

INTERNATIONAL SOCIETY OF ANTIOXIDANTS

24th International Conference on
Oxidative Stress Reduction, Redox Homeostasis & Antioxidants

PARIS REDOX 2022

June 22-24, 2022 - Paris, France



www.isanh.net

Oxidative Stress, Redox Homeostasis & Antioxidants

June 22-24 – Paris, France & Online

Welcome to Paris Redox 2022

It is a great pleasure to welcome all of you to the 24th International Conference on Oxidative Stress Reduction, Redox Homeostasis & Antioxidants "Paris Redox 2022" which will be held on June 22-24, in Paris, France. The congress will be live streamed with an option of online participation.

Although the last 2 editions of the congress were online due to the sanitary situation, they were a huge success. Thanks to all participants and speakers, the meeting was very interactive, it was possible to look at talks more than once.

During Paris Redox 2022, we will discuss recent advances and perspectives of redox science and medicine. We will also discuss redox signaling as a wide spectrum that means that submissions on reactive oxygen species, reactive nitrogen species and reactive sulfur species are very much welcome. In our opinion, the inclusion of multiple reactive species as driving forces of redox signaling will significantly broaden our scope. As may be clear from the literature, lifestyle, diet and the microbiome are becoming driving forces in the modulation of the Redox status. Clinical and experimental approaches in that field are subjects we would like to discuss. Other clinical and animal studies which aim at the modulation of the Redox status and means to measure that will be the subject of many talks in the meeting. To further elucidate the multiple mechanisms of redox control in oxidative stress-related pathologies and ageing, we also welcome data on the identification and dissection of the function of the key players in reactive species-related redox processes.

Topics which will be discussed during the 3-day congress:

- *Redox: Recent Advances & Perspective*
- *Mitochondria-Microbiota Inter-talk & Redox*
- *Redox, Ageing & Immunity*
- *Nrf2 Signaling Pathway*
- *Redox Medicine & Innovations 2022*
- *Fertility & Redox Medicine: Recent Advances and Therapeutic Potential*
- *Ocular Disorders & Redox Medicine: Recent Advances & Perspectives*

Let us make together the 2022 Paris Redox meeting a resounding success.

All our warmest regards.



Prof. Harry van Goor

President of ISANH

University Medical Center

Groningen, the Netherlands

24th

International Conference on

Oxidative Stress Reduction, Redox Homeostasis & Antioxidants

Redox Medicine & Innovations

June 22-24, 2022 - IRIS Conference Center - Paris, France



Opening Speech of Paris Redox 2022: Redox Medicine: Now and Tomorrow. The Role of Physiological Redox Signaling
Helmut Sies, Heinrich Heine University Düsseldorf, Germany



Personalized antioxidant therapies, a novel approach for male infertility
Cristian O'Flaherty, McGill University, Canada



Reprogrammed Transsulfuration Promotes Basal Like Breast Tumor Progression via Realigning Cellular Cysteine-persulfidation
Peter Nagy, National Institute of Oncology, Hungary



The Role of Red Blood Cells in Regulation of Vascular Tone and Blood Pressure
Miriam Margherita Cortese-Krott, Heinrich Heine University Düsseldorf, Germany



Personalized Redox Medicine in Inflammatory Bowel Disease
Arno Bourgonje, University Medical Center Groningen, Netherlands



Effect of 'Antioxidant' Nutraceuticals on Cellular Sulfur Metabolism and Signaling: An alternative Therapeutic Approach
Kenneth Olson, Indiana University, USA



Antioxidant function of a key metabolic integrator coenzyme A in cellular response to oxidative or metabolic stress
Ivan Gout, University College London, the United Kingdom



The Impact of Dynamins on Mitochondrial Integrity and Function in Ferroptosis
Stephan Tang, Philipps-Universität Marburg, Germany



Mitochondrial Sirtuins in Reproduction: Focus on Female Fertility
Carla Tatone, University of L'Aquila, Italy



Sulfite Oxidase in Health and Disease: Links Between Cysteine Catabolism, H₂S Homeostasis and NO Signaling
Guenter Schwarz, University of Cologne, Germany



