

World Mitochondria Society

Targeting Mitochondria

15TH
CONGRESS

Agenda



OCTOBER
29»31 2024

BERLIN
GERMANY



15th World Congress on Targeting Mitochondria

October 29-31, 2024 – Berlin, Germany

Tuesday, October 29, 2024

13h00 – Badges & Welcoming of Attendees

Mitochondria Workshop 2024: How to Evaluate Mitochondria Function?

14h00 **Session 1:** Methods for analyzing mitochondrial function: Bioenergetics

14h45 **Session 2:** Methods for analyzing mitochondria: Biogenesis, dynamics and mitophagy

15h30 - Coffee Break & Networking

16h00 **Session 3:** Biochemical strategies for the diagnosis of mitochondrial disorders

17h00 **Session 4:** Presentation of Practical Cases & Interactive Discussion

17h30 End of the Workshop



Naïg Gueguen

Mitovasc Institute, Mitolab team,
INSERM 1083, CNRS 6215,
Centre Hospitalier Universitaire d'Angers
Angers, France

For full agenda, registration, and information, please follow this link

MITOCHONDRIA
WORKSHOP



15th World Congress on Targeting Mitochondria

October 29-31, 2024 – Berlin, Germany

– Day One –

Wednesday, October 30, 2024

8h00 – Materials Distribution & Welcoming of Attendees

8h50 – Welcome Note

Volkmar Weissig, *President of the World Mitochondria Society*

Marvin Edeas, *Founder & Chairman of the Scientific Committee of the World Mitochondria Society*



9h00 Keynote Speech

Mitochondria in Alzheimer Disease: It's not What you Think

Eric Schon, Columbia University, USA

Session 1 – Mitochondrial Dynamics in Health and Diseases: Mechanistic and Perspectives

Presentations length: 20 minutes + 5 minutes Q&A

Moderators: Volkmar Weissig, Marvin Edeas



9h30 Cracking the Code of Aging: Exploring Mitochondrial Dynamics and Organelle Connections

Antentor Hinton, Vanderbilt University, USA



9h55 Dynamics of Mitochondrial Membrane and Genome Regulate Mitochondrial Activity

Naotada Ishihara, Osaka University, Japan



10h20 Mitochondrial Dynamics: Updates and Perspectives

Petr Ježek, Institute of Physiology of the Czech Academy of Sciences, Czech Republic

10h45 - Coffee Break, Networking & Poster Session

Moderators: Carsten Culmsee, Maik Hüttemann



11h25 Cellular Dynamics: The Synergistic Interplay of Iron, Mitochondria, and Ferroptosis in Health and Disease

Carsten Culmsee, University of Marburg, Germany



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11h50 Mitochondria Iron Metabolism: Its Role in Pathogenesis of Diseases

Sonia Levi, Vita-Salute San Raffaele University, Italy



12h15 Blood-Based Marker: Mitochondrial DNA Damage in Parkinson's Disease

Laurie Sanders, Duke University School of Medicine, USA

12h40 – Lunch Break, Networking & Poster Session

Session 2 – Evaluation of Quality Control of Mitochondrial Function: Hands on Demonstrations

Moderators: Naig Gueguen, Egbert Mik



14h00 Introduction and Update on the Evaluation and Quality Control of Mitochondrial Function

Egbert Mik, Erasmus MC, The Netherlands



14h10 Evaluation of Mitochondrial Dysfunctions: Metabolic Analysis & Respirometry

Naig Gueguen, CHU Angers, France



14h30 Development of New Biosensors Dedicated to the Study of Mitochondrial Function and Mitophagy

Giulia Bertolin, CNRS, Université de Rennes, France

14h55 Short Oral Presentations

Presentations length: 7 minutes + 3 minutes for questions

Mitochondrial Dysfunction in Peripheral Mononuclear Blood Cells (PMBCs) of Individuals with Mild Cognitive Impairment – A Pilot Study

Gunter P. Eckert, Justus-Liebig University Giessen, Germany

Mitochondrial Nucleic Acid Sensing in Immune and Inflammatory Responses to Respirable Particles

Juliet Wilmot, UCLouvain, Belgium

Role of Mitochondrial Dysfunction in the Pathogenesis of Fabry Cardiomyopathy and Potential Effects of the Novel Enzyme Replacement Therapy Pegunigalsidase Alfa

