

## SCIENTIFIC PROGRAM

### DAY 1 | 2018-03-26 MONDAY

09:00-09:15	<i>Welcome</i>   Ferenc Bari, Dean, Faculty of Medicine, University of Szeged Mihaly Boros, Head of the Institute of Surgical Research, University of Szeged	
09:15-10:45	SEPSIS AND SYSTEMIC INFLAMMATION   Chairs: Marcin F. Osuchowski, Susanne Drechsler	
	Marcin F. Osuchowski (Vienna, Austria)	Wiggers-Bernard Initiative - Update (30')
	Susanne Drechsler (Vienna, Austria)	Effects of splenectomy in polytrauma and secondary sepsis (15')
	József Kaszaki (Szeged, Hungary)	Therapeutic possibilities of microcirculatory and mitochondrial dysfunction in sepsis (15')
	Attila Rutai (Szeged, Hungary)	Potential role of endothelin receptors in the therapy of experimental sepsis (15')
	Szabolcs Tallósy (Szeged, Hungary)	Microbiological aspects of sepsis models in accordance with Sepsis 3 criteria (15')
10:45-11:00	<i>Coffee break</i>	
11:00-12:45	CIRCULATORY SHOCK AND ISCHEMIA-REPERFUSION   Chairs: Andrey V. Kozlov, Marietta Poles	
	Vladimir Jakovljevic (Kragujevac, Serbia)	Preconditioning by ion channel modulation in isolated rat heart (15')
	Vladimir Zivkovic (Kragujevac, Serbia)	Effects of ischemic and preconditioning with proton pump inhibitors on functional recovery in isolated rat heart (15')
	Jovana Bradic (Kragujevac, Serbia)	The effect of potassium-cyanide on isolated rat heart after short term ischemia (15')
	András Budai (Budapest, Hungary)	ALPPS: Bioenergetic maladaptations during induced liver regeneration (15')
	Gábor Varga (Debrecen, Hungary)	Effect of early and delayed remote ischemic preconditioning on hemodynamic, hemorheological and microcirculatory parameters in a rat renal ischemia-reperfusion model (15')
	Julia Jilge (Vienna, Austria)	Therapeutic efficiency of human adipose-derived stem cell secretome (ASC-Sec) in emergency setting: in vitro and vivo studies (15')
	Andreia Luís (Vienna, Austria)	Endoplasmic Reticulum Stress and Unfolded Protein Response in shock and inflammation (15')
12:45-13:45	<i>Lunch break</i>	
13:45-14:15	Oroboros innovations: O2k-FluoRespirometer and DatLab 7 Erich Gnaiger (Innsbruck, Austria) (30')	
14:15-16:15	BIOLOGICALLY ACTIVE GASES AND SMALL SIGNALLING MOLECULES I.   Chairs: Erich Gnaiger, Beata Velika	
	Frédéric Bouillaud (Paris, France)	Sulfide and mitochondrial bioenergetics (30')
	Andrey V. Kozlov (Vienna, Austria)	Alterations in nitric oxide homeostasis during traumatic brain injury, interplay with mitochondria and glutamate toxicity (30')
	Andrea Müllbner (Vienna, Austria)	How do heme oxygenase and nitric oxide synthase regulate macrophage functions (15')
	Dániel Érces (Szeged, Hungary)	Differentiation of pulmonary and mesenteric perfusion disorders from exhaled methane concentrations (15')
	Gábor Bari (Szeged, Hungary)	Effect of methane inhalation in a large animal model of extracorporeal perfusion (15')
	Marietta Poles (Szeged, Hungary)	Effect of methane inhalation on nitrosative stress during mesenteric ischemia/reperfusion in rats (15')
16:15-16:30	<i>Coffee break</i>	

<b>16:30-18:20</b>	<b>BIOLOGICALLY ACTIVE GASES AND SMALL SIGNALLING MOLECULES II.</b>   Chairs: Frédéric Bouillaud, Ana Ledo	
	Erich Gnaiger (Innsbruck, Austria)	Competitive inhibition of respiration by nitric oxide and oxygen in cells with iNOS overexpression: A high-resolution respirometric study and kinetic model. (30')
	László Juhász (Szeged, Hungary)	Inhibition of N-methyl-D-aspartate receptors improves poly-microbial sepsis-evoked mitochondrial dysfunction in rats. (15')
	Eszter Tuboly (Szeged, Hungary)	Excessive alcohol consumption leads to non-microbial endogenous methane production (15')
	Dániel Érces (Szeged, Hungary)	Effects of methane inhalation on platelet function in a large animal model of cardiac tamponade (10')
	Petra Varga (Szeged, Hungary)	Newly discovered methane donor molecules with antioxidant potential (10')

