

Programme of the
10th Conference of the International
Coenzyme Q₁₀ Association
Beiersdorf Auditorium
Tropowitzstrasse 15-17

Thursday, May 12

- 14.00 – 15.00** Meeting of the Executive Committee
- 14.00 – 17.30** Registration
- 18.00** **Introductory remarks**
- P. Navas**
T. Blatt
L. Tiano
G. Neufang welcome and opening of welcome reception
- 19.15** Welcome reception

Friday, May 13

08.00 – 09.30 CoQ Biosynthesis
Chairperson: **M. Kawamukai**

- 08.00 **C. Clarke** *The CoQ Synthome and ER-Mitochondrial Contact Sites – the complex interactions required for CoQ biosynthesis*
- 08.30 **F. Pierrel** *Variety and Evolution of CoQ biosynthesis in bacteria*
- 08.45 **G. Basset** *The Extraordinary Connections between Plant Specialized Metabolism and Ubiquinone Biosynthesis*
- 09.00 **D. Pagliarini** *Structure and functionality of a multimeric human COQ7:COQ9 complex*
- 09.15 *Discussion*

09.30 – 11.00 CoQ Deficiency Syndrome

Chairperson: **P. Navas**

- 09.30 **G. Brea-Calvo** *Tackling the puzzle of heterogeneity of CoQ deficiencies*
10.00 **E. Trevisson** *Toward gene therapy approach for primary Coenzyme Q10 deficiency*
10.15 **I. Liparulo** *HIF-1 α stabilization and metabolic switch as a consequence of CoQ biosynthesis inhibition in cultured cells*
10.30 **E.H. Sidhom** *Integrating single cell transcriptomics and metabolomics to elucidate the role of Coenzyme Q10 in the kidney and probe new therapeutic pathways*
- 10.45 *Discussion*

Coffee Break

11.30 – 13.00 Bioenergetics and Mitochondrial Respiratory Chain

Chairperson: **M.L. Genova**

- 11.30 **J. Enriquez** *Overview of the topic of the session*
12.00 **D. Speijer** *Is the redox state of CoQ a major driving force in eukaryotic evolution?*
12.15 **S.E. Ryu** *Cryo-EM studies on respiratory supercomplex in active states reveal a novel Q-pool*
12.30 **G. Lenaz** *New developments on the mechanism of electron transfer in the Coenzyme Q region*
- 12.45 *Discussion*

Lunch

14.00 – 15.30 Extramitochondrial CoQ reductases

Chairperson: **P. Navas**

- 14.00 **M. Desbats** *Tales and fates of non canonical CoQ pathways*
14.30 **D. Ross** *Redox mediated conformational changes in NQO1 impact both form and function*
14.45 **M. Conrad** *The NAD(P)H/CoQ₁₀/FSP1 axis in ferroptotic cell death*
15.00 **A. Straub** *CYB5R3 and Cardiovascular Regulation*
- 15.15 *Discussion*

Coffee break

16.00 – 17.30 CoQ and Redox Signalling

Chairperson: **G.P. Littarru**

- 16.00 **A. Sanz** *CoQ Redox Signalling in Health and Disease*
16.30 **M. Murphy** *Mitochondrial metabolites as signals of CoQ redox state*
16.45 **A. Moore** *Engagement of electron-flow through the alternative oxidase is dependent upon the redox-state of the CoQ*
17.00 **J. Spinelli** *Distinct circuits of electron flow in the mammalian electron transport chain*
- 17.15 *Discussion*

Saturday, May 14

08.00 – 09.30 Age and Metabolism

Chairperson: **G. Lopez- Lluch**

- 08.00 **K. Brismar** *Age and metabolism. with focus on the endocrine system.*
08.30 **U. Alehagen** *Does supplementation with selenium and coenzyme Q10 have anti-ageing properties? Results from a 5-year prospective randomized double-blind placebo-controlled trial among elderly Swedish citizens.*
08.45 **K. Higuchi** *The anti-aging effects of long-term supplementation of CoQ10 to SAMP strain with accelerated senescence and C57BL/6 with normal aging process.*
09.00 **N.G. Larsson** *The expression of mtDNA influences CoQ synthesis*
09.15 *Discussion*

