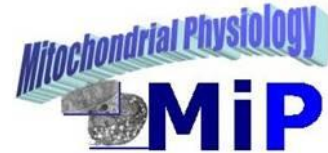




MiP2015



Programme of presentations

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**Monday 7th September**

20:30      Welcome

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**Tuesday 8th September**

**Section A. Alterations of mitochondrial physiology in pathological states**

***A1. Manifestation and etiology of mitochondrial diseases***

*CHAIRS:*      Laner Verena, Tanaka Masashi

9:00 – 9:25      **Shoubridge Eric:** Posttranscriptional regulation of mitochondrial gene expression: lessons from mitochondrial disorders.

9:25 – 9:45      **McManus Meagan:** The etiology of age-dependent disease: A story of two genomes.

9:45 – 10:05      **Lopez Luis:** Unraveling the causes of the clinical heterogeneity of coenzyme Q10 deficiency due to different molecular defects in Coq9 gene.

10:05 – 10:10      **Lavinija Matakovic:** Cofactor deficiency in mitochondrial diseases - POSTER FLASH

10:10 – 10:30      **Cagin Umut:** Nuclear adaptation to mitochondrial dysfunction.

10:30 – 11:00      COFFEE BREAK

*CHAIRS:*      Salin Karine, Enriquez Jose Antonio

11:00 – 11:20      **Holzerová Eliška:** Impairment of reactive oxygen species defense system affects oxidative phosphorylation and causes early-onset neurodegeneration.

11:20 – 11:40      **Kovalčíková Jana:** Functional ablation of Tmem70 alters biogenesis of ATP synthase and leads to embryonal lethality in mice.

11:40 – 12:00      **Rodinová Marie:** Altered mitochondrial ultrastructure, reduced respiration and decreased level of PDH subunits in fibroblasts from 10 patients with Huntington's disease.

12:00 – 12:05      **Flannery Pdraig:** Quantitative live-cell imaging of mitochondrial network morphology in neurodegenerative conditions - POSTER FLASH

12:05 – 12:25      **Weidgang Clair:** Mitochondrial respiration in homogenized biopsies from kidney, liver, heart and diaphragm from mice after blunt thoracic trauma and hemorrhagic shock.

12:30      LUNCH

13:30 – 15:45      *Walk & Talk*

***A2. Mitochondrial involvement in cancer***

*CHAIRS:*      Sumbalová Zuzana, Hüttemann Maik

15:45 – 16:05      **Amoedo Nivea:** The energy requirement of metastatic cells

16:05 – 16:25      **Suzuki-Karasaki Yoshihiro:** L-type calcium channels prevent mitochondrial network disruption in human cancer cells.

16:25 – 16:30 **Käämbre Tuuli:** Quantitative characterization of respiratory parameters of human colorectal and breast cancer clinical material (FLASH).

16:30 – 17:00 COFFEE BREAK

17:00 – 17:20 **Pecinová Alena:** Pharmacological inhibition of fatty acid oxidation synergistically enhances the effect of L-asparaginase in childhood ALL cells.

17:20 – 17:25 **Vidali Silvia:** Alterations of the OXPHOS system in rhabdomyosarcomas  
POSTER FLASH

17:25 – 17:45 **Rohlenová Kateřina:** Mitochondrial targeting of tamoxifen enhances its activity against Her2high breast cancer.

17:45 – 18:05 **Vatrinet Renaud:** Targeting complex I as an anticancer strategy

18:15 – 19:15 DINNER

### 19:15 – 20:30 POSTER SESSION 1

**A1-09 Aoun Manar:** Cellular and animal models for the study of mitochondrial dysfunctions in neurodegeneration with brain iron accumulation

**A1-10 Bińko Krystyna:** Yeast as a system for modeling mitochondrial disease mechanisms and therapies

**A1-11 Flannery Pdraig:** Quantitative live-cell imaging of mitochondrial network morphology in neurodegenerative conditions

**A1-12 Kratochvílová Hana:** Mitochondrial dysfunction in Niemann Pick type C1 patient's cells and tissues

**A1-13 Mataković Lavinija:** Cofactor deficiency in mitochondrial diseases

**A1-14 Sánchez Laura:** Novel complex I assembly factor mutation leads to adult phenotype

**A1-15 Sleiman Yvonne:** Mitochondrial respiration in sequential biopsies from skeletal muscles during hemorrhagic shock and over the course of 48h of reperfusion in pigs

**A1-016 Mráček Tomáš:** Myocardial iron and mitochondrial function in failing and non-failing human heart: direct tissue analysis

**A2-03 Käämbre Tuuli:** Quantitative characterization of respiratory parameters of human colorectal and breast cancer clinical material

**A2-07 Blecha Jan:** Modulation of mitochondrial electron transport chain activity differentially regulates cell death in proliferating and quiescent cells

