

**Last day to submit your abstract May 18th.**

## **Oxygen Club of California World Congress, Alba, Italy, June 20-23, 2012**

The 2012 OCC Oxidants and Antioxidants in Biology congress will focus on **Cell Signaling and Nutrient-Gene Interactions**. In keeping with our tradition, a unique cadre of scientists will present cutting-edge **program** covering transcriptional regulation of antioxidant defenses, the interaction of nutrients with genes and epigenetics, novel roles of micronutrients with emphasis on flavonoids and the Mediterranean diet, lipid oxidation and signaling, and the role of epigenetics and metabolism in aging (**see below speakers and themes**).

The scientific atmosphere will be complimented by poster viewing in the San Domenico church, a XIV<sup>th</sup> century gothic monument. A medley of famous opera arias will be performed in the Teatro Sociale, an impressive XIX<sup>th</sup> century building. At the Gala Dinner, awards and prizes will be presented to young investigators and distinguished scholars: the **Science and Humanity Award, Aging Research Award, and the Health Sciences Prize**.

Please visit the **[Congress website](#)** for complete information.

*Conference Organizers:* GIUSEPPE POLI & MARET TRABER

*Honorary President:* LESTER PACKER

### **Speakers and Topics**

#### **Keynote Lecture**

*Richard Weindruch*      Metabolic reprogramming, caloric restriction, and aging

#### **I – NRF2-Driven Regulation of Antioxidant Defenses**

*Masayuki Yamamoto*      Molecular mechanisms of Keap1-Nrf2 pathway in stress response and cancer evolution

*Thomas Kensler*      Keap1-Nrf2 signaling: targets for disease prevention

*Giovanni Mann*      Nrf2-mediated redox signaling in endothelial cells: consequences for cardiovascular disease

*Young-Joon Surh*      Adaptive survival response mediated by the Nrf2-induced HO1 upregulation

*Regina Brigelius-Flohé*      Nrf2 target genes are induced under marginal selenium deficiency

## II – Nutrient-Gene Interactions and Epigenetics

<i>Ben van Ommen</i>	Micronutrient genomics: an overview
<i>Steven Zeisel</i>	Functional genetic polymorphisms in genes of choline metabolism
<i>Frederick E. Domann</i>	The redox basis of epigenetic control
<i>Emily Ho</i>	Dietary histone deacetylase inhibitors for cancer prevention
<i>Bharat B. Aggarwal</i>	Epigenetic changes induced by curcumin
<i>Irfan Rahman</i>	Redox epigenetic modifications by dietary bioactive compounds in inflammation

## III – Novel Roles of Micronutrients

<i>Vittorio Calabrese</i>	Redox regulation of cellular stress response in aging and neurodegenerative disorders: role of hormesis and vitagens
<i>Helen McNulty</i>	MTHFR genotype and riboflavin: a novel gene-nutrient interaction affecting blood pressure
<i>David Heber</i>	Biomedical action of pomegranate ellagitannins
<i>Louis Casteilla</i>	Redox metabolism, coenzyme Q, and obesity
<i>David Carlson</i>	Redox modulation of cell signaling by lipoic acid and derivatives. Simultaneous analysis of the effects of chirality and neutral versus charged amide substitution in forty-five pathways
<i>Andrew Levy</i>	Pharmacogenomic interactions between vitamin E and the haptoglobin genotype in the prevention of diabetic vascular disease
<i>Patricia Oteiza</i>	Zinc and redox signaling in the developing brain

## IV – Lipid Oxidation and Signaling

<i>Etsuo Niki</i>	Physiological and unregulated membrane lipid oxidation
<i>Laszlo Nagy</i>	Transcriptional interactions involving hormone nuclear receptors shaping macrophage polarity and activity
<i>Gabriella Leonarduzzi</i>	Lipid oxidation-mediated mechanisms of destabilization of the atherosclerotic plaque
<i>Luigi Iuliano</i>	Oxysterols in the pathogenesis of inflammatory-based disease
<i>Francisco Schopfer</i>	Electrophilic nitro-fatty acids as anti-inflammatory mediators in the vascular compartment
<i>Oren Tirosh</i>	High cholesterol diet-induced impairment of glucose homeostasis in mice with fatty liver: role of inducible NOS
<i>Gaetano Serviddio</i>	Non-alcoholic fatty liver disease, oxidative stress, and mitochondria
<i>Corinne M. Spickett</i>	Lipid-protein adducts as biomarkers of inflammatory-based diseases in humans
<i>Tilman Grune</i>	Lipid protein interactions in cell signaling and toxicity

## V – Epigenetics, Metabolism, and Aging

<i>Mario Fraga</i>	Epigenetic regulation of aging
<i>Gregory Brewer</i>	Epigenetic redox shift, nutrients, aging, and insulin
<i>Silvia Gravina</i>	Role of random changes to epigenetic marks in aging
<i>Ana Maria Cuervo</i>	Autophagy and aging
<i>José Viña</i>	Modulation of aging genes: importance in longevity and age-associated frailty
<i>Matthew O'Connor</i>	Relocation of mtDNA to the nucleus: implications for mitochondrial mutations
<i>Suresh Rattan</i>	Molecular gerontology: from molecules to hormesis
<i>Kelvin J. A. Davies</i>	Proteolytic signaling dysfunction in aging
<i>Malcolm Jackson</i>	Reactive oxygen species in muscle wasting during aging
<i>Leo Rodriguez-Mañas</i>	Frailty: a basic and clinical challenge for the future
<i>Maria Cristina Polidori</i>	Oxidative stress and the link of pathophysiology of Alzheimer's disease with vascular pathology