

## 6<sup>th</sup> EU-CARDIOPROTECTION COST Action WG Meeting

**March 25<sup>th</sup> – 27<sup>th</sup> 2020 Riga, Latvia**



### **Cost Action CA16225**

#### **Chair:**

Derek Hausenloy  
(UK)

#### **Vice Chair:**

Peter Ferdinandy  
(Hungary)

#### **WG1: New Targets**

Ioanna Andreadou  
(Leader, Greece)  
Derek Hausenloy  
(Co-leader, UK)

#### **WG2: Combination Therapy**

Sean Davidson  
(Leader, UK)  
Marisol Ruiz-Meana  
(Co-leader, Spain)  
Attila Kiss  
(Co-leader, Austria)

#### **WG3: Confounders**

Rainer Schulz  
(Leader, Germany)  
Peter Ferdinandy  
(Co-leader, Hungary)  
Alina Scridon  
(Co-leader, Romania)

#### **WG4: Consortium**

Hans Erik Botker  
(Leader, Denmark)  
Gerd Heusch  
(Co-leader, Germany)  
Jacob Lonborg  
(Co-leader, Denmark)

#### **STSM Chair:**

Coert Zuurbier  
(Netherlands)

#### **Science Communications**

##### **Manager:**

Jelena Jovanic  
(Bosnia)

##### **Webmasters:**

Søren Erik Pischke  
(Norway)

##### **Grant Manager:**

Krisztina Bagyinszki (Hungary)

### **Meeting Venue**

Avalon hotel & Conferences

13. Janvāra Sreet 19, Riga, LV-1050, Latvia

Phone: +371 67 169 999

<https://hotelavalon.eu>

### **Program committee**

COST Action Core Group committee

Maija Dambrova, Edgars Liepins, Janis Kuka, Reinis Vilskersts  
(local organisers)

### **General Information**

Prof. Maija Dambrova

Head of Laboratory of Pharmaceutical Pharmacology

Latvian Institute of Organic Synthesis

Aizkraukles Str. 21, LV1006

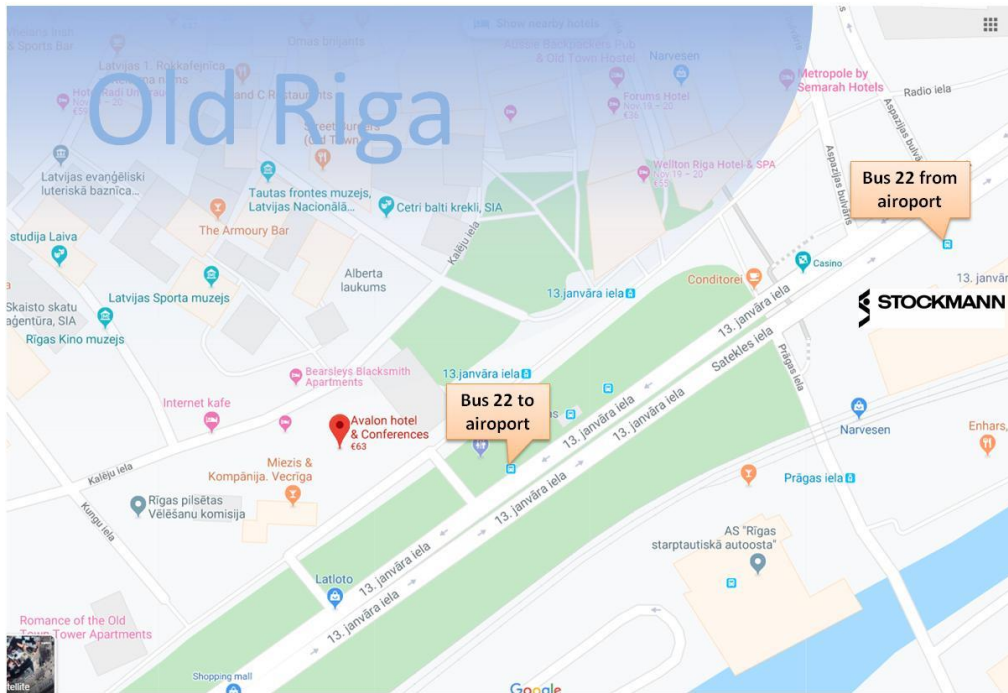
Riga, LATVIA

Phone: [+371 66155159](tel:+37166155159)

e-mail: [maija.dambrova@farm.osi.lv](mailto:maija.dambrova@farm.osi.lv)

