



**ISNN**

**International Society on Nutrigenetics/Nutrigenomics**

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**Welcome from the Congress chairmen**



Dear Colleagues,

It is a great pleasure to welcome you in Geneva to the **2<sup>nd</sup> Congress of the International Society on Nutrigenetics/Nutrigenomics**.

As organizers of the Congress we wish to underline the great opportunities provided by putting together world leading experts on the fast-moving area of **Nutrigenetics** (how our genetic constitution affects the response to nutrients) and **Nutrigenomics** (how nutrient affect the expression of our genes). Far from being simple “building blocks” for proteins, fats and sugars in our body, nutrients are more and more regarded as fine modulators of our ability to react to the environment, and as interacting with our genes in providing physiological or pathological responses to their intake.

Nutrigenetics and nutrigenomics is the fastest moving area in **Nutrition**, and overlaps its interest with virtually any discipline, including **Cardiology, Lipidology, Diabetes, Rheumatology and Bone Diseases (osteoporosis), Cancer**, and other chronic disorders. Research in this field stems from both animal models and clinical observations, which will both be presented and discussed at this congress, in particular with a pre-meeting workshop dedicated to the **Role of Omega-3 fatty Acids Using the Fat-1 Mouse**. In addition we will dedicate an entire symposium to the **Ethical Aspects of Nutrigenetics and Nutrigenomics**, which will discuss some most important questions related to the individual prediction of susceptibility to disease and response to the environment.

We warmly welcome you to the International Geneva Conference Center and thank you for participating to this major event in the **Nutrigenetics/Nutrigenomics** field.

Serge Ferrari, MD  
Professor of Osteoporosis Genetics  
Geneva University Hospital, Faculty of Medicine  
& WHO Collaborating Centre for  
Osteoporosis Prevention  
Switzerland

Raffaele De Caterina, MD, PhD  
Professor of Cardiology  
“G. d’Annunzio” University, Chieti  
&  
CNR Institute of Clinical Physiology,  
Pisa, Italy

## PRE-MEETING PARALLEL WORKSHOPS

**Monday, October 6**

### 10:00-12:30 am - Workshop I

#### **An Introduction to Nutrigenetics and Nutrigenomics**

Co-Chairs : Raffaele De Caterina (Chieti, Italy) and Serge Ferrari (Geneva, Switzerland)

- O1 - Genes and Snips: a few tips *Steve Humphries (London, UK)*
- O2 - Nature and Nurture in Susceptibility to chronic disease *Serge Ferrari (Geneva, Switzerland)*
- O3 - Gene expression in response to diet: Nutrigenomics as a science *Guy Vergères (Bern, Switzerland)*
- O4 - Gene-nutrient interactions: Practice implications for health professionals? *Marjanne Senekal (Cape Town, South Africa)*
- O5 - An overview of the congress *Raffaele De Caterina (Chieti, Italy)*

### 10:00-12:30 am - Workshop II

#### **Unraveling the Role of Omega-3 fatty Acids Using the Fat-1 Mouse**

Co-chairs : Artemis Simopoulos (Washington DC, USA) and Jing X. Kang (Boston, MA, USA)

- O6 - The *Fat-1* Mouse Model and Omega-3 Research: An Overview, *Jing X. Kang (Boston, MA, USA)*
- O7 - Lipidomic Analysis of *Fat-1* Transgenic Mice, *D. Makoto Arita (Tokyo, Japan)*
- O8 - Proteomic Analysis of *Fat-1* Transgenic Mice, *Baukje de Roos (Aberdeen, UK)*
- O9 - Studying the Health Effects of Omega-3 using the Fat-1 Mice, *David Ma (Guelph, Canada)*
- O10 - FAT-1 Mice Are Protected from Acute Lung Injury, *Konstantin Mayer (Giessen, Germany)*
- O11 - Enhanced Neurogenesis and Neuritogenesis in the Fat-1 Mice, *Chengwei He (Boston, MA, USA)*
- Discussion & Summary

