

LIPID OXIDATION, HUMAN DISEASES AND AGING

Sponsored by

University of Turin
HNE Club
COST B35 – EU network

TURIN, June 16-18, 2010

Scientific meeting held within the frame of Turin, European Capital of Science 2010

Meeting Venue: University Palace, [Via Po 17](#), Aula Magna

Wednesday, June 16

**Experimental Medicine and Therapy PhD School
University of Turin
Special Workshop in Honour of Prof. Mario Umberto Dianzani**

PROGRAM

Opening and welcome address		9.00-10.00
Session 1 – OXIDANTS AND ANTIOXIDANTS IN BIOLOGY		
<i>Chairpersons: Josiane Cillard (France); Helmut Sies (Germany)</i>		
Lester Packer (USA):	“Antioxidants, micronutrients, and genes in aging”	10.00-10.30
Etsuo Niki (Japan):	“Lipid peroxidation and vitamin E: a look back and ahead”	10.30-11.00
<i>Coffee</i>		11.00-11.30
Jörg Schaur (Austria):	“Cellular targets of 4-hydroxynonenal <i>in vitro</i> and <i>in vivo</i> ”	11.30-12.00
Alberto Boveris (Argentina):	“Nitric oxide synthase and mitochondrial brain dysfunction in aging”	12.00-12.30
Bruce Ames (USA):	“Delaying age-related disease with micronutrients: triage theory”	12.30-13.00
<i>Lunch</i>		13.00-14.30
Session 2 – ADAPTIVE RESPONSE TO OXIDATIVE STRESS		
<i>Chairpersons: Patricia Oteiza (USA); Mario Comporti (Italy)</i>		
Enrique Cadenas (USA):	“MAPK- and insulin signaling in aging and a model of Alzheimer’s disease. Role of mitochondria”	14.30-15.00
Kelvin Davies (USA):	“Adaptive response of the Lon gene to oxidative stress”	15.00-15.30
Sten Orrenius (Sweden):	“Calcium and reactive oxygen species in mitochondrial regulation of cell death”	15.30-16.00
José Viña (Spain):	“Modulation of the expression of longevity-related genes: an example of adaptation to stress”	16.00-16.30
<i>Coffee</i>		16.30-17.00
Session 3 – OXIDANTS AND ANTIOXIDANTS IN PATHOPHYSIOLOGY		
<i>Chairpersons: Giovanni Mann (UK); Pierre Cillard (France)</i>		
Angelo Azzi (USA):	“Vitamin E is activated by phosphorylation to α -tocopheryl phosphate”	17.00-17.30
Luis Videla (Chile):	“Oxidative stress, non-alcoholic fatty liver diseases (NAFLD) and obesity”	17.30-18.00
Cesar Fraga (Argentina):	“(–)- Epicatechin, nitric oxide, and oxidants in hypertension”	18.00-18.30
Concluding remarks		18.30

Thursday, June 17

HNE Club

**Group of interest of ISFRR
5th Biennial Meeting**

&

COST Action B35

**EU RTD framework programme
Final Meeting**

Session 1 – LIPID OXIDATION PRODUCTS: CHEMISTRY, BIOCHEMISTRY AND METABOLISM

Chairpersons: Federico Pallardó (Spain); Umberto Marinari (Italy)

Neven Zarkovic (Croatia) COST Action B35 Chair:	“COST Action B35 -Lipid peroxidation associated disorders - Tribute to oxidative stress and 4-hydroxynonenal research”	9.00- 9.30
Giancarlo Aldini (Italy):	“The discovery of carnosine derivatives as selective and efficient sequestering agents of cytotoxic carbonyl species: from molecular design to preclinical studies”	9.30-10.00
Corinne Spickett (UK):	“Mass spectrometry analysis of oxidized phospholipids and studies of their effects on inflammation”	10.00-10.30
Werner Siems (Germany):	“HNE metabolism and its age dependency”	10.30-11.00

Coffee 11.00-11.30

Chairpersons: Huveyda Basaga (Turkey); Maurizio Parola (Italy)

Koji Uchida (Japan):	“Covalent modification of proteins by lipid peroxidation-derived volatile aldehydes”	11.30-12.00
Peter Eckl (Austria) HNE Club President:	“Iron and lipid oxidation: physiological functions of ferritin”	12.00-12.30
Jaap Keijer (Netherlands) COST Action FA0602:	“Genomics analysis of functional effects of beta-carotene”	12.30-13.00

Lunch 13.00-14.30
COST B35 Management Committee Meeting (1st part) 13.00-14.30

Session 2a- ORAL PRESENTATIONS

Chairpersons: Daniela Caporossi (Italy); Paolo Arese (Italy)