**A2-08 Lettlová Sandra:** Role of the microRNA-301a in the regulation of mitochondrial function in cancer cells

**A2-09 Lytovchenko Oleksandr:** Mitochondrial metabolite transport in cancer cells

**A2-10 Rohlena Jakub:** Ubiquinone-binding site mutagenesis reveals the role of mitochondrial complex II in cell death initiation

**A2-11 Shevchuk Igor:** Analysis of energy fluxes in colorectal cancer saponin skinned tissues and Caco-2 cells

**A2-12 Vidali Silvia:** Alterations of the OXPHOS system in rhabdomyosarcomas

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## Wednesday 9th

### A3. Therapeutic approaches to mitochondrial pathologies

- CHAIRS:** *McManus Meagan, Shoubridge Eric*
- 9:00 – 9:25 **Jacobs Howard:** Alternative respiratory chain enzymes in research and therapy.
- 9:25- 9:45 **Barriocanal Eliana:** Targeting nutrient signaling pathways for the treatment of mitochondrial diseases.
- 9:45 – 10:05 **Tanaka Masashi:** GDF15 is a novel biomarker to evaluate efficacy of pyruvate therapy for mitochondrial diseases.
- 10:05 – 10:10 **Foriel Sarah:** Development and characterization of multiple *Drosophila melanogaster* models for OxPhos disorders as a toolbox for drug discovery POSTER FLASH
- 10:10 – 10:30 **Hidalgo Antonio:** Strategies to enhance the endogenous biosynthesis of Coenzyme Q.
- 10:30 – 11:00 COFFEE BREAK

### Section B. Structural basis of mitochondrial physiology

- CHAIRS:** *Shabalina Irina, Jacobs Howard*
- 11:00 – 11:25 **Enriquez Jose Antonio:** Superassembly of Respiratory Complexes: Physiological consequences.
- 11:25 – 11:45 **Arava Yoav:** Cotranslational import of proteins into mitochondria mediated by NAC and Om14 interaction.
- 11:45 – 12:05 **Rieger Bettina:** pH nanoenvironment sensing in actively respiring mitochondria.
- 12:05 – 12:25 **Tauchmannová Kateřina:** Assembly of subunit a into mammalian ATP synthase.
- 12:25 – 12:45 **Takaharu Hayashi:** Higd1a is a positive regulator of cytochrome c oxidase.
- 12:45 LUNCH
- 13:45 – 15:30 *Walk & Talk*

- CHAIRS:** *Rodinová Marie, Koopman Werner*
- 15:30 – 15:55 **Hand Steven:** Liposomes simulating the compositions of outer and inner mitochondrial membranes are protected during desiccation by LEA Proteins from *Artemia franciscana*.
- 15:55 – 16:15 **Iannetti Eligio Francesco:** High-content screening of mitochondrial morphofunction in living cells.
- 16:15 – 16:35 **Nůsková Hana:** Insufficient energy provision or increased oxidative stress – what matters more in ATP synthase deficiencies?
- 16:35 – 17:00 COFFEE BREAK

### Section C. MITOEAGLE

- CHAIRS:** *Doerrier-Velasco Carolina, Gnaiger Erich*
- 17:00 – 17:25 **Gnaiger Erich:** MITOEAGLE introduction. - Mitochondrial function of cryopreserved HEK 293T cells: development of a reference sample for high-resolution respirometry.

- 17:25 – 17:30 **Karabatsiakis Alexander:** Mitochondrial respiration of peripheral blood mononuclear cells in patients with borderline personality disorder. POSTER FLASH
- 17:30 – 17:50 **Ali Sameh:** Mitochondrial function and ROS homeostasis in young mouse heart and brain: The sex factor!
- 17:45 – 18:05 **Mishmar Dan:** Mitochondrial 16S rRNA is methylated (m1A) throughout vertebrate evolution to maintain protein synthesis and cell growth.
- 18:05 – 18:15 General MITOEAGLE discussion: towards a global data bank of mitochondrial physiology - <http://www.mitoglobal.org/index.php/MitoGlobal> EAGLE

