



Joint conference of

European Medical and Biological Engineering Conference (EMBEC)
Nordic-Baltic Conference on Biomedical Engineering and Medical Physics (NBC)

11-15 June 2017 in Tampere, Finland

Programme

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Organized by:



Finnish Society for Medical Physics
and Medical Engineering

Endorsed by:



IFMBE

Sponsors:

NOKIA



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PLANMECA

Sunday 11.6.2017

17:30	Registration opens <i>Tampere Hall, Yliopistonkatu 55, 33100 Tampere</i>
19:00	Get-together <i>Tampere Hall, Yliopistonkatu 55, 33100 Tampere</i>

Monday 12.6.2017

8:00	Registration
8:30	Opening & Keynote Keynote: Nobel Laureate Professor Stefan W. Hell: "Optical Microscopy: the Resolution Revolution"
9:45	Coffee & Posters
10:45	Parallel Sessions <p>BIOPHYSICS AND MEDICAL PHYSICS - Special Track: Electromagnetic Fields in Biology and Medicine: Magnetic Fields <i>Organizer: Professor Hiie Hinrikus</i></p> <p>BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING - Special Session: Advances in Ballistocardiography and Seismocardiography <i>Organizer: Dr. Jari Viik</i></p> <p>BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING - Special Session: EEG-based Brain Function Monitoring in ICU and Clinical Anesthesia <i>Organizers: Professor Tarmo Lipping & Dr. Jukka Kortelainen</i></p> <p>TRANSLATIONAL RESEARCH AND COMMERCIALIZATION - Special Session: Translational Biomechanics and Imaging in Musculoskeletal Research <i>Organizers: Professor Petro Julkunen & Professor Rami Korhonen</i></p> <p>EAMBES Special Session on BME Policy Affairs in EU <i>Organizers: Professor Jari Hyttinen</i></p> <p>BIOIMAGING AND BIOIMAGE ANALYSIS AND PROCESSING – Bioimaging and Bioimage Analysis and Processing</p> <p>HEALTHCARE INFORMATION SYSTEMS AND HEALTH INFORMATICS - Healthcare Information Systems</p>
12:15	Lunch at Site Student Programme: Lunch with Keynote Speakers For students, who have registered to the event

Monday 12.6.2017 continues

13:15	<p>Parallel Sessions</p> <p>BIOPHYSICS AND MEDICAL PHYSICS - Special Track: Electromagnetic Fields in Biology and Medicine: Radiofrequency Radiation <i>Organizer: Professor Hiie Hinrikus</i></p> <p>COOPERATION OF ACADEMIA, INDUSTRY AND HEALTHCARE SECTOR - Special Session: Fostering Cooperation of Academia, Industry and Healthcare Sector <i>Organizer: Professor Piotr Ladyzynski</i></p> <p>HEALTHCARE INFORMATION SYSTEMS AND HEALTH INFORMATICS - Special Session: Data Based Analytics in Health care: From Sensors to Big Data <i>Organizers: Professor Ratko Magjarevic & Assistant Professor Paulo de Carvalho</i></p> <p>VIRTUAL PHYSIOLOGICAL HUMAN - Special Session: Computational Modelling of Human Cardiac Cells <i>Organizer: Assistant Professor Stefano Severi</i></p> <p>IFMBE-Sponsored Session on Accreditation of Biomedical Engineering Programs. <i>Organizer: Associate Professor Toh Siew-Lok</i></p> <p>BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING - Heart Rate Variability</p>
14:45	Coffee & Posters
15:45 – 17:15	<p>Parallel Sessions</p> <p>BIOPHYSICS AND MEDICAL PHYSICS - Special Track: Electromagnetic Fields in Biology and Medicine: Electric Field and Modelling <i>Organizer: Professor Hiie Hinrikus</i></p> <p>BIOMEDICAL OPTICS - Special Session: Biomedical Optics <i>Organizer: Professor Karin Wårdell</i></p> <p>HEALTHCARE INFORMATION SYSTEMS AND HEALTH INFORMATICS - Special Session: Snapshot of Medical Informatics Research Projects in Japan and Poland <i>Organizer: Professor Piotr Ladyzynski</i></p> <p>PERSONALIZED MEDICINE - Special Session: The Contribution of Biomedical Engineering to the Understanding and Management of Atrial Fibrillation <i>Organizer: Associate Professor Cristiana Corsi</i></p> <p>BIOIMAGING AND BIOIMAGE ANALYSIS AND PROCESSING – Magnetic Resonance Imaging</p> <p>CLINICAL ENGINEERING AND THERAPEUTIC AND DIAGNOSTIC SYSTEMS - Diagnostic and Therapeutic Systems</p>
10:00 – 17:15	<p>Commercial Exhibition</p> <p>Networking Event Registration latest on May 28 at https://www.b2match.eu/embec2017</p>
18:30 -	<p>Social Programme: Evening at Lake Viikinsaari, Departure from Laukontori</p>

