INTERNATIONAL SOCIETY OF ANTIOXIDANTS

19th ISANH International Conference on

Oxidative Stress Reduction, Redox Homeostasis & Antioxidants

ISANH JOURNAL - ARCHIVES

June 26-27, 2017 | Université Pierre et Marie Curie, Paris, France

INTERNATIONAL SOCIETY OF ANTIOXIDANTS

UPMC SORBONNE UNIVERSITÉS

WELCOME NOTE

Dear Colleagues,

The 19th International Conference on Oxidative Stress Reduction, Redox Homeostasis and Antioxidants will be held at the Université Pierre & Marie Curie, Campus Jussieu in Paris, France on June 26 and 27, 2017.

During Paris Redox World Congress 2017, we will discuss the role of antioxidants as modulators of redox signaling pathways rather than players that counteract oxidative stress. Antioxidants affect cell signaling provided by redox processes. Mitochondria provide localized signaling and produce reactive oxygen species, ROS (i.e. Superoxide and Hydrogen Peroxide), which are signaling molecules generated by the respiratory chain.

Furthermore, we will analyze the mechanisms by which cells respond to oxidative stress and prevent cell damage and cell death, with a particular focus on neurons and neurological conditions, strokes, Alzheimer's disease, kidney, muscle, and liver pathologies. Additionally, the mechanisms of redox regulation of cellular processes will be discussed.

Little is known on the specific targets of ROS and how oxidant and antioxidant signals are transmitted in the cell. To understand mechanisms of redox control and their role in oxidative stress pathologies and aging, it is necessary to identify and dissect the function of the key players of redox processes. We will also highlight oxidative stress evaluation and discuss the recent advances on biomarkers, related to redox alteration.

Paris Redox 2017 aims to make an important contribution towards a better understanding of redox control in physiological and pathological states that will lead to new therapeutic and disease-preventive agents.

Among strategic topics discussed during ISANH Paris Redox 2017:

- Reactive Sulfide Species, Oxidative Stress and Redox Regulation-Modulation
- Oxidative Stress, Redox Regulation-Modulation and Redox-Active Agents
- Nrf2, Redox Signaling & Gene Regulation
- Oxidative Stress & Chronic Diseases
    - Oxidative Stress & Ocular Diseases
    - Oxidative Stress & Fertility
    - Oxidative Stress & Cancer
    - Oxidative Stress & Metabolic Syndrome
- Oxidative Stress, New Bio-sensors & Biomarkers: Imaging of Oxidative Stress in 2017
- Oxidative Stress, Antioxidants & Innovations

With this exciting program we wish to meet you in Paris.

Frédéric Batteux – Pedro Buc Calderon - Marvin Edeas – Miria Ricchetti
Chairperson of Paris Redox Scientific Committee

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19th International Conference on

Oxidative Stress Reduction, Redox Homeostasis & Antioxidants

June 26-27, 2017

Université Pierre & Marie Curie, Paris, France

Scientific Agenda

Day 1 - June 26, 2017

08:00 **Welcoming & Registration of Attendees**

08:55 **Opening of Paris Redox International Conference by Chairpersons of the Scientific Committee**
Marvin Edeas, Frédéric Batteux, Pedro Buc Calderon, Miria Ricchetti

Session 1: Reactive Sulfide Species, Oxidative Stress and Redox Regulation-Modulation
Chaired by Frédéric Bouillaud & Kenneth Olson

09:00 **Metabolism of reactive sulfide species by "classical" antioxidants mechanisms: a parallel or predominant system?**
Kenneth Olson, Indiana University School of Medicine, USA

09:20 **Interaction of sulfide with cellular bioenergetics a first/last step in redox signaling?**
Frédéric Bouillaud, Institut Cochin, INSERM, France

09:40 **Integrating the chemical biology of Reactive Oxygen, Nitrogen and Sulfur Species: opportunities for redox signaling and precision medicine**
Martin Feelisch, University of Southampton, United Kingdom

10:00 **Redox signalling predicts disease progression and patient survival in various conditions**
Harry van Goor, University Medical Center Groningen, The Netherlands

10:20 **Questions to speakers**

10:30 Coffee Break & Poster Session

Session 2: Oxidative Stress, Redox Regulation-Modulation and Redox-Active Agents
Chaired by Marvin Edeas & Thierry Patrice

11:00 **Role of iron overload initiating oxidative stress in congenital and acquired hemolytic anemias**
Eliezer Rachmilewitz, Edith Wolfson Medical Center, Israel

11:20 **Oxidative stress related history of patients with intracranial aneurisms**
Thierry Patrice, CHU Nantes, France

11:40 **Peroxiredoxin 1 protects telomeres from oxidative damage**
Joachim Lingner, Ecole Polytechnique Fédérale de Lausanne, Switzerland

12:00 **Redox regulation by coenzyme A in mammalian cells**
Ivan Gout, University College London, United Kingdom

