

**THE EIGHTH CONFERENCE
of the**

**INTERNATIONAL
COENZYME Q₁₀
ASSOCIATION**



**BOLOGNA, ITALY
October 8-11, 2015**

PROGRAMME



CONFERENCE SCHEDULE

Morning		Afternoon
October 8	Arrivals	Registration, Opening Lecture & Welcome Party
October 9	Scientific sessions	Scientific sessions
October 10	Scientific sessions	Scientific sessions & Social Dinner
October 11	Scientific sessions	

Conference Venue **Centro San Domenico**

**Piazza San Domenico, 12
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Organizing Committee

**Placido Navas
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Makoto Kawamukai
Peter Langsjoen
Gian Paolo Littarru
Placido Navas
Daniel Pella
Franklin Rosenfeldt
Roland Stocker
Yorihiko Yamamoto

Programme of the
8th Conference of the International
Coenzyme Q₁₀ Association
Bologna, Italy
October 8-11, 2015

Thursday, October 8

- 9.00 – 12.00** Meeting of the Executive Committee
- 14.00 – 17.30** Registration
- 17.45 – 18.30** **Introductory remarks**
P. Navas
G. Lenaz
R. Lodi
- 18.35 – 19.00** ∞ **In Memory of Professor Svend Aage Mortensen** ∞
Plenary Lecture
G.P. Littarru
- 19.15** Welcome reception (*Palazzo Della Lana-Montagnani, Bologna*)

Friday, October 9

8.30 – 10.10 Mitochondrial Bioenergetics

Chairpersons: **M.L. Genova** and **R. Rossignol**

- 8.30 **R. Rossignol** *Metabolic remodeling in physiology and pathology*
8.55 **U. Brandt** *The central role of ubiquinone in the proton pumping mechanism of respiratory complex I*
9.20 **G. Paradies** *Role of cardiolipin in mitochondrial bioenergetics: molecular and physiopathological aspects*
9.45 **J.A. Enriquez** *Coenzyme Q redox status controls the dynamic configuration of the mitochondrial electron transport chain by reverse electron transport*

Coffee break

10.50 – 12.45 Bioenergetics of Ageing

Chairpersons: **C. Franceschi** and **G. López-Lluch**

- 10.50 **G. López-Lluch** *Coenzyme Q is an important factor in aging*
11.15 **C. Franceschi** *The mitochondria beyond OXPHOS*
11.40 **A. Sanz Montero** *Redox state of mitochondrial Coenzyme Q regulates ROS production and determines lifespan in animals*
12.05 **K. Higuchi** *Reduced Coenzyme Q₁₀ (Ubiquinol-10) activates mitochondrial functions and decelerates senescence by activating sirtuin pathways and inhibiting cAMP phosphodiesterases*
12.30 **F. Brugè** *Coenzyme Q₁₀ content and oxidative stress during ageing in human dermal fibroblasts cultured under different oxygen tension*

Lunch

13.45 – 16.15 Coenzyme Q Biosynthesis

Chairpersons: **C. Santos-Ocaña** and **M. Kawamukai**

- 13.45 **C. Santos-Ocaña** *The dual function of Coq4p in yeast: the nucleation of Coenzyme Q₆ biosynthesis complex and the activation of complex III*
- 14.10 **M. Kawamukai** *Biosynthesis of CoQ₁₀ in fission yeast*
- 14.35 **M. Santoro** *UBIADI is an antioxidant enzyme that regulates CoQ₁₀ synthesis in endothelial cells*
- 15.00 **C.F. Clarke** *Characterization of proteins associated with the mitochondrial CoQ synthome in *Saccharomyces cerevisiae**
- 15.25 **D.J. Pagliarini** *Elucidating the roles of COQ8 and COQ9 in Coenzyme Q biosynthesis*
- 15.50 **F. Pierrel** *About pABA and 4-hydroxybenzoic acid in yeast Coenzyme Q biosynthesis*

Coffee break

16.45 – 18.50 Coenzyme Q redox activities and reactive oxygen species in cell signalling

Chairpersons: **R. Stocker** and **M.L. Bolognesi**

- 16.45 **M.P. Murphy** *The role of CoQ redox state in mitochondrial superoxide production*
- 17.10 **P. Bernardi** *An in vivo-generated metabolite of idebenone is a promising molecule for treatment of LHON*
- 17.35 **R. Fato** *Effect of CoQ₁₀ supplementation on cellular bioenergetic status and oxidative stress: an in vivo and in vitro study*
- 18.00 **R. Ritchie** *Coenzyme Q₁₀ targets mechanisms of diabetic cardiomyopathy in pre-clinical models*
- 18.25 **R. Stocker** *A role for Coenzyme Q in cellular metabolism*

Saturday, October 10

8.00 – 10.05 Mitochondrial myopathies

Chairpersons: **L. Salviati** and **M. Hirano**

- 8.00 **M. Hirano** *title t.b.c*
8.25 **R. Artuch** *Secondary Coenzyme Q₁₀ deficiencies*
8.50 **D. Ghezzi** *COQ4, a novel disease-gene for mitochondrial disorders associated with CoQ₁₀ deficiency*
9.15 **E. Trevisson** *Primary Coenzyme Q₁₀ deficiency caused by COQ2 mutations: functional characterization of the human gene and genotype-phenotype correlations*
9.40 **P. Yeske** *The role of patient advocacy groups in facilitating the development of therapeutics for mitochondrial disease*

