25th International Conference
REDOX MEDICINE
JUNE 21-23 2023
PARIS FRANCE

June 21-23, 2023 - IRIS Conference Center - Paris, France

Hallmarks of Aging & Redox Medicine:
An Expanding Universe
Guido Kroemer, Université de Paris Cité, Hôpital Européen George Pompidou, France

Workshop: From Antioxidants to Redox Medicine: How to Evaluate Oxidative Stress and Protect Redox Homeostasis?
Ginette Deby-Dupont, University of Liège, Belgium

Ferroptosis: A Decade Before and After the Coining
Marcus Conrad, Helmholtz Zentrum München, Germany

Redox Medicine in the Anthropocene
How do we make it work?
Martin Felsch, University of Southampton, United Kingdom

Redox Medicine 2023: What's Next?
Chandan K. Sen, Indiana University, USA

- Ferroptosis 2023: New Insights & Discoveries
  - Targeting Mitochondrial Copper: Therapeutic Strategies
  Raphael Rodriguez, Institut Curie, France

Redox Medicine, Mitochondria & Aging:
The Underestimated Link
Amalia M. Doig, University of Groningen, The Netherlands

Redox Homeostasis and Sarcopenia:
Targeting Mitochondria
Francesco Bellomonte, University of Foggia, Italy

Antibacterial Strategies Based on Reactive Oxygen Species
Wee Han Ang, National University of Singapore, Singapore

Chronobiology: The Reactive Species
Interactome-Mitochondria Axis, the Hands of the Circadian Clock?
Laurent Chatre, Normandie University, UNICAEN Cyclotron, Centre national de la recherche scientifique (CNRS), France

Precision Redox: The Key for Antioxidant Pharmacology
Chang Chen, Institute of Biophysics, Chinese Academy of Sciences, China

A Redox Theory of Biological Regulation
Jérôme Santolini, Laboratoire Stress Oxydant et Détoxication, France

The Skin Redoxome: Perspectives in Photodamage and Sun Care
Mauricio S. Baptista, Universidade de São Paulo, Brazil

Awakening Adult Retinal Stem Cells:
A New Function of NOX Signaling in the Xenopus Retina
Morgane Lécker, Université Paris-Saclay, France

The Determination of Intracellular Labile Ironic for Diagnosis and Prognosis of Iron-Related Disorders: the Example of Friedreich's Ataxia
Chararheh Pourzand, University of Bath, United Kingdom

Redox Balance as a Biomarker: Towards Personalized Interventions for Health
Dong-Yun Shi, Fudan University, China

Mitochondrial Involvement in Different Model Systems of Ferroptosis
Monnie Merkel, Philipps-Universität Marburg, Germany

Effects of Reactive Sulfur Species in Macrophage Activation and Regulation of Apoptosis/Necrosis Pathways in Cancer Cells
Moran Benhar, Technion University, Israel

Redox Medicine & Signaling: Molecular Mechanisms Underlying Age-Related Muscle Decline
Robert A Heaton, University of Liverpool, United Kingdom

Friedreich's Ataxia: the Pathological Iron-redox Axis Revisited
Benoît D'Autréaux, Paris-Saclay University, France

Arsenic-Copper: A Double-Edged Sword for a Unique Double Benefit against Immunological Disorders
Carole Nicco, President of RMS, Université de Paris, France and Biosens SA, Belgium

Antioxidant Capacity Biomarkers, A Path Forward to Develop ROS-inducing Drugs for Cancer Therapy
Nikolas Gunke, Deutsches Krebsforschungszentrum (DKFZ), Germany
The International Conference on Redox Medicine 2023, to be held June 21-23, will be organized to bring together academic and industry experts in redox to discuss advances and recent innovation in this vast field. We will highlight recent clinical applications of antioxidants in health and disease. We will spend more time covering all the devices and methods for the assessment of oxidative stress.

 Reactive oxygen species (ROS) have been studied for decades, but the results remain controversial. ROS are beneficial to biological mechanisms, yet they also have harmful effects such as causing tissue and organ damage. The work and results presented at the Redox Medicine Congress will give us the opportunity to view ROS from a different dimension that may explain the conflicting results or provide a broader perspective. The exchange of ideas will help us to think differently about the neglected features and potentials of ROS, to relate medicine to redox balance, and to explore the mechanisms described in other disciplines.

