



9th World Congress on Targeting Mitochondria

October 23-25, 2018 – Steigenberger Hotel, Berlin, Germany

Day 1 – Tuesday October 23, 2018

17h00 – 18h00 Registration & material delivery

Day 2 – Wednesday October 24, 2018

7h45 Registration & material delivery

8h20 Introduction of Targeting Mitochondria by the President of World Society Mitochondria, Prof. Volkmar Weissig

Session 1: Recent advances on mitochondrial dysfunctions and dynamics in chronic diseases: the mechanistics

Chairs: Marvin Edeas, Volkmar Weissig

8h25 **Reflexions on an increasingly central player in physiology and disease**
Miria Ricchetti, Pasteur Institute, France

8h50 **Metabolic switches saving mitochondria from oxidative stress**
Carsten Culmsee, University of Marburg, Germany

9h15 **Targeting mitochondrial metabolism, geroprotection to treating Alzheimer's disease**
Antonio Currais, The Salk Institute for Biological Studies, USA

9h40 **FOXP3 increases oxidative phosphorylation and NAD oxidation, adapting regulatory T cells to low glucose high lactate environments**
Alessia Angelin, Children's Hospital of Philadelphia, USA

10h05 **Mitochondrial involvement in cell life/death regulation: presentation of new scientific results**
Vladimir Gogvadze, Karolinska Institute, Sweden

10h30 Coffee Break & Poster Session

Chairs: Alessia Angelin, Håkan Westerblad

11h20 **Utilizing a human hepatoma cell line to study off-target effects of drugs on mitochondrial DNA maintenance and bioenergetics**
Matthew Young, Southern Illinois University School of Medicine, USA

11h45 **Mitochondrial fission in human diseases**
Madhavika N. Serasinghe, Icahn School of Medicine at Mount Sinai, USA

12h05 **Mitochondrial dynamics in cell life and death**
Stephanie Herkenne, University of Padova, Italy

12h15 **Mitophagy as a cell death regulator**
Alibek Abdrakhmanov, Lomonosov Moscow State University, Russian Federation

12h25 **The impact of mitochondrial fission on metabolic adaptation**
Miriam Valera-Alberni, Nestlé Institute of Health Sciences, Switzerland

12h35 Lunch Break, Networking & Poster Session

Chairs: Miria Ricchetti, Adam Szewczyk

14h00 **Mitochondrial potassium channels: new regulation mechanism?**
Adam Szewczyk, Nencki Institute of Experimental Biology, Poland

14h25 **ROMO1 is a mitochondrial non-selective cation channel with viroporin-like characteristics**
Young Do Yoo, University of Korea, Republic of South Korea

14h35 **SK channel activation prevents ferroptosis by metabolic reprogramming**
Amalia Dolga, Groningen Research Institute of Pharmacy, The Netherlands

14h45 **The mitochondrial link to cocaine addiction: recent scientific advances**
Mary Kay Lobo, University of Maryland School of Medicine, USA

15h10 **Healing the heart through mitochondrial dynamics: a love-hate relationship**
Sang-Bing Ong, Duke-NUS Medical School, Singapore

15h35 **MNRR1 (CHCHD2) and mitochondrial UPR: a novel nexus**
Lawrence Grossman, Wayne State University, USA

15h45 *Coffee Break, Networking & Poster Session*

Chairs: Martin Bergö, Carsten Culmsee

16h25 **The transcriptomic and proteomic landscape of mitochondrial dysfunction in mouse**
Inge Kühl, CNRS - Institut de Biologie Intégrative de la cellule, France

16h50 **Dedicated surveillance mechanism controls G-quadruplex forming non-coding RNAs in human mitochondria.**
Roman J. Szczesny, Institute of Biochemistry and Biophysics PAS, Poland

17h00 **Synaptic activity mediates gene transcription-dependent metabolic plasticity in neurons**
Carlos Bas Orth, University of Heidelberg, Germany

17h10 **Mitochondrial dysfunction activates innate immunity via toxic RNA**
Jana Key, Goethe University Frankfurt, Germany

17h20 **Mitochondria: central players in microglia-neuron interactions**
Csaba Cserep, Hungarian Academy of Sciences, Hungary

17h30 **Nicotinic acetylcholine receptors regulate mitochondria-driven apoptosis**
Maryna Skok, Palladin Institute of Biochemistry, Ukraine

17h40 **Sirtuin 3 silencing impairs mitochondrial function in SW620 colon cancer cells**
Margalida Torrens-Mas, University of Balearic Islands, Spain

17h50 **The role of the Pink1/Parkin pathway in neuroblastoma chemo-resistance**
Flavia Radogna, Laboratoire de Biologie Moléculaire et Cellulaire du Cancer, Luxembourg

18h00 **Mitochondrial dysfunction in Alzheimer's disease: differential impact of amyloid precursor protein-derived fragments**
Mounia Chami, Université Côte d'Azur, France

18h10 **Proteomic characterization of synaptosomes from human substantia nigra indicates altered mitochondrial translation in Parkinson's disease**
Katrin Marcus, Ruhr-Universität Bochum, Germany

18h20 **Protective role of soluble adenylyl cyclase against reperfusion-induced injury**
Yury Ladilov, Charité, Germany

18h30 **IPSC-derived neuronal/astrocyte composite cultures identify functional and bioenergetic defects in leigh syndrome patients carrying surf1 mutations**
Gizem Inak, MDC Berlin, Germany

18h40 **Implication of the P53-regulator E4F1 in leigh syndrome**
Laurent Le Cam, Montpellier Cancer Center, France

18h50 **End of the first day**

20h30 **Targeting Mitochondria Dinner**
The dinner will be at Steigenberger Hotel.
Appointment in the piano bar of the Hotel.