18:20-19:20 *Dinner*

19:20-20:30 Project discussions

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**DAY 2 | 2018-03-27 TUESDAY | IOC127 Oroboros O2k-WORKSHOP ON HYPOXIA**

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<b>09:00-10:30</b>	<b>MORNING SESSION ON MITOCHONDRIA</b>   Chairs: László Tretter, Tímea Komlódi	
	Petr Pecina (Prague, Czech Republic)	Changes in oxygen kinetics between COX4i1 and COX4i2-containing COX (30')
	László Tretter (Budapest, Hungary)	Bioenergetical approach of neurodegenerative diseases (30')
	László Juhász (Szeged, Hungary)	Ca <sup>(2+)</sup> N it be measured? High-resolution O2k-FluoRespirometric detection of extramitochondrial calcium movement (10')
	Dávid Kurszán Jász (Szeged, Hungary)	Mitochondrial effects of methane gas treatment on rat cardiomyocytes subjected to simulated ischemia/reperfusion (10')
	Eszter Tuboly (Szeged, Hungary)	Novel cardioprotective effects of methane in an ex vivo model (10')
<b>10:30-10:45</b>	<i>Coffee break</i>	
<b>10:45-12:15</b>	<b>Oroboros O2k-WORKSHOP ON HYPOXIA I. - DEMO EXPERIMENT</b>	
	András Mészáros (Innsbruck, Austria and Szeged, Hungary)	High-resolution mitochondrial oxygen kinetics in aerobic-anaerobic transitions (90')
<b>12:15-13:00</b>	<i>Lunch break</i>	
<b>13:00-13:30</b>	<b>INVITED LECTURE ON MITOCHONDRIA</b>	
	Christos Chinopoulos (Budapest, Hungary)	Interplay of respiratory components and mitochondrial diaphorases on redox state in anoxia (30')
<b>13:30-14:30</b>	<b>Oroboros O2k-WORKSHOP ON HYPOXIA II.</b>	
	Tímea Komlódi (Innsbruck, Austria)	Oxygen dependence of H <sub>2</sub> O <sub>2</sub> production: application of High-Resolution FluoRespirometry with Amplex UltraRed® fluorescence (60')
<b>14:30-14:45</b>	<i>Coffee break</i>	
<b>14:45-16:15</b>	<b>Oroboros O2k-WORKSHOP ON HYPOXIA III.</b>	
	Erich Gnaiger (Innsbruck, Austria)	Cellular respiration and mitochondrial oxygen kinetics: hypoxic steady-states and oxygen oscillations (90')
<b>16:15-16:30</b>	Discussions	
<b>16:30-18:00</b>	<b>COST ACTION MitoEAGLE</b>   Chairs: Petr Pecina, Nina Krako	
	Ana Ledo (Coimbra, Portugal)	Age-dependent changes in the glutamate-nitric oxide pathway in the hippocampus of the triple transgenic model of Alzheimer's disease: implications on mitochondrial function (15')
	Nina Krako (Belgrade, Serbia)	Investigation of subcellular mechanisms in insulin resistance models in hepatocytes and myocytes (15')
	Beata Velika (Kosice, Slovakia)	The effect of short-term exposure to moderate altitude on respiration of peripheral-blood mononuclear cells (15')
	Andrea Evinova (Bratislava, Slovakia)	Magnesium protects from calcium induced collapse of mitochondrial trans-membrane potential (Poster)
	Kasja Pavlovic (Belgrade, Serbia)	C2C12 myoblasts as a cell model for studying the role of mitochondria in insulin resistance (Poster)
	Ioana Z. Pavel (Timisoara, Romania)	The acute and chronic effects of a benzylamide derivative of maslinic acid in liver mitochondria isolated from mice with chemically induced skin carcinogenesis (Poster)