17th International Conference on

Oxidative Stress
Reduction,
Redox Homeostasis &
Antioxidants

Institut Pasteur, Paris
WELCOME NOTE

It is a great pleasure to announce the organization of 17th International Conference on Oxidative Stress Reduction, Redox Homeostasis and Antioxidants, which will be held at Institut Pasteur in Paris, from June 13 to 15, 2016.

During Paris Redox World Congress 2016, we will discuss the role of antioxidants as modulators of redox signaling pathways rather than players that counteract oxidative stress. Indeed, antioxidants affect cells signaling provided by redox processes. Mitochondria constitute localized signaling domains and produce reactive oxygen species, ROS (i.e. Superoxide and Hydrogen Peroxide), which are signaling molecules generated by the respiratory chain. We will also focus on understanding the mechanisms by which cells respond to oxidative stress and prevent cell damage and cell death, with a particular interest in neurons and neurological conditions, stroke, Alzheimer’s disease, kidney, muscle, and liver pathologies. 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 aim that Paris Redox 2016 will contribute to a better understanding of redox control in physiological and pathological states and in ageing, leading to new therapeutic and disease-preventive agents.

Among strategic topics discussed during ISANH Redox 2016:

- **Oxidative Stress, Redox Regulation & Modulation and Redox-Active Agents**
- **Oxidative Stress & Biomarkers: Imaging of Oxidative Stress**
  - Devices & Methods to visualize the impact of oxidative stress
  - Oxidative stress in vitro vs in vivo: the in vivo trap
  - Oxidative Stress biomarkers in humans
  - Non-invasive methods to evaluate oxidative stress (saliva, urine, hair...)
  - Discussion: can we avoid non-physiological methods to evaluate oxidative stress?
- **Oxidative Stress & Stem Cells**
  - Impact of Oxidative Stress on the Cell Cycle
  - Effects of Reactive Oxygen Species (ROS) on stem cells dynamics
  - Effect of Oxidative Stress on mitochondria
  - Impact of Antioxidants on stem cells
- **Beneficial effects of Oxidative Stress vs deleterious effects of antioxidants**
  - Oxidative Stress strategies to fight cancer
  - Strategies to modulate the harmful effects of antioxidants
- **New Players in Redox balance**
  - DNA damage response proteins
  - Apoptotic factors
- **Oxidative Stress, Ageing & Longevity: Where are we now?**
  - Lesson from the Naked Mole Rat Model to study stress response and longevity
  - Can longevity be exogenously modulated?
• Oxidative Stress & Chronic Diseases: From Predictive to Preventive Medicine
• Oxidative Stress, Antioxidants & Innovations
  ▪ News devices, materials and kits to study oxidative stress
  ▪ New synthetic antioxidants for industrial uses - Applications in biofuel, biodiesel and adhesives
• Nitrosative stress, the other key player

Cell Cycle, Stem Cells & Longevity
The impact of oxidative stress on cell cycle, stem cells regulation, and longevity will be presented. Beneficial and deleterious effects of ROS in key processes related to ageing and longevity will be also discussed.

To conclude this congress, we will organize a round table discussion to answer two strategic questions:
• Oxidative Stress and Antioxidants: The “positive” and “negative” sides of the coin for antioxidants
• The subtle balance between redox homeostasis, ROS, and mitochondria homeostasis

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

**Marvin Edeas** – Chairman of the Scientific Committee
**Miria Ricchetti** – Chairperson of the Local Organizing Committee
Day 1 - June 13, 2016

Session 1: Oxidative Stress, Ageing & Stem cells

09:00 Keynote Lecture: Mitochondrial dysfunction and longevity in animals: Untangling the knot
Siegfried Hekimi, McGill University, Canada

09:30 Stem cell regenerative decline with aging: role of oxidative stress
Pura Muñoz-Cánoves, ICREA and Pompeu Fabra University, Spain

10:00 Stem cells and oxidative stress in age related muscle loss (sarcopenia)
Marco Sandri, University of Padova, Italy,

10:30 Coffee Break & Posters Session

11:00 NADPH oxidases: key modulators in aging and age-related cardiovascular diseases?
Patrick J. Pagano, University of Pittsburgh Pennsylvania, USA

Session 2: Oxidative Stress, Redox Regulation-Modulation & Redox-Active Agents

11:30 A case of mistaken identity: are Reactive Oxygen Species actually reactive sulfide species?
Kenneth R. Olson, Indiana University School of Medicine, USA