## PRACTICAL INFORMATION

- City bus **Nr 22** from Riga Airport to central Riga; bus stop is just in front of the Riga Airport and Avalon hotel (when coming from airport -opposite side of the street, stop Autoosta; ~300m). Bus ticket costs 2 EUR (from driver in bus; 1.15 EUR- ticket automat). 10-15 min intervals, time table: <https://saraksti.rigassatiksm.lv/index.html#bus/22/b-a/en>
- Taxi ~15 EUR.



Please book rooms on AVALON HOTEL & Conferences homepage [www.hotelavalon.eu](http://www.hotelavalon.eu) , indicating the Special offer code **CARDIO** or directly by e-mail [reservations@hotelavalon.eu](mailto:reservations@hotelavalon.eu) until **24.02.2020**.

Price offer for period 24-27.03.2020 is as follows:

Standard room for 1 person - 55.00 EUR/per night  
Standard room for 2 persons - 60.00 EUR/per night  
Superior room for 1 person - 65.00 EUR/per night  
Superior room for 2 persons - 75.00 EUR/per night

Mentioned rate includes hot-buffet breakfast, 2 course dinner for adults on arrival day 24.03.20 (beverages are not included), Wi-Fi and VAT 12%.

Complimentary coffee and tea set, lap-top size safe, iron and ironing board and additional pillow in the room.

Guaranteed reservation can be cancelled without any charge 24 hours before arrival.

In case of late cancellation or no-show Hotel reserves rights to charge a cancellation fee equal to the first night's room rate.

\*Check-in time: 15:00 / early CI is subject to availability and for extra cost

\*Check-out time: 12:00 / late CO is subject to availability and for extra cost

\*Pets are not allowed in this hotel

\* Airport transfer service for extra cost:

- Baltic Taxi with 4 seats EUR 16.50/one way. Please provide your arrival time and flight number.

**Wednesday March 25<sup>th</sup> 2020**

- 0930-1130 **Oroboros O2k-Workshop**  
**Measurement of mitochondrial functionality in cardiac tissues**  
*Venue:*  
*Laboratory of Pharmaceutical Pharmacology*  
*Latvian Institute of Organic Synthesis*  
*Aizkraukles Str. 21, LV1006*
- Erich Gnaiger & Maija Dambrova*
1. Introduction to the Oroboros Ecosystem – the O2k technology for mitochondria and cell research – Open Innovation
  2. Mitochondrial preparations: isolated mitochondria, tissue homogenate, permeabilized myocardial fibers, living cells
  3. Mitochondrial fitness diagnostics in the heart: from elementary mitochondrial function to mitochondrial density in human cardiac tissues
  4. Applications: mitochondrial function in the human and mouse heart
- Optional visit to the Laboratory of Pharmaceutical Pharmacology (Prof. M. Dambrova)
- 1200-1300 Registration and put posters up
- 1200-1300 Lunch
- 1230-1300 COST Action Core group meeting – (closed meeting)
- 1300-1310 **Welcome and introductions to meeting**  
Derek Hausenloy, Ioanna Andreadou, Peter Ferdinandy, Maija Dambrova
- 1310-1330 COST ACTION update - Derek Hausenloy
- 7<sup>th</sup> COST ACTION Meeting Prague, Czech Republic Oct 7-9 2020
- Opening Keynote Lecture**  
**Chair:** Maija Dambrova
- 1330-1415 **Invited specialist:**  
35 min talk, 10 min QA
- Stimulating glucose oxidation and inhibiting fatty acid oxidation as an approach to treating myocardial ischemia/reperfusion injury  
*Gary Lopaschuk (Edmonton, Canada)*
- 1415-1615 **WG1 NEW TARGETS**  
**COST Workshop – Mitochondria/metabolism as targets for cardioprotection**  
**Chair:** Janis Kuka  
15 min talk and 10 min QA
1. Obesity, mitochondrial dysfunction, and cardiovascular comorbidities – lifestyle matters  
*Erich Gnaiger (Oroboros, Austria)*
  2. Measuring metabolic flux in hearts  
*Dunja Aksentijevic (London, UK)*
  3. Measuring mitochondrial fatty acid oxidation: concept and reality  
*Marina Makrecka-Kuka (Riga, Latvia)*