 In an era of increasing health challenges, it is imperative that we seriously consider the innovative alternatives offered by organic and inorganic redox-active compounds. It has significantly diversified the field of redox medicine, paving the way for visionary approaches to the development of biotechnology and healthcare. The translation of many disciplines in which the fields of redox biology and free radical research have brought important scientific advances to society, the clinic, and industry will help strengthen our field. One of our main goals is to also connect redox drugs with other key players: mitochondrial and microbiotal medicine.

 I am delighted to be the President of the Society of Redox Medicine to bring you the 2023 Paris International Conference on Redox Medicine with the latest advances in this field, to help each of us establish strong interactions and strengthen our underlying technology and knowledge sharing networks in basic and clinical redox research and medicine.

 We look forward to meeting you during our 25th anniversary this June.

 All our best regards,

 Dr. Carole Nicco,
 President of Redox Medicine Society
Day 1 - Wednesday, June 21, 2023

From Antioxidants to Redox Medicine: How to Evaluate Oxidative Stress and Protect Redox Homeostasis?

13h00 – 18h00

13h00 Welcoming of Participants and Badges

13h55 Introduction of the workshop

14h00 Session 1 - Reactive species derived from oxygen (ROS) and antioxidants

14h45 Session 2 - The different methods to measure an antioxidant power

15:30 – Coffee Break

16h00 Session 3 - REDOX Homeostasis: From Antioxidants to Redox Medicine

16h45 Discussion

17h15 End of the workshop

Ginette Deby-Dupont,
University of Liège, Centre for Oxygen,
Research & Development (CORD),
Liege, Belgium

Workshop Agenda
Day 2 - Thursday, June 22, 2023

8h00 Welcoming of attendees & Badge Distribution

8h50 General Introduction of Redox Medicine 2023:
Carole Nicco, President of Redox Medicine Society,
Institut Cochin - INSERM U1016, Université de Paris
BioSenic SA, Belgium

9h00 Keynote Speech on Hallmarks of Aging & Redox Medicine: An Expanding Universe
Guido Kroemer, Université de Paris Cité, Hôpital Européen George Pompidou, France

Session 1: Oxidative Stress & Antioxidants: A Step Closer to Redox Medicine

Chairs: Carole Nicco, Marcus Conrad
Presentations length: 25 minutes. Questions will be answered before each break

9h30 Redox Medicine in the Anthropocene – How do we make it work?
Martin Feelisch, University of Southampton, United Kingdom

9h55 A Redox Theory of Biological Regulation
Jérôme Santolini, Laboratoire Stress Oxydant et Détoxication, France

10h20 Questions to Speakers

10h30 – 11h10 Coffee Break, Poster & Exhibition Session

11h10 Awakening Adult Retinal Stem Cells: A New Function of NOX Signaling in the Xenopus Retina
Morgane Locker, Université Paris-Saclay, France

11h35 Cross-talk Chronobiology: The Reactive Species Interactome-Mitochondria Axis, the Hands of the Circadian Clock?
Laurent Chatre, Normandie University, UNICAEN Cyceron, CNRS, France
12h00 Antibacterial Strategies Based on Reactive Oxygen Species
Wee Han Ang, National University of Singapore, Singapore

12h25 Questions to Speakers

12h40 – 14h00 Lunch Break, Poster & Exhibition Session
Group picture outside

Session 2: Ferroptosis 10 Years Later: What’s Next?
Chairs: Carole Peyssonnaux, Raphael Rodriguez
Presentations length: 25 minutes. Questions will be answered before each break

14h00 Ferroptosis: A Decade Before and After the Coining
Marcus Conrad, Helmholtz Zentrum München, Germany

14h25 Ferroptosis 2023: New Insights & Discoveries
Raphael Rodriguez, Institut Curie, France

14h50 Mitochondrial Involvement in Different Model Systems of Ferroptosis
Melanie Merkel, Philipps-Universität Marburg, Germany

15h15 Questions to Speakers

15h30 – 16h10 Coffee Break, Poster & Exhibition Session

16h10 – Short Oral Presentations
Presentations length: 8 minutes + 2 minutes Q&A

Mitochondrial assays in your hands by Agilent
Christophe Iochem, Agilent, France

The Link Between Alzheimer’s Disease and Ferroptosis-Related Pathways
Naďa Majerníková, University of Groningen, The Netherlands
In Vitro Study of the Implication of Reactive Species Interactome and Bioenergetics Metabolisms in the Cellular Response of Glioblastoma Cells Treated with a SOD-Mimetic Agent Combined to X-rays Irradiation, Under Normoxic or Hypoxic Condition
Elise Malard, Université de Caen Normandie, France

