

# REDOX MEDICINE SOCIETY



**26<sup>TH</sup>**  
International  
Conference

# REDOX MEDICINE

**JUNE**  
**27-28**  
**2024**  
PARIS  
FRANCE

## AGENDA



## Call for Abstracts

**Short oral: June 10**

**Poster: June 14**

## Early Bird Registration

**May 27, 2024**

## Paris Redox Medicine 2024 Sessions

**Session 1: Redox Balance in Health & Disease**

**Session 2: Redox Medicine 2024: Future Innovative Directions**

**Session 3: Redox Status, Biomarkers and Artificial Intelligence**



**Lessons from a Journey along the Redox Chemistry of Nitrogen Oxides to Drug Development**

**Bruce Freeman,**  
University of Pittsburgh, USA



**Regulation of the Reactive Species Interactome by Prokineticin Antagonist in Cerebral Dementia**

**Christel Marquette,**  
Commissariat à l'Énergie Atomique et aux Energies



**Antioxidants Stimulate Blood Flow in Tumors**

**Martin O. Bergö,**  
Karolinska Institutet, Sweden



**Metabolic Regulation by Redox Signaling in the Heart**

**Tamara Tomin,**  
TU Wien, Austria



**NADH: The Redox Sensor in Aging-Related Disorders**

**Roberta Rizzo,**  
Università degli Studi di Ferrara, Italy



**Exploring Predictors of HDL Oxidative Stress Functionality in Post-Covid Disease and Relation to Severity**

**Jumana Saleh,**  
Sultan Qaboos University, Oman



**Redox Implications of Supplementary Oxygen during Major Abdominal Surgery**

**Andrew Cumpstey,**  
University of Southampton, United Kingdom



**Identifying Oxidized Lipids in Neurodegenerative Diseases**

**Sayuri Miyamoto,**  
University of São Paulo, Brazil



**Pharma's Search for Redox-Modulating Therapeutics**

**Duncan Emerton,**  
Vice-President of Citeline, United Kingdom



**Artificial Intelligence in NeuroInflammation, Biomarkers and Redox Medicine**

**Stéphane Mouchabac,**  
Hôpital Saint-Antoine, APHP, France



**Artificial Intelligence & Algorithms: Applications in Redox Medicine & Radiology**

**Maxime Barat,**  
Université Paris Cité, Hôpital Cochin, France



**Redox Medicine: A Biologist Point of View**

**Miria Ricchetti,**  
Institut Pasteur, France



**The Reactive Species Interactome, Mitochondria, and the Gender-Brain Metabolism Nexus**

**Laurent Chatre, ISTCT, CNRS,**  
Université de Caen Normandie, France



**Drug repurposing on Alzheimer's Disease & NRF2 Modulation**

**George M. Spyrou,**  
The Cyprus Institute of Neurology & Genetics, Cyprus



**Epigenetic Modulators Link Mitochondrial Redox Homeostasis to Cardiac Function in a Sex-Dependent Manner**

**Zaher El Beck,**  
Karolinska Institutet, Sweden



**Mechanism of the SuperInflammasome Complexes in Human Diseases and Redox Signaling**

**Mario D. Cordero,**  
Universidad Pablo de Olavide, Spain



**Redox 2024: Biomarkers**

**Carole Nicco,**  
Université de Paris, France



**Targeting the Keap1/Nrf2 Pathway for Treatment of Chronic Neurodegenerative Diseases**

**Jeffrey A. Johnson,**  
University of Wisconsin, USA



**Redox, Radiotherapy and Biomarkers**

**Radia Tamarat,**  
Institut de Radioprotection et de Sécurité Nucléaire (IRSN), France



**New Insights into the Impact of Oxidative Stress in Hypertensive Diseases of Pregnancy**

**Daniel Vaiman,**  
DR1 INSERM, Institut Cochin, France



**How to Develop a Drug – From Preclinical to Clinical**

**Antonio Vila-Coro,**  
IQVIA, Spain



[www.redox-medicine.com](http://www.redox-medicine.com)

