Welcome to the World Mitochondria Society Annual Meeting

On behalf of the Scientific Committee of the World Mitochondria Society (WMS), we are pleased to announce the organization of the 13th Annual Meeting of WMS on Targeting Mitochondria, which will be held on October 26-28, 2022 at the Steigenberger Hotel Am Kanzleramt, Berlin, Germany, & online.

After the great success of the 12th WMS Meeting in 2021 that was held virtually with interactive sessions for discussion, we are hoping that personal interactions among colleagues from around the world will be a major feature of our 13th World Annual Meeting.

Targeting Mitochondria 2022 Sessions:

- Mitochondrial Dysfunctions and Dynamics in Chronic Diseases
- Mitochondria Transplantation and Transfer
- Extracellular Vesicles & Mitochondria: The Target
- Nuclear-Mitochondrial Interactions and their Effect on Longevity and Health
- Translational Therapies - Focus on Infrared Therapies
- WMS Challenges in the Acceleration of Mitochondrial Medicine

Among the blooming topics that will be highlighted: mitochondrial signaling, mitochondrial diseases, cancer, cardiovascular diseases, stroke, sepsis, fatty liver disease, respiratory diseases, schizophrenia, brain injury and neurological diseases, ageing, gene/metabolic disorders, extracellular vesicles and mitochondrial dysfunctions, extracellular vesicles therapy, mitochondrial medicine, mitochondrial transplantation, mitochondrial transfer, mitochondrial genome engineering, translational therapy, photo-medicine, infrared light, mitochondria and vision…

Basic scientists 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.

I assure anyone who is going to join us in this year's Congress in October 2022 that you won't be disappointed!

We are looking forward to meeting you all!

All our warmest regards.

Prof. Volkmar Weissig
President of the World Mitochondria Society
Midwestern University, USA
### Targeting Mitochondria 2022 Speakers

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**Related Events**

- **Oral Presentation**: Oct 7, 2022
- **Poster Presentation**: Oct 14, 2022

**Website**: www.wms-site.com
Wednesday, October 26, 2022
Dedicated to Mitochondria Workshop

13h30 – Registration for Workshop and Targeting Mitochondria 2022 Congress

**Mitochondria Workshop 2022: How to Evaluate Mitochondria Function?**

**Session 1:** How to evaluate and analyze mitochondria function in 2022

**Session 2:** Methods for analyzing mitochondrial function: Bioenergetics

15h10 **Coffee Break**

**Session 3:** Methods for analyzing mitochondria: Biogenesis, dynamics, and mitophagy

**Session 4:** Biochemical strategies for the diagnosis of mitochondrial disorders

Presentation of Practical Cases, Workshop report & Interactive Discussion

18h00 End of the Workshop

18h00 **Welcoming Cocktail**

**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]
13th World Congress on Targeting Mitochondria
October 26-28, 2022 – Berlin, Germany

Agenda

– Day One –
Thursday, October 27, 2022

8h00 – Materials Distribution & Welcome Coffee

8h50 – Welcome Note: World Mitochondria Society Now & Tomorrow

Volkmar Weissig, President of the World Mitochondria Society, Midwestern University, USA

Marvin Edeas, WMS Founder & Chairman of The Scientific Committee, Université de Paris, INSERM 1016, Institute Cochin, France

9h00 – 9h30 Keynote Speech on Mitochondrial Medicine: Present and Future
Douglas C. Wallace, Children’s Hospital of Philadelphia, USA

Session 1: Mitochondrial Dysfunctions and Dynamics in Chronic Diseases

Chairs: Volkmar Weissig, Marvin Edeas

Presentations lengths: 15 minutes + 5 minutes of discussion

9h30 – 9h50 Regulation of Mitochondrial Signaling in Cardiomyopathy During Sepsis
Qun Sophia Zang, Loyola University Chicago Health Science Campus, USA

9h50 – 10h10 Exercise, Mitochondrial Adaptations, and Fatty Liver
Cora Weigert, University Hospital Tuebingen, Germany

10h10 – 10h30 The Multiple Facets of the Mitochondria Shaping Protein Opa1 in Adipocytes: From Epigenetic to Tissue Plasticity
Camilla Bean, University of Padova, Italy