Unveiling Lipopolysaccharide-induced Brain Region-dependent Iron Metabolism and Microglial Changes and Modulation by Iron Pre-treatment in C57BL/6J Mice
Po-Wah So, King’s College London, United Kingdom

Mitochondria-Related Oxidative Stress: An Unexplored Field in Diverticular Disease
Martina Cappelletti, Sapienza Università’ Di Roma, Italy

Formation of Neutrophil Extracellular Traps (Nets): Study by Atomic Force Microscopy
Viktoria Sergunova, V.A. Negovsky Research Institute of General Reanimatology, Russian Federation

Influence of Reactive Oxygen Species on Red Blood Cell Morphology, Membrane and Cytoskeleton Nanostructure: Atomic Force Microscopy Study
Elena Kozlova, V.A. Negovsky Research Institute of General Reanimatology, Russian Federation

A New Electrochemical Device for Total Antioxidant Activity Determination in Biological Samples
Henar Muñoz-Cimadevilla, Bioquochem SL, Spain

Reductase 1 (TR1) Modulates Pigmentation and Photobiology of Murine Melanocytes in vivo
Arup Kumar Indra, Oregon State University, USA

Ascorbic Acid – Prooxidant or Antioxidant? The Effects on Human Cell Line U-937
Ankush Prasad, Palacký University, Czech Republic

Maternal Oxidative Stress during Pregnancy Associated with Emotional and Behavioural Problems in Early Childhood: Implications for Fetal Programming
Cindy Pham, Murdoch Children’s Research Institute, Royal Children’s Hospital, Australia

17h50 – End of Redox Medicine 2023 Day 1

20h00 – Speakers’ Dinner (For ticket holders only)
Day 3 - Friday, June 23, 2023

8h00 Welcoming of Attendees & Registration

Session 3: Redox Medicine in Health & Diseases: Innovations, & Strategies

Chairs: Marvin Edeas, Martin Feilisch

Presentations length: 25 minutes. Questions will be answered before each break

8h30 Redox Balance as a Biomarker: Towards Personalized Interventions for Health

Dong-Yun Shi, Fudan University, China

8h55 Targeting Mitochondrial Copper: Therapeutic Strategies

Raphael Rodriguez, Institut Curie, France

9h20 Arsenic-Copper: A Double-Edged Sword for a Unique Double Benefit against Immunological Disorders

Carole Nicco, Institut Cochin - INSERM U1016, Université de Paris, France

BioSenic SA, Belgium

9h45 Effects of Reactive Sulfur Species in Macrophage Activation and Regulation of Apoptosis/Necrosis Pathways in Cancer Cells

Moran Benhar, Technion University, Israel

10h10 Questions to Speakers

10h30 – 10h55 Coffee Break, Networking, Poster & Exhibition Session

Chairs: Miria Ricchetti, Jérôme Santolini

10h55 Antioxidant Capacity Biomarkers, a Path Forward to Develop ROS-Inducing Drugs for Cancer Therapy

Nikolas Gunkel, Deutsches Krebsforschungszentrum (DKFZ), Germany

11h10 Friedreich’s Ataxia: The Pathological Iron-redox Axis Revisited

Benoit D’Autréaux, Paris-Saclay University, France
11h35 The Determination of Intracellular Labile Ironome for Diagnosis And Prognosis of Iron-Related Disorders: The Example of Friedreich’s Ataxia
Charareh Pourzand, University of Bath, United Kingdom

12h00 Redox Medicine & Signaling: Molecular Mechanisms Underlying Age-Related Muscle Decline
Robert A Heaton, University of Liverpool, United Kingdom

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12h45 – 13h50 Lunch Break, Poster & Exhibition Session

Group picture inside

Chairs: Charareh Pourzand, Laurent Chatre

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Mauricio S. Baptista, Universidade de São Paulo, Brazil

14h15 Precision Redox: The Key for Antioxidant Pharmacology
Chang Chen, Institute of Biophysics, Chinese Academy of Sciences, China

14h40 Redox Homeostasis and Sarcopenia: Targeting Mitochondria
Francesco Bellanti, University of Foggia, Italy

15h05 Redox Medicine, Mitochondria & Aging: The Underestimated Link
Amalia M. Dolga, University of Groningen, The Netherlands

15h30 Questions to Speakers

15h50 Concluding Remarks – Redox Medicine 2023: What’s Next?
Chandan K. Sen, Editor in Chief of Antioxidants & Redox Signaling Journal, Indiana University, USA

16h00 – Awards of Redox Medicine Society 2023
16h15 – End of Redox Medicine Society 2023