09.30 – 10.45 CoQ10 and Cognition in Health and Disease

Chairpersons: **P. Langsjoen**

- 09.30 **C. Stough** *What is age related cognitive decline and how to measure it in clinical interventions?*
09.50 **F. Rosenfeldt** *Can CoQ10 therapy slow age-related cognitive decline?*
10.20 **M. Nankivell** *Investigating the effect of chronic supplementation with Ubiquinol on cognitive function and mood. A clinical trial*
- 10.35 *Discussion*

Coffee break

11.30 – 13.00 CoQ10 and Statins

Chairpersons: **F. Rosenfeldt**

- 11.30 **P. Langsjoen** *The practical use of CoQ10 in diastolic heart failure and what we have learned from statin-associated cardiomyopathy development*
- 12.00 **A. Zemljic-Harpf** *Male and female mice display key characteristics of clinical HFpEF after long-term atorvastatin and rosuvastatin exposure*
- 12.15 **H.U. Kloer** *In the Age of Highly Effective Cholesterol-Lowering Therapy : do we need to worry about Q10 in Atherosclerotic Cardiovascular Disease (ACVD)?*
- 12.30 **J. Langsjoen** *Statin-associated cardiomyopathy*
- 12.45 *Discussion*

Lunch **Oroboros Lunch Workshop:** *Continuous monitoring of mitochondrial Coenzyme Q redox state integrated in high-resolution respirometry*

14.30 – 16.45 Neurodegenerative Diseases

Chairperson: **I. Hargreaves**

- 14.30 **M. Spinazzi** *Coenzyme Q in neurological diseases*
- 15.00 **C. Quinzii** *Alterations of lipids metabolism in CoQ deficient- cerebellar ataxia*
- 15.15 **I. Hargreaves** *A Coenzyme Q₁₀ Deficient Endothelial Cell Culture Model for the Investigation of CoQ₁₀ Blood-Brain Barrier Transport*
- 15.30 **S. Pandey** *Neuroprotective efficacy of water-soluble CoQ₁₀ in cellular and animal models of neurodegenerative diseases*
- 15.45 *Discussion*

Coffee break

16.30 - 17.30 Technical approaches

Chairperson: **J. Weise**

- 16.30 **E. Gnaiger** *The mitochondrial Q-junction and coenzyme Q pools: Continuous monitoring of pull and push control of respiration and redox state of the Q-mimetic CoQ₂*
- 17.00 **A. Rück** *FLIM – metabolic imaging to determine bioenergetics in cells and tissue.*
- 17.15 **F. Grüner** *Novel path towards imaging Q10 uptake in single cells*
- 17.30 *Discussion*

20.00 Social dinner

Sunday, May 15

08.00 – 09.30 Skin Protection and Cosmetics

Chairpersons: **T. Blatt**

- 08.00 **S. Rattan** *Hormesis and hormetins for skin protection and cosmetics*
08.30 **J. Weise** *Q10 is a unique multitalent for human skin: an anti-aging active showing versatile functions*
08.45 **G. Valacchi** *Ethosomes for Coenzyme Q10 Cutaneous Administration: From design to skin protection*
- 09.00 *Discussion*

09.30 – 10.30 CoQ: prooxidant vs antioxidant

Chairperson: **L. Tiano**

- 09.30 **G. Lopez-Lluch** *Hero or villain: balance in the role of CoQ in protection against oxidative damage*
10.00 **A. Osyczka** *On the mechanism of CoQ oxidation and ROS generation by mitochondrial complex III*
10.15 **S. Yuan** *Cooperation between CYB5R3 and NOX4 via coenzyme Q mitigate endothelial inflammation*
- 10.30 *Discussion*

Coffee break

11.30 – 13.00 Supplementation

Chairperson: **P. Navas**

- 11.30 **L. Tiano** *Bioavailability of CoQ10: role of the oxidative status and formulation in tissue specific uptake*
12.00 **I. Pravst** *Bioavailability of Coenzyme Q10: Challenges and Recent Research Insights*
12.15 **A. Cicero** *CoQ10 supplementation and vascular health: from laboratory to clinical data*
12.30 **R. Artuch** *Coenzyme Q 10 Treatment Monitoring in Different Human Biological Samples*

12.45

Discussion and concluding remarks

Lunch