## Day 1 - Thursday, June 27, 2024

8h00 **Welcoming of attendees & Badge Distribution**

8h55 **Welcome to Redox Medicine 2024**

**Carole Nicco**, *President of Redox Medicine Society*

9h00 **Keynote Introduction of Redox Medicine 2024**



**Redox Medicine: A Biologist Point of View**

**Miria Ricchetti**, *Institut Pasteur, France*

### Session 1: Redox Balance in Health & Disease

*Moderators: Carole Nicco and Martin Feelisch*



9h30 **Mechanism of the SuperInflammasome Complexes in Human Diseases and Redox Signaling**

**Mario D. Cordero**, *Universidad Pablo de Olavide, Spain*



9h50 **Regulation of the Reactive Species Interactome by Prokineticin Antagonist in Cerebral Dementia**

**Christel Marquette**, *Laboratoire Biosanté U1292 INSERM-CEA-UGA, Equipe MAB2, France*



10h10 **Metabolic Regulation by Redox Signaling in the Heart**

**Tamara Tomin**, *Technical University of Vienna, Austria*

10h30 **Questions & Answers**

**10h45 – 11h30 Coffee Break, Poster & Exhibition Session**



11h30 **Epigenetic Modulators Link Mitochondrial Redox Homeostasis to Cardiac Function in a Sex-Dependent Manner**

**Zaher El Beck**, *Karolinska Institutet and Uppsala University, Sweden*



11h50 **The Reactive Species Interactome, Mitochondria, and the Gender-Brain Metabolism Nexus**

**Laurent Chatre**, *ISTCT, CNRS, Université de Caen Normandie, France*



12h10 **Pharma's Search for Redox-Modulating Therapeutics**  
*Duncan Emerton, Vice-President of Citeline, United Kingdom*

12h30 **Questions & Answers**

**12h40 – 14h00 Lunch Break, Poster & Exhibition Session**

*Moderators: Bruce Freeman and Zaher El Beck*



14h00 **Antioxidants Stimulate Blood Flow in Tumors**  
*Martin O. Bergö, Karolinska Institutet, Sweden*



14h20 **NADH: The Redox Sensor in Aging-Related Disorders**  
*Roberta Rizzo, Università degli Studi di Ferrara, Italy*



14h40 **Redox Implications of Supplementary Oxygen during Major Abdominal Surgery**  
*Andrew Cumpstey, University of Southampton, United Kingdom*



15h00 **New Insights into the Impact of Oxidative Stress in Hypertensive Diseases of Pregnancy**  
*Daniel Vaiman, INSERM, Institut Cochin, France*

15h20 **Questions & Answers**

**15h40 – 16h10 Coffee Break, Poster & Exhibition Session**

16h10 **Short Oral Presentations of Day 1**

**Thiosulfate Sulfurtransferase (TST) Deficiency Improves the Metabolic Benefits of Calorie Restriction in Male Mice**

*Shaden Melhem, University of Edinburgh, United Kingdom*

**The Duality of Reactive Sulfur Species: Cellular Oxidants and Antioxidants**

*Christopher Switzer, University of Leicester, United Kingdom*

**HO-1 Regulation in BACH1 Knockout Mice Following Sepsis**

*Raghavan Pillai Raju, Medical College of Georgia, USA*

***Mangifera indica* L. Extracts: A Source of Bioactive Compounds to Target Redox Balance Circuits in Cancer and Obesity Models**

*Antonella D'Anneo, University of Palermo, Italy*

## **Present Your Poster in 2 Minutes**

*Poster presenters are invited to share their posters to the scientific board and attendees in a brief 2-minute presentation.*

**1. Metallofullerenols as a New Generation of Radiotherapeutics: Protecting Effect on Radiolytically Induced Hemolysis of Human Erythrocytes**

*Michał Żebrowski, University of Warsaw, Poland*

**2. A Synthetic Thiol Molecule Releasing N-Acetyl-L-Cysteine (NAC) and Cysteamine (MEA) with Antiviral and Anti-Inflammatory Activity**

*Sofia Masini, University of Urbino Carlo Bo, Italy*

**3. Antiproliferative Effect of Phenolic Compounds from Garlic on Human Breast Cancer Cells through the Modulation of Oxidative Stress**

