

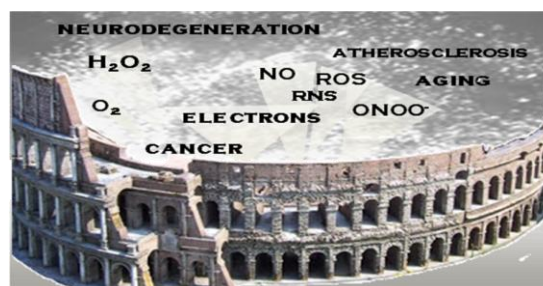
**Biochemistry, Physiology and Pharmacology
of
Oxidative Stress**

Dept. of Biochemical Sciences “Alessandro Rossi Fanelli”
Sapienza University of Rome

Dept. of Physiology and Pharmacology “Vittorio Erspamer”
Sapienza University of Rome

Dept. of Life Science and Biotechnologies
University of Ferrara

Institute of Molecular Biology and Pathology
CNR, Rome



July 2 – 4, 2015
Venue

Sapienza, Città Universitaria, P.le A.M oro,5
Dip. Sanità Pubblica e Malattie Infettive

July 2nd

VENUE

**Hall Angelo Celli – Building “G. Sanarelli”
Department of Sanità Pubblica e Malattie Infettive**

13:30 *Welcome by Sapienza University:*

Eugenio Gaudio Rector
Vincenzo Vullo Dean of the Faculty of Medicine and Pharmacy,
Andrea Bellelli Director of the Department of Biochemical Sciences
Bruno Botta Director of the Department of Chemistry and Technology of Drug
Paolo Villari Director of the Department of Public Health and Infectious Diseases,

Welcome by The Organizing Committee:

*Marzia Arese - Paolo Bovicelli - Elena Forte - Alessandro Giuffrè - Paolo Sarti - Luciano Saso
Giuseppe Valacchi*

Session 1 plenary	Oxidative Stress in action: Molecular Mechanisms Chairmen: Darley-Usmar V. (University of Alabama at Birmingham , USA) , Poli G. (University of Torino, IT)
14:00 – 14:30	<u>Wink DA*</u> <i>The Oncogenic properties of the Redox Inflammatory Protein inducible Nitric Oxide Synthase in ER(-) Breast Cancer</i>

	*National Cancer Institute, Bethesda, USA
14:30 – 14:50	<u>Lenaz G*</u> , Tioli G, Genova ML <i>Mechanisms and control of ROS generation in mitochondria</i> *University of Bologna, Italy
14:50 – 15:10	<u>Capitanio N*</u> , Piccoli C, Scrima R <i>Reactive oxygen/nitrogen species in the stem cell biology: friends or foes?</i> *University of Foggia, Italy
15:10 – 15:30	<u>Vicente JB*</u> , Colaço HG, Mastronicola D, Sarti P, Leandro P, Giuffrè A <i>Sitting at the crossroad of 'gasotransmitter' signaling: regulation of the H₂S-synthesizing human cystathionine beta-synthase by NO and CO</i> *Universidade Nova de Lisboa, Portugal
15:30 – 16:10	<u>Muronetz VI*</u> , Evdokimov VV, Kuravsky ML, Schmalhausen EV <i>Role of oxidative stress and glyceraldehyde-3-phosphate dehydrogenase in the regulation of motility of human sperms</i> *Lomonosov Moscow State University, Russia
16:10 – 16:40	coffee break
Session 2 plenary	Antioxidants Chairmen: Suzen S. (Ankara University, TR - Saso L. (Sapienza University of Rome, IT)
16:40 – 17:00	<u>Borges F*</u> , Silva T, Teixeira J, Cagide F, Chavarria D, Magalhães D Silva, Benfeito S, Fernandes C, Oliveira C <i>Antioxidants: from Nature to drug prototypes</i> *University of Porto, Portugal
17:00 – 17:20	<u>Kancheva VD*</u> <i>Protective effects of natural bio-antioxidants and their synthetic analogues in equimolar binary and triple mixtures</i> *Bulgarian Academy of Sciences, Sofia, Bulgaria
17:20 – 17:40	<u>Caruso F*</u> , Rossi M, Pedersen JZ, Incerpi S, Rizza T, Di Nottia M, Carozzo R <i>Antioxidant activity of chalcones. Structure-activity relationship</i> *Vassar College, USA
17:40 – 18:00	<u>Ricelli A*</u> , Yaseen T, Albanese P, Nicoletti I, Sappino C and D'Onghia AM <i>Postharvest ozone treatment of grapes: shelf life extension without oxidative damage</i> *IBPM – CNR, Rome, Italy
18:00 – 18:20	<u>Buttari B*</u> , Profumo E, Facchiano F, Saso L, Riganò R <i>Antioxidant and immunomodulatory effects of resveratrol on innate immune cells exposed to pro-atherogenic stimuli: potential therapeutic implications in atherosclerosis</i> *ISSN, Rome Italy
18:20	End of session

