

**PROGRAM OF THE 128<sup>th</sup> ICB SEMINAR**  
**ON VARIABILITY IN BIOMEDICAL SIGNALS**

**Warsaw, 4–7 November 2012**

**SUNDAY, November 4<sup>th</sup> 2012**

**19:00 – 21:00**                    ***Get together***

**MONDAY, November 5<sup>th</sup> 2012**

**10:00 – 10:45**                    **Opening ceremony**

**Roman Maniewski**   - *Chairman of the Seminar*

**Jan M. Wójcicki**   - *Director of the International  
Centre of Biocybernetics (Poland)*

**Hervé Rix** – Lecture on

SIGNAL SHAPE RECOGNITION IN THE OVERLAPPING OF T  
AND P WAVES IN EXERCISE ECG

**10:45 – 11:10**                    **Coffee break**

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**11:10 – 13:10**   Session 1

**Variability of Brain Signals**

**Chair : Adam Liebert**

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- 11:10 – 11:40**      **Katarzyna Cieślak-Blinowska**      TIME-VARYING      COUPLING  
DURING WORKING MEMORY TASK: RANDOM-VERSUS  
DETERMINISTIC PATTERNS OF CONNECTIVITY
- 11:40 –12:10**      **György Kozmann**      NEW      APPROACH      OF      SPATIO-  
TEMPORAL      CORTICAL      ACTIVATION      ASSESSMENT      IN  
FINGER-TAPPING STUDIES
- 12:10 –12:40**      **Heriberto Zavala**      HIDDEN INFORMATION REVELED BY  
INDEPENDENT COMPONENT ANALYSIS IN EEG DATA  
RECORDED DURING MOTOR STIMULATION
- 12:40 - 13:10**      **Michał Kacprzak, Adam Liebert**      FLUCTUATIONS      IN  
BRAIN OXYGENATION MEASURED BY TIME-RESOLVED  
NEAR INFRARED SPECTROSCOPY

**13:10 – 14:30**                      **Lunch break**

**14:30 - 16:30**      **Session 2**

**Variability in Biosignals**

**Chair: György Kozmann**

- 14:30 – 15:00**      **Guy Carrault**              A DIAGNOSIS TOOL FOR LATE ONSET  
SEPSIS IN SICK PREMATURE INFANTS BASED ON HEART  
RATE VARIABILITY AND RESPIRATION
- 15:00 – 15:30**      **Gregory Blain**              APPLICATION OF MODELING AND  
SIGNAL ANALYSIS TO PHYSIOLOGICAL VARIABLES

**15:30 –16:00**     **Eduardo Gil-Herrando**     PULSE RATE ANALYSIS FROM THE PHOTOPLETHYSMOGRAPHIC SIGNAL FOR TURBULENCE DETECTION

**16:00 –16:30**     **Aline Cabasson**     ESTIMATION AND MODELING OF QT-INTERVAL ADAPTATION TO HEART RATE CHANGES

**16:30 – 16:50**                     **Coffee break**

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**16:50 - 17:20**     PhD Student Session

**Chair: Olivier Meste**

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**16:50 – 17:05**     **Michał Kania**     ANALYSIS OF T-WAVE MORPHOLOGY IN HIGH-RESOLUTION ECG FOR RISK STRATIFICATION OF SUDDEN CARDIAC DEATH

**17:05 – 17:20**     **Gergely Tuboly**     DIFFERENCES IN QRST INTEGRAL MAP VARIABILITY IN HEALTHY SUBJECTS AND ARRHYTHMIA PATIENTS

**19:00**                     **SEMINAR DINNER**

**TUESDAY, November 6<sup>th</sup> 2012**

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**10:00 - 12:20**     Session 3

**Electromyographical Signals**

**Chair: Ewa Zalewska**

**10:00 – 10:30**     **Maria Piotrkiewicz**     MOTOR UNIT DISCHARGE VARIABILITY AS A SOURCE OF INFORMATION ON AFTER HYPERPOLARIZATION DURATION OF THE MOTONEURON

**10:30 – 11:00**     **Sofiane Boudaoud**     SHAPE VARIABILITY ANALYSIS OF SEMG AMPLITUDE DISTRIBUTION

**11:00 – 11:20**                                     **Coffee break**

**11:20 – 11:50**     **Roberto Merletti**     VARIABILITY OF ELECTROMYOGRAPHIC (EMG) SIGNALS AND THEIR FEATURES

**11:50 – 12:20**     **Ewa Zalewska**             MOTOR UNIT POTENTIALS SHAPE VARIABILITY AND ITS DIAGNOSTIC MEANING

**12:20 – 14:00**                                     **Lunch break**

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**14:00 - 15:00**     Session 4 - Part I

***Body Surface Potential Mapping***

**Chair: Hervé Rix**

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**14:00 – 14:30**     **Milan Tysler**             NONINVASIVE ASSESSMENT OF ISCHEMIC HEART REGIONS FROM VARIATIONS IN BODY SURFACE POTENTIALS USING DIPOLE MODELS AND SIMPLIFIED TORSO GEOMETRY

**14:30 – 15:00**     **Jana Svehlikova**             INVERSE LOCALIZATION OF VARIOUS SIZES OF ISCHEMIC LESIONS FROM VARIATIONS IN BODY SURFACE POTENTIAL MAPS

**15:00 – 15:20**                      **Coffee break**

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**15:20 - 16:50**    **Session 4 - Part II**

**Body Surface Potential Mapping**

**Chair: Milan Tysler**

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**15:20 – 15:50**    **Patricia Radon, Uwe Steinhoff**                      **BASIC VARIABILITY CLASSIFICATORS IN A PEDIATRIC ECG DATABASE FOR THE TEST OF AUTOMATIC EXTERNAL DEFIBRILLATORS**

**15:50 – 16:20**    **Dariusz Janusek**                      **EVALUATION OF T-WAVE ALTERNANS IN COMPARISON WITH ECG STRESS TEST AND SCINTIGRAPHIC EXAMINATION IN PATIENTS WITH CORONARY ARTERY DISEASE**

**16:20 – 16:50**    **Olivier Meste**                      **NEW METHODS FOR THE IMPROVEMENT OF T WAVES ALTERNANS DETECTION**

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**16:50**                      **Closing remarks: Hervé Rix, Roman Maniewski**

**19:00**                      **Music Theatre**

**WEDNESDAY, November 7<sup>th</sup> 2012**

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**09:00 – 12:00**    **Internal PICS Project Meeting**

**Chair persons: Adam Liebert, Olivier Meste**

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