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 mechanics

Chairs: Marvin Edeas, Volkmar Weissig

8h25 Metabolic switches saving mitochondria from oxidative stress
Carsten Culmsee, University of Marburg, Germany

8h50 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

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

9h40 Mitochondrial involvement in cell life/death regulation: presentation of new scientific results
Vladimir Gogvadze, Karolinska Institute, Sweden

10h05 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

10h30 Coffee Break & Poster Session

Chairs: Alessia Angelin, Håkan Westerblad

11h20 Special talk: Reversing wrinkled skin and lost hair in mice by restoring mitochondrial function
Keshav Singh, University of Alabama at Birmingham, USA

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

12h05 Mitophagy as a cell death regulator
Alibek Abdakhamanov, Lomonosov Moscow State University, Russian Federation

12h15 The impact of mitochondrial fission on metabolic adaptation
Miriam Valera-Alberni, Nestlé Institute of Health Sciences, Switzerland

12h25 Lunch Break, Networking & Poster Session

Chair: Carole Nicco, 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 charcateristics
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  MNRR1 (CHCHD2) and mitochondrial UPR: a novel nexus  
Lawrence Grossman, Wayne State University, USA

15h20  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  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

17h10  Synaptic activity mediates gene transcription-dependent metabolic plasticity in neurons  
Carlos Bas Orth, University of Heidelberg, Germany

17h20  Mitochondrial dysfunction activates innate immunity via toxic RNA  
Jana Key, Goethe University Frankfurt, Germany

17h30  Mitochondria: central players in microglia-neuron interactions  
Csaba Cserep, Hungarian Academy of Sciences, Hungary

17h40  Nicotinic acetylcholine receptors regulate mitochondria-driven apoptosis  
Maryna Skok, Palladin Institute of Biochemistry, Ukraine

17h50  Sirtuin 3 silencing impairs mitochondrial function in SW620 colon cancer cells  
Margalida Torrens-Mas, University of Balearic Islands, Spain

18h00  The role of the Pink1/Parkin pathway in neuroblastoma chemo-resistance  
Flavia Radogna, Laboratoire de Biologie Moléculaire et Cellulaire du Cancer, Luxembourg

18h10  Mitochondrial dysfunction in Alzheimer’s disease: differential impact of amyloid precursor protein-derived fragments  
Mounia Chami, Université Côte d’Azur, France

18h20  Proteomic characterization of synaptosomes from human substantia nigra indicates altered mitochondrial translation in Parkinson’s disease  
Katrin Marcus, Ruhr-Universität Bochum, Germany

18h30  Protective role of soluble adenylyl cyclase against reperfusion-induced injury  
Yury Ladilov, Charite, Germany

18h40  IPSC-derived neuronal/astrocyte composite cultures identify functional and bioenergetic defects in Leigh syndrome patients carrying surf1 mutations  
Gizem İnak, MDC Berlin, Germany

18h50  Implication of the P53-regulator E4F1 in Leigh syndrome  
Laurent Le Cam, Montpellier Cancer Center, France

19h00  End of the first day

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

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

Chairs: Keshav Singh, Werner Koopman

Therapeutic application of specific near infrared light wavelengths that inhibit cytochrome C oxidase results in robust neuroprotection

Maik Hüttelmann, Wayne State University School of Medicine, USA

Mechanism and therapeutic potential of cyclophilin inhibitors for prevention of mitochondrial myopathy progression

Håkan Westerblad, Karolinska Institutet, Sweden

Phase 2 motor study of Omaveloxolone in patients with mitochondrial myopathies

John Vissing, Copenhagen University, Denmark

Rescue of impaired mitochondrial performance in familial forms of Parkinson’s disease by stomatin-like protein 2 expression

Irene Pichler, Eurac Research, Italy

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Irene Pichler, Eurac Research, Italy

Nutritional interventions and dietary supplementation for mitochondrial disease patients

Marni J. Falk, University of Pennsylvania Perelman School of Medicine, USA

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

Mitochondria-targeted antioxidants in human hepatic cells: A conceivable therapy for non-alcoholic fatty liver disease?

Paulo J. Oliveira, University of Coimbra, Portugal

Mitochondria-targeted hexokinase and ADP recycling: mechanism to prevent ROS generation and to mobilize carbohydrates

Vladimir Skulachev, Lomonozo Moscow State University, Russian Federation

The Nicotinamide Riboside Journey from Discovery to Clinical Efficacy

Frank Jaksch, ChromaDex, USA

Penetration of mitochondria into nuclei reprograms adult peripheral blood stem cells in humans

Yong Zhao, Hackensack University Medical Center, USA

Discussion & concluding remarks with chairpersons & scientific committee

Targeting Mitochondria 2018 Awards

End of Targeting Mitochondria 2018