Tuesday 13.6.2017

8:00	Registration
8:15	Plenary 8:15 Professor Anthony Turner: "Biosensors – Towards Frictionless Management of Health" 9:00 Dr. Manuel Bardiés: "Relevance of Multi-scale Dosimetry for Internal Radiotherapy Optimization"
9:45	Coffee & Posters
10:45	Parallel Sessions BIOIMAGING AND BIOIMAGE ANALYSIS AND PROCESSING - Special Session: Ultra-low-field MRI <i>Organizer: Professor Risto Ilmoniemi</i> BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING - Special Session: New Developments on Beat-to-beat Blood Pressure Measurement Technology <i>Organizer: Dr. Josep Solà</i> CLINICAL ENGINEERING AND THERAPEUTIC AND DIAGNOSTIC SYSTEMS - Special Session: Clinical Engineering Revisited: Towards a White Paper <i>Organizer: Dr. Mario Medvedec</i> HEALTH TECHNOLOGY ASSESSMENT - Special Session: Early Stage Health Technology Assessment (HTA) of Medical Devices <i>Organizer: Assistant Professor Leandro Pecchia</i> MICRO- AND NANO-BIOENGINEERING - Special Session on Biomedical Robotics and Applications - Part I <i>Organizers: Professor Dayou Li & Professor Zuobin Wang</i> SLEEP MONITORING AND QUANTIFICATION - Special Session: Sleep Monitoring and Quantification using Contact and Non-Contact Systems <i>Organizer: Dr. Patrick Celka</i> BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING - Physiological Monitoring and Measurements
12:15	Lunch at Site Student Programme: Meet the Editors

13:15	<p>Parallel Sessions</p> <p>BIOIMAGING AND BIOIMAGE ANALYSIS AND PROCESSING - Special Session: High Field Magnetic Resonance Imaging <i>Organizer: Professor Miika T. Nieminen</i></p> <p>BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING - Special Session: Recent Advances in Heart Rate Variability Analysis - Part I <i>Organizer: Dr. Mika Tarvainen</i></p> <p>HEALTH TECHNOLOGY ASSESSMENT - Special Session: Picking the Winner: How HTA of Medical Devices Can Help Identify Routes to a Sustainable Healthcare System <i>Organizer: Professor Dan Clark</i></p> <p>MICRO- AND NANO-BIOENGINEERING - Special Session on Biomedical Robotics and Applications - Part II <i>Organizers: Professor Dayou Li & Professor Zuobin Wang</i></p> <p>SLEEP MONITORING AND QUANTIFICATION - Special Session: New Applications for Detection of Sleep-disordered Breathing - Part I <i>Organizer: Dr. Mirja Tenhunen</i></p> <p>BIOMEDICAL OPTICS - Biomedical Optics 2</p> <p>CLINICAL ENGINEERING AND THERAPEUTIC AND DIAGNOSTIC SYSTEMS - Clinical Engineering</p>
14:45	Coffee & Posters
15:45	<p>Plenary Dr. Sabeth Verpoorte</p>

