

4th WiSe meeting

Recent progress in Intensive Care Medicine



Ludwig Boltzmann Institute for Traumatology. Research Center in Cooperation
with AUVA, Donaueschingenstrasse 13, Vienna, Austria.

19 – 21 June 2022

Sunday, June 19th 2022

19:00 - 22:00 Dinner **Location: Gasthaus Hansy (<https://www.hansy-braeu.at/>)**

Monday, June 20th 2022 - Scientific program

08:30 - 09:00 Welcome **Johannes Grillari**, director of the Institute of traumatology
Thomas Hausner, co- director Institute of traumatology
Heinz Redl; coordinator, Austrian Cluster for Regeneration
Alexander Bernart, Präsident, AUVA Generaldirektor

Session 1. Biologically active gases and small messenger molecules

(Chair: Laszlo Tretter)

09:00 - 09:20 **Mihaly Boros** Methane: generation, detection, biological functions

09:20 - 09:40 **Catharina Duvigneau** Carbon monoxide and pathophysiological role of heme oxygenase in inflammation

09:40 - 09:50 **Anna Nászai** Effect of methane and nitric oxide inhalation on mitochondrial calcium homeostasis in hypoxic rats

09:50 - 10:00 **Attila Rutai** Methane inhalation improves microcirculatory-mitochondrial dysfunction and nitrosative stress in a clinically relevant porcine model of sepsis

10:00 - 10:10 **Gyöngyvér Vigyikán et al.** Effects of methane treatment on acute kidney injury after 24 hours of experimental veno-venous extracorporeal membrane oxygenation

10:10 - 10:40 Coffee break

Session 2. Molecular basis of organ failure and regeneration

(Chair: Michaly Boros)

10:40 - 11:00 **Laszlo Tretter** Effects of α -ketoglutarate dehydrogenase subunit (E2 and/or E3) deficiencies on mitochondrial ROS homeostasis

11:00 - 11:20 **Andrey Kozlov** Multiple organ failure: an interplay between inflammation and hypoxia

11:20 - 11:40 **Susanne Wollbank** Mechanisms underlying recovery of damaged organs by amniotic membrane

11:40 - 11:50 **Timea Komlódi** Simultaneous measurement of mitochondrial respiration and the coenzyme Q redox state in isolated mitochondria

11:50 - 12:00 **László Juhász et al.** A novel method for the detection of calcium and oxygen fluxes with High-Resolution FluoRespirometry

Session 3. Sepsis and systemic inflammation.

(Chair: Christoph Schlimp)

12:00 - 12:20 **Marcin F. Osuchowski** N6C-D-adenosine for early sepsis detection: a new marker on-the-block?"

12:20 - 12:30 **Andreas Gasser** Angiotensin mediated activation of macrophages causes lung damage

12:30 - 14:00 Lunch **Fingerfood, Drinks**

14:00 - 14:20 **Dániel Érces et al.** Preclinical large animal model of acute respiratory failure

14:20 - 14:30 **Szabolcs Péter Tallósy et al.** Microbiological aspects of experimental sepsis in rodents - the impact of microbial composition on the development, severity and mortality

Session 4. Circulatory shock and ischemia-reperfusion.

(Chair: Soheyl Bahrami)

14:30 - 14:50 **Andrea Szabó** From microsurgery to microcirculation – models, techniques, and basic research topics in Szeged

14:50 - 15:10 **Christoph Schlimp** Trauma and bleeding: a decade of research and innovation in the field of trauma-induced coagulopathy

15:10 - 15:20 **Noémi Vida et al.** Preclinical large animal model of veno-venous extracorporeal membrane oxygenation

15:20 - 15:30 **Sergiu Dumitrescu** Effects of Extracellular Vesicles from Wharton's Jelly in acute states: rat models of hemorrhagic-traumatic shock and blast chest contusion

15:30 - 15:40 **Andras Meszaros** Molecular mechanisms during normothermic machine perfusion of the liver and kidney: clinical and translational aspects

Session 5. Neurotrauma and neurodegeneration

(Chair: Andrea Szabó)

15:40 - 16:00 **Nógrádi Antal** Fostering regeneration in the spinal cord: the role of the lesion-induced secretome

16:00 - 16:20 **Adelheid Weidinger** The impact of OGDHC on excitotoxicity of glutamate in traumatic brain injury

16:20 - 16:30 **Annette Vaglio** In vitro models to study neurotrauma

16:30 - 16:40 **Bálint Czakó** Therapeutic effects of NMDA receptor antagonist kynurenic acid and its synthetic derivatives on sepsis-associated neutrophil activation and brain mitochondrial dysfunction in rats

16:40 - 17:10 Coffee break

Session 6. Novel therapeutic approaches in critical care diseases

(Chair: Marcin F. Osuchowski)

17:10 - 17:30 **David Hercher** Extracorporeal Shockwave Therapy in spinal cord injury

17:30 - 17:50 **Peter Dungal** Photodynamic therapy

17:50 - 18:00 **Sergejs Zavadskis** Preconditioning by induction of cellular stress

19:00 Dinner 7Stern Bräu (<https://www.7stern.at/>)

Tuesday, June 21st 2022

09:00 - 12:00 Discussion about joined projects in small groups – LBI Trauma

12:00 - 13:00 Lunch Fingerfood, Drinks

14:00 Departure