July 3rd

VENUE
Halls Plesso Tecce
Parallel Sessions

3A parallel	Redox state and viral infections Chairmen : Palamara AT (Sapienza University of Rome, IT) – Forman HJ. (The University of Southern California, USA)
09:00 – 09:30	<u>Magnani M*</u> <i>Glutathione depletion is associated with Th2 polarization in viral infection: An hypothesis of immunotherapy by pro-GSH molecules</i> *University of Urbino, Italy
09:30 – 09:50	<u>Hiscott J*</u> <i>Cellular oxidative stress response controls the antiviral and apoptotic programs in Dengue virus-infected dendritic cells</i> * Istituto Pasteur-Fondazione Cenci Bolognetti, Rome, Italy
09:50 – 10:10	<u>Vlahos R*</u> <i>Targeting oxidant-dependent mechanisms that drive acute and chronic lung diseases</i> *University of Melbourne, Australia.
10:10 – 10:30	<u>Wegrzyn G*</u> , Bloch S, Nejman-Falenczyk B, Glinkowska M, Licznarska K, Dydecka A, Topka G,

	Felczykowska A, Los JM, Los M, Wegrzyn A <i>Oxidative stress as a cause for induction of Shiga toxin-converting prophages</i> *University of Gdansk, Poland
10:30 – 10:50	Palamara AT*, Amatore D, Sgarbanti R, Fraternali A, Magnani M, Garaci E, Nencioni L <i>Redox-regulated intracellular pathways involved in influenza virus replication as new potential target for anti-viral drugs</i> *Sapienza University Rome, Italy
3B parallel	<i>Oxidative Stress in Inflammatory, Immune and Infectious Diseases</i> Chairmen: Ciriolo, MC (University of Tor Vergata, Rome IT) – Valacchi G. (University of Ferrara, IT)
09:00 – 09:30	Surh YJ <i>Redox Modulation of Pro-inflammatory and Anti-inflammatory Signaling</i> *Seul National University, Korea
09:30 – 09:50	Colotti G*, Ilari A <i>Trypanothione reductase and trypanothione peroxidase, key enzymes of Leishmania dithiol redox metabolism</i> *IBPM – CNR, Rome, Italy
09:05 – 10:10	Biasi F*, Deiana M, Maina M, Calfapietra S, Poli G <i>Phenolic compounds can modulate intestinal inflammation and oxidative damage induced by dietary oxysterols</i> *University of Turin, Italy
10:10 – 10:30	Ghamari F, Ghaffari SM, Salami M, Moosavi-Movahedi F, Farivar F, Johari A, Saboury AA, Chobert JM, Moosavi-Movahedi AA, Haertlé T* <i>Synergic Study of alfa-Glucosidase Inhibitory Action of Aloin and its Antioxidant Activity with and without Camel Casein and its Peptides.</i> *INRA, Nantes, France
10:30 – 10:50	Pacello F, Cramerotti N, Amato C, Cittarelli M, Vacros G, Sette M, Amendola S, D'Orazio M, De Vito P, Luly P, Iuliano L, Battistoni A, Pedersen JZ* <i>The origin of the oxidative stress in cystic fibrosis</i> *University of Rome Tor Vergata, Italy
10:50 – 11:20	coffee break
4A parallel	<i>Redox stress signaling and bioenergetics</i> Chairmen: Genova ML (University of Bologna, IT) - Sarti P. (Sapienza University of Rome, IT)
11:20 - 11:50	Darley-Usmar V* <i>The impact of redox stress on bioenergetics and its translation to the clinic</i> *University of Alabama at Birmingham, USA
11:50 – 12:10	Aquilano K*, Baldelli S, Ciriolo MR <i>nNOS and PGC-1α are essential for governing mitochondrial oxidative metabolism during skeletal muscle cell differentiation</i> *University of Rome Tor Vergata, Italy
12:10 – 12:30	Verbanac D*, Perić M, Paljetak HČ, Matijašić M, Panek M, Vranešić Bender D, Krznarić Ž Perić M <i>Gut microbiota and dietary polyphenols – love and hate?</i> *University of Zagreb, Croatia
12:30 – 12:50	Sharma SK* <i>Chromenone and quinolinone derivatives as potent antioxidant agents</i> *University of Delhi, India
4B parallel	<i>Oxidative Stress in Neural systems</i> Chairmen: Hiscott J (Inst. Pasteur – Cenci Bolognetti, Roma, IT) , Pedersen JZ (University of Tor Vergata, Rome IT)
11:20 - 11:50	Poli G*, Leonarduzzi G, Biasi F <i>Pro-inflammatory effects exerted by oxysterols in the progression of major chronic diseases</i> *University of Turin, Italy
11:50 – 12:10	Martin L, Montoya JV, Mojo , Recio-Pinto E, Blanck TJJ* <i>Isoflurane enhances hyperoxic neuronal apoptosis in rat P7 hippocampal primary cultures</i> *NY University, NY, USA
12:10 – 12:30	Di Domenico F, Perluigi M* <i>Oxidative stress and proteostasis network: culprit and casualty of Alzheimer-like neurodegeneration</i> *Sapienza University of Rome, Italy