## CONGRESS PROGRAM-Day 1

**Monday, October 6**

### **2pm: Opening of the Congress**

Artemis Simopoulos (Washington, DC, USA) – ISNN President

Raffaele De Caterina (Chieti, Italy) – ISNN Vice-President, Scientific Program Co-Chair

Serge Ferrari (Geneva, Switzerland) – Scientific Program Co-Chair and Local Organizing Committee

### **2:15-3:00 pm: Opening Lecture**

Chair: Serge Ferrari (Geneva, Switzerland)

- O12 - Genomes, evolution and disorder, *Stylianos Antonarakis (Geneva, Switzerland)*

### **3:00-4:30 pm: Symposium 1: Genetic Variation, Atherosclerosis and Dietary Response**

Chairs: Edwin Mariman (Maastricht, The Netherlands) and Steve E. Humphries (London, UK)

- O13 - 5-lipoxygenase (5-LO) and 5-LO activated protein (FLAP) polymorphisms, atherosclerosis, and the modulation by omega-6 and omega-3 fatty acids , *Homan Allayee (Los Angeles, CA, USA)*
- O14 - Apolipoprotein E4 and response to nutrients, *Philippa Talmud (London, United Kingdom)*
- O15 - Genetic Variation, Plasma Lipids and Cardiovascular Risk , *José M. Ordovas (Boston, MA, USA)*

**4:30-5:00 pm : Coffee break**

**5:00-6:00 pm: Oral Communications (I)**

Short presentations from selected abstracts

**6:15-7:45 pm: Sponsored symposium I (Nestlé, Switzerland):**

**Nutrigenomics and Biomarkers for Health**

Chairs : Laurent Fay (Lausanne, Switzerland), Serge Ferrari (Geneva, Switzerland)

- O16 - Nutritional genomics for public and personal health , *Hannelore Daniel (Munich, Germany)*
- O17 - Nutrigenomics and personalized nutrition – Science and concepts, *Martin Kussmann (Lausanne, Switzerland)*
- O18 - A systems biology perspective on nutrition and health, *Steven Naylor (Bloomington, IN, USA)*

**8:00-9:00 pm: WELCOME RECEPTION AND OPENING OF POSTER EXHIBIT**

**CONGRESS PROGRAM-Day 2**

**Tuesday, October 7**

**8:30 am : State of the Art Lecture 1**

Chair: Raffaele De Caterina (Chieti, Italy)

- O19 - Genetic and Environmental determinants of Oxidative Stress, *Steve E. Humphries (London, UK)*

**9:15-10:45 am: Symposium 2: Genes, Diet and Obesity**

Chair: Louis Pérusse (Montreal, Canada) and John Milner (Rockville, MD, USA)

- O20 - Regulation of gene expression in adipose tissue by obesity and nutrition, *Dominique Langin (Toulouse, France)*
- O21 - Gene-nutrient interactions in the metabolic complications of obesity, *Marie-Claude Vohl (Montreal, Canada)*
- O22 - Epigenetics, genetics and nutrigenomics: signatures in obesity, *J. Alfredo Martinez (Pamplona, Spain)*

**10:45-11:15 am: Coffee break**

**11:15-12:45 am: Symposium 3: Control of gene expression by fatty acids**

Chairs: Lisa Spence (Rosemont, IL, USA) and Philippa Talmud (London, UK)

- O23 - Effects of a short-term high-fat diet on gene expression and function in the skeletal muscle  
*Edwin Mariman (Maastricht, The Netherlands)*
- O24 - Control of expression of pro-inflammatory genes by omega-3 fatty acids, *Raffaele De Caterina (Chieti, Italy)*

O25 - Omega-3 fatty acids as sources of bioactive mediators, *Charles N. Serhan (Boston, MA, USA)*

**1:00-2:30 pm: Poster viewing (lunch break)**

**2:30-3:00 pm: State-of-the art lecture 2**

Chair: Nikos Yannakouris (Athens, Greece)

O26 - Large-scale evidence on lifestyle and gene-environment effects in biobanks and genetic consortia, *John PA Ioannidis (Ioannina, Greece)*