Dennis Petersen (USA):	“Modification of hepatic fatty acid binding protein by 4-hydroxynonenal in rat model of alcoholic liver disease”	14.30-14.50
Shlomo Sasson (Israel):	“4-Hydroxydodecadienal (4-HDDE): a new club member?”	14.50-15.10
Sieglinde Zelzer (Austria):	“An attempt to determine both 4-hydroxy-2-nonenal and malondialdehyde in a single assay by gas chromatography-mass spectrometry”	15.10-15.30
Vesna Otasevic (Serbia):	“Alterations of lipid peroxidation in brown adipose tissue by cold, nitric oxide and glutathione”	15.30-15.50
Oleksii Skorokhod (Italy):	“Inhibition of erythropoiesis in malaria anemia. Role of hemozoin and hemozoin-generated 4-hydroxynonenal”	15.50-16.10
Olha Yelisyeyeva (Ukraine):	“Elimination of HNE from the gastric mucosa can be improved by adding activators of aerobic metabolism to standard eradication therapy”	16.10-16.30

Coffee 16.30-17.00

Session 2b – ORAL PRESENTATIONS

Chairpersons: Nesrin Kartal Özer (Turkey); Giuseppe Valacchi (Italy)

Andreani Odysseos (Cyprus):	“A temporal and quantitative pharmacoproteomics study of γ -tocotrienol in metastatic prostate cancer cells dissects tumor suppressing caveolin-mediated pathways”	17.00-17.20
Piergiorgio Pettazzoni (Italy):	“Combined antitumoral efficacy of the histone deacetylase inhibitor LBH589 and the lipid peroxidation end product 4-hydroxynonenal (HNE) on PC3 prostate cancer cell”	17.20-17.40
Barbara Marengo (Italy):	“PKC-dependent redox-signaling in the chemosensitivity of neuroblastoma cells”	17.40-18.00
Roberta Castino (Italy):	“PI3K class III-dependent autophagy precedes and promotes cell death by oxidoradicals in human neuroblastoma cells”	18.00-18.20
Ana Cipak (Croatia):	“Adaptation to oxidative stress mediated by catalase in D12 desaturase expressing yeast”	18.20-18.40
Giuseppe Martano (Austria):	“Effects of volatile cleavage products of β -carotene on primary hepatocytes – An alliance between analytical chemistry and cell biology”	18.40-19.00

Friday, June 18

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Session 3 – LIPID OXIDATION PRODUCTS: HUMAN DISEASES AND AGING

HERMANN ESTERBAUER AWARD AND LECTURE

Chairpersons: Peter Eckl (Austria); Neven Zarkovic (Croatia)

Tanea Reed (USA):	“Lipid peroxidation in brain in mild cognitive impairment and early Alzheimer’s disease: implications for the progression of Alzheimer’s disease”	9.00- 10.00
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Chairperson: Alfonso Pompella (Italy)

Jurgen Eckel (Germany) COST Action BM0602:	“Mechanisms of lipotoxicity in human skeletal muscle”	10.00-10.30
Chryssostomos Chatgililoglu (Italy) COST Action CM0603:	“Lipid modification and radical stress in membranes”	10.30-11.00

Coffee 11.00-11.30

Chairpersons: Juan Sastre (Spain); Giuseppe Boccuzzi (Italy)

Grzegorz Bartosz (Poland):	“Natural and synthetic antioxidants for prevention of lipid peroxidation”	11.30-12.00
Henry Forman (USA):	“Novel aspects of EpRE signaling by HNE in lung epithelial cells”	12.00-12.30
Tilman Grune (Germany):	“Lipofuscin and the aging process: the role LPO products as protein cross-linkers”	12.30-13.00

Lunch 13.00-14.30
 COST B35 Management Committee Meeting (2nd part) 13.00-14.30

Session 4a – PRESENTATION OF SELECTED POSTERS

Chairpersons: Giovanni Mann (UK); Giuseppe Poli (Italy) 14.30-16.00

Coffee 16.00-16.30

Session 4b- ORAL PRESENTATIONS

Chairpersons: Gunars Tirzitis (Latvia); Kamelija Zarkovic (Croatia)

José Luis García-Giménez (Spain): “Towards understanding epigenetic mechanisms in progeroid syndromes” 16.30-16.50

Antonino Romano (Italy): “Rat-brain bioenergetics is impaired in a two-vessel occlusion model of vascular dementia” 16.50-17.10

Raffaella Comitato (Italy): “Tocotrienols activity in breast cancer cells: involvement of ER β signal transduction” 17.10-17.30

Virginia Fernandez (Chile): “Hepatoprotection in ischemia/reperfusion injury after fish oil supplementation: relation to changes in the liver lipid profile and oxidative stress status” 17.30-17.50

Maria Teresa Mitjavila (Spain): “Effect of a mediterranean diet supplemented with olive oil and nuts on lipid peroxidation associated with metabolic syndrome” 17.50-18.10

Milan Stefek (Slovakia): “Substituted pyridoindoles as multitarget-directed antioxidants in treatment of diabetic complications: preclinical study at cellular and organ level *in vitro* and under conditions of experimental diabetes *in vivo*” 18.10-18.30

Closing remarks 18.30
