SESSION 1: REDOX SIGNALING & SIGNAL TRANSDUCTION

Room: Grand Ballroom A

Chairs: Fernando Antunes, Universidade de Lisboa, Portugal & Philip Eaton, King's College London, UK

2:30 pm - 2:50 pm Abstract #59, Pg S39
Peroxide-Regulated Heme Transfer: A Novel Redox Signaling Mechanism
Ann English, Concordia University - Canada

2:50 pm - 3:10 pm Abstract #69, Pg S42
NOX2 Regulates Inflammation by Modifying Thioredoxin-1 Redox State
Lucia Lopes, University of São Paulo - Brazil

3:10 pm - 3:30 pm Abstract #54, Pg S37
The Receptor for Advanced Glycation End Product (RAGE) Binding to HMGB1 and Subsequent NADPH Oxidase Activation Mediates Ectopic Intestinal Inflammation in NAFLD
Varun Chandrashekaran, University of South Carolina - USA

3:30 pm - 3:50 pm Abstract #319, Pg S138
Nitric Oxide-Mediated Angiogenesis Is Improved by β3 Adrenergic Receptor Stimulation
Kristen Bubb, Kolling Institute/University of Sydney - Australia

3:50 pm - 4:10 pm Abstract #64, Pg S40
Low Dose Cadmium Stimulates Myofibroblast Differentiation and Lung Fibrosis by Activation of SMAD and Nuclear Thioredoxin-1
Xin Hu, Emory University - USA

SESSION 2: DIABETES/METABOLIC SYNDROME

Room: Grand Ballroom B

Chairs: Reto Asmis, Univ. of Texas HSC - San Antonio, USA & Raffaella Mastrocola, University of Turin, Italy

2:30 pm - 2:50 pm Abstract #414, Pg S173
Deletion of TXNIP Mitigates High Fat Diet-Impaired Blood Flow and Inflammation in a Model of Critical Limb Ischemia
Azza El-Remessy, University of Georgia - USA

2:50 pm - 3:10 pm Abstract #424, Pg S176
Advanced Glycation End Products Inhibition Restores Sphingolipid Rheostat in Mice Liver and Prevents Diet-Induced Insulin Resistance
Raffaella Mastrocola, University of Turin - Italy

3:10 pm - 3:30 pm Abstract #423, Pg S176
Role of Oxidative Stress in Epigenetic Modification of Matrix Metalloproteinase-9 in the Development of Diabetic Retinopathy
Renu Kowluru, Wayne State University - USA

3:30 pm - 3:50 pm Abstract #355, Pg S150
Approaches for Overcoming Diabetes-Induced Cardiovascular Nitric Oxide Resistance
Rebecca Ritchie, Baker IDI Heart and Diabetes Institute - Australia

3:50 pm - 4:10 pm Abstract #327, Pg S141
Inactivation of Mitochondrial Deacetylase Sirt3 Promotes Vascular Oxidative Stress, Increases Endothelial Dysfunction and Exacerbates Hypertension
Anna Dikalova, Vanderbilt University - USA

SESSION 3: INFLAMMATION & INJURY

Room: Grand Ballroom C

Chairs: Bernhard Bruene, Goethe-University, Frankfurt am Main, Germany & Corinne Spickett, Aston University, UK

2:30 pm - 2:50 pm Abstract #105, Pg S56
Antioxidant Reprogram Macrophages from Pro-Tumor M2 to Anti-Tumor M1
Brandon Griess, University of Nebraska Medical Center - USA

2:50 pm - 3:10 pm Abstract #96, Pg S53
Monocytic Glutaredoxin 1 Protects Mice Against Obesity, Hyperglycemia and Atherosclerosis
Kevin Downs, Univ. of Texas HSC - San Antonio - USA

3:10 pm - 3:30 pm Abstract #121, Pg S62
Redox Control of the Critical Immune Regulatory Enzyme Indoleamine 2,3-Dioxygenase by NADPH Oxidase 2-Derived Reactive Oxygen Species in Human Monocytes
Shane Thomas, University of New South Wales - Australia

3:30 pm - 3:50 pm Abstract #252, Pg S113
Synergistic Effects of Aurothioglucose and Hyperoxia in Neonatal Hyperoxic Lung Injury
Stephanie Wall, University of Alabama at Birmingham - USA

3:50 pm - 4:10 pm Abstract #145, Pg S72
A Novel Selenium Compound Enhances Wound Closure and Improves Microvascular Perfusion: Implications for Wound Healing
Michael Davies, University of Copenhagen - Denmark

