

8th World Congress on Targeting Mitochondria

World Mitochondria Society



Targeting Mitochondria 2017

October 23 - 24, 2017 - Berlin, Germany



www.targeting-mitochondria.com



World Mitochondria Society

Welcome to Targeting Mitochondria 2017

Dear Colleagues,

I am pleased and very honored to announce on behalf of the Scientific Committee of the World Mitochondria Society the 8th World Congress on Targeting Mitochondria which will be held in Berlin, Germany, on October 23-24, 2017.

The general and overarching topics our 8th World Congress on Targeting Mitochondria is going to cover will not significantly deviate from topics discussed at preceding editions of our conference series. We will again focus on three major areas, which are first the role of mitochondrial dysfunction in etiology and pathogenesis of chronic diseases including aging, second how to assess and above all quantify mitochondrial dysfunction in vitro and in vivo and finally, third, how to target and manipulate mitochondrial function in order to develop future mitochondria-based therapies.

The progress made in Mitochondrial Medicine over the last few years is breath-taking. Our detailed knowledge about how mitochondria impact human health and longevity has been rapidly growing, so has the number of mitochondria-based clinical trials.

For the 8th edition of "Targeting Mitochondria", the scientific committee will invite again key players, i.e. investigators who have been pushing the progress in their particular field of mitochondrial research over the last few years. Basic researches working at the bench in the laboratory, physicians treating patients suffering from mitochondrial disorders as well as representatives of companies working on the commercialization of mitochondria-targeted therapies are all welcome to our conference. We are convinced that our 8th World Congress on Targeting Mitochondria will be at least as exciting and as successful as our previous meetings.

Hot topics which are going to be highlighted this year include among others:

Recent advances on mitochondrial dysfunction in etiology and pathogenesis of human diseases and aging

- Mitochondria & Ageing
- Mitochondria & Microbiota: the intriguing relationship
- Mitochondria & Redox Regulation
- Mitochondria & Viral Infection
- Mitochondria & Metabolic Syndrome
- Mitochondria & Neurodegenerative Diseases
- Mitochondria & Cancer

The challenge of qualitative and quantitative assessment of mitochondrial function in vitro and in vivo

- Mitochondria Quality Control
- Mitochondria Devices: New methods to detect mitochondria dysfunction
- Mitochondria as Biomarkers
- Presentation of Practical Cases

Recent Advances on targeting mitochondria: Clinical trials and potential mitochondria-based therapies

- Strategies to target Stem Cells
- Strategies to target Microbiota
- Strategies to target miRNA
- Strategies to reimplace mitochondria
- Clinical & Therapeutic Directions

We very much look forward to seeing you in Berlin for this exciting event.

Volkmar Weissig - President of the World Mitochondria Society

Marvin Edeas - Chairman of the Targeting Mitochondria 2017



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8th World Congress on

Targeting Mitochondria

October 23-24, 2017 – Steigenberger Hotel, Berlin, Germany

Day 1 – Monday, October 23

8h00 Welcoming & Registration of Attendees

8h55 Welcome Introduction by Pr Volkmar Weissig, President of the World Mitochondria Society

Session 1: Targeting Mitochondria 2017: Recent advances on mitochondrial dysfunctions in chronic diseases: the mechanistics

Chairpersons: Marvin Edeas – Volkmar Weissig

9h00 Mitochondria: a switchboard between various cell death modalities

Vladimir Gogvadze, Karolinska Institute, Sweden

9h25 Hydrogen sulfide and mitochondrial function

Csaba Szabo, University of Texas, USA

9h50 Targeting mitochondria by small RNAs: update and prospects

Ivan Tarassov, University of Strasbourg, France

10h15 Mitochondrial ROS mediated signaling pathways: activation and regulation upon inflammation

Andrey Kozlov, L. Boltzmann Institute für experimentelle und klinische Traumatologie, Austria

10h40 Coffee Break & Poster Session

11h10 Mitochondria and Alzheimer's disease

Natalia Stefanova, Institute of Cytology and Genetics, Russia

11h35 Novel mechanisms of mitochondrial damage in oxidative death signaling are key targets for neuroprotective strategies

Carsten Culmsee, University of Marburg, Germany

12h00 Mitochondrial ROS and longevity: recent scientific advances

Ana Lechuga-Vieco, Fundación Centro Nacional de Investigaciones Cardiovasculares, Spain

12h25 Regulation of cardiac excitation-contraction-bioenergetics coupling by mitochondrial fission protein Drp1

Shey-Shing Sheu, Thomas Jefferson University, USA

12h50 Mitochondrial adaptation in steatosis

Hans Zischka, Institute of Molecular Toxicology and Pharmacology, Germany

13h00 Lunch Break & Poster Session

Session 2: How to Evaluate Mitochondria Function/Dysfunction?

