

## iBioMEP Annual Student Seminar 11.2.2011

Venue: House of Science and Letters, Kirkkokatu 6, Helsinki

### Program

8.45 Registration

Room 505

9.00 Opening words, iBioMEP director Timo Jämsä

9.10 Practical issues, iBioMEP coordinator Riikka Ahola

9.30 Keynote lecture, Dr. Antti Ahonen, Neuromag

*MEG: From basic research to product*

10.30 Coffee break

11.00 Student presentations (á 10 min+ 5 min discussion)

| Session 1, room 505<br><i>Chair: Ari Koskelainen</i>  | Session 2, room 404<br><i>Chair: Jari Hyttinen</i>  |
|---|---|
| Narayan Puthanmadam Subramaniyam<br>DEVELOPMENT OF METHODOLOGIES FOR EEG-BASED FUNCTIONAL NEUROIMAGING IN ADULTS AND INFANTS                      | Jaakko Nieminen<br>TRICKS AND SOLUTIONS FOR ULTRA-LOW-FIELD MRI   |
| Tuomas Koivumäki<br>BIOIMPEDANCE-BASED DUAL-GATED NUCLEAR MEDICINE IMAGING  | Atte Joutsen<br>MEDIAN NERVE SOMATOSENSORY EVOKED POTENTIAL RECORDINGS USING SURFACE AND NEEDLE ELECTRODES    |
| Tiina Näsi<br>CHALLENGES IN COMBINING NEAR-INFRARED SPECTROSCOPY AND TRANSCRANIAL MAGNETIC STIMULATION  | Perttu Ranta-Aho<br>IMAGING ARTEFACT REMOVAL USING MOVING WINDOW PCA IN SIMULTANEOUS EEG/FMRI                 |
| Markus Hannula<br>IMAGE-BASED SEGMENTATION FOR CHARACTERIZATION AND QUANTITATIVE ANALYSIS OF THE SPINAL CORD INJURIES BY USING DIFFUSION PATTERNS | Suvi Tiinanen<br>RESPIRATORY COMPONENT EXTRACTION BY COMBINING ADAPTIVE FILTERING AND PCA DERIVED RESPIRATION |
| Katariina Kulmala<br>CONTRAST ENHANCED COMPUTED TOMOGRAPHY IN EVALUATION OF SPONTANEOUS CARTILAGE REPAIR  | Jarmo Alametsä<br>BALLISTOCARDIOGRAPHIC SPECTRUM STUDIES WITH A TILT TABLE AND EMFI SENSORS                   |

12.15 Lunch

13.15 Student presentations (á 10 min+ 5 min discussion)

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| Session 3, room 505<br><i>Chair: Pekka Hänninen</i>   | Session 4, room 404<br><i>Chair: Jukka Jurvelin</i>   |
| Fikret Emre Kapucu<br>ANALYSIS TOOLS FOR hESC-DERIVED NEURONS DURING MATURATION   | Baran Aydogan<br>3D GEOMETRICAL DESIGN OF POROUS BIOMATERIAL SCAFFOLDS BASED ON IMAGE PROCESSING            |
| Panu Vesanen<br>ULTRA-LOW-FIELD MRI SYSTEM FOR HYBRID MEG-MRI   | Juhani Dabek<br>SAFE ULTRA-LOW-FIELD MRI WITH ENHANCED SIGNAL PROCESSING                                    |
| Janne Karjalainen<br>MULTI-SITE BONE ULTRASOUND MEASUREMENTS IN ELDERLY WOMEN WITH AND WITHOUT PREVIOUS FRACTURES               | Jérôme Thevenot<br>ANALYSIS OF TRABECULAR BONE STRUCTURE TO ESTIMATE MATERIAL PROPERTIES OF THE UPPER FEMUR |
| Maarit Kangas<br>DATA COLLECTION OF REAL-LIFE FALLS USING ACCELEROMETRY-BASED SYSTEM  | Petri Välisuo<br>SPECTROCUTOMETRY - NEW TECHNOLOGY FOR SKIN CHROMOPHORE MAPPING                             |
| Ville-Pekka Seppä<br>AGREEMENT BETWEEN IMPEDANCE PNEUMOGRAPHY AND PNEUMOTACHOGRAPH IN ESTIMATION OF A TIDAL BREATHING PARAMETER | Nathaniel Narra<br>STATISTICAL MODELS IN THE PROCESSING AND ANALYSIS OF THE FEMORAL CORTEX                  |
| Frans Vinberg<br>COBALT CAN MEDIATE CALCIUM SIGNALS THROUGH CALCIUM SENSORY PROTEINS IN A MOUSE ROD PHOTORECEPTOR CELL          | Kalle Kotilahti<br>FUNCTIONAL BRAIN STUDIES OF NEWBORN INFANTS USING NEAR-INFRARED SPECTROSCOPY             |

14.45 Coffee break

15.00 Session feedback & announcement of best presentations, chairmen

Closing words, director Timo Jämsä

15.15 End of the seminar

The best presentations of each session will be awarded with a prize