Coffee break

10.40 – 12.20 Cardiovascular Diseases

Chairpersons: **F. Rosenfeldt** and **P. Langsjoen**

- 10.40 **F. Rosenfeldt** *The effect of Coenzyme Q₁₀ on morbidity and mortality in chronic heart failure*
11.05 **J. Langsjoen** *Statin cardiomyopathy: the invisible pandemic*
11.30 **A. Molardi** *Ubiquinol supplementation in the elderly patients undergoing aortic valve replacement: biochemical and clinical effect*
11.55 **D. Pella** *Statin intolerance – definition, pathophysiology, risk factors and management - what is the role of Coenzyme Q₁₀?*

12.20 – 13.00 General assembly of the International Coenzyme Q10 Association

Lunch

14.00 – 16.05 Coenzyme Q and cell homeostasis

Chairpersons: **J.M. Villalba** and **G. Dallner**

- 14.00 **J.M. Villalba** *Metabolic regulation by the antioxidant response axis: mitochondrial and Coenzyme Q alterations produced by genetic deletion of Nrf2 or NAD(P)H:quinone oxidoreductase 1*
- 14.25 **M. Bernier** *Cytochrome b₅ reductase overexpression extends lifespan*
- 14.50 **D. Ross** *NQO1; Structure, function, polymorphisms and redox changes*
- 15.15 **R. de Cabo** *Novel metabolic roles of NQO1 in metabolic regulation*
- 15.40 **G. Dallner** *Effect of modified tocotrienols in diabetes*

Coffee break

16.40 – 17.10 Poster session

17.10 – 18.25 Various clinical aspects

Chairpersons: **G. Lenaz** and **Y. Yamamoto**

- 17.10 **V. Parisi** *Effects of Coenzyme Q₁₀ on retinal-evoked and cortical-evoked responses in patients with open-angle glaucoma*
- 17.25 **Y. Yamamoto** *Increased oxidative stress in patients with amyotrophic lateral sclerosis: the effect of edaravone administration and a possible need for Coenzyme Q₁₀ supplementation*
- 17.40 **A. Knott** *Benefits of topical Q₁₀ treatment on human skin*
- 17.55 **G. Balercia** *Protective effect of CoQ₁₀ and aspartic acid on oxidative stress and DNA damage in subjects affected by idiopathic asthenozoospermia*
- 18.10 **Y. Watanabe** *Therapeutic effects of ubiquinol on fatigue and chronic fatigue syndrome*

20.30 Social dinner (*Palazzo Gnudi, Bologna*)

Sunday, October 11

8.30 – 9.45 Gene regulation and epigenetics

Chairpersons: **F. Döring** and **D.J.M. Fernández-Ayala**

- 8.30 **D.J.M. Fernández-Ayala** *Survival transcriptome in the Coenzyme Q deficiency syndrome is acquired by epigenetic modifications*
- 8.55 **F. Döring** *Physiological functions of ubiquinone- and ubiquinol-dependent gene expression*
- 9.20 **J. López-Miranda** *Effects of the mediterranean diet supplemented with Coenzyme Q₁₀ on oxidative stress and inflammatory response in elderly men and women*

9.45 – 10.30 Young Participant Award - In Memory of Professor Svend Aage Mortensen

Chairperson: **G. Lenaz**

- 9.45 **D.J. Fazakerley** *Loss of mitochondrial ubiquinone as a driver of insulin resistance*
- 9.55 **Z. Xu** *Ubiquinol-10 might suppress the aging process by inhibiting type 4 cAMP phosphodiesterases*
- 10.05 **M.A. Belousova** *Intravenous administration of solubilized Coenzyme Q₁₀ provides neuroprotection in rat model of permanent cerebral ischemia*
- 10.15 **P. Ranadive** *Inverse metabolic engineering of *Sporidiobolus johnsonii* ATCC-20490 for improved production of Coenzyme Q₁₀ and its process optimization*

Coffee break

11.00 – 12.50 Multidisciplinary discussion: Ubiquinone vs. Ubiquinol

Chairpersons: **P. Navas** and **G.P. Littarru**

- 11.00 **G.P. Littarru** *Ubiquinol versus ubiquinone*
- 11.10 **L. Tiano** *Effect of Ubiquinol on mitochondrial potential and oxidative stress in relation to intensive physical exercise*
- 11.35 **L. Greci** *On the reactions of endogenous Coenzyme Q₁₀ with nitric oxide and its metabolite nitrogen dioxide*
- 12.00 **Ch. López-Pedrera** *Potential impact of in vivo ubiquinol supplementation in the prevention of atherothrombosis in antiphospholipid syndrome patients. Preliminary results of a clinical trial*
- 12.25 **M. Failla** *Why is the bioavailability of ubiquinol greater than that of ubiquinone?*

12.50 Concluding remarks

Lunch

Scientific Secretariat

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