

Redox Webinars 2021 Programme

Seminar #1 - 11 February

Ferroptosis: from metabolism to disease treatment

15:00-15:10

Welcome and Introduction

Mauro Maccarrone

(University of L'Aquila, Italy)

15:10-15:40

Ferroptosis and Metabolism



Fulvio Ursini

(University of Padua, Italy)

15:40-16:10

Targeting Ferroptosis for the Treatment of as-yet-Incurable Diseases



Marcus Conrad

(Helmholtz Zentrum München, Germany)

16:10-17:00

Questions and Answers

Seminar #2 - 11 March

Redox therapies for neurodegenerative diseases: lights and shadows

15:00-15:10

Welcome and Introduction

Luciano Saso

(Faculty of Pharmacy and Medicine, Sapienza University of Rome)

15:10-15:30

The NRF2-KEAP1 Signaling Pathway as a Pharmacological Target in Neurodegenerative diseases



Antonio Cuadrado

(Dept of Biochemistry, Medical School, Autonomous University of Madrid, Spain)

15:30-15:50

Breaking the vicious cycle of oxidative stress – inflammation – cell death by reversible cysteine modifications of Keap1



Albena T. Dinkova-Kostova

(Jacqui Wood Cancer Centre, Division of Cellular Medicine, School of Medicine, University of Dundee, UK)

15:50-16:10

Oxidative Stress in Amyotrophic Lateral Sclerosis: Pathophysiology and Opportunities for Pharmacological Intervention



Paulo J. Oliveira

(CNC-Center for Neuroscience and Cell Biology, University of Coimbra, UC Biotech Building, Biocant Park, Cantanhede, Portugal)

16:10-17:00

Questions and Answers

Seminar #3 - 26 April

Crosstalk between oxidative stress and metabolic defects: implications for Alzheimer's disease

15:00-15:10

Welcome and Introduction

Luciano Saso

(Faculty of Pharmacy and Medicine, Sapienza University of Rome)

15:10-15:40

Amyloid β -peptide and brain oxidative damage: focus on the intersection of the lipid peroxidation product HNE covalently bound to brain proteins, glucose dysmetabolism, and Alzheimer disease



D. Allan Butterfield

(Dept of Chemistry and Sanders-Brown Center on Aging, University of Kentucky, Lexington, KY, USA)

15:40-16:00

Mitochondrial dysfunction and oxidative stress in Alzheimer's disease



Paula I. Moreira

(Institute of Physiology, Faculty of Medicine, Center for Neuroscience and Cell Biology, University of Coimbra, Portugal)

16:00-16:20

Down Syndrome is a metabolic disease: altered insulin signaling mediates brain dysfunctions



Marzia Perluigi

(Dept of Biochemical Sciences, Sapienza University of Rome, Italy)

16:20-17:00

Questions and Answers

Seminar #4 - 13 May

Radioprotectors and radiosensitizers in cancer therapy.

15:00-15:10

Welcome and Introduction

Luciano Saso

(Faculty of Pharmacy and Medicine, Sapienza University of Rome)

15:10-15:30

Targeting redox metabolism for cancer therapy: from the bench to the bedside



Douglas R. Spitz

(Department of Radiation Oncology, Holden Comprehensive Cancer Center, The University of Iowa, Iowa City, IA, USA)

15:30-15:50

SOD mimics act as a radiosensitizer by enhancing hydrogen peroxide levels and altering metabolism in prostate cancer cells



Rebecca Oberley-Deegan

(Department of Biochemistry and Molecular Biology, University of Nebraska Medical Center, Omaha, NE, USA)

15:50-16:10

Advancing redox principles and chemistry for diagnosis and treatment of radiation resistant cancer



Cristina M. Furdul

(Department of Internal Medicine, and Co-Director of the Center for Redox Biology and Medicine at Wake Forest School of Medicine, Winston-Salem, NC, USA)

16:10-17:00

Questions and Answers

Seminar #5 - 24 June

Therapeutic potential of antioxidants: from male infertility to retinal disorders

15:00-15:10

Welcome and Introduction

Mauro Maccarrone

(University of L'Aquila, Italy)

15:10-15:40

Oxidative stress and antioxidant-based therapies in male infertility



Barbara Tavazzi

(Catholic University of Rome, Italy)

15:40-16:10

A glance on antioxidants: the role of sulfur amino acids in retinal disorders



Marcello Allegretti

(Dompè, L'Aquila, Italy)

16:10-17:00

Questions and Answers

Seminar #6 - 6 July

Interplay between the gaseous signaling molecules NO and H₂S: from reaction mechanisms to physiology

15:00-15:10

Welcome and Introduction

Alessandro Giuffrè

(Consiglio Nazionale delle Ricerche, Italy)

15:10-15:40

The reactive species interactome in health and disease



Martin Feelisch

(University of Southampton, United Kingdom)

15:40-16:05

The H₂S/NO crosstalk at the level of the H₂S-synthesizing enzymes



João B. Vicente

(Universidade Nova de Lisboa, Portugal)

