

**5<sup>TH</sup> INTERNATIONAL SYMPOSIUM : NUTRITION, OXYGEN BIOLOGY AND MEDICINE  
DEVELOPMENT AND AGING  
NUTRITION, EPIGENETICS AND LIFESTYLE AND THE HEALTHSPAN**

5 - 7 JUNE, 2013  
CAMPUS DES CORDELIERS, PARIS, FRANCE

JOINT MEETING OF  
THE SOCIÉTÉ FRANÇAISE DE RECHERCHES SUR LES RADICAUX LIBRES (CORRESPONDENT OF THE SFRR-EUROPE)  
AND OXYGEN CLUB OF CALIFORNIA

<http://www.oxyclubcalifornia.org/Paris2013/index.php>

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**WEDNESDAY  
JUNE 5**

13:30 – 14:45 REGISTRATION

14:45 – 15:00 WELCOME

*Josiane Cillard – President of the Société Française de Recherche sur les Radicaux libres*

FACULTY OF PHARMACY, UNIVERSITY OF RENNES 1, RENNES, FRANCE

*Lester Packer– Founder and Honorary President of the Oxygen Club of California*

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES, USA

*Bertrand Friguet*

UNIVERSITY PIERRE ET MARIE CURIE - PARIS 6, PARIS, FRANCE

*César Fraga*

PHYSICAL CHEMISTRY, SCHOOL OF PHARMACY AND BIOCHEMISTRY, UNIVERSITY OF BUENOS AIRES, BUENOS AIRES, ARGENTINA

*Nesrin Kartal-Özer - President of SFRR-Europe*

DEPARTMENT OF BIOCHEMISTRY, FACULTY OF MEDICINE, MARMARA UNIVERSITY, ISTANBUL, TURKEY

**SESSION I PLANT NUTRIENTS AND HEALTHY AGING**

CHAIRPERSONS: *Fabio Virgili*

NATIONAL RESEARCH INSTITUTE FOR FOOD AND NUTRITION, ROME, ITALY

*Giuseppe Valacchi*

DEPARTMENT OF LIFE SCIENCE AND BIOTECHNOLOGIES, UNIVERSITY OF FERRARA, FERRARA, ITALY

15:00– 15:30 Federico Leighton Memorial Lecture - Introduced by *César G. Fraga*

Novel antioxidant reactions of cinnamates in wine

*Andrew Waterhouse*

DEPARTMENT OF VITICULTURE AND ENOLOGY, UNIVERSITY OF CALIFORNIA, DAVIS, CA, USA

15:30– 16:00 From free radical scavengers to nucleophilic tone: a paradigm shift in nutra-ceutical effects of fruit and vegetables

*Fulvio Ursini*

DEPARTMENT OF BIOLOGICAL CHEMISTRY, UNIVERSITY OF PADOVA, PADOVA, ITALY

16:00 – 16:30 Potential of polyphenol-rich products to improve ageing-related impairment of the vascular function

*Valérie Schini-Kerth*

LABORATOIRE DE BIOPHOTONIQUE ET PHARMACOLOGIE, FACULTY OF PHARMACY, UNIVERSITY OF STRASBOURG, FRANCE

16:30 – 17:00 Flavanols improving health: evidence and potential mechanisms

*César G. Fraga*

PHYSICAL CHEMISTRY, SCHOOL OF PHARMACY AND BIOCHEMISTRY, UNIVERSITY OF BUENOS AIRES, BUENOS AIRES, ARGENTINA

17:00 – 17:30 Nutrition and healthy aging-calorie restriction or "MediterrAsian" diet?

*Gerald Rimbach*

INSTITUTE OF HUMAN NUTRITION AND FOOD SCIENCE, CHRISTIAN-ALBRECHTS-UNIVERSITY KIEL, KIEL, GERMANY

17:30 – 18:00 Flavonoids: phytochemicals, phytonutrients, or dietary antioxidants?