Jessica Gambardella, University of Naples Federico II, Italy

15h25 - Coffee Break, Networking & Poster Session



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Session 3 – Emerging Trends and Strategies in Mitochondria Research

Presentations length: 20 minutes + 5 minutes Q&A

Moderators: Eric Barrey, Antetor Hinton



16h10 Mitochondrial Extracellular Vesicles: Orchestrating Brain Plasticity and Recovery
Stefano Pluchino, University of Cambridge, United Kingdom



16h35 Mitochondria Delivery via Extracellular Vesicles to the Blood-Brain Barrier
Devika S Manickam, Duquesne University, USA

17h00 Short Oral Presentations & Innovations

Presentations length: 7 minutes + 3 minutes for discussion

Regulation of Mitochondrial Calcium Uniporter Complex in Human Microglia Derived from iPSC of Alzheimer's Disease Patients

Amalia Dolga, University of Groningen, The Netherlands

Effects of a Modified Ketogenic Diet and Glutamine Supplementation on the Cerebellar Metabolome of Mouse Model of Mitochondrial Disease

María Morán, Instituto de Investigación Sanitaria Hospital '12 de Octubre', Spain

Mitochondria to Plasma Membrane Redox Signaling is Essential for Fatty Acid-Stimulated Insulin Secretion

Martin Jaburek, Academy of Sciences, Czech Republic

Aging-Associated Mitochondrial Signature in Human Fibroblasts and Corresponding Fibroblast-Derived Neurons

Amandine Grimm, University of Basel, Switzerland

Increased Instability Levels of Circulating Cell-Free Mitochondrial DNA are Associated with Worse Clinical Outcomes in Late-Life Depression

Ana Paula Mendes-Silva, University of Saskatchewan, Canada

MNRR1, a Moonlighting Druggable Target for Mitochondrial Disease

Lawrence Grossman, Wayne State University, USA

The MICOS Complex as a Therapeutic Target that Modulates Age-Dependent Mitochondrial Metabolic and Structural Deficits in Kidney

Kit Neikirk, Vanderbilt University, USA



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Defective Mitochondrial Protein Import in Secondary Mitochondrial Damage-Related Neuromuscular Diseases

Evrin Aksu Menges, Hacettepe University, Turkey

Quantifying Mitochondrial Dynamics And Function In Primary Mitochondrial Diseased Fibroblasts Linked with Mitochondrial DNA Mutations And Deletions

Shilpa Iyer, University of Arkansas, USA

A Novel GPCR Agonist Induces Selective Mitophagy in a Complex III Deficiency Model Improving Bioenergetic Function and Overall Cellular Health

Cristiane Beninca, University of California, USA

Structure of the II2-III2-IV2 Mitochondrial Supercomplex from a Parasite Reveals a Protein Inhibitor of Complex III

Alexey Amunts, Westlake University, China

18h50 **End of Targeting Mitochondria 2024 Day 1**

20h15 **Meet the Speakers Dinner (for ticket holders only)**

The dinner will be held at DoubleTree by Hilton Berlin Ku'damm

Book your ticket via our website: <https://wms-site.com/speakers-dinner-2024>.





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October 29-31, 2024 – Berlin, Germany

– Day Two –

Thursday, October 31, 2024

8h00 – Registration & Welcoming of Attendees

8h25 – Day 2 Opening Session



8h30 **Keynote Speech**
Mitochondria: More Heat than Light?
Howy Jacobs, Tampere University, Finland

Session 3 – Emerging Trends and Strategies in Mitochondria Research (Continued)

Presentations length: 20 minutes + 5 minutes Q&A

Moderators: Vladimir Gogvadze, Yuma Yamada



9h00 **Mitochondria and Photomedicine: Advances in Infrared Light Treatment**
Maik Hüttemann, Wayne State University, USA



9h25 **Role of Light in Regulating Blood Glucose via Mitochondrial Stimulation**
Michael B. Powner, City University of London, United Kingdom



9h50 **Investigating Mitochondria as Age-Old Drivers of Inflammation**
Stephen Tait, University of Glasgow, United Kingdom