10h30 – 10h50 Targeting the Mitochondrial Unfolded Protein Response in Prostate Cancer
Dhyan Chandra, Roswell Park Comprehensive Cancer Center, USA

10h50 - Coffee Break, Networking & Poster Session
Session 2: Mitochondria Transplantation and Transfer

Chair: James McCully

Presentations lengths: 15 minutes + 5 minutes of discussion

11h20 – 11h40 Recent Advances in Mitochondrial Transplantation Therapy
James McCully, Harvard Medical School Department of Cardiac Surgery Boston Children’s Hospital, USA

11h40 – 12h00 Mitochondrial Transfer via MitoPunch
Michael Teitell, University of California, USA

12h00 – 12h20 Mitochondria Transplantation Between Living Cells
Julia A. Vorholt, ETH Zurich, Switzerland

12h20 – 12h40 Use of Mitochondrial Transplantation for Stroke
Melanie Walker, University of Washington Medical School, USA

12h40 – Lunch Break, Networking & Poster Session

Session 3: Extracellular Vesicles & Mitochondria: The Target

Chairs: Carsten Culmsee, Vladimir Gogvadze

Presentations lengths: 15 minutes + 5 minutes of discussion

14h00 – 14h20 EV-Mitochondria as a Promising Therapeutic for Mitochondrial Dysfunction
Devika S Manickam, Duquesne University, USA

14h20 – 14h40 The Role of Extracellular Vesicles in Mitochondrial Quality Control Mechanisms
Marc Germain, Université du Québec à Trois-Rivières, Canada

14h40 – 15h00 Mitochondrial DNA as Extracellular Vesicle Cargo in Aging and Age-related Conditions
Nicole Noren Hooten, National Institute on Aging, National Institutes of Health, USA
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15h00 – 15h20 The Impact of Mesenchymal Stromal Cell Extracellular Vesicles on Mitochondrial Dysfunction in Acute Respiratory Distress Syndrome
Anna Krasnodembskaya, Queen’s University Belfast, United Kingdom

15h20 – 15h40 Mitochondrial Exosomal miR137-COX6A2 in Schizophrenia
Ines Khadimallah, Lausanne University Hospital, Switzerland

15h40 – Coffee Break, Networking & Poster Session

16h30 – 18h00
Short Oral Presentations of Day 1

Presentations lengths: 5 minutes + 2 minutes of discussion

Among the accepted:

**Brucella abortus** Triggers BNIP3L-Mediated Mitophagy in Host Infected Cells
Thierry Arnould, University of Namur, Belgium

**Mitochondrial Alterations Manifest Early During Neuronal Differentiation of Down Syndrome-Derived Human IPSCS**
Antonella Izzo, University of Naples Federico II, Italy

**A Novel Player in Mitochondrial Oxygen Sensing for Cardiopulmonary Disorders**
Aylén M. Santamans, Centro Nacional de Investigaciones Cardiovasculares, Spain

**The Role of Mitochondria in Inflammatory Signalling to the Brain by Virus-primed Airway Extracellular Vesicles**
Aiste Jekabsone, Lithuanian University of Health Sciences, Lithuania

**MICOS Complex and Mitochondria Morphology Changes Across Aging in Cardiac Muscle**
Andrea Gail Marshall, Vanderbilt University, USA

**SARS-CoV-2** Induces a Delayed Upregulation of Mitochondrial miRNA-4485 In Golden Hamsters
Christopher Fitzpatrick, Université Paris-Saclay, INRAE, France

18h00 Round Table Discussion with Douglas Wallace, James McCully, Ian Holt and other selected speakers

19h00 End of Congress Day 1

20h00 Meet the Speakers Dinner (for ticket holders only)
Agenda

Day Two
Friday, October 28, 2022

8h00 – Welcoming of attendees and welcome coffee

8h25 – Day 2 opening session

Session 4 – Nuclear-Mitochondrial Interactions and their Effect on Longevity and Health