18:15 – 19:30 DINNER

**19:30 – 21:00 POSTER SESSION 2**

- A3-05 Foriel Sarah:** Drosophila as a model to study therapeutic approaches for mitochondrial diseases
- B-09 Kovářová Nikola:** Tissue- and species-specific differences in cytochrome c oxidase assembly induced by SURF1 defects
- C-02 Karabatsiakis Alexander:** Mitochondrial respiration of peripheral blood mononuclear cells in patients with borderline personality disorder
- C-06 Cohen Tal:** Ancient out of Africa mitochondrial DNA variants associate with distinct mitochondrial gene expression patterns
- D-08 Devaux Jules:** Mitochondrial complexes I and II behave differently in two anoxia-tolerant species: adaptive mitochondrial plasticity may be related to the ability to undergo metabolic depression
- D-09 Renshaw Gillian:** Mitochondrial responses to thermal stress: is the ability to withstand anoxia-induced stress associated with cross-tolerance to thermal stress?
- D-10 Taleva Gergana:** A new look at the bioenergetics of the bloodstream *Trypanosoma brucei* mitochondrion
- E-03 Tepp Kersti:** Changes in energy transfer regulation during development and aging
- E-06 Hoppel Florian:** Effects of an ultramarathon on mitochondrial respiration, oxidative damage and repair in human platelets
- E-07 Kalinovich Anastasia:** UCP3-related changes in brown and brite/beige adipose tissue in cold-acclimated mice
- E-08 Karbanová Vendula:** CD36 does not directly participate in mitochondrial fatty acid transport and oxidation
- E-09 Komelina Natalia:** Artificial hypothermia of rats, as opposed to natural hibernation of ground squirrels *Spermophilus undulatus*, is not accompanied by inhibition of mitochondrial respiration in liver
- E-10 Pecinová Alena:** Autocrine effects of transgenic resistin reduce palmitate and glucose oxidation in brown adipose tissue

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## Thursday 10th

### Section D. Mitochondrial physiology in life and death of the cell

*CHAIRS:* *Amoedo Nivea, Pecina Petr*

9:00 – 9:25 **Lippe Giovanna:** The channel function of the F-ATP synthase complex and its role in the mitochondrial permeability transition.

9:25 – 9:45 **Boyle John:** Kv1.3 channels in mitochondria: Are they important in cellular proliferation.

9:45 – 10:05 **Koopman Werner:** Mitoenergetic dysfunction triggers a rapid compensatory increase in steady-state glucose flux.

10:05 – 10:25 **Skulachev Vladimir:** Moscow news: two more representatives of sodium motive force generators (Na<sup>+</sup>-cbb3 oxidase and Na<sup>+</sup>-bacteriorhodopsin); natural delay of the aging program (neoteny) in mammals, namely in naked mole rat and “naked ape” (human).

10:25 – 10:30 **Tepp Kersti:** Changes in energy transfer regulation during development and aging  
POSTER FLASH

10:30 – 10:55 COFFEE BREAK

*CHAIRS:* *Lippe Giovanna, Boyle John*

10:55 – 11:20 **Huttemann Maik:** Regulation of mitochondrial respiration and apoptosis by cytochrome c phosphorylation.

11:20 – 11:40 **Sumbalová Zuzana:** High-resolution measurement of mitochondrial membrane potential and respiration – comparison of potentiometric and fluorometric methods.

11:40- 12:00 **Doerrier-Velasco Carolina:** Simultaneous measurement of mitochondrial respiration, hydrogen peroxide production, and NADH autofluorescence to assess mitochondrial function.

12:00 LUNCH

13:00 – 16:00 **MiP Excursion**

## Section E: Mitochondria in whole body physiology

*CHAIRS:* Renshaw Gillian, Galina Antonio

16:00 – 16:20 **Shabalina Irina:** The metabolically inert environmental pollutants perfluorinated fatty acids directly activate uncoupling protein 1 in brown-fat mitochondria.

16:20 – 16:25 **Kalinovich Anastasia:** UCP3-related changes in brown and brite/beige adipose tissue in cold-acclimated mice POSTER FLASH

16:25 – 16:45 **Salin Karine:** Inter-individual variation in feeding and growth performance of Brown trout at temperature approaching upper limit is related to mitochondrial properties.

16:45 – 16:50 **Devaux Jules:** Mitochondrial complexes I and II behave differently in two anoxia-tolerant species: adaptive mitochondrial plasticity may be related to the ability to undergo metabolic depression POSTER FLASH

16:50 – 17:05 COFFEE BREAK

*CHAIRS:* Nůsková Hana, Hand Steven

17:05 – 17:25 **Calzia Enrico:** Mitochondrial respiration in homogenized small tissue biopsies from the M. Vastus lateralis of patients with Huntington's Disease before and after cycling exercise.

17:25 – 17:45 **Galina Antonio:** High Intensity Interval Training (HIIT) Induces Specific Changes in Respiration and Electron Leakage in the Mitochondria of Different Rat Skeletal Muscles

17:45 – 18:05 **Laner Verena:** Comparative mitochondrial physiology: OXPHOS and ETS capacity in permeabilized fibres of canine superathletes.

### 18:05 – 19:00 MiP GENERAL ASSEMBLY

1. Report of the Chair
2. Report of the Treasurer
3. Approval of the actions of the Executive MiPcommittee
4. Election of the Executive MiPcommittee
5. MiPmemberships – confirmation of membership fees
6. A new name for the MiPsociety?
7. Upcoming MiPevents
  - a. MiPconference Brazil MiP2017
  - b. MiPschool 2017 Egypt
8. Miscellaneous

19:00 – 19:30 **METTING CONCLUSION, POSTER AWARDS**

19:30 - **DINNER SOCIAL EVENING**

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## Friday 11th

*Departure*

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