WORLD MITOCHONDRIA SOCIETY

Powering the Next Era of Medicine

17TH CONGRESS

Targeting Mitochondria

WMS: Decoding Energy & Designing the Future

Mitochondria at the Crossroads of Medicine, Longevity and Innovation

OCTOBER
21 » 23, 2026

BERLIN
GERMANY

SCIENTIFIC AGENDA

WORLD MITOCHONDRIA SOCIETY

Powering the Next Era of Medicine

17 TH CONGRESS

Welcome to World Mitochondria Society Annual Meeting 2026

Dear Colleagues and Friends,

It is our great pleasure to welcome you to Berlin for the **17th** World Congress on Targeting Mitochondria, taking place on October 21–23, 2026.

Mitochondrial research is entering a particularly exciting period. Mitochondria are no longer viewed simply as energy-producing organelles, but as dynamic regulators of cellular communication, metabolism, stress adaptation, resilience, ageing and disease. This evolution is opening new opportunities for diagnosis, therapeutic intervention and precision medicine.

Over these three days, Targeting Mitochondria 2026 will bring together leading scientists, clinicians, young investigators, biotechnology innovators and industry partners. Our objective is not only to present new findings, but also to create the conditions for critical discussion, unexpected connections and new collaborations.

This year's programme reflects that ambition: from mitochondrial function and emerging technologies to quality control, brain health, mitochondrial disease, intercellular mitochondrial transfer and new therapeutic strategies.

We are especially pleased to give strong visibility to the next generation through selected short oral presentations, posters and awards. Scientific progress depends on established leaders, but also on new ideas and researchers willing to challenge existing concepts.

We hope these three days in Berlin will provide you with new scientific perspectives, meaningful exchanges and, above all, new ideas about where mitochondrial medicine should go next.

Welcome to Berlin

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

Marvin Edeas
Founder & Chairman, World Mitochondria Society
Université de Paris, France

Day one – Workshop: Evaluating Mitochondrial Function

Methods, Imaging and Emerging Technologies

Wednesday, October 21, 2026

13h50 - 14:00

Introduction
***Volkmar Weissig**, President of the World Mitochondria Society*

14h00 – 15h30

Mitochondrial Function Evaluation: Oxygen Consumption Rates, Mitochondrial Membrane Potential, ATP Synthesis.
***Naïg Gueguen**, Mitovasc Institute, Centre Hospitalier Universitaire d'Angers, France*

Current methods and technologies; methodological discrepancies; reproducibility and standardization; data interpretation; practical recommendations.

15h30 - 16h00 Coffee Break

Mitochondrial Innovation Session

Workshop Chair: Naïg Gueguen

16h00 – 16h45 **NanoLive Demonstration**

Label-free Quantitative Mitochondrial Analysis: Real-world Applications
Live Demonstration: Automated Analysis of Mitochondrial Dynamics without Labels
***Matthias Schade**, Senior Application Scientist, Nanolive*
***Thibault Courtheoux**, Director of Sales & Applications, Nanolive.*

16h45 – 16h55

Secretech Biosciences

Resolving Mitochondrial Heterogeneity Through High-Plex Surface Protein Profiling
***Marco Mignardi**, Secretech Biosciences, Sweden*

16h55 – 17h35 Short Oral Presentations & Innovations (10 Minutes)

Introducing MiMoQuant – An Open-Source Tool for Rapid Quantification of Puncta and Branching Points in Mitochondrial Image Analysis
***Hamed Homaeirad**, University of Innsbruck, Austria*

Extraction Kit Selection Determines the Correlation Between mtDNA Copy Number and PBMC Bioenergetics
***Ksenija Vujacic-Mirski**, MVZ Ganzimmun GmbH, Germany*

Multiparametric Live-Cell Bioenergetic Profiling Across Human Cell Lineages: Validating a Dynamic Biomarker for Oncological Exhaustion
***Stanislav Panov**, Research Institute of Cellular Diagnostics and Mitochondrial Medicine, LMB Clinic, Kazakhstan*

Positron Emission Tomography Imaging of Translocator Protein in MASLD
***Ming-Rong Zhang**, National Institutes for Quantum Science and Technology, Japan*

17h35 – 18h15 **Interactive Discussion: Which Technologies Are Ready to Transform Mitochondrial Research and Clinical Practice?**
Chair: Naïg Gueguen

