNN2019) are used at the end of tweets to mark the message and allow for easy searching. For example, you can search #ISNN2019 and see all tweets containing that hashtag. Tweet comments and/or questions during specific sessions. During Q&A sessions, please use the first tweet to identify and introduce yourself. Your second tweet should include your question. Don’t forget to include the appropriate #ISNN2019 hashtag! You can also search twitter for the session hashtag to see what questions have already been asked.
**SPEAKERS**

**JESSICA DANAHER, PhD, MS**  
In 2017 Dr. Danaher completed her PhD at Victoria University, exploring human obesity genetics and skeletal muscle metabolism using nutrition and exercise stressors. In the final two years of her doctorate, Jessica simultaneously completed a Masters of Dietetics at Deakin University, and she is now an Accredited Practicing Dietitian. Jessica is currently a Lecturer in Nutrition at RMIT University in Australia.

**HANNELORE DANIEL, PhD**  
Prof. em. Dr. Hannelore Daniel held the Chair of Physiology of Human Nutrition at the Technical University of Munich. Her main research interests are control mechanisms in mammalian metabolism; studied in model organisms and humans by using molecular techniques and metabolomics for better phenotyping. Some of the research relates directly to approaches for personalised nutrition. Hannelore is a member of the German National Academy of Sciences and an advisor for national and international funding agencies, research centers and the EU commission. She has received numerous scientific awards including the “Pro meritis-Award” and the Silver medal of the State of Bavaria.

**OLIVIA DONG, PhD, MPH, RD, LDN**  
Olivia is a Genomic Medicine T32 Postdoctoral Fellow in Dr. Deepak Voora’s group at Duke University’s Center for Applied Genomics and Precision Medicine. Her research is focused on optimal delivery of genetic information within health systems. She is a registered dietitian and a licensed dietitian nutritionist in the state of North Carolina. Olivia has been integrating her training in nutrition and the pharmaceutical sciences to develop the pharmaonutriogenetics field within precision medicine.

**MARIA KAFYRA, MSc, RD**  
Maria Kafyra is a dietitian/nutritionist and a current research associate in Professor George Dedoussis’s team in the Department of Nutrition and Dietetics of Harokopio University. With a Bachelor’s Degree from the same department, she moved on to acquire her Master’s Degree in Human Nutrition, from the University of Sheffield. She has engaged in various research projects and speaks five languages.

**MARTIN KOHLMEIER, MD, PhD**  
Professor, UNC Nutrition Research Institute, Kannapolis, North Carolina; and Department of Nutrition, Schools of Medicine and Public Health, University of North Carolina at Chapel Hill, and visiting fellow, Wolfson College Cambridge. President of ISNN. Editor-in-Chief of BMJ Nutrition, Prevention & Health. Dr. Kohlmeier researches genetic variation as a modulator of nutrient disposition and the translation of nutrigenetic information into clinical practice.

**JOHN MATHERS, PhD**  
John Mathers is Professor of Human Nutrition and Director of the Human Nutrition Research Centre in Newcastle University, UK. His major research interests are in understanding how eating patterns influence risks of common age-related diseases such as heart disease, diabetes, dementia and bowel cancer. He led the Food4Me intervention study that tested the usefulness of personalised interventions in improving dietary choices and health. He was a founding member, and is currently Chair, of NuGO (the European Nutrigenomics Organisation).
**SPEAKERS**

**J. Alfredo Martínez, MD, PhD**
Dr. Martínez has been involved in landmark intervention trials such as DIOGENES, NUGENOB, FOOD4ME, PREDIMED and PREVIEW. Dr. Martínez is chair of the department of nutrition, physiology and food science at the University of Navarra. He is currently President of the International Union of Nutritional Sciences (IUNS) and has been recipient of several important awards including Hippocrates and Dupont prizes.

**Katie Meyer, ScD**
Dr. Katie Meyer is a nutritional and cardiovascular disease epidemiologist. Her research focuses on diet-related health behaviors and nutritional risk factors for cardiometabolic disease. She is a recent recipient of a Research Scientist Development Award from the National Heart, Lung, and Blood Institute (NHLBI) to study the gut microbiome, nutrient metabolites, and cardiovascular disease in the Coronary Artery Risk Development in Young Adults Study (CARDIA).

**Mihai Niculescu, MD, PhD**
The activity of Dr. Mihai Niculescu consists of academic research, teaching, and the development and implementation of nutrigenetic tools for health care providers and nutritionists. His current work involves the development of his company in the field of nutrigenetics (Advanced Nutrigenomics, Cary, North Carolina), and his work in Timisoara, Romania, where he is the principal investigator of a 2M euro grant with EU funds, at the Victor Babes University of Medicine and Pharmacy. He is the author of more than 60 scientific articles and book chapters, and the editor of a book on nutritional epigenetics. He is a peer reviewer for more than 40 scientific journals, and a grant reviewer for NIH (USA), MRC and DIABETES (UK), NWO (The Netherlands), KAUST (Saudi Arabia), and The QATAR Fund (Qatar).

