SECOND INTERNATIONAL CONFERENCE ON ENVIRONMENTAL STRESSORS IN BIOLOGY AND MEDICINE

OCTOBER 5-7, 2011
Centro Didattico, Policlinico Le Scotte, Università di Siena
SIENA (ITALY)

CON IL PATROCINIO DEL MINISTERO DELL’AMBIENTE E DELLA TUTELA DELL’AMBIENTE
SECOND INTERNATIONAL CONFERENCE ON ENVIRONMENTAL STRESSORS IN BIOLOGY AND MEDICINE

OCTOBER 5-7, 2011
Centro Didattico, Policlinico Le Scotte, Università di Siena
SIENA (ITALY)

ORGANIZERS

Giuseppe Valacchi Ph.D.
DEPARTMENT OF EVOLUTIONARY BIOLOGY, UNIVERSITY OF FERRARA, FERRARA, ITALY.
DEPARTMENT OF FOOD AND NUTRITION, KYUNG HEE UNIVERSITY, SEOUL, KOREA.

Concetta Gardi Ph.D.
DEPARTMENT OF PHYSIOPATHOLOGY, EXPERIMENTAL MEDICINE & PUBLIC HEALTH, UNIVERSITY OF SIENA, ITALY

Mario Comporti M.D.
DEPARTMENT OF PHYSIOPATHOLOGY, EXPERIMENTAL MEDICINE & PUBLIC HEALTH, UNIVERSITY OF SIENA, ITALY
Day 1 – Wednesday October 5, 2011

9:30-17:00 Registration
9:30- 9:45 Welcome

Session I. Basic Mechanisms of Environmental Stressors

Chairpersons: F. Ursini and L Flohè

09:45-10:10 The role of proteasome signal transduction pathways in adaptation to environmental stress
K. J. A. Davies (Los Angeles, USA)

10:10-10:35 Redox regulation via thiol oxidation: how it could work?
L. Flohé (Magdebourg, Germany)

10:35-11:00 The biological stress of aerobic life: respiration, oxidation, dysfunction and aging
A. Boveris (Buenos Aires, Argentina)

11:00-11:25 Isoprostanes and neuroprostanes: not only biomarkers of lipid peroxidation
T. Durand (Montpellier, France)

11:25-11:50 Coffee Break

Chairpersons: K. J. A. Davies and J. Laranjinha

11:55-12:20 Nitric oxide and cell respiration: effectors, reaction mechanisms and pathophysiological perspectives
P. Sarti (Rome, Italy)
12:20-12:45 Volume signaling in the brain: The proof of concept that neuronal nitric oxide regulates the cerebral microcirculation during neural activity
J. Laranjinha (Coimbra, Portugal)

12:45-13:10 Could co-enzyme Q10 be considered a detoxifying agent toward nitrogen oxides?
L. Greci (Ancona, Italy)

13:10-14:30 Lunch and poster viewing

Session II - Physical and Chemical Stressors and Related Diseases

Chairman: L. Korkina and M. Maiorino

14:30-14:55 Skin aging: does infrared radiation play a role?
T. Grune (Duesseldorf, Germany)

14:55-15:20 Are plant polyphenols friends or foes for human skin?
L. Korkina (Rome, Italy)

15:20-15:45 Plant polyphenols differentially affect the pro-inflammatory response of human keratinocytes
S. Pastore (Rome, Italy)

15:45-16:10 Redox and antioxidant defence profiles in psoriasis, metabolic syndrome and obesity
C. De Luca (Rome, Italy)

16:10-16:35 Tobacco smoke and UV light damage on murine skin: protection by Tayberry extract
M. Rallis (Athens, Greece)

16:35-17:00 Coffee Break
Chairman: G. Mann and A. Izzotti

17:00-17:25 Sarcopenia and Smoking: effects of Cigarette Smoke on muscle proteins breakdown
A. Z. Reznick (Haifa, Israel)

17:25-17:50 Environmental exposure to low doses of ionizing radiation and non-targeted effects
A. Giovanetti (Rome, Italy)

17:50-18:15 Public perceptions of the danger of radioactivity in the area of the Chernobyl accident
U. Sansone (Rome, Italy)

18:15-18:40 Cigarette smoke and ozone effect on murine inflammatory response in different murine strains
C. Gardi (Siena, Italy)

18:40-18:55 Protection against UVB-induced oxidative stress in human skin cells and skin models by methionine sulfoxide reductase A
E. Pelle (New York, USA)

18:55-19:10 Visualization of melatonin’s multiple mitochondrial levels of protection against mitochondrial Ca2+-mediated permeability transition and beyond in rat brain astrocytes
M-J. Jou (Tao-Yuan, Taiwan)
Day 2 – Thursday October 6, 2011

Session III-Air Pollutants and Related Diseases

Chairpersons: I. Mudway and C. Gardi

09:00-09:25  The ozone paradox: ozone is a toxic gas but, judiciously used, can trigger therapeutic effects
V. Travagli (Siena, Italy)

09:25-09:50  Air pollution and aging
H. Forman (Los Angeles, USA)

09:50-10:15  Role of reactive oxygen species in air pollution toxicology
I. Mudway (London, UK)

10:15-10:40  p53-mediated protection against pollutants: effect of exercise
J. Viña (Valencia, Spain)