4. Mitochondrial imaging  
*Marko Vendelin (Estonia)*
5. Cardiac and brain mitochondrial respiration, hydrogen peroxide production and Q-redox state under tissue normoxia versus experimental hyperoxia  
*Luiza Cardoso (Oroboros, Austria)*

1615-1645 Coffee break – Poster viewing

1645-1845 **COST Workshop – Mitochondria/metabolism as targets for cardioprotection**

**Chair:** Edgars Liepinsh  
15 min talk and 5 min QA

6. Getting to the heart of hypoxia in diabetes  
*Lisa Heather (Oxford, UK)*
7. Characterising malonate as a drug in heart attack and stroke  
*Thomas Krieg (Cambridge, UK)*
8. The many facets of mitochondrial ROS in cardiac injury and protection  
*Fabio Di Lisa (Padova, Italy)*
9. Mitochondrial complex 2 as target for cardioprotection  
*Antonio Rodríguez Sinovas (Barcelona, Spain)*
10. The role of edible compounds targeting mitochondria in order to lead to cardioprotection  
*Vincenzo Lionetti (Italy)*
11. Redox-sensitive chaperone and protease DJ1 in heart protection  
*Lina Badimon (Madrid, Spain)*

**1930-2130 Meeting dinner at Hotel  
Guided walking tour of Old Riga**

**Thursday March 26<sup>th</sup> 2020**

0900-1130 **WG1 NEW TARGETS – Inflammation/vascular/endothelial/other**

**Invited specialists:**

**Chairs:** Ioanna Andreadou, Derek Hausenloy  
20 min talk and 5 min QA

1. Systemic Blockade of ACVR2B Ligands Protects Myocardium from Acute Ischemia-Reperfusion Injury  
*Risto Kerkelä (Finland)*
2. Role of MIF proteins in cardioprotection: from production to control of the cardioprotective AMPK pathway  
*Jürgen Bernhagen (Munich, Germany)*
3. Acute Myocardial Infarction: empty vessels make the most noise  
*Stéphane Germain (Paris, France)*
4. Intravital imaging of the beating heart microcirculation post-reperfusion injury  
*Neena Kalia (Birmingham, UK)*
5. New therapeutic approaches to treat ischemic injury  
*Gemma Vilahur (Madrid, Spain)*
6. Red blood cell both as a mediator of cardiac injury and a target for cardioprotection  
*John Pernow (Sweden)*

1130-1200 Coffee break – Poster viewing

1200-1245 **Short-Term Scientific Missions - REPORTS**  
**Chair:** Coert Zuurbier

10 min talk, 5 min QA

1. Activation of PPAR $\beta/\delta$  protects mitochondrial function during myocardial ischemia/reperfusion  
*Ioanna Papatheodora (Lazou/Dambrova)*
2. Immunomodulation by Kv1.3 channel blockade improves insulin resistance and risk of cardiac arrhythmias in T2D rat model  
*Julian Zayas (Casis+Ruiz-Meana/Turan)*
3. Discovery and in vitro evaluation of potent inhibitors for reverse activity of mitochondrial F1F0 ATP synthase  
*Panagiota-Efstatia Nikolaou (Andreadou/Davidson)*