18h15 – 18h25 **End of the Workshop**

Day Two – Mitochondrial Regulation, Resilience and Disease

From Mechanism to Medicine

Thursday, October 22, 2026

8h50 - 9h00 **Opening Introduction**

Volkmar Weissig and Marvin Edeas

Two Perspectives on Mitochondrial Medicine

Academic Discovery and Industrial Translation

Moderators: Marvin Edeas & Volkmar Weissig

9h00 – 9h25 - Academic Keynote Perspective

From Mitochondrial Discovery to Approved Therapy:
Lessons for the Future of Medicine
***Hazel Szeto**, Weill Medical College of Cornell University, USA*
Academic discovery, scientific evidence and clinical validation.

9h25 – 9h50 - Industry Keynote Perspective

Building on the Foundation of Four:
Advancing Mitochondrial Targeted Geropeptide Medicine
***Kevin Slawin**, Eos SENOLYTIX, USA*
Innovation, development and therapeutic deployment.

9h50 - 10h05 **Joint Panel Discussion**

Hazel H. Szeto and Kevin Slawin

10h05 – 10h50 Coffee Break, Poster Session & Meet the Supporters

Session 1 – Mitochondrial Adaptation

Metabolic Signaling, Organelle Crosstalk and Quality Control

Chairs: Mathias Ziegler, Naïg Gueguen

10h50 **Who Controls NAD? Mitochondria as Gatekeepers of Cellular Coenzyme Metabolism**
***Mathias Ziegler**, University of Bergen, Norway*

11h15 **The Mitochondria–Lysosome Axis:**
A New Dimension in Cellular Resilience and Disease
***Jiajie Diao**, University of Cincinnati College of Medicine, USA*

11h40 **Damage-Sensing in Mitochondrial Disorders:**
From Mitophagy to the Integrated Stress Response
***Derek Narendra**, National Institutes of Health, USA*

12h05 – 12h20 Short Oral Presentations - 7 minutes each (5 min + 2 min Q&A)

Formate Acts as a Metabolic Regulator in Cellular Bioenergetics
***Oleg Chen**, Luxembourg Institute of Health, Luxembourg*

The Peroxisomal NAD Pool Links Extramitochondrial NAD Metabolism to Mitochondrial Function
***Lena Elise Høyland**, University of Bergen, Norway*

12h20 – 12h30 **Discussion with Speakers**

12h30 – 14h00 Lunch Break and Poster Session & Meet the Supporters

Session 2 – Brain Mitochondria

Resilience, Neurodegeneration and Early Detection

Chairs : Carsten Culmsee, Meagan McManus

14h00 **Programmable Mitochondria: Rewiring Brain Bioenergetics to Restore Cognition.**
***Étienne Hébert Chatelain**, Université de Moncton, Canada*

14h25 **Mitochondrial Quality Control in Oligodendrocyte Life and Death**
***Robert A. Hill**, Dartmouth College, USA*

14h50 - 15h25 Short Oral Presentations - 7 minutes each (5 min + 2 min Q&A)

Mitochondria-Derived Extracellular Vesicles Reflect and Modulate Metabolic Dysfunction in Alzheimer's Disease
***Luana Naia**, Karolinska Institutet, Sweden*

Mitochondrial Positioning as a Spatial Regulator of Intercellular Neuroimmune Communication
***Csaba Cserép**, HUN-REN Institute of Experimental Medicine, Hungary*

Deciphering the Role of CAP2 in Neuronal Mitochondrial Vulnerability in Alzheimer's Disease
***Ramona Stringhi**, Università degli Studi di Milano, Italy*

CYLD Regulates Mitochondrial Energy Metabolism and Ferroptotic Cell Death in a Cell-Type-Dependent Manner
***Zohreh Fattahi**, Philipps-University Marburg, Germany*

Alphaviruses Inhibit Mitochondrial Fission in a Species-Specific Manner to Modulate Replication and Pathogenesis
***RuthMabel Boytz**, Yale University, USA*

15h25 – 16h00 Coffee Break, Poster Session & Meet the Supporters

16h00 **Is Alzheimer's Disease a Mitochondrial Resilience Disorder Before It Becomes a Proteinopathy?**
***Benedict Albensi**, Nova Southeastern University, USA*

16h25 **From Energy to Signaling: Tracking Early Mitochondrial Distress with PET to Predict Trajectories from Normal Brain Aging to Neurodegenerative Disease**
***Meagan McManus**, University of Arizona College of Medicine, USA*