Opening Speech on Therapeutic Insights into Delaying the Onset of Cataract
Julie Lim, University of Auckland, New Zealand



Reactive Species Interactome-Mitochondria-Microbiota triangle: A brand-new perspective on Redox Signaling & Medicine
Laurent Chatre, ISTCT, CNRS, Université de Caen-Normandie, France



Pathophysiology of Oxidative Stress and Antioxidants in Anterior and Posterior Segments of the Eye
Francisco Javier Romero, Requesena General Hospital, Spain



Tuning Oxidative Metabolism and Stress Responses through Small RNA Biogenesis
Marcelo Alves da Silva Mori, Univesity of Campinas, Brazil



Oxidative Stress and Energetic Failure: Common Features in 3 Different Mouse Models of Retinal Pigment Epithelium Defects
Elora Vanoni, Institut La Vision, France



Novel Atypical Functions of Nrf2 and Keap1 in Endothelial Cells
Anna Grochot-Przeczek, Jagiellonian University, Poland



Impact of Keap1/Nrf2 signaling on thyroid physiology and disease
Gerasimos Sykiotis, University of Lausanne, Switzerland



Workshop on How to Evaluate Oxidative Stress & Antioxidants Activities?
Ginette Deby-Dupont, Liège University, Belgium



ROS and Adaptive Immunity
Carole Nicco, Institut Cochin - INSERM U1016, Université de Paris, France



Introduction Remarks
Harry van Goor, President of ISANH, University Medical Center, Netherlands



Oxidative Processes in Diabetic Retinopathy
Albert Augustin, Klinikum Karlsruhe, Switzerland



Disruption of Microbiota and Intestinal Epithelial Interactions as a Key Driver of Non-Communicable Diseases
Mariana Xavier Byndloss, Vanderbilt University Medical Center, USA



Sulfide Donor Treatment in Diabetic Animals
Nicholas Morton, University of Edinburgh, United Kingdom



Skeletal Muscle Nrf2 and Its Role in Exercise-induced Cardiovascular Protection: A Mechanism of Extracellular Vesicles
Lie Gao, University of Nebraska Medical Center, USA



The Relation Between Oxidative Stress and COVID-19 Vaccination Response
Larissa Van Ejik, University Medical Center Groningen, Netherlands



Targeting Redox-Active Iron in Psoriatic Skin, a Novel Approach for Topical Therapy of Plaque Psoriasis
Charareh Pourzand, University of Bath, the United Kingdom



Nitrate Metabolism in Human Health and Disease
Paul Winyard, University of Exeter Medical School, the United Kingdom



Gestational Diabetes Mellitus and Fetal Endothelial Dysfunction
Luis Sobrevia, Pontificia Universidad Católica de Chile, Chile

Paris Redox 2022

Day 1– Wednesday, June 22

How to Evaluate Oxidative Stress & Antioxidants Activities From Initiation to Improvement...

13h00 – 18h00

13h00 Welcoming of Participants and Badges

13:55 Introduction of the workshop

14h00 **Session 1 - Oxidants and antioxidants: physicochemical reminders**

15:30 *Break*

15h45 **Session 2 - What are the different methods of dosage of antioxidants?**

Presentation of the most used methods, their main characteristics, advantages and disadvantages

Presentation of practical cases

16h45 **Session 3 - Oxidants and antioxidants in vivo**

17:20 **Discussion**

18h00 End of the workshop



Ginette Deby-Dupont,

University of Liège, Centre for Oxygen, Research & Development (CORD), Liege, Belgium

Workshop Agenda

Paris Redox 2022

Day 2 - Thursday, June 23, 2022

8h00 Registration, Badges Distribution and Welcome Coffee



8h55 Introduction Remarks

Harry van Goor, President of ISANH, University Medical Center, Groningen, the Netherlands



9h00 Opening Speech Introduction on Redox Medicine: Now and Tomorrow

The Role of Physiological Redox Signaling

Helmut Sies, Heinrich Heine University Düsseldorf, Germany

Session 1 – Redox 2022: Recent Advances & Perspectives

Chaired by Harry van Goor and Marvin Edeas

9h30 **The Role of Red Blood Cells in Regulation of Vascular Tone and Blood Pressure**
Miriam Margherita Cortese-Krott, Heinrich Heine University Düsseldorf, Germany

