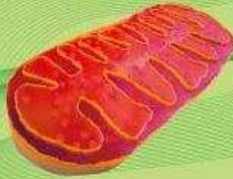


World Mitochondria Society

5th World Congress on

Targeting Mitochondria



28 - 30 October 2015

Ritz Carlton, Berlin - Germany

6th World Congress on

Targeting Mitochondria

October 28-30, 2015 - Ritz Carlton, Berlin, Germany



Program

www.targeting-mitochondria.com

Welcome to Targeting Mitochondria 2015

Dear Colleagues,

The Scientific Committee of World Mitochondria Society is honored to announce the organization of the **6th World Congress on Targeting Mitochondria** which will be held at **Hotel Ritz Carlton, Berlin** on **October 28-30, 2015**.

This 6th World Congress on Targeting Mitochondria will cover a variety of new strategies and innovations as well as clinical applications in Mitochondrial Medicine. Just as for the previous editions of "Targeting Mitochondria", the scientific committee has again succeeded in inviting an outstanding panel of speakers; each one of which a leader in their particular field.

Among hot topics which will be highlighted this year:

Recent Advances on Mitochondrial Dysfunctions in Chronic Diseases

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

Devices, Methods & Biomarkers: Innovations & New Opportunities

- Mitochondria Quality Control
- Mitochondria Devices: New methods to detect mitochondria dysfunction
- Mitochondria as Biomarkers

Strategies to Target Mitochondria: Recent Clinical Data and Potential Therapeutic Studies

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

Special Workshop dedicated to the Evaluation of Mitochondria in vivo and in Humans

The Scientific Committee of Targeting Mitochondria 2015 have decided to organize this workshop to highlight all methods which allow the investigation and studying of mitochondria in physiologic and pathologic conditions. We will talk more about mitochondria evaluation in human clinic.

We are pleased to invite all scientific and industrial teams to present their strategies and innovations during Targeting Mitochondria World Congress 2015.

With this exciting program, we look forward to welcoming you in Berlin for this particular event.

Marvin Edeas

Founder of World Mitochondria Society



Volkmar Weissig

President of World Mitochondria Society



World Mitochondria Society



6th World Congress on Targeting Mitochondria

October 28-30, 2015 – Hotel Ritz Carlton, Berlin

- Agenda -

Day 1: Wednesday, October 28, 2015

Workshop: How to Evaluate Mitochondria Function/Dysfunction?

Chairs: Werner Koopman – Egbert Mik

- 8h30 Registrations & Welcoming for Workshop
- 9h25 Opening Ceremony by Volkmar Weissig, President of World Mitochondria Society
- 9h30 Live-cell quantification of mitochondrial readouts
Werner Koopman, Radboud University Medical Centre, The Netherlands
- 10h15 Measuring cellular oxygen metabolism in vivo: towards clinical monitoring of mitochondrial function
Egbert Mik, Erasmus MC, The Netherlands
- 11h00 *Coffee Break & Network Session*
- 11h30 The central role of mitochondrial dysfunction in brain and other tissues pathophysiology evaluated in vivo
Avraham Mayevsky, Bar-Ilan University, Ramat-Gan, Israel
- 12h15 Discussion
- 12h30 *Lunch Break & Network Session*
- 14h00 Mitochondrial function in live cells - how it can be detected by live cell imaging
Andrey Y. Abramov, UCL Institute of Neurology, United Kingdom
- 14h30 Methods to study composition and dynamics of mitochondrial protein complexes
Ilka Wittig, University of Frankfurt, Germany
- 15h00 In vivo time-lapse imaging of mitochondria in healthy and diseased peripheral myelin sheath
Nicolas Tricaud, INSERM, France
- 15h30 *Coffee Break & Network Session*
- 16h00 Short Oral Presentations (7 + 3 minutes)
- Novel Fluorescent Probes for Visualizing Cell Structures and Function**
Yuning Hong, University of Melbourne, Australia
- Noninvasive assessment of mitochondrial dysfunction in brain disorders with proton magnetic resonance spectroscopy**
Dikoma C. Shungu, Weill Medical College of Cornell University, USA
- New mitochondrial-targeted probes for free radical detection in single live cells by fluorescent lifetime microscopy**
Anne-Cécile Ribou, Université de Perpignan Via Domitia, France
- The method of estimation of succinate dehydrogenase activity by using a flow cytometer**
Olga Kurbatova, FSBI "Research Center for Obstetrics, Gynecology and Perinatology" Ministry of Healthcare of the Russian Federation, Russia
- Detection of S-(2-succinyl)cystein (2SC) in cultured cells and human serum by LC-MS/MS as a marker for mitochondrial metabolic abnormalities**
Ryoji Nagai, Tokai University, Japan
- Intravital multiphoton imaging of AT1A receptor-mediated uptake of angiotensin II and mitochondrial function in the proximal tubule of the kidney**
Long Jia Zhuo, University of Mississippi Medical Center, USA
- A novel methodology to indirectly assess mitochondrial function and by means of measuring fat and lactate response to exercise across different populations**
Inigo San Millan, University of Colorado School of Medicine, USA
- An electronic assay of cell death**
John Peter Burke, UC Irvine, USA
- 17h30 Using Seahorse XF Technology to measure mitochondrial function and more
Hasse Hedeby, Seahorse Biosciences, Denmark
- 17h45 Discussion & Concluding Remarks by the chairs
- 18h00 End of the First Day