12:20 **Questions to speakers**

12:30 **Identification of protein targets of catechol estrogens in liver tissues using click chemistry-based activity probes coupled with quantitative proteomics**
Shu-Hui Chen, National Cheng Kung University, Taiwan

12:40 Lunch break & poster session

Session 3: Nrf2, Redox Signaling & Gene Regulation
Chaired by Julie Lim, Laurent Marrot & Carole Nicco

14:00 **Skin redox balance maintenance and the role of Nrf2 in dermatology: recent scientific advances**
Laurent Marrot, L'Oréal R&D, France

14:20 **Modulation of proteostasis by transcription factor Nrf2F2 and impact in Alzheimer's disease**
Ana Isabel Rojo Sanchís, Center for networked biomedical research in neurodegenerative diseases (CIBERNED), Spain

14:40 **Questions to speakers**

14:50 **Mitonneet, an Fe-S cluster–containing redox switch involved in a new pathway dedicated in cytosolic aconitase reactivation**
Marie-Pierre Golinelli-Cohen, CNRS, France

15:00 **A novel pathway for Nrf2 proteasomal degradation in response to respiratory syncitial virus infection**
Narayana Komaravelli, University of Texas Medical Branch, USA

15:10 **Genetic invalidation of the cystine importer XCT (SLC7A11) suppresses pancreatic ductal adenocarcinoma cell (PDAC) growth, survival, and chemoresistance**
Milica Vucetic, Centre Scientifique de Monaco, Monaco

15:20 **Glutathione S-transferase P mediated protein S-glutathionylation of resident endoplasmic reticulum proteins influences sensitivity to drug-induced unfolded protein response**
Danyelle Townsend, Medical University of South Carolina, USA

15:30 **Reduced S-glutathionylation of estrogen receptor alpha promotes bone marrow derived dendritic cell differentiation**
Kenneth Tew, Medical University of South Carolina, USA

15:40 **Reactive Oxygen Species role in epithelial mesochymal transition and bioenergetic switch to glycolytic metabolism**
Sarah Adelaide Crawford, Southern Connecticut State University, USA

15:50 Coffee break & poster session

Session 4: Oxidative Stress & Chronic Diseases (Part 1)
Chaired by Julie Lim, Laurent Marrot & Carole Nicco

Oxidative Stress & Ocular Diseases

16:10 **New biological roles for the lens: implications for overall ocular health**
Julie Lim, The University of Auckland, New Zealand

16:30 **The two faces of oxidative stress: from stress-response to pathogenic damage. The example of glaucoma molecular pathogenesis**
Alberto Izzotti, University of Genoa, Italy

16:50 **Questions to speakers**

17:00 **The nucleoredoxin-like 1 gene encodes for two proteins that contributes to a super-thioredoxin system**
Thierry Léveillard, Institut de la Vision, France

17:10 **The role of the cystine/glutamate antiporter (CGAP) in controlling redox balance in ocular tissues**
Renita Martis, The University of Auckland, New Zealand

17:20 **Endogenous lipid peroxidation product 9-HSa regulates progenitor fate in the vertebrate retina**
Shahad Albadri, Institut Curie, France

17:30 **Evaluation of antioxidant-based formulations for potential cataract treatment**
Nuran Ercal, Missouri University of Science and Technology, USA

Oxidative Stress & Organs Impairment

17:40 **HIV-1-TAT protein induces mitochondrial ROS production, DNA damage and genomic instability in human β-cells**
Rawan El Amine, Institut Gustave Roussy, France

17:50 **Functioning of brain and liver mitochondria of rats with experimental audiogenic epilepsy, characterized by the development of oxidative stress**
Galina Mironova, Institute of Theoretical and Experimental Biophysics RAS, Russia

18:00 **Mice lacking the genes for NAP(P)H quinone reductase (NQO1) or NQO2 are more susceptible to hyperoxic lung injury than wild type mice in vivo: rescue by beta-napthoflavone (bnf) administration**
Bhagavatula Moorthy, Baylor College of Medicine, USA

18:10 End of the first day

20:00 Paris Redox 2017 Dinner at Sofitel Paris Le Faubourg – Appointement in the lobby of the hotel
15, rue Boissy d'Anglas, 75008 Paris
Metro stations: Metro line 8 at CONCORDE / Metro line 14 at MADELEINE / Metro line 1 at CONCORDE / Metro line 12 at CONCORDE

Day 2 - June 27, 2017

08:25 Welcoming & Registration of Attendees

Session 4: Oxidative Stress & Chronic Diseases (Part 2)
Chaired by Frédéric Batteux & Pedro Buc Calderon

Oxidative Stress & Fertility

08:30 Male subfertility induced by heterozygous expression of catalytically inactive glutathione peroxidase 4 is rescued in vivo by systemic inactivation of the 15-lipoxygenase gene
Astrid Borchert, University Medicine Berlin-Charité, Germany

08:50 Placentation and oxidative stress: recent scientific advances
Asif Ahmed, Aston Medical School, Aston University, United Kingdom