9h50 **Antioxidant Function of a Key Metabolic Integrator Coenzyme A in Cellular Response to Oxidative or Metabolic Stress**
Ivan Gout, University College London, United Kingdom

10h10 **Tuning Oxidative Metabolism and Stress Responses through Small RNA Biogenesis**
Marcelo Alves da Silva Mori, University of Campinas, Brazil

10h30 Coffee Break & Poster Session

Session 2 – Mitochondria-Microbiota Inter-talk & Redox

Chaired by Carole Peyssonnaud and Laurent Chatre

11h15 **Reactive Species Interactome-Mitochondria-Microbiota triangle: A Brand-New Perspective on Redox Signaling & Medicine**
Laurent Chatre, ISTCT, CNRS, Université de Caen-Normandie, France

11h35 **Disruption of Microbiota and Intestinal Epithelial Interactions as a Key Driver of Non-Communicable Diseases**
Mariana Xavier Byndloss, Vanderbilt University Medical Center, USA

11h55 - Short Oral Presentations

Optimizing Redox Balance and Modulating Gut Microbial Composition through Anti-oxidant Vitamin Supplementation – Results from Intervention Trials in Healthy Volunteers
Antonius T. Otten, University Medical Center Groningen, Netherlands

Mechanistic Insights into Organic Nitrite-Mediated Vasodilation of Isolated Aortic Rings Under Oxidative/Hypertensive Conditions and S-Nitros(yl)ation of Proteins in Germ-Free Mice
Paul Stamm, University Medical Center Mainz, Germany

Calcioprotein Particle-Induced Calcium Overload Triggers Mitochondrial Dysfunction in Endothelial Cells
Lian Feenstra, University Medical Center Groningen, The Netherlands

Role of Superoxide Produced by NOX1-PRDX6 Interaction in Cancer Progression
Daniel José Lagal, University of Cordoba, Spain

Collagen Uptake by Macrophages is Regulated by its Redox State and Can Be Regulated Via 4-Octyl itaconate
Sjors Maassen, Groningen University, The Netherlands

The Amyloid Peptide β Increases Endothelial Permeability in a NADPH Oxidase 1-Dependent Manner: A Link Between Alzheimer's Disease and Neurovascular Inflammation.
Giordano Pula, University Clinic Eppendorf-Hamburg, Germany

12h40 Lunch Break & Poster Session

Session 3 – Redox, Immunity & Ageing

Chaired by Carole Nicco and Arno Bourgonje

14h00 **ROS and Adaptive Immunity**
Carole Nicco, Institut Cochin - INSERM U1016, Université de Paris, France

14h20 **Gestational Diabetes Mellitus and Fetal Endothelial Dysfunction**
Luis Sobrevia, Pontifician Universidad Católica de Chile, Chile

14h40 **The Relation Between Oxidative Stress and COVID-19 Vaccination Response**
Larissa Van Eijk, University Medical Center Groningen, Netherlands

15h00 **The Impact of Dynamics on Mitochondrial Integrity and Function in Ferroptosis**
Stephan Tang, University of Marburg, Germany

15h20 **Oxidative Stress Markers in Inflammatory Bowel Diseases: Current Update from Oxibdiet Trial**
Laura Cianfruglia, Polytechnic University of Marche, Italy

15h35 Coffee Break & Poster Session

Session 4 – Nrf2 Signaling Pathway

Chaired by Anna Grochot-Przęczek and Charareh Pourzand

- 16h15 **Novel Atypical Functions of Nrf2 and Keap1 in Endothelial Cells**
Anna Grochot-Przęczek, Jagiellonian University, Poland
- 16h35 **Skeletal Muscle Nrf2 and Its Role in Exercise-induced Cardiovascular Protection: A Mechanism of Extracellular Vesicles**
Lie Gao, University of Nebraska Medical Center, USA
- 16h55 **Impact of Keap1/Nrf2 Signaling on Thyroid Physiology and Disease**
Gerasimos Sykiotis, University of Lausanne, Switzerland