15h00 – 18h00 *Registration & Posters Installation for Targeting Mitochondria Conference*

World Mitochondria Society

Day 2: Thursday, October 29, 2015

Targeting Mitochondria 2015 Conference

7h30 Registrations – Posters Installation

8h55 Introduction remarks by Volkmar Weissig, President of WMS & Marvin Edeas, Founder of WMS

Targeting Mitochondria: Recent Advances & Perspectives Mitochondria, Microbiota & Metabolites

Chairs: Marvin Edeas - Volkmar Weissig

9h00 Introduction Lecture: Mitochondria, Microbiota or Metabolites: Where is the target?
Marvin Edeas, Chairman of Targeting Mitochondria 2015, France

9h25 Mining the gut microbiome for novel mitochondrial therapeutics
Anurag Agrawal, CSIR Institute of Genomics and Integrative Biology, India

9h50 Antibiotics that target mitochondria effectively eradicate cancer stem cells, across multiple tumor types: Treating cancer like an infectious disease
Rebecca Lamb, University of Manchester, United Kingdom

10h15 Reactive oxygen species and their lifelong regulation of the metabolome
Luis Vitetta, University of Sydney, Australia

10h40 Coffee Break, Posters & Exhibition Session

Targeting Mitochondria Dysfunctions: Mechanistic & Lessons

Chairs: Des Richardson – Luis Vitetta

11h10 The emerging role of Nrf2 in mitochondrial bioenergetics
Albena Dinkova-Kostova, University of Dundee, United Kingdom

11h35 Crosstalk Signaling between Mitochondrial Ca²⁺ and ROS: Its Physiological and Pathological Relevance
Shey-Shing Sheu, Jefferson University, USA

12h00 Progeroid Cockayne syndrome reveals a novel paradigm for mitochondria and aging
Miria Ricchetti, Institut Pasteur, France

12h25 Short Oral Presentations (5 + 2 minutes)

Upregulated cytochrome B5 may rescue normal androgen production in mitochondrial respiratory chain-deficient Leydig cells from prematurely aging mice
Irina G. Shabalina, Stockholm University, Sweden

Inter-organelle communication via specialized mitochondrial synapses
Martin Picard, Columbia University, USA

Mitochondrial dysfunction in chronic thromboembolic pulmonary hypertension
Constanza Moren, University of Barcelona-Hospital Clínic of Barcelona-CIBERES, Spain

Nitrite is a mitochondria targeted inhibitor of oxidative stress
Andrey Kozlov, L. Boltzmann Institute for Experimental and Clinical Traumatology in AUVA Center, Austria

Mitochondrial targeting of trans-cleaving ribozymes reveals transcriptome control and genetic coordination
André Dietrich, CNRS, France

13h00 Lunch Break, Posters & Exhibition Session

14h30 The rusty mitochondrion in Friedreich's ataxia: identification of non-ferritin mitochondrial iron deposits and the paradoxical oxidative stress response in a mouse model of this disease
Des Richardson, University of Sydney, Australia

14h55 Rescuing mitochondria in Wilson disease avoids acute liver failure
Hans Zischka, Institute of Molecular Toxicology and Pharmacology, Germany

15h20 Mitochondrially-localized Parkin and its role in innate immunity
Aleem Siddiqui, University of California, USA

15h45 Mitochondria and Parkinson's and ALS
Sonia Gandhi, UCL Institute of Neurology, United Kingdom

16h10 Coffee Break, Posters & Exhibition Session
One-Hour Posters Session & Networking around Snacks & Drinks

World Mitochondria Society

Chairs: Aleem Siddiqui – Miria Ricchetti

17h10 Short Oral Presentations (5 + 2 minutes)

CX9C proteins as new stress-responsive bi-organellar regulators and disease modifiers
Lawrence Grossman, Wayne State University School of Medicine, USA

