FASEB SUMMER RESEARCH CONFERENCES

MITOCHONDRIAL ASSEMBLY & DYNAMICS IN HEALTH AND DISEASE

JULY 5 – 10, 2009
CAREFREE, ARIZONA

ORGANIZERS:
CARLA KOEHLER
THOMAS LANGER

THE FEDERATION GRATEFULLY ACKNOWLEDGES THE FOLLOWING EDUCATIONAL GRANTS FOR THE FASEB SUMMER RESEARCH CONFERENCES:

Barth Syndrome Foundation, Inc.
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National Institute Of General Medical Sciences *
National Institute of Neurological Disorders and Stroke *
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Pacific Immunology
The University of Utah

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CONTINUING MEDICAL EDUCATION (CME)
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This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) by the Federation of American Societies for Experimental Biology (FASEB). FASEB is accredited by the ACCME to provide continuing medical education for physicians.

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Meeting Objective/Target Audience
The objective of this meeting is to provide a forum for the exchange of new research by scientists and investigators. At the completion of the conference, participants should be able to: 1) discuss the research underway and/or the current topics relevant to their areas of interest; 2) demonstrate a gained level of insight into the methods being used by researchers and practitioners in these fields; and 3) describe a personal exposure to several stimulating areas of inquiry with speakers in related areas. These conferences are targeted to clinical practitioners, research scientists, and medical education professionals.

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The following presenters have indicated a relationship which, in the context of their presentation, could be perceived by some as a real or apparent conflict of interest but do not consider that it will influence their presentation. The disclosures have been reviewed and conflicts of interest resolved or managed by the Conference Organizer in accordance with the ACCME Standards for Commercial Support found in the SRC Organizer Manual. The number following each company name represents the specific relationship from the list above.

Invited Speaker/Abstract Author Disclosures: Mitochondrial Assembly & Dynamics in Health and Disease

Speakers not listed above have indicated there are not any conflicts to disclose.
NO PART OF THE CONFERENCE PROCEEDINGS MAY BE REFERENCED. PLEASE CONTACT AUTHORS DIRECTLY FOR PERMISSION TO CITE THEIR WORK.
2009 FASEB Summer Research Conferences
Mitochondrial assembly and dynamics in health and disease
July 5-10, 2009
Carefree, Arizona

Co-Organizers:

Carla Koehler
UCLA, USA

Thomas Langer
University of Cologne, Germany

Sunday, July 5, 2009
4:00PM – 9:00PM Conference Registration
6:00PM – 7:00 PM FASEB Opening Reception
7:00PM – 8:30 PM Dinner
8:45PM – 10:00PM Keynote Speaker Alexander Tzagoloff, Columbia University, New York
“New insights into assembly and regulation of the mitochondrial ATP synthase”

Monday, July 6, 2009
7:30AM – 9:00AM Breakfast
Free Morning
10:00AM – 12:00PM Poster Session 1 (unequal numbers)
12:00PM – 1:00PM Lunch
Session 1: 1:00PM – 4:15PM Assembly of the Respiratory Complexes I
Rosemary A. Stuart, Marquette University
1:00PM – 1:15PM Welcome from FASEB
1:15PM – 1:45PM Eric A. Shoubridge, McGill University, Montreal
“Lost in (mitochondrial) translation”
1:45PM – 2:15PM Thomas D. Fox, Cornell University
“Dual functions of Mss51 couple synthesis of Cox1 to assembly of cytochrome c oxidase in Saccharomyces cerevisiae mitochondria”
2:15PM – 2:30 PM  David Mick, Albert-Ludwigs-Universität Freiburg; Georg-August-Universität Göttingen, Germany
"A novel cytochrome c oxidase assembly factor, Coa3, links translational regulation with early steps of complex assembly"

2:30PM – 3:00PM  Group photo & FASEB Sponsored Coffee Break

3:00PM – 3:30PM  Zofia Chrzanowska-Lightowlers, University of Newcastle, UK
"New jobs for old terminators: the human mitochondrial translation termination family"

3:30PM – 4:00PM  Rosemary A. Stuart, Marquette University
“The yeast Oxa1 protein and the mitochondrial ribosome”

4:00PM – 4:15PM  Tina Wenz, University of Miami
"MTERF2 regulates oxidative phosphorylation by modulating mtDNA transcription"

4:15PM – 6:00PM  Break

6:00PM – 7:00PM  Dinner

Session 2:  7:00PM – 9:45PM  Assembly of the Respiratory Complexes II
Dennis R. Winge, University of Utah