12:00 Deciphering the function of the STOX1 protein in the management of oxidative stress in trophoblast cells
Daniel Vaiman, INSERM, France

12:30 Lunch Break & Posters Session

Session 3: Oxidative Stress Evaluation in 2016

14:00 Secondary reactive oxygen species production in sera of patients with resectable non-squamous cell lung cancers
Partial oxygen atmospheric pressure influences the occurrence of berry aneurysm disruption.
Thierry Patrice, CHU de Nantes, France

14:30 The complexity of ROS detection in harsh environments such as the phagosome
Oliver Nüsse, Laboratoire de Chimie Physique, UMR8000, France
15:00 Short oral presentations

Evaluation of peroxidation stress in cells using electrochemical peroxidation and real-time headspace selected ion flow tube mass spectrometry
Violetta Shestivska, J. Heyrovsky Institute of Physical Chemistry of the CAS, Czech Republic

Brain oxidative stress in suicidality and other-directed aggressivity: identification of the NADPH oxidase NOX2 as a novel biomarker
Stefania Schiavone, University of Foggia, Italy

15:30 Coffee Break

16h00 Redox sensitive proteins: novel oxidative modifications and structural regulations
Kong-Joo Lee, Ewha Womans University, Korea

Autologous activation of anti-stress gene functions in humans
Victor Semenkov, Pirogov Russian National Research Medical University, Russia

N-acetyl ornithine deacetylase is a moonlighting protein and is involved in the adaptation of Entamoeba histolytica to nitrosative stress
Serge Ankri, Faculty of Medicine-Technion, Israel

Synergistic application of tea extract and lactic acid bacterial fermentation in enhancing bioavailability and anti-oxidative effectiveness of tea flavonoids
Danyue Zhao, The University of Hong Kong, China

Don't forget to submit your abstract for short oral presentation before April 30.

17:30 End of the First Day
Day 2 - June 14, 2016

08:30 Welcoming & Registration of Attendees

Session 4: Oxidative Stress regulation and Cancer

09:00 On the role of ROS and antioxidants in tumor initiation and progression

Martin Bergö, Karolinska Institute, Sweden

09:30 NQO1 overexpression modulates breast cancer cell sensitivity to quinone-based chemotherapeutic agents

Pedro Buc Calderon, Université catholique de Louvain, Belgium

10:00 The chicken or the egg question of oxidative and endoplasmic reticulum stresses in cancer therapy

Mikhail Nikiforov, Roswell Park Cancer Institute, USA

10:30 Coffee Break & Posters Session

11:00 ROS deficiency as disease risk

Ulla Knaus, University College Dublin, Ireland

11:30 Short Oral Presentations upon abstracts submission

Oxidative signaling in organellar homeostatic mechanisms

Avihai Danon, Weizmann Institute of Science, Israel

Pro-apoptotic phytochemicals inhibit cell proliferation and promote oxidation of the typical 2-Cys peroxiredoxin proteins in Jurkat T-lymphoma cells

Ann Kathryn Schuller, Flinders University, Australia

Restauration of copper homeostasis in Alzheimer disease

Anne Robert, CNRS, France

Effect of vitamin D3 supplementation on metal and redox homeostasis in hormon treated prostate cancer patients

Krisztina Süle, Hungarian Academy of Natural Sciences, Hungary

A new tomato hybrid to fight UVA-induced (ultraviolet) oxidative stress

Daria Maria Monti, University of Naples Federico II, Italy

NADPH Oxidase-induced oxidative stress enhances VEGF synthesis under hyperglycemic condition in ARPE-19 cells

Rashidul Haque, Emory University, United States

12:30 Lunch Break & Posters Session
Session 5: Antioxidants, Redox Homeostasis & Skin

14:00 Cutaneous oxidative stress induced by pollution (particulate matter) and its aggravation by environmental ultraviolet (UV) 
Laurent Marrot, L’Oréal R&D, France

14:30 Skin redox balance maintenance: The need for an Nrf2-activator delivery system 
Maya Ben-Yehuda Greenwald, The Hebrew University of Jerusalem, Israel

15:00 Skin anti-ageing and systemic redox effects of supplementation with marine collagen peptides and plant-derived antioxidants 
Liudmila G. Korkina, Centre of Innovative Biotechnological Investigations, Russia