17h15 - Short Oral Presentations

DJ-1/NRF2 Pathway in the Prevention of Inflammasome Activation; Possible Role in Diabetic Nephropathy
Santiago Cuevas, BioMedical Research Institute of Murcia (IMIB), Spain

Targeting SIRT1/NRF2/HO-1 Signaling After ELF-EMF Exposure in THP-1 Cells
Antonia Patruno, University "G. D'Annunzio", Italy

Dimethyl Itaconate Inhibits Melanogenesis by Targeting the MC1R-ERK1/2-MITF Axis and the KEAP1-NRF2 Pathway
Bo Yeoung YU, Dongguk University, Korea

Defense Mechanisms Neutralizing Circulating Oxidized Phospholipids
Valery Bochkov, University of Graz, Austria

Design of a Microfluidic Device for Point-of-Care Testing of Free Thiol Levels in Plasma
Esmay Julliette Hammink, University of Twente, The Netherlands

Quantitation of Reactive Species in Cellular Systems
Yakov Yurievich Woldman, Valdosta State University, USA

Development of an in-vitro Measurement Method for the Determination of a Stress Response Factor (SRF) in Blood by Electron Paramagnetic Resonance (EPR) Spectroscopy and Validation in an in-vivo Study
Silke B. Lohan, Charité-Universitätsmedizin Berlin, Germany

Systemic Oxidative Stress is Associated With an Increase in Maternal Hypertensive Disorders in Pregnancies Complicated With Severe Early Fetal Growth Restriction A Secondary Analysis of the Dutch Strider Cohort
Marjon Eelkje Feenstra, University Medical Centre Groningen, The Netherlands

18h10 End of the Second Day

20h00 Speakers' Dinner

The dinner will be held at Scribe Hotel Paris - (1 Rue Scribe, Paris, France). If you want to join, you can register [here](#).

24th International Conference on Oxidative Stress, Redox Homeostasis & Antioxidants 2022

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Paris Redox 2022

Day Three - Friday, June 24, 2022

08h25 Welcome coffee & Introduction of the second day

Session 5 – Redox Medicine & Innovations 2022

Chaired by Peter Nagy and Nicholas Morton

- 8h30 **Effect of ‘Antioxidant’ Nutraceuticals on Cellular Sulfur Metabolism and Signaling: An Alternative Therapeutic Approach**
Kenneth Olson, Indiana University, USA
- 8h50 **Sulfide Donor Treatment in Diabetic Animals**
Nicholas Morton, University of Edinburgh, United Kingdom
- 9h10 **Reprogrammed Transsulfuration Promotes Basal Like Breast Tumor Progression via Realigning Cellular Cysteine-Persulfidation**
Peter Nagy, National Institute of Oncology, Hungary
- 9h30 **Targeting Redox-Active Iron in Psoriatic Skin, a Novel Approach for Topical Therapy of Plaque Psoriasis**
Charareh Pourzand, University of Bath, United Kingdom
- 9h50 **Nitrate Metabolism in Human Health and Disease**
Paul Winyard, University of Exeter Medical School, United Kingdom
- 10h10 **Personalized Redox Medicine in Inflammatory Bowel Disease**
Arno Bourgonje, University Medical Center Groningen, Netherlands
- 10h30 **Sulfite Oxidase in Health and Disease: Links Between Cysteine Catabolism, H₂S Homeostasis and NO Signaling**
Guenter Schwarz, University of Cologne, Germany

10h50 Coffee Break & Poster Session

Session 6 – Fertility & Redox Medicine: Recent Advances and Therapeutic Potential

Chaired by *Cristian O'Flaherty*

11h30 **Personalized Antioxidant Therapies, A Novel Approach for Male Infertility**
Cristian O'Flaherty, McGill University, Canada

11h50 **Mitochondrial Sirtuins in Reproduction: Focus on Female Fertility**
Carla Tatone, University of L'Aquila, Italy

12h10 - Short Oral Presentations

Mitochondrial-Derived ROS Signal MEHP-Induced Inhibition of Steroid Biosynthesis in MA-10 Mouse Tumor Leydig Cells
Kassim Traore, Campbell University, USA

