



UiT / NOREGS ARKTISKE
UNIVERSITET



MiPschool Tromsø-Bergen 2018

Coastal Express Tromsø - Bergen, Norway
2018 October 20-24

Training School jointly organized by the Mitochondrial Physiology Society and COST Action MitoEAGLE.

Programme



Saturday, October 20 - Evening

Arrival	
21:00-23:30	Registration (Skarven Bar, close to Tromsø harbour terminal)
23:45-01:30	Boarding the Coastal Express and late registration



Sunday, October 21 – Morning

07:30-08:30	Breakfast
09:00-09:30	Welcome and practical information
A1	Mitochondrial physiology: pathways and coupling
09:30-10:15	Gnaiger Erich Mitochondrial states and rates 1: Electron transfer pathways and respiratory control
10:15-10:45	Coffee/tea break
10:45-11:30	Gnaiger Erich Mitochondrial states and rates 2: Coupling control
11:30-11:45	Short break/refreshments

B1	Energy transfer and movement of molecules in cardiomyocytes
11:45-12:15	Vendelin Marko Restrictions to intracellular diffusion of ATP and ADP in cardiomyocytes - impact on cardiac E-C coupling
12:15-12:45	Schlattner Uwe Mitochondrial kinases (CK and NDPK) and the stimulation of these kinases by their substrates (creatine, GDP)
13:00-14:30	<i>Lunch and sightseeing (Hurtigruten Museum)</i>



Sunday, October 21 – Afternoon

C1	Selected abstracts: Cardiac OXPHOS
15:00-15:15	Krajcova Adela High-resolution respirometry to assess function of mitochondria in native homogenates of human heart muscle.
15:15-15:30	Torp May-Kristin Intracellular complement factor 3 in the heart – a link to metabolism?
15:30-15:45	Isola Raffaella AMPK deficiency elicits changes in OXPHOS in heart mitochondria.
15:45-16:00	Li Puma Lance Fads2 Exacerbates Myocardial Ischemia-Reperfusion Injury in Mice: Role of Mitochondria.
16:00-16:30	<i>Coffee/tea break – fresh air (Trollfjord)</i>
C2	Selected abstracts: Cardioprotection
16:30-16:45	Kampa Rafal Cardioprotective flavonoids as a natural modulators of mitoBKCa channel.
16:45-17:00	Jansen Kirsten Dietary and pharmacological treatment of diet-induced obese mice – impact on mitochondrial function.
17:00-17:15	Martins Joao Sweetheart: Cardiac consequences of fetal exposure to maternal gestational diabetes on the offspring mitochondrial function.
17:15-17:30	Tuncay Erkan MitoTEMPO ameliorates hyperglycemia induced mitochondrial damage in cardiomyocytes.
17:30-20:00	<i>Dinner</i>
18:30-20:00	<i>Sightseeing in Svolvær (optional)</i>



Monday, October 22 – Morning

D1

Cardiovascular disease and mitochondrial medicine

08:00-09:00

Breakfast

09:00-09:45

Hoppel Charles

Two populations of muscle mitochondria: heart and skeletal muscle - impact on cardiac E-C coupling

09:45-10:30

Harper Mary-Ellen

OXPHOS efficiency in skeletal and cardiac muscles: Proton leaks, ROS and glutathione redox

10:30-11:00

Coffee/tea break

E1

MitoEAGLE Early Career Investigator Forum

Meet the expert

11:00-12:00

Gnaiger Erich

Harper Mary-Ellen: Deacetylation acceleration of BAT thermogenesis

Hoppel Charles L

Iglesias-Gonzalez Javier: Oscillations in mitochondrial ROS production during the early cell cycles in *Xenopus* embryos

Larsen Terje

Makrecka-Kuka Marina: Cardiac fatty acid oxidation: from in vitro to in vivo.

Murray Andrew J: OXPHOS protocols: understanding the patterns

Schlattner Uwe

Vendelin Marco: Introducing a platform for primary kinetics data analysis

Wiesner Rudolf: Aging-related accumulation of mitochondrial DNA deletions in skeletal muscle occurs preferentially in Type IIb fibers – high mitophagic flux protects Type I fibers.