7:00PM – 7:30PM  Ulrich Brandt, Johann-Wolfgang-Goethe University, Frankfurt, Germany
“The molecular architecture of mitochondrial complex I”

7:30PM – 8:00PM  Michael T. Ryan, La Trobe University, Melbourne, Australia
“Complex I assembly factors and their role in disease”

8:00PM – 8:15PM  Martin Ott, Technische Universität Kaiserslautern, Germany
"Mrpl36 is important for generation of assembly competent proteins during mitochondrial translation"

8:15PM – 8:30PM  Break

8:30PM – 8:45PM  Ileana C. Soto, University of Miami, Florida
"Synthesis of cytochrome c oxidase subunit 1 is translationally downregulated in the absence of functional F1F0-ATPase “
Carlos T. Moraes, University of Miami  
“Mechanisms of formation and accumulation of mitochondrial DNA deletions in aging neurons”

Michelangelo Campanella, University of London, UK  
“IF1, the F$_1$F$_0$-ATP-synthase endogenous regulator as a novel pathway for mitochondrial quality control”

**Tuesday, July 7, 2009**

7:30AM – 9:00AM  
Breakfast

12:00PM – 1:00PM  
Lunch

**Session 3: 1:00PM – 3:45PM**  
**Assembly of Respiratory Complexes – Cofactors**

1:00PM – 1:30PM  
Dennis R. Winge, University of Utah  
“Steps in the Maturation of Cox1 of Cytochrome c Oxidase in Yeast”

1:30PM – 1:45PM  
Catherine F. Clarke, University of California, Los Angeles  
"The START domain Coq10 polypeptide binds coenzyme Q and is required for mitochondrial respiratory electron transport”

1:45PM – 2:15PM  
Barry Paw, Harvard Medical School  
“Mitoferrin, a mitochondrial solute carrier, and its role in vertebrate erythropoiesis”

2:15PM – 2:45 PM  
FASEB Sponsored Coffee Break

2:45PM – 3:15PM  
Roland Lill, Philipps-University, Marburg, Germany  
“Iron-sulfur protein biogenesis in eukaryotes and its relevance for disease”

3:15PM – 3:30PM  
Jared Rutter, University of Utah School of Medicine  
“A tumor suppressor responsible for flavination of complex II/succinate dehydrogenase”

3:30PM – 3:45PM  
Carol Dieckmann, University of Arizona  
"Intersection of fatty acid – lipoic acid synthesis with tRNA processing in yeast mitochondria: Metabolic control of mitochondrial gene expression?”

4:00 PM – 6:00PM  
Poster Session 2 (equal numbers)
6:00PM – 7:00PM  Dinner

**Session 4: 7:00PM – 9:15PM**  Mitochondrial Protein Import Pathways  Carla Koehler, UCLA

7:00PM - 7:30PM  Nikolaus Pfanner, University of Freiburg, Germany  “Mitochondrial translocases for import and sorting of precursor proteins”

7:30PM – 8:00PM  Nathan N. Alder, University of Connecticut  “A Fluorescence-Based Approach to Examining Mitochondrial Translocon Structure and Dynamics”

8:00PM – 8:15PM  Ophry Pines, Hebrew University of Jerusalem  “Dual localization of fumarase is dependent on metabolic cues”

8:15PM – 8:30PM  Break

8:30PM – 8:45PM  Samuel A. Hasson, UCLA  “New chemical tools for studying mitochondrial protein translocation”

8:45PM – 9:15PM  Trevor Lithgow, University of Melbourne, Australia  “Evolution of the Mitochondrial Protein Import Pathway”

*Wednesday, July 8, 2009*

7:30AM – 9:00AM  Breakfast

12:00PM – 1:00PM  Lunch

**Session 5: 1:00PM – 4:00PM**  Shaping the Mitochondrion – Fusion and Fission  Heidi M. McBride, University of Ottawa, Canada

1:00PM – 1:30PM  Janet Shaw, University of Utah  “Recruitment and Assembly of the Mitochondrial Membrane Fission Machinery”

1:30PM - 2:00PM  Benedikt Westermann, University of Bayreuth, Germany  “Molecular machinery of mitochondrial dynamics in yeast”
2:00PM – 2:15PM  Mafalda Escobar-Henriques, CNRS Bordeaux University
"GTP-mediated assembly of Fzo1 is required for its Mdm30-dependent turnover"

2:15PM – 2:45PM  FASEB Sponsored Coffee Break

2:45PM – 3:15PM  Jodi Nunnari, University of California, Davis
"Mechanistic analysis of the mitochondrial division effector, Mdv1"