Heterologous parkin loss of function induces mitochondrial fragmentation and decreases mitochondrial network volume in dopaminergic neurons in a drosophila model of Parkinson's disease
Lori M. Buhlman, Midwestern University, Glendale, USA

Viral alteration of cellular metabolism as exemplified by rubella virus
Claudia Claus, University of Leipzig, Germany

Mitochondrial dynamics during Legionella infection
Pedro Escoll, Institut Pasteur, France

A link between the evolutionary history of mitochondrial ribosomal proteins of S18 family and GLY132 polymorphism in colon cancer
Muhammad Mushtaq, Karolinska Institutet, Sweden

Enteric nervous system in Parkinson's disease: increased mitochondrial density but reduced ganglia volume
Marek Ostaszewski, Luxembourg Centre for Systems Biomedicine, Luxembourg

Role of Mitofusin coiled-coil domains in mitochondrial fusion
David Tareste, INSERM, France

Mitochondrial fusion in human HIV-pregnancies
Mariona Guitart-Mampel, University of Barcelona, Spain

MtDNA segregation in heteroplasmic tissues and possible implications for mitochondrial donation
Patrick Joerg Burgstaller, University of Veterinary Medicine Vienna, Austria

Impaired fission and fusion balance in skeletal muscle from HD patients and HD mice
Kerstin Kojer, University Medical Center Ulm, Germany

Cytokine profile alteration with mitochondrial targeting to prolong survival following hemorrhagic shock
Raghavan Raju, Georgia Regents University, USA

Mitochondrial dysfunction in a TAU model of neurodegeneration
Noemi Esteras Gallego, Institute of Neurology, University College London, United Kingdom

Super-resolution microscopy provides new insights into neuronal mitochondria organization
Elena Pohl, University of Veterinary Medicine Vienna, Austria

NDUFV1 subunit of complex 1 is a major target of nobiletin
Maia Sepashvili, Iliia State University, Georgia

UCP2 expression in neuroblastoma cells is regulated during cell metabolic adaptation to nutrient stress
Anne Rupprecht, University of Veterinary Medicine Vienna, Austria

New answer to an old question: the pyruvate supply to synaptosomal mitochondria is regulated by changing the cytosolic calcium concentration
Frank Norbert Gellerich, Neurologische Universitätsklinik Magdeburg, Germany

Mitochondrial DNA deletions in sporadic inclusion body myositis are associated with depletion and reduced expression of mitofusine-2
Marc Catalán-García, Faculty of Medicine-University of Barcelona, Spain

19h10 End of the Second Day

20h30 Targeting Mitochondria Dinner

If you would like to participate, please contact the secretary desk before 10:00.



World Mitochondria Society

Day 3: Friday, October 30, 2015

8h25 Welcome Note

Targeting Mitochondria 2015 & Strategies

Chairs: Martin Bergö – Volkmar Weissig

8h30 **Delivery of biologically active molecules to mammalian mitochondria**
Volkmar Weissig, Midwestern University, USA

8h55 **The impact of antioxidant supplementation on malignant melanoma progression**
Martin Bergö, Sahlgrenska Cancer Center, Sweden

9h20 **Short Oral Presentations** (5 + 2 minutes)

Is mitochondrial targeting the next anxiolytic treatment?
Michaela Filiou, Max Planck Institute of Psychiatry, Germany

Imeglimin, a new mitochondria-targeted agent for type 2 diabetes treatment
Sébastien Bolze, POXEL SA, France

Mitochondrial calcium channels as novel targets for therapy development
Peter Koulen, University of Missouri - Kansas City, School of Medicine, USA

Bypassing mitochondrial complex I dysfunction using cell permeable succinate prodrugs – metabolic rescue in Leigh syndrome patient fibroblasts
Sarah Piel, Lund University, Sweden

Novel mitochondria-targeted peptide iron chelators for iron sensing and protection against oxidative stress-induced mitochondrial damage
Olivier Reelfs, University of Bath, United Kingdom

Losartan reverses age-related mitochondrial dysfunction
Peter M. Abadir, Johns Hopkins University, USA

Mitochondrial damage affects muscle stem cells during sepsis and recovery
Laurent Chatre, Institut Pasteur, France

Effect of low citrate synthase activity on physiological and behavioral responses of mice to high fat diet feeding
Yosra Alhindi, University of Aberdeen, United Kingdom

The use of clinical samples to study the role of inter-individual variation on susceptibility to mitochondrial toxicants in drug-induced liver injury
Amy Elizabeth Chadwick, The University of Liverpool, United Kingdom