*Balz Frei*

LINUS PAULING INSTITUTE, OREGON STATE UNIVERSITY, CORVALLIS, OREGON, USA

18:00 – 18:30 Micronutrient intake in the Western world – status and implications on public health

*Manfred Eggersdorfer*

DSM NUTRITIONAL PRODUCTS, BASEL, SWITZERLAND

18:30 – 20:00 *Cocktail Reception and Poster Viewing*

**THURSDAY  
JUNE 6**

## **SESSION II REDOX BIOLOGY OF MITOCHONDRIA**

CHAIRPERSONS: *Jean Cadet*

LABORATOIRE "LÉSIONS DES ACIDES NUCLÉIQUES", INSTITUT NANOSCIENCES ET CRYOGÉNIE, CEA/GRENOBLE, GRENOBLE, FRANCE

*Helmut Sies*

INSTITUTE OF BIOCHEMISTRY AND MOLECULAR BIOLOGY I, FACULTY OF MEDICINE, HEINRICH-HEINE-UNIVERSITY, DUSSELDORF, GERMANY

8:30-9:00 Targeted bioactive and probe molecules to understand mitochondrial redox metabolism

*Michael Murphy*

MEDICAL RESEARCH COUNCIL MITOCHONDRIAL BIOLOGY UNIT, WELLCOME TRUST, CAMBRIDGE, UK

9:00–9:30 Mitochondrial redox metabolism in cell fate signaling

*Shazib Pervaiz*

DEPARTMENT OF PHYSIOLOGY, YONG LOO LIN SCHOOL OF MEDICINE, NATIONAL UNIVERSITY OF SINGAPORE, SINGAPORE

- 9:30 – 10: 00      **Importance of the mitochondrial Lon protease in stress-adaptation and aging**  
*Kelvin Davies*  
 SCHOOL OF GERONTOLOGY, UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES, CALIFORNIA, USA
- 10:00 – 10:30      **Oxidative and glycoxidative mitochondrial proteome alterations during aging and cellular senescence**  
*Bertrand Friguet*  
 LABORATOIRE DE BIOLOGIE CELLULAIRE DU VIEILLISSEMENT, UNIVERSITÉ PIERRE ET MARIE CURIE, PARIS, FRANCE
- 10:30 – 11:00      **The lysosomal-mitochondrial theory of aging revisited**  
*Tilman Grune*  
 DEPARTMENT OF NUTRITIONAL TOXICOLOGY, INSTITUTE OF NUTRITION, FRIEDRICH-SCHILLER UNIVERSITY JENA, JENA, GERMANY
- 11:00 – 11:30      *Coffee Break*

### **SESSION III      MITOCHONDRIA, ENERGY, AND METABOLIC DISEASES**

- CHAIRPERSONS: *Enrique Cadenas*,  
 PHARMACOLOGY & PHARMACEUTICAL SCIENCES, SCHOOL OF PHARMACY, UNIVERSITY OF SOUTHERN CALIFORNIA,  
 LOS ANGELES, USA
- Alberto Boveris*  
 PHYSICAL CHEMISTRY, SCHOOL OF PHARMACY AND BIOCHEMISTRY, UNIVERSITY OF BUENOS AIRES, BUENOS AIRES, ARGENTINA
- 11:30 – 12:00      **New insights into metabolic regulation by protein-tyrosine phosphatase 1B**  
*Fawaz Haj*  
 DEPARTMENT OF NUTRITION, UNIVERSITY OF CALIFORNIA, DAVIS, CALIFORNIA, USA
- 12:00–12:30      **Recent understanding of hypoxia-induced endothelial dysfunction in development of metabolic syndromes**  
*Tzu-Ching Meng*  
 INSTITUTE OF BIOLOGICAL CHEMISTRY, ACADEMIA SINICA, NANKANG, TAIPEI, TAIWAN
- 12:30– 13:00      **Age-associated declines in mitochondrial biogenesis and protein quality control factors are minimized by exercise training via sirtuin activation**  
*Zolt Radak*  
 SEMMELWEIS UNIVERSITY, RESEARCH INSTITUTE OF SPORT SCIENCE, BUDAPEST, HUNGARY
- 13:00–13:30      **Autophagy induction with life-long and late-onset interventions: caloric restriction combined with resveratrol**  
*Christiaan Leeuwenburgh*  
 DEPARTMENTS OF AGING AND GERIATRIC RESEARCH, UNIVERSITY OF FLORIDA, GAINESVILLE, FLORIDA, USA
- 13:30 – 14:30      *Lunch and Poster Viewing*