*Yasmany Armas Diaz, Autonomous University of Guerrero, Mexico*

**4. Nuclear Localization of Glyoxalase 2 and its Possible Role as Survival Factor in Human MCF7 Breast Cancer Cells**

*Brenda Romaldi, Polytechnic University of Marche, Italy*

**5. Resveratrol Regulates the Level of Expression of Genes Related to Appetite Regulation in Hypothalamus of Obese Mice**

*Monica Espinoza-Rojo, Autonomous University of Guerrero, Mexico*

**6. Curcumin Improves Redox Status in the Periphery and Regulates the Expression of Appetite-Regulated Molecules in the Hypothalamus of Diabetic Mice**

*Yaccil Adilene Flores-Cortez, Autonomous University of Guerrero, Mexico*

**7. HM-Chromanone Ameliorates Metabolic Dysfunction-Associated Steatotic Liver Disease by Modulating Hepatic Lipogenesis and Oxidative Stress in High Fat Diet-Fed Mice**

*Ji Sook Han, Pusan National University, Republic of Korea*

**8. New Insight into Bilirubin as a pH-Dependent Antioxidant in Micellar and Liposomal Systems**

*Wojciech Witkowski, University of Warsaw, Poland*

**9. Improving the Nature - Modifications of Natural Polyphenols Leading to Increase of Lipophilicity**

*Paweł Przybylski, University of Warsaw, Poland*

**10. Oxygen Consumption and Oxidative Stress in Osteoprogenitor Cells Exposed to an Osteoinductive Biomaterial**

*Renata Neves Granito, Federal University of São Paulo, Brazil*

**11. Setting-Up of 3D Organoid Culture Model in Cancer Compared to 2D System**

*Giulia Casari, Polytechnic University of Marche, Italy*

**12. Antidiabetic Activity of *Passiflora edulis* Seed Oil in Zebrafish**

*Elaine Luiza Santos Soares Mendonça, Federal University of Alagoas, Brazil*



- 13. NOX2 and NOX4 Expression in Monocytes and Macrophages: Extracellular Vesicles in Signaling and Therapeutics**  
*Ankush Prasad, Palacký University, Czech Republic*
- 14. Nitroreductase-Activated Fluorescent Probes for Imaging Hypoxia in Cancer Cells**  
*Małgorzata Brindell, Jagiellonian University, Poland*
- 15. Metabolic Effects of Elevated Sulfide are not Mediated through Skeletal Muscle AMPK or Insulin Signaling in High Fat Fed TST-/- Mice**  
*Hongling Liu, University of Edinburgh, United Kingdom*
- 16. Nitric Oxide – Dependent S-Nitrosation Mediated by Microperoxidase-11**  
*Maria Oszajca, Jagiellonian University, Poland*
- 17. Non-Ionizing Radiation Exposure Induces Resistance to Oxidative Stressor Menadione**  
*James Harry Skoyles, Aston University, United Kingdom*
- 18. Influence of Environmental Stressor on Endothelial Senescent Cells**  
*Olga Mazuryk, Jagiellonian University, Poland*
- 19. Mitochondrial Transplantation as Potential Therapeutic Solution to Ischemia-Reperfusion Injury in Kidney and Brain**  
*Anne Borgne-Sanchez, Mitologics, France*
- 20. Hydroxycinnamic Acid Derivatives as Bifunctional Antioxidants and Iron Chelators for UVA Photoprotection In Skin Cells**  
*Charareh Pourzand, University of Bath, United Kingdom*
- 21. Myeloperoxidase Inhibition as a Therapeutic Target for Alzheimer's Disease: Exploration if an *in vitro* Model Using HMC3 Cells**  
*Astrid Mayleth Rivera Antonio, Instituto Politécnico Nacional, Mexico*
- 22. Relationship Between Peak Oxygen Uptake and Protein Oxidation in Adults with COVID-19**  
*Sergio Sánchez-Nuño, University of Barcelona, Spain*
- 23. Supplementation of Dietary Glutathione Suppresses the Growth of Bacterial Clostridia in the Gut of Weaned Piglets**  
*Yuhuang Hou, Ghent University, Belgium*

