PROGRAM OF THE 128th ICB SEMINAR
ON VARIABILITY IN BIOMEDICAL SIGNALS

Warsaw, 4–7 November 2012

SUNDAY, November 4th 2012

19:00 – 21:00   Get together

MONDAY, November 5th 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

11:10 – 13:10   Session 1

Variability of Brain Signals

Chair: Adam Liebert
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 REVEIVED 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

16:50 - 17:20  PhD Student Session

  Chair:  Olivier Meste

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 6th 2012

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

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

Body Surface Potential Mapping

Chair: Hervé Rix

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

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 CLASSIFIERS 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

16:50  Closing remarks: Hervé Rix, Roman Maniewski

19:00  Music Theatre

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**WEDNESDAY, November 7th 2012**

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09:00 – 12:00  Internal PICS Project Meeting

Chair persons: Adam Liebert, Olivier Meste