- 14:30–15:00     PGC-1 $\alpha$  overexpression attenuates mitochondrial disorder and inflammatory responses in muscle disuse atrophy  
*Li Li Ji*  
LABORATORY OF PHYSIOLOGICAL HYGIENE AND EXERCISE SCIENCE, UNIVERSITY OF MINNESOTA, MINNEAPOLIS, USA
- 15:00 –15:30     Modern concepts in mitochondrial biogenesis and dynamics  
*George A. Brooks*  
EXERCISE PHYSIOLOGY LABORATORY, DEPARTMENT OF INTEGRATIVE BIOLOGY, UNIVERSITY OF CALIFORNIA, BERKELEY, CALIFORNIA, USA
- 15:30 –16:00     *Coffee Break*
- CHAIRPERSONS: *Juan Sastre*  
DEPARTMENT OF PHYSIOLOGY, UNIVERSITY OF VALENCIA, VALENCIA, SPAIN
- Jiankang Liu*  
SCHOOL OF LIFE SCIENCE AND TECHNOLOGY, UNIVERSITY OF XI'AN JIAOTONG , CHINA
- 16:00 – 16:30     Communication between endoplasmic reticulum and mitochondria by thioredoxin  
*Junji Yodoi*  
DEPARTMENT OF BIOLOGICAL RESPONSES, INSTITUTE FOR VIRUS RESEARCH, KYOTO UNIVERSITY, KYOTO, JAPAN AND  
DEPARTMENT OF BIOINSPIRED SCIENCE, EWHA WOMANS UNIVERSITY, SEOUL, KOREA
- 16:30– 17:30     Nanoparticles and mitochondrial activity  
*Bertrand Rihn*  
EA CITHEFOR, FACULTÉ DE PHARMACIE, UNIVERSITÉ DE LORRAINE, NANCY, FRANCE
- 17:30 – 18:00     Hormesis: scientific foundations, mechanisms and biomedical applications  
*Eduardo J. Calabrese*  
DEPARTMENT OF PUBLIC HEALTH, UNIVERSITY OF MASSACHUSETTS, AMHERST, MASSACHUSETTS, USA
- 19h15             Gala Dinner

**SESSION IV EPIGENETICS AND NUTRIGENOMICS: DEVELOPMENT AND AGING**

CHAIRPERSONS: *Steven H. Zeisel*

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL, KANNAPOLIS, NORTH CAROLINA, USA

*Patricia Oteiza*

DEPARTMENT OF NUTRITION, UNIVERSITY OF CALIFORNIA, DAVIS, CALIFORNIA, USA

09:00– 09:30     You are what your mother ate: nutrition and epigenetics influence development  
*Steven H. Zeisel*

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL, KANNAPOLIS, NORTH CAROLINA, USA

09:30 – 10:00     Redox signaling and histone acetylation in acute inflammation. Relevance of protein  
phosphatase PP2A  
*Juan Sastre*

DEPARTMENT OF PHYSIOLOGY, UNIVERSITY OF VALENCIA, VALENCIA, SPAIN

10:00– 10:30     Getting to know curcumin –the golden spice– through epigenetic changes  
*Bharat B. Aggarwal*

CYTOKINE RESEARCH LABORATORY, DEPARTMENT OF EXPERIMENTAL THERAPEUTICS, MD ANDERSON CANCER CENTER. THE  
UNIVERSITY OF TEXAS, HOUSTON, TEXAS, USA

10:30 – 11:00     *Coffee Break*

CHAIRPERSONS: *Kelvin Davies*

SCHOOL OF GERONTOLOGY, UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES, CALIFORNIA, USA

*Arlette Delamarche*

LABORATORY « MOVMENT, SPORT & HEALTH », UNIVERSITY OF RENNES 2, ENS CACHAN, UFR-APS, RENNES, FRANCE

11:00 – 11:30     Impact of gestational and early-life postnatal factors in the development of obesity and  
fatty liver in Hispanic children  
*Michael I. Goran*

PREVENTIVE MEDICINE AND CHILDHOOD OBESITY RESEARCH CENTER, KECK SCHOOL OF MEDICINE, UNIVERSITY OF SOUTHERN  
CALIFORNIA, LOS ANGELES, CALIFORNIA, USA