10:40-11:00  Coffee Break

Chairpersons: P. Martorana and J. Vina

11:00-11:25  Inflammation, oxidative stress, and oxylipin profiles in cystic fibrosis
C. E. Cross (Davis, USA)

11:25-11:50  Acrolein upregulates CXCL8/IL-8 expression by enhancing mRNA stabilization via p38 MAPK signaling in human bronchial smooth muscle cells
F. Facchinetti (Parma, Italy)

11:50-12:15  Nanoparticles as an emerging environmental and occupational hazard: does oxidative stress matter?
A. Shvedova (Morgantown, USA)
12:15-12:40 Can SRB1 be modulated by Oxidative Stress?
Sticozzi (Trento, Italy)

12:40 -12:55 Effects of acrolein on Transient Receptor Potential Ankyrin 1 (TRPA1) expression and activation in non-neuronal pulmonary cells: implications for respiratory inflammatory diseases
N. Moretto (Parma, Italy)

12:55-13:00 Group photo

13:00-14:00 Lunch and poster viewing

**Session IV-Protection by Food and Pharmaceuticals**

**Chairpersons: J. Cillard and G. Poli**

14:00-14:15 S. Ciatti (President “Wine and Health” Association)

14:15-14:40 Flavonoids and health: end or beginning of an era?
C.G. Fraga (Buenos Aires, Argentina)

14:40-15:05 Mechanisms of protection by natural products: antioxidant activity vs. para-hormesis
F. Ursini (Padova, Italy)

15:05-15:30 Can polyphenols prevent LDL modification induced by food derived aldehydes in vivo?
R. Kohen (Jerusalem, Israel)

15:30-15:55 ω-3 PUFAs in autism spectrum disorders (ASD): the model of Rett syndrome
C. De Felice (Siena, Italy)
15:55-16:20  The soy metabolite equol activates eNos and Nrf2/are-linked antioxidant defences in human endothelial cells
G. E. Mann (London, UK)

16:20-16:35  **Coffee Break**

**Chairpersons: C.G. Fraga and A. Mastaloudis**

16:35-17:00  Hypercholesterolemia related signaling pathways towards the atherosclerosis
K. Ozer (Istanbul, Turkey)

17:00-17:25  Natural and synthetic phenols: antioxidants or ion channels modulators?
G. Sgaragli (Siena, Italy)

17:25-17:50  A unique nutritional formulation to promote cellular protection and purification via induction of the Nrf2-mediated ARE/Phase II detoxification pathways
A. Mastaloudis (Oregon, USA)

17:50-18:15  Molecular medicine and development of cancer chemopreventive agents
A. Izzotti (Genova, Italy)

18:15-18:40  Dietary Polyphenols in Cancer Prevention: the Example of the Flavonoid Quercetin in Leukemia
G. L. Russo (Avellino, Italy)

20:30  **Gala Dinner**
Day 3 – Friday October 7, 2011

Special Lecture:
Chairperson: M. Comporti

9:00-9:40 Mitochondrial energy metabolism in brain aging
E. Cadenas (Los Angeles, USA)

Session V – Food As Source of Protectors and Stressors
Chairpersons: A. Boveris and P. I. Oteiza

9:40-10:05 Flavonoids: potential impact on intestinal inflammation and colorectal cancer
P. Oteiza (Davis, USA)

10:05-10:30 Interplay of selenium, GPx2 and sulforaphane in AOM/DSS-mediated colon cancer in mice
R. Brigelius-Flohé (Bergholz-Rehbrücke, Germany)

10:30-10:55 Contribution of dietary oxysterols to the pathogenesis of intestinal inflammatory diseases
F. Biasi (Turin, Italy)

10:55-11:20 BARD1 and BRCA1 versus oncogenic BARD1 isoforms a question of balance: hypoxia driving the balance from normal to cancer
Irminger-Finger I (Geneva, Switzerland)

11:20 – 11:30 Coffee Break

11:30-11:55 Interaction between 24-hydroxycholesterol and amyloid-β in amplifying neuronal damage in Alzheimer’s disease.
G. Leonarduzzi (Turin, Italy)

11:55-12:20 Dietary phytochemicals and cellular adaptive response: How are they linked?
F. Cimino (Messina, Italy)
12:20-12:45  Rottlerin: novel anticancer perspectives  
Maioli (Siena, Italy)

12:45-13:00  Hormetic effects of quercetin towards oxygen/glucose deprivation and reperfusion damages  
M. Frosini (Siena, Italy)

13:00-13:15  The flavonoid quercetin sensitizes leukemia cells to apoptosis acting on MCL-1 down regulation  
C. Spagnuolo (Avellino, Italy)

13:15-13:30  Protective effect of Ecklonia cava polyphenol against ethanol-induced liver injury in rats  
A. Kojima-Yuasa (Osaka, Japan)

13:30-14:30  Lunch

14:30  Workshop– How to Publish in 2011; by the Editors

M. Axton  Nature Genetics
E. Cadenas  Chemico-Biological Interactions
K.J. A. Davies  Free Radical Biology and Medicine
H. Forman  Free Radical Biology and Medicine
C. G. Fraga  Food and Function
F. Virgili  Genes and Nutrition