SESSION 4: REACTION MECHANISMS

Room: Grand Ballroom A

Chairs: Ohara Augusto, University of São Paulo, Brazil & Henry Jay Forman, University of Southern California, USA

2:30 pm - 2:50 pm Abstract #9, Pg S21
Dissecting the Mechanism of Prx2-Mediated H_2O_2 Sensing
Ana Denicola, Universidad de la República - Uruguay

2:50 pm - 3:10 pm Abstract #26, Pg S27
Analyses of Amino Acid Sequences and Tertiary Structures Among Ohr Enzymes Revealed a Catalytic Role for Y126
Diogo Meireles, University of São Paulo - Brazil

3:10 pm - 3:30 pm Abstract #14, Pg S23
Fluorescent Proteins Such as EGFP Catalytically Generate Superoxide Anion Free Radical and H_2O_2 in the Presence of NAD(P)H
Douglas Ganini, NIEHS/NIH - USA

3:30 pm - 3:50 pm Abstract #36, Pg S30
Quantitative Relationship Between NADPH Depletion and Inhibition of NOX2-Induced Superoxide Radical Anion
Jeannette Vasquez-Vivar, Medical College of Wisconsin - USA

3:50 pm - 4:10 pm Abstract #350, Pg S149
Mutation of the SERCA-Reactive Cysteine-674 to Serine Attenuates Left Ventricular Hypertrophy and Diastolic Dysfunction in Senescent Mice
Fuzhong Qin, Boston University - USA

SESSION 5: CANCER

Room: Grand Ballroom B

Chairs: Daret St. Clair, University of Kentucky, USA & Shinya Toyokuni, Nagoya University, Japan

2:30 pm - 2:50 pm Abstract #304, Pg S131
DUOX1 Silencing in Lung Cancer Is Associated with Enhanced Nuclear EGFR Localization
Albert van der Vliet, University of Vermont - USA

2:50 pm - 3:10 pm Abstract #287, Pg S126
The Redox Active Anti-Cancer Drug, Dp44mT, Induces Endoplasmic Reticulum Stress Activating Pro-Apoptotic Pathways of the Unfolded Protein Response in Cancer Cells
Angelica Merlot, University of Sydney - Australia

3:10 pm - 3:30 pm Abstract #279, Pg S123
Manganese Porphyrin, MnTE-2-PyP5$^+$, Enhances Chemotherapeutic Response in Hematological Malignancies
Melba Jaramillo, University of Arizona - USA

3:30 pm - 3:50 pm Abstract #309, Pg S133
Suppressing Colon Cancer Growth in Xenograft Tumors Via Knocking Down Delta-5-Desaturase and Exploiting High COX-2 Expression Levels in Cancer
Yi Xu, North Dakota State University - USA

3:50 pm - 4:10 pm Abstract #466, Pg S193
Pharmacological Ascorbate in Combination with Standard-Of-Care Radio-Chemotherapy Enhances Tumor Response in an Orthotopic Sarcoma Model
Joshua Schoenfeld, University of Iowa - USA

SESSION 6: NEUROSCIENCE

Room: Grand Ballroom C

Chairs: Qitao Ran, Univ. of Texas HSC - San Antonio, USA & Jun-Feng Wang, University of Manitoba, Canada

2:30 pm - 2:50 pm Abstract #388, Pg S163
Chronic Hyperglycemia Promotes Hippocampal REST Epigenetic Gene Inactivation with Cognitive Impairment and Neurotoxicity
Alexandra Latini, Universidade Federal de Santa Catarina - Brazil

2:50 pm - 3:10 pm Abstract #394, Pg S165
The Unfolded Protein Response Initiates the Astrocyte Inflammatory Response Following Exposure to the Smoking-Associated Oxidant Hypothiocyanous Acid
Benjamin Rayner, Heart Research Institute - Australia

3:10 pm - 3:30 pm Abstract #371, Pg S157
Improvement of BVR-A Activity Ameliorates Brain Insulin Resistance in Alzheimer Disease Following Intranasal Insulin Administration
Eugenio Barone, Sapienza University of Rome Italy

3:30 pm - 3:50 pm Abstract #382, Pg S161
Ablation of *Gpx4* in Forebrain Neurons Leads to Ferroptotic Cell Death and Cognitive Impairment
Sealy Hambright, Univ. of Texas HSC - San Antonio - USA

3:50 pm - 4:10 pm Abstract #2, Pg S19
Oxidative Inactivation of Human Glutamine Synthetase: Biochemical and Computational Studies
Silvina Bartesaghi, Universidad de la República - Uruguay