Comparative Study to the Effects of Intrinsic and Extrinsic Stressors on the In-Utero Development
Payal Chakraborty, JIS University, India

Investigating The Therapeutic Effects of Different Antioxidants in Friedreich's Ataxia
Fred Jonathan Edzeamey, Brunel University London, United Kingdom

Acute Serum Free Thiols: A Potentially Modifiable Biomarker of Traumatic Brain Injury
Koen Visser, University Medical Center Groningen, Netherlands

A Comparative Analysis of Oxidative Stress Biomarkers as Predictors of Cardiovascular Events and All-Cause Mortality in the General Population - A Prospective Cohort Study
Martin Bourgonje, University Medical Center Groningen, Groningen, The Netherlands

12h45 Lunch Break & Poster Session

Session 7 – Ocular Disorders & Redox Medicine: Recent Advances & Perspectives

Chaired by *Miria Ricchetti*

14h00 **Opening Speech on Therapeutic Insights into Delaying the Onset of Cataract**
Julie Lim, University of Auckland, New Zealand

14h20 **Pathophysiology of Oxidative Stress and Antioxidants in Anterior and Posterior Segments of the Eye**
Francisco Javier Romero, Requena General Hospital, Spain

14h40 **Oxidative Stress and Energetic Failure: Common Features in 3 Different Mouse Models of Retinal Pigment Epithelium Defects**
Elora Vanoni, Institut La Vision, France

15h00 **Oxidative Processes in Diabetic Retinopathy**
Albert Augustin, Klinikum Karlsruhe, Germany

15h20 **Protective Role of Sphingomyelin in Eye Lens Membrane Against Oxidative Stress During Aging**
Mehdi Ravandeh, Leibniz Institute for Plasma Science and Technology, Germany

15h30 Coffee Break & Poster Session

16h00 - Short Oral Presentations of Day 3

Chaired by Oliver Nüsse

Lipidomic and Oxy-lipidomic Analyses Reveal Extensive Lipid Remodeling in Sars-Cov-2 Infected Syrian Hamsters' Lung

Rosangela Silva Santos, University of Sao Paulo, Brazil

Plasma Thioredoxin and Thioredoxin Binding Protein 2 Levels During COVID-19: Relationship with Severity and Outcome

Camille Chenevier-Gobeaux, Cochin Hospital, APHP-CUP, France

Early Biological Effects and Respiratory Health in Workers Exposed to Nanomaterial. The Nanoexplore Project

Giulia Squillaciotti, University of Turin, Italy

Uratylated Plasma Albumin is Increased in Patients with Heart Failure and Promotes the Adhesion of THP-1 Monocytes to Endothelial Cells

Railmara Pereira Silva, University of São Paulo, Brazil

Oxidative Stress and Physical Activity in MS Patient. A Systematic Review

Valeria Bellisario, University of Turin, Italy

Oxidative Stress After Maximal Intensity Exercise in Older Endurance Athletes Compared to Men with a Sedentary Lifestyle exercise together

Mateusz Mardyla, University of Physical Education, Poland

Physical Activity at Work: An Agreeable Way to Counteract the Oxidative Stress Burden

Federica Ghelli, University of Turin, Italy

Baobab Seed Oil as a Source of Novel Plant Lipids with Antioxidant Properties

Agnieszka Trela-Makowej, AGH University of Science and Technology, Poland

Effect of Extracts from Spiny-Cheek Crayfish (*FaxoniusLimosus*) on H2O2-Induced Oxidative Stress in Normal Fibroblast Cells

Klara Zglinska, Warsaw University of Life Sciences, Poland

Berberis Microphylla G. Forst Intake Can Reduce the Impact of High-Fat Diet in Plasmatic Cardiovascular Disease Precursors Using a Mice Model

Claudia Mardones, Universidad de Concepcion, Chile

17h10 **Redox Medicine 2022: Concluding Remarks Perspectives**

Marvin Edeas, Institut Cochin - INSERM U1016, Université de Paris, France

17h25 **Paris Redox Awards**

17h30 **End of the Paris Redox 2022**