- 11:30 – 12:00    Role of insulin and insulin-like growth factor-1 receptor signaling for central proteotoxicity  
*Markus Schubert*  
 CENTER FOR ENDOCRINOLOGY, DIABETES AND PREVENTIVE MEDICINE, UNIVERSITY OF COLOGNE, COLOGNE, GERMANY
- 12:00 – 12:30    Inflammatory response in mice is associated with age-related zinc deficiency and epigenetic dysregulation of zinc transporters  
*Emily Ho*  
 LINUS PAULING INSTITUTE, OREGON STATE UNIVERSITY, CORVALLIS, OREGON, USA
- 12:30 – 13:30    *Lunch and Poster Viewing*
- 13:30 – 14:00    Micro RNA regulation of transcription reveals specific patterns in centenarians  
*José Viña*  
 DEPARTMENT OF PHYSIOLOGY, SCHOOL OF MEDICINE, UNIVERSITY OF VALENCIA, VALENCIA, SPAIN
- 14:00– 14:30    Epigenetics and aging: the role of the environment  
*Mario Fraga*  
 CANCER EPIGENETICS LABORATORY, INSTITUTO UNIVERSITARIO DE ONCOLOGÍA DEL PRINCIPADO DE ASTURIAS , UNIVERSITY OF OVIEDO, OVIEDO, SPAIN

## SESSION V    ORAL PRESENTATIONS BY YOUNG INVESTIGATORS

CHAIRPERSONS: *Nesrin Kartal-Özer*

DEPARTMENT OF BIOCHEMISTRY, FACULTY OF MEDICINE, MARMARA UNIVERSITY, ISTANBUL, TURKEY

*João Laranjinha*

CENTER FOR NEUROSCIENCES AND CELL BIOLOGY, UNIVERSITY OF COIMBRA, COIMBRA, PORTUGAL

14:30 – 14:45

14:45– 15:00

15:00 – 15:15

15:15 – 15:30

## ROUND TABLE DISCUSSION

15:30– 16:30      Nutrition, Epigenetics, Metabolism, and Stress

Coordinators:

*Michael Murphy* - MRC MITOCHONDRIAL BIOLOGY UNIT, CAMBRIDGE, UK

*Regina Brigelius-Flohé* - GERMAN INSTITUTE OF HUMAN NUTRITION POTSDAM-REHBRUECKE, NUTHETAL, GERMANY

Discussants:

*Steven H. Zeisel* - UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL, KANNAPOLIS, NORTH CAROLINA, USA

*Bharat B. Aggarwal* - CYTOKINE RESEARCH LABORATORY, DEPARTMENT OF EXPERIMENTAL THERAPEUTICS  
MD ANDERSON CANCER CENTER, THE UNIVERSITY OF TEXAS, HOUSTON, TEXAS, USA

*Eduardo Calabrese* - DEPARTMENT OF PUBLIC HEALTH, UNIVERSITY OF MASSACHUSETTS, AMHERST,  
MASSACHUSETTS, USA

*Li Li Ji* - LABORATORY OF PHYSIOLOGICAL HYGIENE AND EXERCISE SCIENCE, UNIVERSITY OF MINNESOTA, MINNEAPOLIS,  
USA

*Emily Ho* - LINUS PAULING INSTITUTE, OREGON STATE UNIVERSITY, CORVALLIS, OREGON, USA

*Christiaan Leeuwenburgh* - DEPARTMENTS OF AGING AND GERIATRIC RESEARCH, UNIVERSITY OF FLORIDA,  
GAINESVILLE, FLORIDA, USA

*Pamela E. Stark-Reed* -NIH DIVISION OF NUTRITION RESEARCH COORDINATION, BETHESDA, USA

*Patricia Oteiza* -DEPARTMENT OF NUTRITION, UNIVERSITY OF CALIFORNIA, DAVIS, CALIFORNIA, USA

16:30 – 17:00      Summary and Conclusions

*Regina Brigelius-Flohé*

GERMAN INSTITUTE OF HUMAN NUTRITION POTSDAM-REHBRUECKE, NUTHETAL, GERMANY

## AWARDS

### ❖ YOUNG INVESTIGATOR AWARDS

- OXYGEN CLUB OF CALIFORNIA
- LINUS PAULING INSTITUTE AWARD
- SOCIÉTÉ FRANÇAISE DE RECHERCHE SUR LES RADICAUX LIBRES AWARD
- EXON AWARD (ASSOCIATION DES ENSEIGNANTS-CHERCHEURS DE BIOLOGIE CELLULAIRE ET MOLÉCULAIRE DES FACULTÉS DE PHARMACIE )
- SOCIETY FOR FREE RADICAL RESEARCH – EUROPE AWARD
- OXIDATIVE STRESS COLLEGE AWARD
- FACULTY OF PHARMACY OF RENNES AWARD
- FACULTY OF SPORT SCIENCE OF RENNES AWARD
- ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS - ELSEVIER AWARD
- FOOD AND FUNCTION – RSC PUBLISHING AWARD

### ❖ PROGRESS IN HEALTHSPAN RESEARCH AWARD