3:15PM – 3:45PM  Alexander M. van der Bliek, UCLA
"Mitochondrial fission and fusion in C. elegans and humans"

3:45PM – 4:00PM  Michael Zick, Ludwig-Maximilians-Universität München, Germany
"The two isoforms of the dynamin-like GTPase Mgm1 play distinct roles in mitochondrial fusion"

4:00PM – 6:00PM  Poster Session - Optional

6:00PM – 7:00PM  Dinner

**Session 6: 7:00PM – 9:45PM**  
**Lipid Biosynthesis and Transport**  
Thomas Langer, University of Cologne, Germany

7:00PM - 7:30PM  Dennis R. Voelker, University of Colorado
"Protein and Lipid Complexes regulating Aminoglycerophospholipid transport in Eukaryotes"

7:30PM – 8:00PM  Jean E. Vance, University of Alberta, Canada
"Phosphatidylserine and Phosphatidylethanolamine: the Mitochondrial Connection"

8:00PM – 8:15PM  Toon de Kroon, Utrecht University, The Netherlands
"Detection of proteins interacting with phospholipids at the membrane interface by a proteomics approach"

8:15PM – 8:30PM  Break

8:30PM – 8:45PM  Amit S. Joshi, Wayne State University, Detroit
"Identification of physiological factors exacerbating the tafazzin mutation in S. cerevisiae"

8:45PM – 9:15PM  Michael Schlame, NYU Medical Center
"The function of tafazzin in the remodeling of mitochondrial cardiolipin"
9:15PM – 9:45PM    Steven M. Claypool, John Hopkins School of Medicine
“Degradation of a cluster of Barth syndrome mutant tafazzins by the i-AAA protease”

Thursday, July 9, 2009
7:30AM – 9:00AM    Breakfast

Free Morning

12:00PM – 1:00PM    Lunch

Session 7: 1:00PM – 4:15PM    Mitochondrial Quality Control and Apoptosis
Jodi Nunnari, UC Davis

1:00PM – 1:30PM    Douglas R. Green, St. Jude Childrens Research Hospital, Memphis
“The mitochondrial outer membrane in apoptosis”

1:30PM - 2:00PM    Jean-Claude Martinou, Université de Genève, Switzerland
“The large dynamin GTPase Drp1 stimulates Bax activation”

2:00PM – 2:30PM    Vladimir I. Titorenko, Concordia University, Montreal
"By increasing the level of cardiolipin in the inner mitochondrial membrane, a novel anti-aging small molecule modulates many longevity- and disease-related processes in mitochondria"

2:30PM – 3:00PM    FASEB Sponsored Coffee Break

3:00PM – 3:30PM    Richard J. Youle, NINDS Research Center, Bethesda
“Role of Parkin in mitochondrial quality control”

3:30PM – 4:00PM    Heidi M. McBride, University of Ottawa, Canada
“Mitochondrial SUMOylation and cell cycle control”

4:00PM – 4:45PM    Business Meeting

4:45PM – 6:00PM    Free Time

6:00PM – 7:00PM    Dinner
Session 8:  7:00PM – 9:45PM  Aging and Mitochondrial Disease
Eric A. Shoubridge

7:00PM - 7:30PM  Nils-Göran Larsson, Karolinska Institute, Huddinge, Sweden
“Regulation of mtDNA expression in disease and ageing”

7:30PM – 8:00PM  Elena I. Rugarli, National Institute of Neurology, Milan, Italy
“Impaired mitochondrial proteolysis and neurodegeneration: a key role of the m-AAA protease”

8:00PM – 8:15PM  Woranontee Weraarpachai, McGill University, Montreal
"Mutation in TACO1, a translational activator of COX I, results in cytochrome oxidase deficiency and late-onset Leigh Syndrome”

8:15PM – 8:30PM  Break

8:30PM – 8:45PM  Alexandra Götz, University of Helsinki, Finland
Severe combined CI and CIV deficiency in two infants

8:45PM – 9:15PM  Nika N. Danial, Dana-Farber Cancer Institute, Boston
“A phospho-BAD BH3 helix selectively activates glucose metabolism”

9:15PM – 9:45PM  Massimo Zeviani, National Institute of Neurology, Milan, Italy
“Unconventional molecular mechanisms associated with new mitochondrial disorders”

9:45PM – 10:00PM  Closing Comments

Friday, July 10, 2009

7:30AM – 8:30AM  Breakfast

9:00AM  Departure

END OF CONFERENCE

For additional information contact:
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