16h50 - 18h10 Short Oral Presentations - 7 minutes each (5 min + 2 min Q&A)
Mitochondria in Metabolism, Cardiovascular and Systemic Disease

Chairs: Hazel Szeto, Ilka Wittig

COX17-Mediated Mitochondrial Copper Overload in Macrophages Promotes Inflammatory Activation and Post-Infarction Cardiac Rupture
***YiPin Zhao**, Heart Center of Henan Provincial People's Hospital, China*

Mitochondrial Dysfunction upon Activation of IRF3-Driven Interferon Signaling in Cardiomyocytes Leads to Heart Failure by Downregulating PGC-1A
***Manju Kumari**, Heidelberg University, Germany*

Mitochondrial Succinate Transport Is Required for Cardiac Ischemia/Reperfusion Injury
***Hiran Prag**, University of Manchester, United Kingdom*

Adaptive Selection: β-Blockers Harness Oxygen-Dependent Mitophagy to Rescue Kearns-Sayre Human Heart Organoids
***Jaya Krishnan**, Goethe-University Frankfurt, Germany*

Inhibition of Mitochondrial Fission Factor (MFF) Attenuates Pathological Mitochondrial Fission and Proliferative Phenotypes in Pulmonary Arterial Hypertension
***Jaskaran Singh Hora,** Queen's University, Canada*

Short Oral Presentations - 7 minutes each (5 min + 2 min Q&A) – Continued…

TRPC6-Driven Mitochondrial Calcium Overload: A Novel Druggable Axis Linking Growth Hormone Signaling to Podocyte Bioenergetic Collapse in Diabetic Nephropathy
***Sumathi Raviraj**, University of Hyderabad, India*

HSF1–KDM3A-Mediated Epigenetic Regulation of Thermogenic Gene Expression in Brown and Beige Adipocytes
***Narendra Kumar Verma**, Centre of BioMedical Research, India*

Tuning Stem Cell Lineage Commitment Through PBM-Induced Mitochondrial Remodeling
***Michael Cho**, University of Texas at Arlington, USA*

From Asymmetry to Transport: Atomistic Insights into the Mitochondrial ADP/ATP Carrier (AAC)
***Xiaohui Cang**, Zhejiang University School of Medicine, China*

Engineered 3D Skeletal Muscle as a Model for Mitochondrial Myopathies
***Anna Gioran**, University of Hohenheim, Germany*

FADS2 Determines the Mitochondrial Lipidomic Landscape and Steroidogenic Function of Adrenocortical Cells
***Vasileia Ismini Alexaki**, University Clinic Carl Gustav Carus, TU Dresden, Germany*

18h10 **End of Day 2**

20h00 **Speakers' Dinner (for ticket holders only)**
Register here

WMS Supporters 2026

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NANOLIVE Looking inside life
Lucid Scientific
COUNTDOWN. Energy is everything.

Day Three – From Mitochondrial Diagnosis to Transfer and Clinical Translation

Pathways to Clinical Translation

Friday, October 23, 2026

Session 3 – Mitochondrial Disease and Precision Diagnosis

Chairs : Robert Taylor, Eric Barrey

9h00 **From Mitochondrial Pathology to Precision Diagnosis: Lessons from the Newcastle Mitochondrial Disease Program**
***Robert Taylor**, Newcastle University, UK*

9h25 **Mitochondrial Complexome Profiling: A New Diagnostic and Mechanistic Window into Respiratory Chain Disease.**
***Ilka Wittig**, Goethe University, Germany*

10h00 - 10h20 Short Oral Presentations - 7 minutes each (5 min + 2 min Q&A)

A Conserved MT-RNR2 Variant at a Mitoribosomal Three-Way Junction in a Maternally Inherited Neurological Disorder
***Per Selnes**, Akershus University Hospital, Norway*

Paralog Switching Preserves Complex IV Function in COXFA4-Related Leigh-Like Encephalopathy
***Micol Falabella**, University College London, United Kingdom*

Identifying Novel Biomarkers for Primary Mitochondrial Disorders from Patient Fibroblast Cells
***Shilpa Iyer**, University of Arkansas, USA*

