



170<sup>th</sup> ICB SEMINAR



## Seminar on Neurovascular Coupling Methods

October 12 - 13, 2023, Warsaw, Poland

Organised by

**NALE CZ INSTITUTE OF BIOCYBERNETICS AND BIOMEDICAL ENGINEERING POLISH ACADEMY  
OF SCIENCES AND  
INTERNATIONAL CENTRE OF BIOCYBERNETICS**

October 12<sup>th</sup>

09:00 - 09:15 Welcome address Adam Liebert / Piotr Ładyżynski	
Session 1 Chairman: Adam Liebert	
9:15 – 10:00	<i>DC-MEG methodology</i> Till Sander
10:00 - 10:45	<i>New fNIRS instrumentation</i> Stan Wojtkiewicz / Piotr Sawosz

*Coffee break (30 minutes)*

Session 2 Chairman: Till Sander	
11:15 - 12:00	<i>Approaches for extracting brain functional activity using Near Infrared Spectroscopy</i> Hamid Dehghani
12:00 – 12:45	<i>Resonance, entrainment and burst structure in MEG/EEG photic driving</i> Jens Haueisen

*Lunch break (1 hour 15 minutes)*

Session 3 Chairman: Piotr Sawosz	
14:00 - 14:45	<i>In-vivo studies of brain activation by time-domain NIRS in combination with DC-MEG</i> Heidrun Wabnitz
14:45 - 15:30	<i>Investigating Neurovascular Coupling using Dynamic Causal Modelling</i> Peter Zeidman ( <i>online</i> )

*Coffee break (30 minutes)*

Session 4 Chairman: Hamid Dehghani	
16:00 – 16:15	<i>Project aims</i> Adam Liebert / Till Sander
16:15 – 17:00	<i>First project results</i> Urban Marhl

October 13<sup>th</sup>

Session 5 Chairman: Jens Haueisen	
9:00 – 9:45	<i>Development of hybridised quantum sensors for dual-modal brain imaging</i> Anna Kowalczyk
9:45 - 10:30	<i>Potential of on-scalp MEG to bridge between electrophysiological and hemodynamic measurements of brain activity</i> Lauri Parkkonen

*Coffee break (15 minutes)*

Session 6 Chairman: Stan Wojtkiewicz	
10:45 - 11:30	<i>Investigating aging-associated changes of the cerebral microcirculation: a translational approach</i> Csipo Tamas
11:30 – 12:15	<i>What can Portable Imaging of Neuroenergetics tell us about the "Brain"?</i> Anirban Dutta

*Lunch break (45 minutes)*

Session 7 Chairman: Vojko Jazbinšek	
13:00 - 13:45	<i>Latent Component Analysis of Multivariate Multimodal Bio-signals</i> Alexander von Lühmann
13:45 - 14:30	<i>Common-mode - dealing with unexpected noise contributions in OPM-MEG and fNIRS</i> Robert Oostenveld
14:30 – 15:15	<i>Two-photon imaging of neurovascular functions</i> Martin Johannes Lauritzen (online)