09:10 Questions to speakers

Oxidative Stress & Cancer

09:20 Redox cycling quinones display antibacterial activity against Helicobacter pylori. Is oxidative stress playing a role?
Pedro Buc Calderon, Université Catholique de Louvain, Belgium

09:40 Paradoxical effects of ros: increasing tumorigenesis but improving response to some chemotherapies
Fatima Mechta-Grigoriou, Institut Curie - INSERM U830, France

10:00 Dissecting the role of the endogenous antioxidant response in lung cancer
Volkan Sayin, NYU School of Medicine - Perlmutter Cancer Center, USA

10:20 Questions to speakers

10:30 Coffee Break & Poster Session

11:00 Metastatic reprogramming of lung cancer cells by antioxidants
Clotilde Wiel, University of Gotenburg, Sweden

11:20 Role of compartmentalized ROS and oxidative stress in angiogenesis and cancer
Massimo Santoro, University of Turin, Italy

11:40 Questions to speakers

11:50 A systems biology identification of prognostic markers of survival and progression in hepatocellular carcinoma patients indicates functional differences in redox metabolism
Rui Benfeitas, KTH - Royal Institute of Technology, Sweden

12:00 Changes in cellular uric acid homeostasis facilitated by glucose transporter 9 (glut9) drive activin sensitivity and prostate cancer cell behaviour
Andrew Bahn, University of Otago, New Zealand

12:10 Inhibition of NADPH oxidases induces oxidative stress and apoptosis in acute myeloid leukemia cells
Hassan Dakik, Université François Rabelais, France

12:20 Bone marrow oxidative stress and specific antioxidant signatures in myelodysplastic syndromes
Frédéric Picou, CNRS-Université de Tours, France

12:30 Lunch break & poster session

Chaired by Miria Ricchetti & Jumana Saleh

Oxidative Stress & Metabolic Syndrome

13:45 **Regional fat distribution in woman: the relation to lipogenic hormones, metabolic syndrome markers and oxidative risk**
Jumana Saleh, Sultan Qaboos University, Oman

14:10 **A low risk, non-invasive means to achieve wellness by overcoming physical inactivity; fibromyalgia & hypertension**
Marvin A. Sackner, Sackner Wellness Products LLC, USA

14:25 **Increased survival in septic mice using whole body periodic acceleration (PGZ)**
Jose A. Adams, Mount Sinai Medical Center, USA

14:35 **Oxidative stress and periodontal disease in diabetic patients: a pilot study**
Simone Marconcini, University of Pisa, Italy

14:45 **Plasma cystathionine and risk of acute myocardial infarction among patients with coronary heart disease: results from two independent cohorts**
Indu Dhar, University of Bergen, Norway

14:55 **Anti-inflammatory and anti-apoptotic action of nonenzymatically oxidized phospholipids**
Valery Bochkov, University of Graz, Austria

15:05 **The hyperthyroid cat and its redox unbalance: the joining link between animal models and humans**
Alessia Candellone, University of Turin, Italy

15:15 **Nano-particulate exposure impacts the adaptive response in 6-month and 21-month old female mice**
Laura Corrales-Diaz Pomatto, Leonard Davis School of Gerontology, USA

15:25 Coffee break & poster session

Session 5: Oxidative Stress, New Bio-sensors & Biomarkers: Imaging of Oxidative Stress in 2017
Chaired by Oliver Nüsse & Daniel Vaiman

15:40 **Imaging calcium and redox signals using genetically encoded fluorescent indicators**
Christine Gibhardt, Georg August University, Germany

16:05 **In-situ X-ray absorption spectroscopy of redox-modulated copper bound truncated Aß peptides: implications for ROS generation**
Stephen Best, The University of Melbourne, Australia

16:15 **The self-association of high mobility group box 1 (HMGB1): a closer look on the influence of redox states**
Wresti Listu Anggayasti, Keio University, Japan

16:25 **Ethylene, an early marker of systemic inflammation in humans**
Simona Cristescu, Radboud University, The Netherlands

16:35 **Phenol red in cell-culture media: more than just a pH indicator**
Arno Siraki, University of Alberta, Canada

16:45 **Fast determination of exhaled air oxidative potential in chronic obstructive pulmonary disease patients**
Guillaume Suarez, Institute for Work and Health, Switzerland

Session 6: Oxidative Stress, Antioxidants & Innovations

16:55 **Impact of UV and visible light in the nitroso-redox balance in skin fibroblasts from healthy individuals and UV-sensitivity syndrome patients**
Laurent Chatre, Institut Pasteur, France

17:05 **Multifunctional radical quenchers as potential therapeutic agents**
Sidney Michael Hecht, Arizona State University, USA

17:15 **Neuroprotective effects of Twendee X**
Haruhiko Inufusa, Gifu University, Japan

17:25 **Concluding remarks by Paris Redox 2017 chairpersons**
Paris Redox Awards 2017

17:45 **End of Paris Redox 2017 Conference**