Novel in vivo human model for transient mitochondrial dysfunction: Simvastatin-induced mitochondrial dysfunction in healthy subjects and its reversibility by the reduced form of co-enzyme Q10
Marcus van Diemen, Centre for Human Drug Research, The Netherlands

10h30 *Coffee Break, Posters & Exhibition Session*

One-Hour Posters Session & Networking around Snacks & Drinks

Mitochondria, Cancer & Stem Cells

Chairs: Vladimir Gogvadze - Anurag Agrawal

11h30 **PSC-based drug discovery of mitochondrial disorders: Neural cells from patient-derived iPSCs as a novel system for drug discovery of mtDNA disorders**
Alessandro Prigione, Max Delbrueck Center for Molecular Medicine, Germany

11h55 **Acquisition of mitochondrial DNA by cancer cells devoid of mitochondrial genome is a prerequisite for tumor formation**
Jiri Neuzil, Griffith University, Australia

12h20 **Targeting energy producing metabolic pathways for cancer therapy**
Vladimir Gogvadze, Karolinska Institutet, Sweden

12h45 **Short Oral Presentations** (5 + 2 minutes)

Mitochondria Transplantation: Why?
Hakan Ozturk, Sifa University, Turkey

Discovering new mitochondrial DNA repair pathways using mitochondria-targeted DNA damaging agents
Simon Wisnovsky, Lab of Shana O. Kelley, University of Toronto, Canada

Protein import into mitochondria mediated by localized translation near the outer membrane
Yoav Arava, Technion - Israel Institute of Technology, Israel

World Mitochondria Society

13h05 Lunch Break, Posters & Exhibition Session

14h15 Short Oral Presentations (5 + 2 minutes)

Early ERK1/2 activation promotes DRP1-dependent mitochondrial fission necessary for cell reprogramming
Josema Torres, University of Valencia, Spain

Intracytoplasmic sperm injection with the addition of autologous mitochondria from egg precursor cells
Yaakov H. Bentov, TCART Fertility Partners, University of Toronto, Canada

Interplay between mitochondrial ribosomal protein S18-2 and retinoblastoma protein in regulation of cell stemness and differentiation
Elena Kashuba, Karolinska Institutet, Sweden

Regulatory mechanisms of dynamin-related protein 1 (drp1) and its influence on apoptosis in breast cancer
Kelly Jean Craig, Colorado Mesa University, USA

Targeting of Leishmania mitochondria by acyl phloroglucinol derivatives (APD)
Lars Gille, University of Veterinary Medicine Vienna, Austria

PGC-1 α and its role in promoting metastasis
Sylvia Andrzejewski, McGill University, Canada

Heteroplasmy shifting in mice transmitochondrial embryonic stem cells due to cultivation in low-glucose conditions
Romuald Loutre, UNISTRA-CNRS, France

Mitochondria & RNA
Jiri Neuzil – Alessandro Prigione

15h05 **Recent advances on the role of mitochondria in RNA interference by miRNA activity**
Samarjit Das, John Hopkins University, USA

15h30 **Mitochondrial targeting of recombinant RNA: Delivery strategies and therapeutic applications**
Nina Entelis, University of Strasbourg/CNRS, France

15h55 Coffee Break, Posters & Exhibition Session

16h15 **Long and small non-coding RNA in mitochondria and crosstalk between mitochondrial and nuclear genome**
Eric Barrey, INRA, France

16h40 **MicroRNA-126 induces autophagy by altering mitochondrial metabolism in malignant mesothelioma**
Marco Tomasetti, Polytechnic University of Marche, Italy

17h05 Short Oral Presentations (5 + 2 minutes)

Critical role of JNK in promoting mitochondrial dysfunction and liver injury
Byoung-Joon Song, National Institute on Alcohol Abuse and Alcoholism, NIH, USA

ATP citrate lyase: a novel regulator of skeletal muscle metabolism and growth
Suman Kumar Das, Novartis Institute for Biomedical Research, Switzerland

Cytochrome C phosphorylation: Regulation of mitochondrial respiration and apoptosis
Maik Huttemann, Wayne State University, USA

17h30 **Discussion & Concluding Remarks of Targeting Mitochondria 2015 by Marvin Edeas & Volkmar Weissig**
With the presence of organizers & speakers

- *Horizon 2020 Proposal & next Mitochondria projects*
- *Presentation of WMS Open Access Journal*

Targeting Mitochondria 2015 Awards:

- *Scientific Contribution Award 2015*
- *Scientific Contribution for Short Oral Presentation*
- *Scientific Contribution for Poster Presentation*

17h45 **End of Targeting Mitochondria 2015**

