



24th-26th JUNE 2015

**OXYGEN CLUB OF CALIFORNIA WORLD CONGRESS
“OXIDANTS AND ANTIOXIDANTS IN BIOLOGY”**

JOINT MEETING OF THE OXYGEN CLUB OF CALIFORNIA,
THE SPANISH GROUP FOR RESEARCH ON FREE RADICALS,
THE PORTUGUESE GROUP OF FREE RADICALS, AND
THE SOCIÉTÉ FRANÇAISE DE RECHERCHES SUR LES RADICAUX LIBRES.

OXYGEN CLUB OF CALIFORNIA WORLD CONGRESS 2015

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Provisional Scientific Programme

24TH JUNE 2015

• **OPENING KEYNOTE LECTURE**

09:00 – 10:00

Chair: **Helmut Sies** (*Heinrich-Heine-Universitaet Duesseldorf, Germany*)

- Physiology and pathophysiology of nitric oxide and mitochondrial interactions
Salvador Moncada (*Wolfson Institute for Biomedical Research University College London, UK*)

10:00 –11:00 *Coffee break and* **Poster session (I)**

• **SESSION I NUTRIENTS, OXYGEN BIOLOGY, AND MEDICINE**

11:00-13:00

Chairs: **Maret Traber** (*Oregon State University, USA*) and **Fabio Virgili** (*National Research Institute on Food & Nutrition, Italy*)

- Prooxidant and anticancer potential of spice-derived nutraceuticals and their role in cancer
Bharat Aggarwal (*The University of Texas MD Anderson Cancer Center, Houston, USA*)
- High fat diet-induced obesity and insulin resistance in C57BL/6J mice
Fawaz Haj (*University of California Davis, USA*)
- Procyanidins can interact with Caco-2 cell membrane lipid rafts: involvement of cholesterol
César Fraga (*University of Buenos Aires-CONICET, Argentina*)
- Benefits of alpha-lipoic acid and caloric restriction in obesity
Mulchand S. Patel (*University at Buffalo, Buffalo, New York, USA*)

13:00 – 14:30 *Lunch*

• **SESSION II REDOX SIGNALING IN INFLAMMATION**

14:30 -16:00

Chair: Patricia Oteiza (University of California at Davis, USA) and José María Mato (CIC bioGUNE, Bizkaia, Spain)

- GSH in cholestatic liver injury
Shelly Lu (*Cedars-Sinai Medical Center, Los Angeles, USA*)
- Sirt1 protects against cigarette smoke-induced lung oxidative stress via a FoxO3-dependent mechanism
Irfan Rahman (*University of Rochester Medical Center, New York, USA*)
- FoxO3 selectively amplifies enhancer activity to establish target gene regulation
Boudewijn M. Burgering (*University Medical Center Utrecht, The Netherlands*)

16:00-16:30 *Coffee break*

16:30-18:00

- Oxidized phospholipids and cellular signaling in inflammation
Corinne Spickett (*Aston University, Birmingham, UK*)
- Ca²⁺-independent biosynthesis of pro- and anti-inflammatory lipid mediators from mitochondrial cardiolipins
Valerian E. Kagan (*University of Pittsburgh, USA*)
- Biochemical mechanisms of mitochondrial SOD nitration and inactivation: pathological relevance
Rafael Radi (*Universidad de la República, Montevideo, Uruguay*)

18:00 –19:00

Chairs: Arlette Delamarche (University Rennes 2, France) and Jordi Muntané (Hospital Universitario “Virgen del Rocío-Virgen Macarena”, Sevilla, Spain)

Oral communications (I)

25TH JUNE 2015

• **SESSION III AGING AND LONGEVITY**

09:00 – 11:00

Chairs: Regina Brigelius (University of Potsdam, Germany) and Enrique Cadenas (University of Southern California, Los Angeles, USA)

- Redox biology: Where exposome meets genome
Dean P. Jones (Emory University, Atlanta, USA)
- Impact of mitochondrial fusion proteins on ROS handling
Antonio Zorzano (Universitat de Barcelona, Spain)
- Mitochondria, oxidants and stem cell activity
Toren Finkel (National Institutes of Health, Bethesda, USA)
- Metabolic regulation of stem cell maintenance and aging
Danica Chen (University of California, Berkeley, USA)

11:00 – 12:00 *Coffee break and Poster session (II)*

12:00-13:00

Chairs: M^a Begoña Ruiz Larrea (University of the Basque Country, UPV/EHU, Spain) and Fernando Antunes (Universidade de Lisboa, Portugal)