Chairs: Miria Ricchetti, Eric Barrey

Presentations lengths: 15 minutes + 5 minutes of discussion

8h30 – 8h50 Mitochondrial Responses to a Massive Trauma-Determinant of Survival
Marc G. Jeschke, University of Toronto, Canada

8h50 – 9h10 2-Deoxy-D-Glucose Couples Mitochondrial DNA Replication with Mitochondrial Fitness
Ian J. Holt, Biodonostia Health Research Institute, Spain

9h10 – 9h30 Regulation of Mitochondrial DNA Polymerase POLG1 Proteolysis and its Role in the Progeroid Disease Cockayne Syndrome and Physiological Ageing
Miria Ricchetti, Institut Pasteur, France

Session 5 – Translational Therapies - Focus on Infrared Therapies

Chairs: Maik Hüttemann, Michael Weber

Presentations lengths: 15 minutes + 5 minutes of discussion

9h30 – 9h50 Noninvasive Treatment of Brain Ischemia-Reperfusion Injury with Near Infrared Light: Working Toward Clinical Implementation
Maik Hüttemann, Wayne State University, USA

9h50 – 10h10 Mitochondrial and Photo-Medicine - Recent Clinical Applications
Michael Weber, President of European Laser Academy, Germany
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10h10 - Coffee Break, Networking & Poster Session 

Session 6 – WMS Challenges in the Acceleration of Mitochondrial Medicine 

Chairs: Alessandro Prigione, Ian Holt 

Presentations lengths: 15 minutes + 5 minutes of discussion 

10h40 – 11h00 The Randomized Controlled Phase 2b KHENERGYZE Trial of Sonlicromanol in Primary Mitochondrial Disease MELAS Spectrum Disorders: Topline Results  
Jan Smeitink, Khondrion B.V., Netherlands 

11h00 – 11h20 GM1 Oligosaccharide as Mitochondrial Modulator: Implications in Neurological Diseases  
Maria Fazzari, University of Milano, Italy 

11h20 – 11h40 A Novel PTD-mediated IVT-mRNA Delivery Platform Developed for Protein Replacement Therapy for genetic/metabolic disorders  
Lefkothea C. Papadopoulou, Aristotle University of Thessaloniki, Greece 

11h40 – 12h00 Mitochondrial Targeting in Aging and Injury  
Raghavan Pillai Raju, Medical College of Georgia, USA 

12h00 – 12h20 The Potential of Mitochondrial Genome Engineering  
Pedro Silva-Pinheiro, University of Cambridge, United Kingdom 

12h20 – Lunch Break, Networking & Poster Session  

Chairs: Egbert Mik & Hans Zischka 

13h40 – 14h00 A Non-canonical Tricarboxylic Acid Cycle Underlies Cellular Identity  
Paige Arnold, Memorial Sloan Kettering Cancer Center, USA 

14h00 – 14h20 Unlocking the Potential of the Mammalian Electron Transport Chain  
Jessica Spinelli, Whitehead Institute for Biomedical Research, USA
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14h20 – 14h40  Folic Acid Supplementation Improves Drosophila Parkin Loss-of-Function Phenotype and Decreases Mitochondrial Hydrogen Peroxide Levels in Vulnerable Dopaminergic Neurons
Lori Buhlman, Midwestern University Glendale, USA

14h40 – 15h00  Mitochondria in Retinal Photoreceptors: More than Meets the Eye
John Ball, National Eye Institute, National Institutes of Health, USA

15h00 – Coffee Break, Networking & Poster Session

15h40 – 16h30

Short Oral Presentations of Day 2

Presentations lengths: 5 minutes + 2 minutes of discussion

Among the accepted:

Approach for Using Intra-Articular Injection of Mitochondria to Treat Osteoarthritis
Mercedes Fernandez-Moreno, Instituto de Investigación Biomédica de A Coruña (INIBIC), Spain

Highly-Purified Rapidly Expanding Clones, RECs, are Superior for Functional-Mitochondrial Transfer
Jiahao Yang, Shimane University, Japan

16h30 Round Table Discussion: Mitochondrial Medicine – What’s Next?

17h00 – Concluding Remark and Scientific & Innovations Awards

End of Targeting Mitochondria 2022