12:30 – 12:50	<u>Cervellati C*</u> <i>Serum levels of PON-1 may influence the risk of developing dementia in older individuals</i> *University of Ferrara, Italy
13:00 – 15:20	Lunch & poster viewing (Aula Ginestra)

VENUE

Halls Plesso Tecce

Parallel Sessions

5A parallele	<i>Oxidative Stress in Neural systems</i> Chairmen: <i>Blanck T.J.J.</i> (New York University, USA) - <i>Giuffrè A.</i> (IBPM,CNR, Rome, IT)
15:20 – 15:40	<u>Chiurchiù V*</u> <i>Oxidative stress and neurodegeneration: where are we at?</i> *CERC – Campus Bio-Medico, Rome, Italy
15:40 – 16:00	Ganguly U, Sen O, <u>Chakrabarti S*</u> <i>Iron induced accumulation of α-synuclein in SHSY5Y cells triggers mitochondrial dysfunction and cell death: Relevance in Parkinson's disease pathogenesis</i> *IIMSAR, Haldia, India
16:00 – 16:20	<u>Suzen S*</u> <i>Behavior of new indole based compounds against free radicals with chemopreventive activity</i> *Ankara University, Turkey
5B parallele	<i>Oxidative Stress in action</i> Chairmen: <i>Parmar V.</i> (University of Delhi, India) - <i>Cervellati C.</i> (University of Ferrara, IT).
15:00 – 15:20	Vertuani S, Vedaldi DE, Salvador A, Baldisserotto A, Bino A, Ziosi P, Valacchi G, Muresan X, <u>Manfredini S*</u> <i>Oxisol: a novel antioxidant with UV booster properties for skin photo and oxidative protection</i> * University of Ferrara, Italy
15:20 – 15:40	<u>Filosa S*</u> , Pecorelli A, Della Ragione F, Sticozzi C, Scalabri F, Marracino F, Madonna M, Belmonte G, De Felice C, Signorini C, Leoncini S, Ciccoli L, D'Esposito M, Hayek J, Valacchi G <i>Oxidative damage in Rett syndrome as a possible new target for treatment</i> *IBBR - CNR, Naples, Italy
15:40 – 16:00	<u>Firuzi O*</u> , Karaaslan C, Tavakkoli M, Suzen S, Saso L <i>Indole-based analogs of melatonin protect neuronal cells against amyloid-beta-induced damage</i> *University of Medical Sciences, Shiraz, Iran
16:00 – 16:20	Bracconi D, Bernardini G, Millucci L, Marzocchi B, Geminiani M, Gambassi S, Jacomelli G, Paffetti A, Orlandini M, Sticozzi C, Valacchi G, <u>Santucci A*</u> <i>Studies on oxidative stress in alkaptonuria</i> *University of Siena, Italy
16:20 – 17:40	Coffe break & poster viewing (Aula Ginestra)
17:40 – 18:40	<i>Selected Posters discussion/presentation (awards ceremony)</i>
19:30	<i>Social Dinner</i>

July 4th

VENUE

Hall Angelo Celli – Building “G. Sanarelli”

Department of *Sanità Pubblica e Malattie Infettive*

Session 6 plenary	<i>Oxidative Stress in Cancer: Molecular Mechanisms</i> Chairmen: <i>Haertlé T.</i> (INRA, Nantes, FR) – <i>Diederich M.</i> (Seoul National University, Korea)
09:00 – 09:20	<u>Fiocchetti M*</u> , Cipolletti M, Nuzzo MT, Ascenzi P, Marino M <i>Neuroglobin: the double-edged sword of 17β-estradiol against oxidative stress in cancer cells</i> *University Roma Tre, Italy
09:20 – 09:40	<u>Bassiouny A*</u> , Zaky A <i>Synergistic anticancer effects of doxorubicin with curcumin and resveratrol via activation of nuclear factor erythroid related factor 2 (Nrf2) in hepatocellular carcinoma rat model</i>