1245-1315 **Oral abstract ECI presentations**

**Chairs:** Ioanna Andreadou, Gemma Vilahur, Maija Dambrova  
10 min talk, 5 min QA

1. Effect of DJ-1 derived peptide, ND-13 to reduce acute myocardial ischemia reperfusion injury  
*Sauri Hernandez (Giessen, Germany)*
2. Cardioprotective effect of Elamipretide: targeting mitochondria.  
*Janis Kuka (Riga, Latvia)*

1315-1400 Lunch – Moderated poster session  
**Chairs:** Gemma Vilahur

1400-1530 **Oral abstract ECI presentations**

**Chairs:** Ioanna Andreadou, Gemma Vilahur, Maija Dambrova  
10 min talk, 5 min QA

3. Effect of epoxyeicosatrienoic acid-based therapy to acute ischemia/reperfusion injury and post-ischemic heart failure in rats with angiotensin II- dependent hypertension.  
*Jaroslav Hrdlička (Czech Republic)*
4. Glutaredoxin-2 and Sirtuin-3 deficiencies impair cardiac mitochondrial energetics but their effects are not additive  
*Neoma T Boardman (Norway)*
5. Pannexin1 as a potential target for prevention of cardiac ischemia/reperfusion injury  
*Olga M Rusiecka (Switzerland)*
6. Chronic Empaglifozin treatment reduces myocardial infarct size in healthy mice through STAT-3 mediated protection on microvascular endothelial cells and reduction of oxidative stress.  
*Panagiotis Efentakis (Greece)*
7. Cardiac dysfunction after myocardial infarction: role of pro-inflammatory extracellular vesicles  
*Vanessa Biemmi (Switzerland)*
8. An intrinsic mechanism of metabolic regulation protects the heart from functional impairment under stress conditions.  
*Matteo Sorge (Italy)*

**WG2 COMBINATION THERAPY**

**Chairs:** Sean Davidson, Attila Kiss, Marisol Ruiz-Meana

1530-1600 **Choosing inflammatory/vascular/endothelial therapies for combination therapy**

ISCHEMIA trial in cardioprotection context  
*Gerd Heusch (Germany)*

WG1/WG2 Summary and Action Plan

1600-1630 Coffee break – Poster viewing

1630-1800 **WG1/WG2 Workshop – criteria for selective novel target/therapy**

**Chairs:** Hans Erik Botker, Derek Hausenloy, Gerd Heusch

Defining criteria for selecting a novel target/therapy for cardioprotection- group discussion – plan for COST paper-like STAIR criteria

WG1 Summary and Action Plan

**1900-2300 Bus transportation to meeting dinner  
Lido leisure and restaurant centre with Folk show  
<https://www.lido.lv/en/your-events/for-tourists/>**

### **Friday March 27<sup>th</sup> 2020**

#### **WG4: CONSORTIUM**

**Chairs:** Gerd Heusch, Hans Erik Botker

0900-1030 **Invited specialists:**

**Chairs:** Hans Erik Botker

20 min talk, 10 min QA

1. Drug discovery in academia: how to meet industry expectations  
*Maija Dambrova (Riga, Latvia)*
2. Update on therapeutic hypothermia for cardioprotection  
*David Erlinge (Lund, Sweden)*
3. Clinical cardioprotection - Where to go from here?  
(RIC-AFRICA and FIRST study)  
*Hans Erik Botker (Aarhus, Denmark)*

1030-1200 **WG4 Workshop – Small and large animal networks**

**Chairs:** Gerd Heusch, Derek Hausenloy, Hans Erik Botker

Setting up a large animal network - an update - Gerd Heusch

Setting up a small animal network - group discussion

#### **WG4 Summary and Action Plan**

1200-1230 **Summary and action plan**

Meeting close

1230-1300 Lunch