Targeting Mitochondria

13th Congress

Oct. 26 » 28 2022
Berlin © Germany
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

**Welcome Note: World Mitochondria Society Now & Tomorrow**
Volkmar Weissig, President of the WMS, Midwestern University, USA

**Welcome Note: World Mitochondria Society Now & Tomorrow**
Marvin Edras, Founder of the WMS, Institut Cochin, INSERM U1016, University Paris Descartes, France

**Keynote Speech - Mitochondrial Medicine: Present and Future**
Douglas C. Wallace, Children's Hospital of Philadelphia, USA

**Mitochondrial DNA as Extracellular Vesicle Cargo in Aging and Age-related Conditions**
Nicole Noren Houten, National Institutes of Health, USA

**Regulation of Mitochondrial Signaling in Cardiomyopathy During Sequestration**
Quin Sophia Zhang, Loyola University Chicago Health Science Campus, USA

**Folic Acid Supplementation improves Drosophila Parkin Loss-of-Function Phenotype and Decreases Mitochondrial Hydrogen Peroxide Levels in Vulnerable Dopaminergic Neurons**
Lori Buchmann, Midwestern University Glendale, USA

**Mitochondrial and Photo-Medicine - Recent Clinical Applications**
Michael Weber, President of European Laser Academy, Germany

**Recent Advances in Mitochondrial Transplantation Therapy**
James McCully, Boston Children's Hospital, USA

**Unlocking the potential of the mammalian electron transport chain**
Jessica Spinelli, Whitehead Institute for Biomedical Research, USA

**Mitochondria Transplantation Between Living Cells**
Julia A. Vorhoft, ETH Zurich, Switzerland

**GM1 ganglioside as mitochondrial modulator: implications in neurological diseases**
Maria Fazzari, University of Milano, Italy

**Noninvasive treatment of brain ischemia-reperfusion injury with near infrared light: working toward clinical implementation**
Maik Hüttemann, Wayne State University, USA

**2-Deoxy-D-glucose couples mitochondrial DNA replication with mitochondrial fitness**
Ian J. Holt, Biodonostia Health Research Institute, Spain

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

**The Multiple Facets of the Mitochondria Shaping Protein Opal in Adipocytes: From Epigenetic to Tissue Plasticity**
Camilla Bean, University of Padova, Italy

**Exercise, Mitochondrial Adaptations, and Fatty Liver**
Corin Viergut, University Hospital Tuebingen, Germany

**Mitochondrial targeting in aging and injury**
Raghavan Pillai Raja, Medical College of Georgia, USA

**Mitochondrial Transfer via Mitopunch**
Michael Teitel, University of California, USA

**Use of Mitochondrial Transplantation for Stroke**
Melanie Walker, University of Washington Medical School, USA

**Use of Mitochondrial Transplantation in the Randomized Controlled Phase 2b KRENGYHZ Trial of Sonicromanol in Primary Mitochondrial Disease MELAS Spectrum Disorders: Topline Results**
Sam Mestka, Khandra B.V., the Netherlands

**The Potential of Mitochondrial Genome Engineering**
Pedro Silva-Pinheiro, University of Cambridge, United Kingdom

**The Randomized Controlled Phase 2a KRENGYHZ Trial of Sonicromanol in Primary Mitochondrial Disease MELAS Spectrum Disorders: Topline Results**
Sam Mestka, Khandra B.V., the Netherlands

**EV-Mitochondria as a Promising Therapeutic for Mitochondrial Dysfunction**
Devi S Manickam, Duquesne University, USA

**A Non-canonical Tricarboxylic Acid Cycle Underlies Cellular Identity**
Paige Arnold, Memorial Sloan Kettering Cancer Center, USA

**Mitochondrial DNA Polysome Polysome Protocols and its Role in the Progeroid Disease Cockayne Syndrome and Physiological Aging**
Miria Ricci, Istitut Pasteur, France

**Targeting the Mitochondrial Unfolded Protein Response in Prostate Cancer**
Dhyun Chandra, Roswell Park Comprehensive Cancer Center, USA

**Mitochondria in Retinal Photoreceptors: More than Meets the Eye**
John Ball, National Institutes of Health, USA

**A Novel PTD-mediated iRT-mRNA delivery platform developed for Protein Replacement Therapy for genetic/metabolic disorders**
Leotrothe C. Papadopoulos, Aristotle University of Thessaloniki, Greece

**Mitochondria Workshop 2022: How to Evaluate Mitochondria Function?**
Naqi Guerguen, Mitovasc Institute, Centre Hospitalier Universitaire de Angers, France
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
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
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

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

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
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 – 19h00

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
Ayelén 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

19h00 End of Congress Day 1
8h00 – Welcoming of attendees and welcome coffee

8h25 – Day 2 opening session

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

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

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

Short Oral Presentations (2 slots)

10h30 - Coffee Break, Networking & Poster Session
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Session 6 – WMS Challenges in the Acceleration of Mitochondrial Medicine

Presentations lengths: 15 minutes + 5 minutes of discussion

11h00 – 11h20 The Randomized Controlled Phase 2b KHENERGYZE Trial of Sonlicromanol in Primary Mitochondrial Disease MELAS Spectrum Disorders: Topline Results
Jan Smeitink, Khondrion B.V., Netherlands

11h20 – 11h40 GM1 Oligosaccharide as Mitochondrial Modulator: Implications in Neurological Diseases
Maria Fazzari, University of Milano, Italy

11h40 – 12h00 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

12h00 – 12h20 Mitochondrial Targeting in Aging and Injury
Raghavan Pillai Raju, Medical College of Georgia, USA

12h20 – Lunch Break, Networking & Poster Session

14h00 – 14h20 The Potential of Mitochondrial Genome Engineering
Pedro Silva-Pinheiro, University of Cambridge, United Kingdom

14h20 – 14h40 A Non-canonical Tricarboxylic Acid Cycle Underlies Cellular Identity
Paige Arnold, Memorial Sloan Kettering Cancer Center, USA

14h40 – 15h00 Unlocking the Potential of the Mammalian Electron Transport Chain
Jessica Spinelli, Whitehead Institute for Biomedical Research, USA

15h00 – 15h20 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

15h20 – 15h40 Mitochondria in Retinal Photoreceptors: More than Meets the Eye
John Ball, National Eye Institute, National Institutes of Health, USA
16h30 – Coffee Break, Networking & Poster Session

17h00 – 17h30

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

17h30 – Concluding Remark and Scientific & Innovations Awards

*End of Targeting Mitochondria 2022*