



**WORLD
MITOCHONDRIA
SOCIETY**

Powering the Next Era of Medicine



Targeting Mitochondria

WMS: Decoding Energy &
Designing the Future

*Mitochondria at the Crossroads of
Medicine, Longevity and Innovation*



OCTOBER
21 » 23, 2026



**BERLIN
GERMANY**



SCIENTIFIC
A G E N D A



**WORLD
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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 - 18h00 Short Oral Presentations - 7 minutes each (5 min + 2 min Q&A)
Mitochondria in Metabolism, Cardiovascular and Systemic Disease

Chairs: Hazel Szeto, Ilka Wittig

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

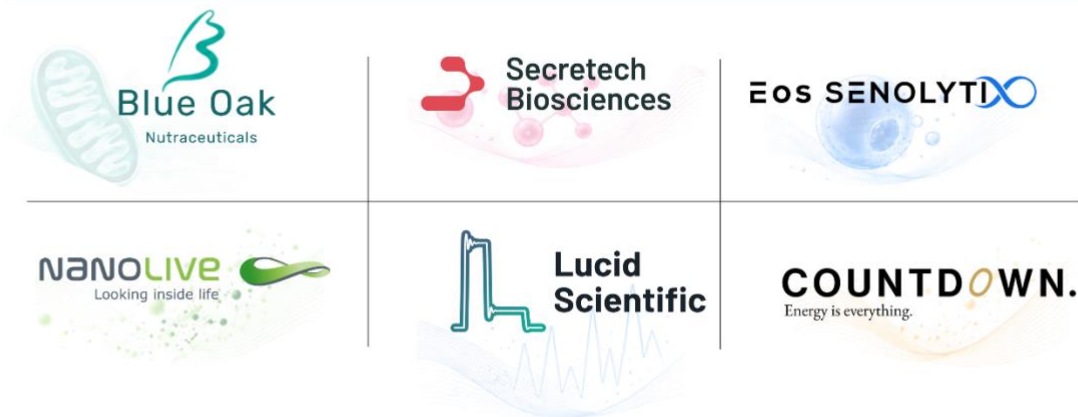
FADS2 Determines the Mitochondrial Lipidomic Landscape and Steroidogenic Function of Adrenocortical Cells

Vasileia Ismini Alexaki, University Clinic Carl Gustav Carus, TU Dresden, Germany

18h00 **End of Day 2**

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

WMS Supporters 2026



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 Mitochondrial 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 – Intermitochondrial 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

**Intermitochondrial 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, Cellvive 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 Vlavecski, McMaster University, Canada

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 Albadaine, 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