16:05-16:30

The redox physiology and pharmacology of the interaction of sulfide and nitric oxide in the cardiovascular system



Miriam Cortese-Krott

(University of Dusseldorf, Germany)

16:30-17:00

Questions and Answers

Seminar #7 - 7 September

Redox balance, metabolism and aggressiveness of cancer cells

15:00-15:10

Welcome and Introduction

Mauro Maccarrone

(University of L'Aquila, Italy)

15:10-15:40

Mitochondrial redox hubs as promising targets for anticancer therapy



Paola Chiarugi

(University of Florence, Italy)

15:40-16:10

Targeting NF-κB downstream effectors in cancer: embracing complexity to treat disease



Daria Capece

(University of L'Aquila, Italy)

16:10-17:00

Questions and Answers

Seminar #8 - 4 October

Exercise and disease prevention: the role of redox signaling

15:00-15:10

Welcome and Introduction

Luciano Saso

(Faculty of Pharmacy and Medicine, Sapienza University of Rome)

15:10-15:30

Muscle redox responses to exercise and ageing



Malcolm J. Jackson

(MRC-Versus Arthritis Centre for Integrated research into Musculoskeletal Ageing, Dept of Musculoskeletal and Ageing Science, Inst. of Life Course and Medical Sciences, University of Liverpool, Liverpool, UK)

15:30-15:50

Redox regulation of muscle function in exercise



Mari Carmen Gomez-Cabrera

(Freshage Research Group, Dept Physiology, University of Valencia, CIBERFES, INCLIVA, Valencia, Spain)

15:50-16:10

Exercise, oxidative eustress and stress response



Daniela Caporossi

(Unit of Biology and Genetics of Human Movement, Department of Movement, Human and Health Sciences, University of Rome Foro Italico, Rome, Italy)

16:10-17:00

Questions and Answers

Seminar #9 - 14 October

The gaseous signaling molecules NO, CO and H₂S as new old players in the prokaryotic world

15:30-15:40

Welcome and Introduction

Alessandro Giuffrè

(Consiglio Nazionale delle Ricerche, Italy)

15:40-16:20

Nitric oxide, carbon monoxide and hydrogen sulfide: a microbial perspective of the trinity



Robert K. Poole

(University of Sheffield, Sheffield, UK)

16:20-17:00

Role of H₂S in *Mycobacterium tuberculosis* pathogenesis: a new paradigm for understanding dormancy



Adrie J.C. Steyn

(Africa Health Research Institute, Durban, South Africa & University of Alabama, Birmingham, AL, USA)

17:00-17:30

Questions and Answers

Seminar #10 - 18 November

Pharmacological perspectives from investigation of the gasotransmitter hydrogen sulfide in Down syndrome and Alzheimer's disease

15:00-15:10

Welcome and Introduction

Alessandro Giuffrè

(Consiglio Nazionale delle Ricerche, Italy)

15:10-15:50

The CBS/H₂S system: a re-emerging therapeutic target in Down syndrome



Csaba Szabo

(University of Fribourg, Switzerland)

15:50-16:30

Protective role of Sulfhydration in Alzheimer's disease



Bindu D. Paul

(Johns Hopkins University, Baltimore, MD, USA)

16:30-17:00

Questions and Answers

Seminar #11 - 2 December

Metabolic ROS production and resolution of inflammation: new perspectives for anticancer treatments

- 15:00-15:10 **Welcome and Introduction**
Mauro Maccarrone
(University of L'Aquila, Italy)
- 15:10-15:40 **Modulation of cancer cell proliferation by interfering with metabolic ROS production: new perspective for anticancer treatments**
 **Maria Rosa Ciriolo**
(Tor Vergata University of Rome, Italy)
- 15:40-16:10 **Proresolving lipid mediators as novel endogenous modulators of oxidative stress**
 **Alessandro Leuti**
(Campus Bio-Medico University of Rome, Italy)
- 16:10-17:00 **Questions and Answers**

Seminar #12 - 16 December

Aberrant redox responses in neurodevelopmental conditions: the case of autism and Rett Syndrome

- 15:00-15:10 **Welcome and Introduction**
Luciano Saso
(Faculty of Pharmacy and Medicine, Sapienza University of Rome)
- 15:10-15:30 **OxInflammation in Rett Syndrome**
 **Giuseppe Valacchi**
(Department of Neuroscience and Rehabilitation, University of Ferrara, Italy)
- 15:30-15:50 **Deciphering the role of cerebral redox imbalance in Rett Syndrome**
 **Michael Müller**
(University Medical Center Göttingen, Inst. Neuro- and Sensory Physiology, Göttingen, Germany)

15:50-16:10

Mitochondrial impairment in Autism Spectrum Disorders



Alessandra Pecorelli

(North Carolina State University, Animal Science Dept., Plants for Human Health Institute, Kannapolis, NC, USA)

16:10-17:00

Questions and Answers