**Louis Pérusse, PhD**
Dr. Pérusse is a professor and Director of the Department of Kinesiology at the Faculty of Medicine in Laval University, Québec. He is a genetic epidemiologist focusing on the genetics of complex diseases such as obesity, diabetes and cardiovascular diseases. Dr. Pérusse is a member of the Institute of Nutraceutical and Functional Foods (INAF) of Laval University.

**Lu Qi, MD, PhD**
Dr. Qi is HCA Regents Distinguished Chair and Professor of Epidemiology in Tulane University School of Public Health and Tropical Medicine and Director of Tulane University Obesity Research Center. He is also Adjunct Professor of Nutrition at Harvard T.H Chan School of Public Health. His research focuses on nutritional epidemiology, nutrigenomics and nutrigenetics of obesity, diabetes, and cardiovascular diseases.

**Sumantra Ray, MBBS, MPH, MD, RNutr**
Sumantra “Shumone” Ray is a medical doctor and registered nutritionist with interests in cardiovascular disease prevention and health systems education. Since 2008, Shumone has been Founding Chair and Executive Director of the NNEdPro Global Centre for Nutrition and Health. He is now Flagship Project Co-Lead in Cambridge University for a Global Challenges Research Fund supported programme of work in India. Shumone is a Governing Body Fellow of Wolfson College Cambridge and P/T Ulster Professor of Global Nutrition, Health and Disease. He recently became Founding Co-Chair, along with the British Medical Journal (BMJ) Group, of BMJ Nutrition, Prevention and Health and works as a Consultant to the Nutrition Directorate of the WHO in Geneva.
Victor Schmidt, PhD
Dr. Schmidt is a postdoctoral scientist in Ruth Ley’s group at the Max Planck Institute, Department of Microbiome Sciences in Tübingen, Germany. He currently studies the interaction between the human microbiome, ethnicity, and diet, with a particular focus on lactose metabolism and dairy consumption. He is interested in how such data may guide efforts in personalized nutrition and microbial therapeutics.

Corrie Whisner, PhD
Corrie Whisner is an Assistant Professor of Nutrition in the College of Health Solutions at Arizona State University. Her research focuses on the effects of diet on human metabolism during periods of pediatric growth and subsequent risk for osteoporosis and obesity later in life. Dr. Whisner received both her BS and PhD from Purdue University in West Lafayette, IN. Prior to joining the faculty at ASU, she was a USDA NIFA postdoctoral fellow in the Division of Nutritional Sciences at Cornell University in Ithaca, NY where she studied how maternal diet impacts in utero development among pregnant adolescents.

Inez Shoenmakers, PhD, MSc
Dr. Inez Shoenmakers is a Senior Lecturer at the Medical School, University of East Anglia. She has more than 20 years’ experience investigating the endocrine aspects of bone biology and vitamin D metabolism. Her work has contributed to the latest recommendations on vitamin D requirements and safety, formulated by the UK Scientific Advisory Committee on Nutrition and European Food Safety Authority and is an advisor to the WHO.

Steven Zeisel, MD, PhD
Dr. Zeisel is the Kenan Distinguished University Professor in the Department of Nutrition in the Gillings School of Global Public Health and School of Medicine at the University of North Carolina at Chapel Hill. Dr. Zeisel is the Director of the UNC Nutrition Research Institute and Director of the UNC Nutrition and Obesity Research Center (one of 12 centers of excellence funded by the US NIH), North Carolina. Dr. Zeisel and his research team focus on the essential nutrient choline and why there are individual differences in nutrient metabolism, using new approaches in nutrigenetics, epigenetics and in metabolomics.

Guy Vergères, PhD
Dr Guy Vergères is head of the Functional Nutritional Biology Group and deputy head of the Food Microbial Systems Research Division at Agroscope, Federal Department of Economic Affairs, Education and Research in Bern Switzerland. He is also a lecturer on nutrigenomics at ETH-Zurich and the University of Lausanne and a member of the Management Board of the nutrigenomics organization NuGO. The translational research of Guy Vergères focuses on the impact of food fermentation, using milk as a model food, on human metabolism, making use of the recent advances in analytical strategies in food (foodomics) and nutrition (nutrigenomics) sciences.

Read the presentation summaries and the abstracts for accepted posters at https://www.karger.com/Journal/Home/232009
Thanks to our supporters!

We hope to see you next year at the 14th Congress of the ISNN in Timișoara, Romania.

September 23-25, 2020