Oral communications (II)

13:00 – 14:30 *Lunch*

14:30 – 16:30

Chairs: Nesrin Kartal-Özer (Marmara University, Istanbul, Turkey) and Abraham Reznick (Rappaport Faculty of Medicine, Haifa, Israel)

- The role of the mitochondrial sirtuin SIRT3 in aging and its retardation by caloric restriction
Tomas Prolla (University of Wisconsin, Madison, USA)

- Aggregated lipids and proteins in aging, Alzheimer's disease, and diabetes
Tilman Grune (*German Institute of Human Nutrition, Nuthetal, Germany*)
- Differential expression and glycative damage affect specific mitochondrial proteins with aging
Bertrand Friguet (*Université Pierre et Marie Curie, Paris, France*)
- Endothelial dysfunction in elderly population
Gaetano Serviddio (*University of Foggia, Italy*)

16:30 – 17:00 Coffee break

17:00-18:00

- Frailty and sarcopenia
Leocadio Rodríguez-Mañas (*Hospital Universitario de Getafe, Madrid, Spain*)
- Reactive oxygen species production in skeletal muscle during contractile activity and aging
Malcolm Jackson (*University of Liverpool, UK*)

18:00 – 19:00

• ROUND TABLE DISCUSSION ON AGING AND LONGEVITY

Discussion Leader: **Michael Murphy** (*Wellcome Trust/MRC, Cambridge, UK*)

Panel Members: Speakers of the Aging and Longevity session

20:30 **Gala dinner**

26TH JUNE 2015

• SESSION IV REDOX BIOLOGY IN VASCULAR DISEASE

9:00-10:30

Chairs: Michael J. Davies (*University of Copenhagen, Denmark*) and **Lisardo Boscá**
(*Institute of Biomedical Research Alberto Sols, CSIC-UAM, Madrid, Spain*)

- Origin of mitochondrial ROS in ischemia reperfusion injury
Michael Murphy (*Wellcome Trust/MRC, Cambridge, UK*)
- Role of microRNAs in redox responses
Santiago Lamas (*Centro de Biología Molecular Severo Ochoa, CSIC, Madrid, Spain*)
- Vascular endothelial and smooth muscle cell redox signaling and function in health and disease
Giovanni Mann (*British Heart Foundation Centre of Research Excellence, King's College London, UK*)

10:30 – 11:30 Coffee break and poster session (III)

11:30 –12:30

Chairs: Anne Negré Salvayre (*University of Toulouse, France*) and **Teresa Mitjavila**
(*University of Barcelona, Spain*)

Oral communications (III)

12:30 – 14:00 Lunch

• SESSION V REDOX BIOLOGY IN NEURODEGENERATIVE DISEASES

14:00-15:30

Chairs: Leonor Almeida (*University of Coimbra, Portugal*) and **Giuseppe Valacchi**
(*University of Ferrara, Italy*)

- Amyloid- β disrupts calcium and redox homeostasis in brain endothelial cells
Catarina Oliveira (*Center for Neuroscience and Cell Biology, University of Coimbra Portugal*)
- Possible role of oxysterols in the brain pathophysiology
Giuseppe Poli (*University of Turin at S. Luigi Gonzaga Hospital, Italy*)

- Alzheimer's Disease: from oxidative stress to apoE directed therapeutics
José Viña (University of Valencia, Spain)

15:30-16:00 Coffee break

16:00-17:00

- Bioenergetic and antioxidant defense coupling in the nervous system
Juan Bolaños (Institute of Functional Biology and Genomics, University of Salamanca-CSIC, Spain)
- The role and mechanisms of mitochondrial cholesterol in neurodegeneration
José Carlos Fernández-Checa (University of Southern California, Los Angeles, USA)

• CLOSING KEYNOTE LECTURE

17:00-18:00

Chair: Josiane Cillard (University of Rennes 2, France)

- Upregulation of mitochondrial Lon protease allows adaptation to acute oxidative stress but dysregulation is associated with aging and chronic stress
Kelvin Davies (University of Southern California, Los Angeles, USA)

18:00 – 18:30

- **Prizes and Awards**

Oxygen Club of California and Jarrow Formulas Health Sciences Prize

Young Investigator Awards

Oxygen Club of California

Linus Pauling Institute

- **Closing Remarks**

Juan Sastre, Josiane Cillard, João Laranjinha