SESSION 7: ANTIOXIDANTS

Room: Grand Ballroom A

Chairs: Barry Halliwell, National University of Singapore & Pernille Tveden-Nyborg, University of Copenhagen, Denmark

2:30 pm - 2:50 pm Abstract #189, Pg S92
Nanozyme and Antioxidant Mimetic Cerium Oxide Nanoparticles Confer Excellent Protection Against UV Induced Oxidative Damage in Skin
Aditya Arya, Defence Institute of Physiology and Allied Sciences - India

2:50 pm - 3:10 pm Abstract #224, Pg S104
Cytosolic Fe-Superoxide Dismutase Protects *Trypanosoma Cruzi* from Host-Derived Superoxide and Increases Pathogen Virulence *in Vivo*
Alejandra Martínez, Universidad de la República - Uruguay

3:10 pm - 3:30 pm Abstract #232, Pg S107
Peroxiredoxin II Deficiency Contributes to Contraction-Induced Force Loss in the *mdx* Model of Duchenne Muscular Dystrophy
John Olthoff, University of Minnesota - USA

3:30 pm - 3:50 pm Abstract #220, Pg S103
Generation of Methionine Sulfoxide Reductase Quadruple Knockout Mice
Lo (Lucy) Lai, NHLBI - USA

3:50 pm - 4:10 pm Abstract #206, Pg S98
Chronic Ethanol Consumption Alters SOD2 Dynamics Through Lysine Acetylation
Peter Harris, University of Colorado - USA

SESSION 8: AGING & CARDIOVASCULAR STUDIES

Room: Grand Ballroom B

Chairs: Maria Kadiiska, NIEHS/NIH, USA & Holly Van Remmen, Oklahoma Medical Research Fnd., USA

2:30 pm - 2:50 pm Abstract #344, Pg S146
The Blood Pressure-Lowering Effect of Orally Ingested Nitrite Is Abolished by a Proton Pump Inhibitor
Marcelo Montenegro, Karolinska Institutet - Sweden

2:50 pm - 3:10 pm Abstract #169, Pg S84
Comparing Progeria to Natural Aging Reveals New Insights Regarding the Association of Time and Redox Imbalance
Eric Kelley, West Virginia University - USA

3:10 pm - 3:30 pm Abstract #182, Pg S89
Noninvasively Measured Human Brain Glutathione and Ascorbate Concentrations in Healthy Aging and in Alzheimer's Disease
Melissa Terpstra, University of Minnesota - USA

3:30 pm - 3:50 pm Abstract #351, Pg S149
A Novel MicroRNA Signature in Myocardial Reductive Stress
Justin Quiles, University of Alabama at Birmingham - USA

3:50 pm - 4:10 pm Abstract #348, Pg S148
Redox Control of Protein Kinase G Iα Fine-Tunes the Frank-Starling Law of the Heart in Vivo by Regulating Diastolic Relaxation
Oleksandra Prysyazhna, King's College London - UK

SESSION 9: METABOLISM & MITOCHONDRIA

Room: Grand Ballroom C

Chairs: Silvina Bartesaghi, Universidad de la República - Uruguay & Sruti Shiva, University of Pittsburgh, USA

2:30 pm - 2:50 pm Abstract #439, Pg S183
The Nuclear Form of Heme Oxygenase (HO)-1 Preferentially Promotes Glycolysis in Hyperoxia But Fails to Protect Against Heme Toxicity
Jennifer Carr, Brown University - USA

2:50 pm - 3:10 pm Abstract #438, Pg S182
Genetically Encoded Tools for Compartment-Specific Manipulation of NAD^+/NADH or $NADP^+$/NADPH Ratios
Valentin Cracan, Massachusetts General Hospital - USA

3:10 pm - 3:30 pm Abstract #432, Pg S179
Mitochondria-Targeted Hydrogen Sulfide Donors Protect Microvascular Endothelial Cells from Hyperglycaemia-Induced Metabolic Changes and Oxidative Damage
Matthew Whiteman, University of Exeter - UK

3:30 pm - 3:50 pm Abstract #461, Pg S191
Metabolic Plasticity Regulates Head and Neck Squamous Cell Cancer Growth-State Specific Oxidative Stress Response
Amanda Kalen, University of Iowa - USA

3:50 pm - 4:10 pm Abstract #130, Pg S66
Scavenging of Reactive Isolevuglandins in Mitochondria Reduces Vascular Oxidative Stress and Attenuates Hypertension
Sergey Dikalov, Vanderbilt University - USA