	*Alexandria University, Egypt
09:40 – 10:00	Cerella C, Radogna F, <u>Diederich M</u> * <i>Intracellular signaling events implicated in anti-cancer activity of cardiac glycosides</i> *Seul National University, Korea
10:00 – 10:20	<u>Domenicotti C</u> * <i>Redox homeostasis: a key factor in chemoresistance of high-risk neuroblastoma</i> *University of Genova, Italy
10:20 – 10:40	<u>Cerella C</u> *, Diederich M <i>Redox-dependent mechanisms triggered by natural compounds inducing apoptosis in cancer cells</i> *Hôpital Kirchberg, Luxembourg
10:40 – 11:10	coffee break
11:10 – 11:30	<u>Ozben T</u> * <i>Oxidative Stress and Antioxidants in Cancer Development and Therapy</i> *Akdeniz University, Antalya, Turkey
11:30 – 11:50	Cescutti P, Fabbri AA, <u>Fanelli C</u> *, Maresca V, Parroni A, Picardo M, Reverberi M, Ricciardi M, Rizzo R, Scarpari M, Sveronis A, Tafuri A <i>The fungal exopolysaccharide trametano: possible role and function in the challenge against cancer</i> *Sapienza University of Rome, Italy
	Chairman: Lenaz G. (University of Bologna, IT)
12:00 - 12:45 Conclusive plenary lecture	<u>Forman HJ</u> * <i>Adaptation to oxidative stress in aging: mechanisms underlying the attenuation of Nrf2 activation</i> *University of California, Los Angeles, USA



SAPIENZA
UNIVERSITÀ DI ROMA



**UNIVERSITÀ
DEGLI STUDI
DI FERRARA**
- EX LABORE FRUCTUS -

International Workshop on

"Biochemistry, Physiology and Pharmacology of Oxidative Stress"

Rome, July 2-4, 2015

Venue: Sapienza University of Rome

Posters

July 3

7

Aqueous and ethanol sprout extracts of *Brassica oleracea* L. var. *sabauda* exhibit oxidant and antioxidant activities.

Luana Quassinti¹, Giuseppe Gianfranceschi³, Giulio Lupidi¹, Antonino Miano², Massimo Bramucci¹

¹*School of Pharmacy, University of Camerino, Via Gentile III da Varano, 62032 Camerino (MC), Italy*

²*School of Biosciences and Veterinary Medicine, University of Camerino, Via Gentile III da Varano, 62032 Camerino (MC), Italy*

³*Centro Studi "Giuseppe Gianfranceschi", 60031 Castelplanio (AN), Italy*

massimo.bramucci@unicam.it

Sprouts are excellent examples of functional food defined as lowering the risk of various diseases and/or exerting health promoting effects in addition to its nutritive value contain. Antioxidant compounds, contained in wheat and Brussels sprouts, resulted active in the protection of DNA against the oxidative stress induced by ROS. The aim of this work was to determine antioxidant activity of aqueous and ethanol extracts from savoy cabbage (*Brassica oleracea* L. var. *sabauda*) sprout powder. Antioxidizing capacities of the extracts were measured in vitro using the 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging test and 2,2'-azino-bis(3-ethylbenzthiazoline-6-sulphonic acid) (ABTS) radical scavenging assays. Antioxidant and prooxidant activity of sprout extracts in a cell-based assay (human dermal cell line) was determined using 2',7'-dichlorofluorescein-diacetate (DCFH-DA). Significant values of in vitro antioxidant activity were found in aqueous and ethanol extracts. Aqueous sprout extract showed a dose-dependent prooxidant activity, higher than ethanol extract in a cell-based assay. The prooxidant activity was correlated with the inhibition of cell proliferation and proved thermolabile.

- CALZUOLA, I., MARSILI, V. and GIANFRANCESCHI, G.L. 2004. Synthesis of antioxidants in wheat sprouts. J. Agric. Food Chem. 52, 5201-5206.

- FALCIONI, G., FEDELI, D., TIANO, L., CALZUOLA, I., MANCINELLI, L., MARSILI, V. and GIANFRANCESCHI, G.L. 2002. Antioxidant activity of wheat sprouts extract in vitro: inhibition of DNA oxidative damage. J. Food Sci. 67, 2918-2922.

- MORENO, D.A., PÉREZ-BALIBREA, S., FERRERES, F., GIL-IZQUIERDO, A. and GARCÍA-VIGUERA, C. 2010. Acylated anthocyanins in broccoli sprouts. Food Chem. 123, 358-363.