10h15 **The Role of Mitochondria in Zika Virus Propagation: Mechanisms of Immune Evasion and Inter-Cellular Transmission**
Indira Mysorekar, Baylor College of Medicine, USA

10h40 - Coffee Break, Networking & Poster Session



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Session 4 – Mitochondrial Medicine 2024: From Bench to Bedside

Presentations length: 20 minutes + 5 minutes Q&A

Moderators: James McCully, Ana Andreazza



11h10 Stem Cell Educator Therapy: A New Era in Mitochondrial Transfer and Regeneration
Yong Zhao, Throne Biotechnologies, USA



11h35 The Power and Potential of Mitochondria Transfer
Jonathan R. Brestoff, Washington University in St. Louis School of Medicine, USA



12h00 Mitochondrial Transplantation Mediates Improved Cellular Energy Metabolism, Restoration of Mitochondrial Function and Prevention of Cell Death
Mark Kindy, James A. Haley VA Hospital and University of South Florida, USA

12h25 – Lunch Break, Networking & Poster Session



13h30 The Intersection of Mitochondrial Function and Psychiatric Disorders: Biomarkers, Gene Variants, and Patient Stratification
Ana Andreazza, University of Toronto, Canada



13h55 State of the Science Mitochondria-specific Targets, Therapeutics and Biomarkers Investigation following Traumatic Brain Injury in the US Military
Jignesh D. Pandya, Walter Reed Army Institute of Research, USA



14h20 Targeting Giant Mitochondria (Megamitochondria) in Human Liver Disease: Potential Diagnostic and Therapeutic Interventions
Elena Palma, King's College London, United Kingdom

Moderators: Miria Ricchetti, Mercedes Rincon

14h45 Short Oral Presentations & Innovations

Presentations length: 7 minutes + 3 minutes for discussion

Frozen Xenogeneic Human Mitochondria Transplantation Prevents Ischemic Reperfusion Injury in Small and Large Animal Models of Acute Kidney Injury

Stephen B. Helliwell, Cellvie AG, Switzerland

Mitochondrial Transplantation Improves Skeletal Muscle Bioenergetics in Aging Mice and Rat Models

Tasnim Arroum, Wayne State University, USA

Optimization of Artificial Mitochondrial Transfer into Human Pancreatic Islets

Quentin Perrier, Wake Forest School of Medicine, USA



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Trans-Cellular Mitochondrial Transfer: Mediator of Macrophage-Myocyte Cross Talk and Labor Onset

Lubna Nadeem, Lunenfeld-Tanenbaum Research Institute, Canada

Diverse Effects of Mitochondrial Transfer from Wharton's Jelly- and Bone Marrow-Mesenchymal Stem Cells on Cellular Antioxidant Mechanisms in Osteoarthritic Chondrocytes

Candan Altuntas, Kocaeli University, Turkey

Liposome-Based Mitochondrial Targeted Delivery of Hydrogen Sulphide for the Treatment of Neurodegenerative Diseases

Lisette Sanchez Aranguren, Aston University, United Kingdom

Mitochondrial Transplantation as a Therapeutic Strategy to Mitigate Viral-Induced Lung Injury through MAVS-Dependent Antiviral Pathways

Felipe Grunenwald, Universidad de los Andes, Chile

15h55 Targeting Mitochondria 2024: Key Questions & Concluding Remarks

Moderators: Volkmar Weissig, Marvin Edeas

Participants at this debate: *Eric Barrey, Vladimir Gogvadze, Yuma Yamada, Miria Ricchetti, Mercedes Rincon, James McCully, Eric Schon, Howy Jacobs, Antetor Hinton, Naotada Ishihara, Ježek Petr, Carsten Culmsee, Sonia Levi, Laurie Sanders, Naig Gueguen, Egbert Mik, Giulia Bertolin, Stefano Pluchino, Devika S Manickam, Maik Hüttemann, Michael B. Powner, Indira Mysorekar, Yong Zhao, Jonathan R. Brestoff, Mark Kindy, Ana Andrezza, Jignesh Pandya, and Elena Palma.*

16h30 Best Short Oral & Poster Awards

16h45 Drinks, Coffee and Snacks: Getting Together Networking – End of Meeting

For more information, please visit: www.wms-site.com.