10h20 – 11h00 Coffee Break, Poster Session & Meet the Supporters

Session 4 – Intercellular Mitochondrial Transfer in Disease and Repair

Chairs : Amandine Grimm, Maik Hüttemann

11h00 **Mitochondrial Transfer from Glial Cells to Neurons Confers Protection Against Peripheral Neuropathy**
***Ru-Rong Ji**, Duke University School of Medicine, USA*

11h25 **Intercellular Mitochondrial Transfer in Tauopathies: Mechanisms and Therapeutic Perspectives**
***Amandine Grimm**, University of Basel, Switzerland*

11h50 - 12h20 Short Oral Presentations - 7 minutes each (5 min + 2 min Q&A)

Mitochondrial Hijacking via Tunneling Nanotubes Drives CAR T-Cell Exhaustion in Chronic Lymphocytic Leukemia
***Narendra Varma Gottumukkala**, Masaryk University, Czech Republic*

Leveraging Mitochondria for Therapeutic Payload Delivery: A Novel Modality to Unlock the Potential of Genetic Medicine
***Alexander Schueller**, Cellvie AG, Switzerland*

Mitophagy Promotes Metabolic Reprogramming to Enhance Keratinocyte Migration via ANGPTL4 During Wound Healing
***Matthew Hunt**, Karolinska Institutet, Sweden*

12h20 – 13h50 Lunch Break and Poster Session

Session 5 – Engineering Mitochondria for Therapy

Transfer, Targeted Delivery and Emerging Therapeutics

Chairs: Volkmar Weissig, Ciro Leonardo Pierri, Xingguo Liu

13h50 **Transplantation of Encapsulated Mitochondria Alleviates Dysfunction in Mitochondrial Disease Models**
Xingguo Liu, *Guangzhou Institutes of Biomedicine and Health, Chinese Academy of Sciences, China*

14h15 **Cell-Type-Targeted Mitochondrial Transfer Therapy**
Temurkhan Ayupov, *Institute of Molecular and Clinical Ophthalmology IOB, Switzerland*

14h40 - 15h45 Short Oral Presentations & Innovations - 7 minutes each (5 min + 2 min Q&A)

Emerging Mitochondrial Therapeutics & Translational Strategies

Beyond a Simple Antioxidant: The Hibernator-Inspired Small Molecule SUL238 Disarms the Cytochrome c–Cardiolipin Peroxidase Complex
Marko Radović, *University of Groningen, The Netherlands*

Mitochondrial Transplantation Restores Metabolic Function and Attenuates Inflammation in Patient-Derived Burn Adipose Organoids
Filip Vlavcheski, *McMaster University, Canada*

Menaquinone-7 Alleviates Mitochondrial Dysfunction and Cellular Senescence in Senile Osteoporosis via PXR/ERK/CREB-Mediated PINK1-Dependent Mitophagy
Peijie Hu, *Qilu Hospital of Shandong University (Qingdao), China*

Mitochondrial Vulnerabilities by CLPP Activators in Diffuse Intrinsic Pontine Glioma
Morena Miciaccia, *University of Bari Aldo Moro, Italy*

Senolytic Therapy in MASH: A Potential Strategy for Reducing Fibrosis and Preventing Hepatocellular Carcinoma
Sona Stemberkova Hubackova, *Institute for Clinical and Experimental Medicine, Czech Republic*

Structural Conservation Among Mitochondrial and Non-Mitochondrial Drug Targets Reveals Determinants of Off-Target Liabilities and Selective Ligand Discovery
Ciro Leonardo Pierri, *University of Bari, Italy*

Near-Infrared Radiation Disrupts Mitochondrial Iron Homeostasis and Bioenergetics: Protection by Chlorogenic and Rosmarinic Acids
Batool Albadaineh, *University of Bath, United Kingdom*

A Structural Framework for Interpreting Mitochondrial rRNA Variation in Cancer
Antón Vila Sanjurjo, *Universidade da Coruña, Spain*

Impacts of Barth Syndrome on Survival and Disease Progression
Lindsay Marjoram, *Barth Syndrome Foundation, USA*

15h45 – 16h00 **Closing Scientific Perspective – The Next Decade of Mitochondrial Medicine: From Diagnosis to Intervention.**

Introduction by Marvin Edeas, Founder & Chairman, World Mitochondria Society

Robert Taylor, *Newcastle University, UK*

16h00 – 16h15 WMS Awards & Official Closing
Volkmar Weissig & Marvin Edeas

16h15 Networking Reception with Drinks and Appetizers

17h30 End of the Congress