17h30 **End of Redox Medicine 2024 Day 1**

20h00 – **Speakers' Dinner (For ticket holders only)**

## Day 2 - Friday, June 28, 2024

8h00 **Welcoming of Attendees & Registration**

8h30 **Keynote Speech**



**Lessons from a Journey along the Redox Chemistry of Nitrogen Oxides to Drug Development**  
*Bruce Freeman, University of Pittsburgh, USA*

### Session 2: Redox Medicine 2024: Future Innovative Directions

*Moderators: Laurent Chatre and Kiran Padmanabhan*



9h00 **Drug Repurposing on Alzheimer's Disease & NRF2 Modulation**  
*George M. Spyrou, The Cyprus Institute of Neurology & Genetics, Cyprus*



9h20 **Targeting the Keap1/Nrf2 Pathway for Treatment of Chronic Neurodegenerative Diseases**  
*Jeffrey A. Johnson, University of Wisconsin, USA*



9h40 **A Nitroalkene-Based Therapy for Parkinson's Disease – Preclinical Results**  
*Bruce Freeman, University of Pittsburgh, USA*

10h00 **Questions & Answers**

**10h20 – 11h00 Coffee Break, Poster & Exhibition Session**

## Session 3: Redox Status, Biomarkers and Artificial Intelligence

Moderator: Charareh Pourzand and Tamara Tomin



11h00 **Redox Medicine and Innovations: The Incredible Journey of a Small, Powerful Molecule through Biomarkers**

**Carole Nicco**, *President of Redox Medicine Society*



11h20 **Identifying Oxidized Lipids in Neurodegenerative Diseases**

**Sayuri Miyamoto**, *University of São Paulo, Brazil*



11h40 **Exploring Predictors of HDL Oxidative Stress Functionality in Post-Covid Disease and Relation to Severity**

**Jumana Saleh**, *Sultan Qaboos University, Oman*

12h00 **Questions & Answers**

**12h20 – 14h00 Lunch, Poster & Exhibition Session**

Moderators: *Carole Peyssonnaud and Jeffrey Johnson*



14h00 **Artificial Intelligence in NeuroInflammation, Biomarkers and Redox Medicine**

**Stéphane Mouchabac**, *CHU St Antoine DMU Neurosciences and Institut du Cerveau, Paris*



14h20 **Advanced Medical Imaging in Redox Medicine**

**Maxime Barat**, *Université Paris Cité, Hôpital Cochin, France*



14h40 **How to Develop a Drug – From Preclinical to Clinical**

**Antonio Vila-Coro**, *IQVIA, Spain*



15h00 **Redox, Radiotherapy and Biomarkers**

**Radia Tamarat**, *Institut de Radioprotection et de Sûreté Nucléaire (IRSN), France*

15h20 **Questions & Answers**



15h35 – 16h00 Coffee, Poster & Exhibition Session

16h00 **Short Oral Presentations & Innovations of Day 2**

**Therapeutic Efficacy of Novel Conjugates Based On Gold and Cerium Oxide Nanoparticles in Rats with Metabolic Dysfunction-Associated Steatohepatitis**

*Guillermo Fernández-Varo, CIBEREHD and Hospital Clinic Barcelona-IDIPAPS, Spain*

**Endothelial Cell Redox Modulation through a Synthetic Thiol Compound Tuning the Metabolic Profiles and Stress Responses in Hypoxia and Normoxia**

*Michela Bruschi, University of Urbino Carlo Bo, Italy*

**About Oxidative Stress, Placenta, Zika Virus and Therapeutic Potential of Natural Products**

*Marília Oliveira Goulart, Federal University of Alagoas, Brazil*

**Structure-Based Drug Design for Targeting Thioredoxin Reductase-Like Enzymes: Paving the Way to Treat Parasitic Infections and Other Diseases**

*Matteo Ardini, University of L'Aquila, Italy*

**Preferential Production of PGF2 $\alpha$  in SARS-Cov-2 Permissive Human Lung Epithelial Cells**

*Rosangela Silva Santos, University of Sao Paulo, Brazil*

16h50 **Concluding Remarks**

**Martin Feelisch**, *University of Southampton, United Kingdom*

17h00 **Awards of Redox Medicine Society 2024**

**End of Redox Medicine Society 2024**



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