



**UNIVERSITY  
OF SIENA**



**UNIVERSITY  
OF FERRARA**

**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

---

# SCIENTIFIC PROGRAM

## SECOND INTERNATIONAL CONFERENCE ON ENVIRONMENTAL STRESSORS IN BIOLOGY AND MEDICINE

### **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 humankeratinocytes  
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 Ca<sup>2+</sup>-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  $\omega$ -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- $\beta$  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