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Day 3 – Thursday October 25, 2018

Session 2: The challenge of qualitative and quantitative assessment of mitochondrial function *in vitro* and *in vivo*

Chairs: Egbert Mik, Carole Nicco

- 8h30 **Mitochondria evaluation 2018: outlines**
Egbert Mik, Erasmus MC, The Netherlands
- 8h35 **Cellomics of mitochondrial morphofunction**
Werner Koopman, RadboudUMC University, The Netherlands
- 9h00 **Using live imaging to investigate the causes and consequences of mitochondrial toxicity in the kidney**
Andrew Hall, University of Zurich, Switzerland
- 9h25 **3D visualization uncovers heterogeneity of cardiac mitochondria and artefacts of 2D images**
Jacqueline Heinen-Weiler, University Hospital Essen, University Duisburg-Essen, Germany
- 9h35 **A new method adapted for sequencing the mitochondrial genomes**
Sophie Dhorne-Pollet, INRA, University Paris Saclay, France
- 9h45 **Quantifying and visualizing mitochondrial fission/fusion and the organelle interactome from time-lapse microscopy imaging**
Andrew R. Cohen, Drexel University, USA
- 9h55 **Studying oxidative phosphorylation in vitro models. How to cope with the crabtree phenomenon?**
Michèle Johanna Celina de Kok, LUMC, The Netherlands
- 10h05 **A luminescent assay for mitochondrial injury measurement upon targeting mitochondria by DNAi**
Saman Hosseinkhani, Tarbiat Modares University, Iran
- 10h15 **Macropinocytic entry of isolated mitochondria in epidermal growth factor-activated human osteosarcoma cells**
Dipali Patel, University of Cambridge, United Kingdom
- 10h25 *Coffee Break, Networking & Poster Session*
- 11h05 **Harmonizing mitochondrial DNA alignment across genetics**
Walther Parson, The Pennsylvania State University, USA
- 11h15 **The levels of serum S-(2-succinyl)cysteine, a marker for mitochondria dysfunction, increases with diabetes and its complications**
Ryoji Nagai, University of Tokai, Japan
- 11h25 **New mitochondrial function assay technology**
Barry Bochner, Biolog Inc, USA

Session 3: Crosstalk between microbiota and mitochondria

Chairs: Eric Barrey, Vladimir Gogvadze

- 11h50 **Microbiota-Mitochondria interactions**
Marvin Edeas, Institute Cochin, University Paris Descartes, France
- 12h15 **Pathobiont adherent-invasive E. Coli (AIEC) induces mitochondrial fission in epithelial cells, promoting intracellular bacterial persistence**
Nicole Mancini, University of Calgary, Canada
- 12h25 **Metabolic regulation of neurogenesis by gut microbiome during nonalcoholic steatohepatitis**
Maria Filipe Ribeiro, Universidade de Lisboa, Portugal

12h35 *Lunch Break, Networking & Poster Session*

13h45 **Brucella-infected cells display a fragmented mitochondrial population that does not change cell sensitivity to TNF- α -induced Apoptosis (microbiota)**
Thierry Arnould, University of Namur, Belgium

13h55 **Special talk: Reversing wrinkled skin and lost hair in mice by restoring mitochondrial function**
Keshav Singh, University of Alabama at Birmingham, USA

Session 4: Strategies to target mitochondrial: clinical trials and potential mitochondria-based therapies

Chairs: Keshav Singh, Werner Koopman

14h20 **Therapeutic application of specific near infrared light wavelengths that inhibit cytochrome C oxidase results in robust neuroprotection**
Maik Hüttemann, Wayne State University School of Medicine, USA

14h45 **Mechanism and therapeutic potential of cyclophilin inhibitors for prevention of mitochondrial myopathy progression**
Håkan Westerblad, Karolinska Institutet, Sweden

15h10 **Phase 2 motor study of Omaveloxolone in patients with mitochondrial myopathies**
John Vissing, Copenhagen University, Denmark

15h35 **Rescue of impaired mitochondrial performance in familial forms of Parkinson's disease by stomatin-like protein 2 expression**
Irene Pichler, Eurac Research, Italy

15h45 Coffee Break, Networking & Poster Session

16h10 **Nutritional interventions and dietary supplementation for mitochondrial disease patients**
Marni J. Falk, University of Pennsylvania Perelman School of Medicine, USA

16h35 **The legal framework for mitochondrial therapy: identifying and preventing legal pitfalls within the translation from bench to bedside**
Timo Faltus, Martin-Luther-Universität Halle-Wittenberg, Germany

Chairs: Maik Hüttemann, Alessandro Prigione

17h00 **Mitochondria-targeted antioxidants in human hepatic cells: A conceivable therapy for non-alcoholic fatty liver disease?**
Paulo J. Oliveira, University of Coimbra, Portugal

17h10 **Mitochondria-targeted hexokinase and ADP recycling: mechanism to prevent ROS generation and to mobilize carbohydrates**
Vladimir Skulachev, Lomonozo Moscow State University, Russian Federation

17h20 **The Nicotinamide Riboside Journey from Discovery to Clinical Efficacy**
Frank Jaksch, ChromaDex, USA

17h30 **Penetration of mitochondria into nuclei reprograms adult peripheral blood stem cells in humans**
Yong Zhao, Hackensack University Medical Center, USA

17h40 **Associations of sperm mitochondrial copy number and deletion rate with fertilization and embryo development in a clinical setting**
Richard Pilsner, University of Massachusetts Amherst, USA

17h50 **Discussion & concluding remarks with chairpersons & scientific committee**

Targeting Mitochondria 2018 Awards

18h10 **End of Targeting Mitochondria 2018**