Chair: Egbert Mik- Vladimir Gogvadze

14h15 Evaluating mitochondrial function: from the bench to the bedside

Egbert Mik, Erasmus MC, The Netherlands

14h40 Probing mitochondrial chemical biology with organelle-specific peptides

Shana O'Kelley, University of Toronto, Canada

15h05 Testing the therapeutic potential of antioxidants in diverse disease models

Marten Szibor, University of Helsinki, Finland

15h30 Coffee Break & Poster Session



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16h30 **High-content mitochondrial analysis by live-cell microscopy**
Werner Koopman, Radboudumc University, The Netherlands

16h55 **Short-term starvation induces increased respiration despite loss of inner mitochondrial membrane and re-arrangement of oxphos**
Karin Busch, Universität Münster, Germany

17h05 **Short Oral Presentations for Sessions 1 & 2 (7 minutes of presentation + 3 minutes for questions)**
Don't forget to submit your abstract before September 14.

Among short oral presentations already selected:

Contribution of cytochrome C oxidase subunit IV in the development of myocardial insufficiency
Sebastian Vogt, University Marburg, Germany

Modulation of cytochrome C oxidase activity with specific near-infrared light wavelengths attenuates brain ischemia/reperfusion injury
Maik Hüttemann, Wayne State University, USA

CHCHD10 and MNRR1 (CHCHD2): Partners in mitochondrial and nuclear function and dysfunction
Lawrence Grossman, Wayne State University, United States of America

A form of autophagy triggers lipolysis in 3t3-L1 adipocytes exposed to a mitochondrial uncoupling
Thierry Arnould, University of Namur, Belgium

mtDNA from healthy and osteoarthritic
Mercedes Fernandez-Moreno, Instituto de Investigación Biomédica de A Coruña, Spain

Mechanism and impact of mitochondrial superoxide release in acute and chronic hypoxia in the pulmonary vasculature
Natascha Sommer, University of Giessen, Germany

18h30 **End of the first day**

20h00 **Targeting mitochondria dinner**
To participate, please register online before October 12.





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Day 2 – Tuesday, October 24

8h55 Opening of the second day

Session 3: Strategies to target Mitochondria: Recent Clinical & Potential Therapeutic Studies (part 1)

Strategies to target stem cells / Strategies to replace mitochondria / Clinical & Therapeutic Directions

Chairpersons: Alessandro Prigione – Ivan Tarassov

9h00 **Studies on mitochondria-targeted plastoquinones and the road from laboratory bench to the market**
Vladimir Skulachev, Moscow State University, Russia

9h25 **The impact of mitochondria-targeted antioxidants on cancer progression**
Martin Bergö, Sahlgrenska Cancer Center, Sweden

9h50 **Prevention of mitochondrial disease transmission**
Yuko Takeda, The Newcastle University, United Kingdom

10h15 **Polymeric nanoparticle-based mitochondria-targeting systems**
Han Chang Kang, The Catholic University of Korea, The Republic of Korea

10h40 *Coffee Break & Poster Session*

11h40 **mtDNA induced inflammatory response in lungs: recent scientific advances**
Bartosz Szczesny, University of Texas Medical Branch at Galveston, USA

12h05 **iPSC-based drug discovery for neurological mitochondrial disease**
Alessandro Prigione, Max Delbrueck Center for Molecular Medicine, Germany

12h30 **Quantifying mitochondrial uptake of nucleobase derivatives through click chemistry**
Kurt Hoogewijs, The Wellcome Trust Centre for Mitochondrial Research, Newcastle University, United Kingdom

12h55 *Coffee Break & Poster Session*

Chairperson: Martin Bergö

14h00 **Mitochondria targeted diagnostic and photodynamic therapy**
Sabyasachi Chakraborty, Max Planck Institute, Germany

14h25 **Creation of a designer molecule to target and silence mitochondrial gene transcription**
Ganesh Pandian Namasivayam, Kyoto University, Japan

14h50 **Parkin deficiency amplifies NLRP3 inflammasome activation by mitigating negative feedback loops**
François Mouton-Liger, INSERM, Institut du Cerveau et de la Moelle Epinière, France

15h00 **Short Oral Presentations for Session 3**
Don't forget to submit your abstract before September 14.

Among short oral presentations already selected:

[4-]Helicene-squalene nanoassemblies with mitochondrial targeting properties
Andrej Babic, University of Lausanne, Geneva, Switzerland

Platelet-derived mitochondria display embryonic stem cell markers and improve pancreatic islet β -cell function in humans
Yong Zhao, Hackensack University Medical Center, USA

15h30 *Coffee Break & Poster Session*

16h00 **Short Oral Presentations for Session 3**

17h00 **Discussion & Concluding Remarks by Marvin Edeas & Volkmar Weissig**

Targeting Mitochondria 2017 Awards

17h30 **End of Targeting Mitochondria 2017**