**3:00-4:30 pm: Symposium 4: Gene-dietary interactions in osteoporosis**

Chair: Sergio Muntoni (Cagliari, Italy) and René Rizzoli (Geneva, Switzerland)

O27 - Folate, methylene tetra-hydro-folate reductase polymorphisms and osteoporosis, *Douglas Kiel (Boston, MA, USA)*

O28 - Role of bone expressed genes in the skeletal response to dietary fat and physical activity  
*Serge Ferrari (Geneva, Switzerland)*

O29 - Epigenetic regulation of skeletal active genes by nutritional factors during pregnancy  
*Cyrus Cooper (Oxford, UK)*

**4:30-5:00 pm: Coffee break**

**5:00-6:00 pm: Oral Communications (II)**

- Short presentations from selected abstracts

**6:15-7:30 pm: ISNN board and business meeting**

### CONGRESS PROGRAM-Day 3

**Wednesday, October 8**

**8:30-9:15 am: State of the Art Lecture 2**

Chair: Artemis P. Simopoulos (Washington DC, USA)

O30 - Gene-diet interactions in cardiovascular disease - findings from studies in the Eastern Finnish founder population", *Jukka Salonen (Helsinki, Finland)*

**9:15-10:15 am: Symposium 5: Transgenic Mouse Models for Gene-Nutrient Interactions**

Chair: Jing X. Kang (Boston, MA, USA)

O31 - The Fat-1 mouse as a model for high omega-3 fatty acid intake, *Jing X Kang (Boston, MA, USA)*

O32 - Mouse models for PPAR effects , *Walter Wahli (Lausanne, Switzerland)*

**10:15-10:45 am: Coffee break**

**10:45-11:15 am: Special lecture**

Chair: John PA Ioannidis (Ioannina, Greece)

O33 - A genetic score for CHD risk prediction, *Nikos Yannakouris (Athens, Greece)*

**11:15 am -1:00 pm: Symposium 6: Nutrigenetics/nutrigenomics of cancer**

Chairs: Michel de Lorgeril (Grenoble, France) and Millie E. Hughes-Fulford (San Francisco, CA, USA)

- O34 - Challenges in Nutrigenetics/Nutrigenomics and Cancer Prevention, *John Milner, (Rockville, MD, USA)*
- O35 - Gene-dietary interactions and the risk of colo-rectal cancer, *Martha L Slattery (Salt Lake City, Utah, USA)*
- O36 - Fish consumption, omega-3 FA and the risk of cancer - cohort and case-control studies  
*Alessandra Tavani (Milan, Italy)*
- O37 - Potential mechanisms for the influence of omega-3 fatty acids on the risk of some types of cancer  
*Philippe Bounoux (Tours, France)*

**1:00-2:30 pm: Poster viewing (lunch break)**

**2:30-4:30 pm: Symposium 7. Ethical, Social, and Legal Issues in Nutrigenomics and Nutrigenetics**

Chairs: Antonio Velazquez (Mexico City, Mexico) and Marjanne Senekal (Cape Town, South Africa)

- O38 - Introduction, *Antonio Velazquez (Mexico City, Mexico)*
- O39 - Learning from the past and looking to the future, *Alex Capron (Los Angeles, CA, USA)*
- O40 - Differentiating individuals and populations: Justice in nutrigenomics, *Renato Mariani Costantini (Chieti, Italy)*
- O41 - Over-selling the possibilities: Ethical and legal controls on nutrigenetics/genomics, *David Castle (Ottawa, Canada)*
- O42 - Building a Business in Nutrigenetics - Lessons from the Real World, *Rosalynn Gill (Boulder CO, USA)*

**4:45 pm : ADJOURN**

**7 pm : “The Piano goes to the Opera “, piano recital performed by Nadia Weintraub**

**GALA CONCERT at the Music Conservatory of Geneva, sponsored by the Columbus Paradigm Institute.**

**THURSDAY OCTOBER 9th**

Satellite workshop on Columbus Concept, October 9th.

(6th ICCC = International Congress on the Columbus Concept)