15:30 Coffee Break & Posters Session

16:00 Cutaneous free radical induction by sunlight in different spectral regions and counteraction by systemically or topical applied antioxidants 
Martina Meinke, Charité - Universitätsmedizin Berlin, Germany

16:30 Short Oral Presentations upon abstracts submission

Overexpression of heterogeneous nuclear ribonucleoprotein F (HnRNP F) prevents oxidative stress and kidney injury in diabetic mice 
John Chan, Centre de Recherche-CHUM, Canada

Blue-light dependent ROS formation by cryptochrome may represent a novel signaling mechanism 
Margaret Ahmad, University of Paris VI, France

Effect of Ethylmethylhydroxypyridine succinate (EMS) on brain degeneration in multiple sclerosis 
Lidia Prakhova, Institute of Human Brain of the Russian Academy of Sciences n.a. N.P. Bechterev, Saint-Petersburg, Russia

p38MAPK is suppressed in acute myeloid leukemia 
Paul Hole, Cardiff University, United Kingdom

A sub-population of primary acute myeloid leukemia blasts shows resistance to oxidative stress and reduced p38MAPK activation 
Richard Darley, Cardiff University, United Kingdom

A new family of antioxidant proteins: antioxidant properties of the chloride intracellular ion channel protein, CLIC1 
Stella Valenzuela, University of Technology Sydney, Australia

Oxidative stress as biomarker of piglet health at weaning 
Arnaud Buchet, PEGASE, Agrocampus Ouest, INRA, France

ROS increases glycolysis in acute myeloid leukaemia via overexpression of PFKFB3 
Andy Robinson, Cardiff University, United Kingdom

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18:00 End of Second Day

20:00 Dinner in a French Typical Restaurant 
If you would like to participate, please register online directly on website.
Day 3 - June 15, 2016

08:55  Opening of the Third Day

Session 6: Oxidative Stress & Chronic Diseases:
From Predictive to Preventive & Therapeutic Medicine

09:00  Peroxisome proliferation: an anti-oxidant defense against noise-induced hearing loss
Christine Petit, Institut Pasteur, France

09:30  Oxidative stress, Sarcopenia, Antioxidant strategies and Exercise: Molecular aspects
Thomas Brioche, Université de Montpellier, France

10:00  Pre-clinical evidences that antioxidant supplementation corrects sperm DNA oxidative damage and
improves reproductive success
Joël Drevet, Clermont Université, France

10:30 Coffee Break & Posters Session

11:00  Reactive oxygen-related diseases: therapeutic targets and emerging clinical indications
Harald H.H.W. Schmidt, Maastricht University, The Netherlands

11:30  Acute, chronic lung diseases and oxidative stress: targeting respiratory infections, COPD and viral-
induced exacerbations of COPD
Ross Vlahos, RMIT University, Australia

12:00  Physiological glycation by methylglyoxal and prevention by glyoxalase 1 - involvement in disease
mechanisms and development of glyoxalase 1 inducer therapeutics
Paul Thornalley, University of Warwick, United Kingdom

12:30 Lunch Break & Posters Session

14:00  Oxidative Stress in Ataxia telangiectasia: Recent Advances & Perspectives
Marc-Henri Stern, Institut Curie, France

Session 7: Oxidative Stress, Antioxidants & Innovations

14:30  Nano-Antioxidants for the treatment of neurodegenerative disorders
Rajat Sandhir, Panjab University, India

15:00  Antioxidant systems in brain astrocytes: sources of cysteine for glutathione
Gethin McBean, University College Dublin, Ireland

15:30 Lunch Break & Posters Session

16:00  Short oral Presentations upon abstracts submission
Protandim treatment causes reversible nuclear translocation of Nrf-2 and activation of the antioxidant
response element
Nathalie Chevreau, LifeVantage Corp., United States
Oxidative stress and cerebral cavernous malformation disease: from pathogenic mechanisms to preventive and therapeutic approaches  
Saverio Francesco Retta, University of Torino, Italy

Mitochondrial deacetylation is an activating signal mediated by sirtuin 3 for metabolism-secretion coupling in pancreatic beta cells  
Umberto De Marchi, Nestlé Institute of Health Sciences, Switzerland

Preventing oxidative reactions during red blood cell storage for transfusion  
Aline Roch, University of Geneva, Switzerland

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17:00  Closing Keynote Lecture (speaker tbc)
17:30  Concluding Remarks by Marvin Edeas & Miria Ricchetti
17:45  End of ISANH Paris Redox Conference