Wuest Rob

12:00-12:15

Short break/refreshments

E2

MitoEAGLE Early Career Investigator Forum

Meet the expert

12:15-13:00

Experts and topics

Further abstracts for table discussion

Cardoso Luiza: Concomitant respiration and ATP production measurements to analyse P_{O_2}/O_2 ratios at physiological normoxia

Garipi Enis: Phenotyping mitochondrial metabolism in Barrett's metaplasia-dysplasia-adenocarcinoma sequence: respiratory capacity, extracellular proton flux and ROS production

Martins Ana: Mitochondrial Dynamics of Human Sertoli Cells Under the Effect of Leptin and Ghrelin

- Siewiera Karolina:** Effect of metformin treatment on blood platelet bioenergetics and platelet function in STZ-diabetic and non-diabetic rats
- Fischer Christine:** Analysis of mitochondrial function in iron deficiency anemia and iron overload
- Kidere Dita:** Cytoplasmic hybrid cells as a model to characterize the OXPHOS system: control sample with glutamate metabolism defect
- Puurand Marju:** Intracellular energy-transfer networks in health and disease – the results of oxygraphic studies
- Alves Marco:** Role for mitochondria on the response of highly proliferative and invasive bladder cancer cells to the combined inhibition of mTOR and SIRT1
- Huete-Ortega Maria:** High-Resolution FluoRespirometry: new perspectives for the study of bioenergetics in algae and plants

13:00-14:30

Lunch


Monday, October 22 - Afternoon

A2

Mitochondrial physiology: protonmotive force

14:30-15:15

Gnaiger Erich

The protonmotive force and respiratory control. 1. Coupling of electron transfer reactions to vectorial translocation of protons

15:15-15:45

Gnaiger Erich

The protonmotive force and respiratory control. 2. From Einstein's diffusion equation on gradients to Fick's law on compartments.

15:45-17:00

Sightseeing in Brønnøysund (optional)

C3

Selected abstracts: Adipose and liver mitochondria

17:00-17:15

Ma Tao

Cardiolipin synthesis in brown and beige fat mitochondria is essential for systemic energy homeostasis.

17:15-17:30

Storder Julie

Investigation on the role of the mitochondrial deacetylase Sirtuin 3 in adipose tissue.

17:30-17:45

Silva Rui

Subchronic in vivo study for the evaluation of hepatic mitochondrial toxicity induced by silver nanoparticles.

17:45-18:00

Pereira Susana

Obesity-induced mitochondrial hepatic changes during pregnancy.

18:30-19:00

Fresh air with view of Torghatten

19:00-20:30

Dinner



Tuesday, October 23 - Morning

07:00-08:00	<i>Breakfast</i>
08:00-10:00	<i>Sightseeing in Trondheim (optional)</i>
D2	Cardiac mitochondrial physiology and pathology
10:00-10:30	Hoppel Charles Mitochondrial function during ischemia/reperfusion injury
10:30-11:00	Vendelin Marko Actomyosin contraction and the dynamics of calcium changes in cardiomyocytes
11:00-11:15	<i>Short break/refreshments</i>
E3	MitoEAGLE Early Career Investigator Forum E2 Meet the expert
11:15-13:00	Experts and topics
13:00-14:30	<i>Lunch</i>



Tuesday, October 23 – Afternoon


E4	Open programme lectures: Programme decisions made during and by the MitoEAGLE/MiPschool
14:30-15:15	To be nominated Voted from the MitoEAGLE Early Career Investigator Forum
15:15-16:00	To be nominated Voted from the MitoEAGLE Early Career Investigator Forum
16:00-16:30	<i>Short break/refreshments</i>
C4	Selected abstracts: Mitochondrial disorders, remodelling, and degenerative diseases
16:30-16:45	Musiol Eva Alpha-tomatine as a novel membrane-permeabilizing agent for mitochondrial respiration measurements.
16:45-17:00	Bastos Sant'Anna Silva Ana Carolina Role of succinate in prostate cancer cells: uptake and mitochondrial respiratory function.
17:00-17:15	Vujacic-Mirski Ksenija Development of analytical assays for the detection and quantification of reactive oxygen and nitrogen species in an animal model of type 1 diabetes - ROS formation involving mitochondrial and NADPH oxidase
17:15-17:30	Vella Joanna Exome analysis sheds light on mitochondrial disorders.
17:30-17:45	Crisostomo Luis

17:45-18:00	Mitochondrion at the crosstalk between metabolic disease and dysfunction in male fertility? Zdrzilova Lucie Bioenergetic characterization of skin fibroblasts from patients with congenital disorders of glycosylation.
19:00-20:30	<i>Dinner</i>



Wednesday, October 24 - Morning

07:30-08:30	<i>Breakfast</i>
D3 Mitochondrial function and cardioprotection	
17:30-17:45	Wuest Rob Metabolic flexibility and mitochondrial function in the diabetic heart
09:45-10:30	Boardman Neoma High fat-load induces cardioprotection in hearts from obese mice
10:30-11:00	<i>Coffee/tea break</i>
11:00-12:15	Conclusions, practical information
12:30-14:00	<i>Lunch</i>
14:30	Arrival in Bergen and Adourn


COST Action CA15203 MitoEAGLE
MitoEAGLE Training School - MiPschool 2018
Tromsø to Bergen on board the Coastal Express



MiPschool support

MiPschool/2018