Tuesday 13.6.2017 continues

16:30 – 18:00	<p>Parallel Sessions</p> <p>BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING - Special Session: Recent Advances in Heart Rate Variability Analysis - Part II <i>Organizer: Dr. Mika Tarvainen</i></p> <p>CLINICAL ENGINEERING AND THERAPEUTIC AND DIAGNOSTIC SYSTEMS - Special Session: Advances in Transcranial Magnetic Stimulation <i>Organizer: Dr. Jaakko Nieminen</i></p> <p>HEALTH TECHNOLOGY ASSESSMENT - Special Session: Patient involvement in HTA: methods and experiences <i>Organizer: Assistant Professor Leandro Pecchia</i></p> <p>MICRO- AND NANO-BIOENGINEERING - Special Session: BioMEMS for Organ-on-Chip Applications <i>Organizer: Professor Pasi Kallio</i></p> <p>SLEEP MONITORING AND QUANTIFICATION - Special Session: New Applications for Detection of Sleep-disordered Breathing - Part II <i>Organizer: Dr. Mirja Tenhunen</i></p> <p>BIOMATERIALS - Biomaterials</p> <p>BIOINFORMATICS, COMPUTATIONAL BIOLOGY AND SYSTEMS BIOLOGY - Bioinformatics, Computational Biology and Systems Biology</p>
8:15- 18:00	<p>Commercial Exhibition</p> <p>Networking Event</p> <p>Registration latest on May 28 at https://www.b2match.eu/embec2017</p>
18:30	<p>Student Evening</p> <p><i>Villa Härmälänranta, Departure from Tampere-Hall</i></p> <p>For students, who have registered to the event</p>

Wednesday 14.6.2017

8:00	Registration
8:15	Plenary 8:15 Professor Serge Mordon: "Light Emitting Fabric for Photodynamic Therapy " 9:00 Assistant Professor Jukka-Pekka Onnela
9:45	Coffee & Posters <i>Pitching Event for Finnish Start-ups</i>
10:45	Parallel Sessions BIOIMAGING AND BIOIMAGE ANALYSIS AND PROCESSING - Special Session: Statistical and Bayesian Approaches in EEG/MEG Data Analysis - Part I <i>Organizer: Assistant Professor Sampsa Pursiainen</i> BIOINFORMATICS, COMPUTATIONAL BIOLOGY AND SYSTEMS BIOLOGY - Special Session: Artificial Cognition and Learning Theories - Part I <i>Organizer: Dr. Francois Christophe</i> BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING - Special Track: Impedance Pneumography – Technology and Applications <i>Organizer: Marcel Młyńczak</i> BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING - Special Session: Novel Electrocardiogram Analysis Methods <i>Organizer: Dr. Tuomas Kenttä</i> CLINICAL ENGINEERING AND THERAPEUTIC AND DIAGNOSTIC SYSTEMS - Special Session: Advanced Monitoring at Hospital and at Home for Risk Analysis and Evidence-based Clinical Decision Support <i>Organizer: Dr. Kari Antila</i> Women in Biomedical Engineering <i>Organizers: Professor Eleni Kaldoudi & Professor Birgit Glasmacher</i> BIOIMAGING AND BIOIMAGE ANALYSIS AND PROCESSING – Computed Tomography
12:15	Lunch at Site

13:15	<p>Parallel Sessions</p> <p>BIOIMAGING AND BIOIMAGE ANALYSIS AND PROCESSING - Special Session: Statistical and Bayesian Approaches in EEG/MEG Data Analysis - Part II <i>Organizer: Assistant Professor Sampsa Pursiainen</i></p> <p>BIOINFORMATICS, COMPUTATIONAL BIOLOGY AND SYSTEMS BIOLOGY - Special Session: Artificial Cognition and Learning Theories - Part II <i>Organizer: Dr. Francois Christophe</i></p> <p>BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING - Special Session: Impedance Cardiography – the Method and its Applications <i>Organizer: Marcel Młyńczak</i></p> <p>BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING - Special Session: Biosignals Interpretation - Part I <i>Organizer: Dr. Kristjan Pilt</i></p> <p>WEARABLE AND IMPLANTABLE SYSTEMS - Special Session: Implantable and Wearable Antennas, Sensors, and Systems for Wireless Medicine and Healthcare – Part I <i>Organizers: Dr. Toni Björninen & Dr. Johanna Virkki</i></p> <p>BIOINSTRUMENTATION - Bioinstrumentation</p> <p>HEALTH TECHNOLOGY ASSESSMENT- Hospital Based HTA</p>
14:45	Coffee & Posters

Wednesday 14.6.2017 continues

15:45 – 17:15	<p>Parallel Sessions</p> <p>BIOMATERIALS - Special Session: Biomaterials and Tissue Engineering - Part I <i>Organizers: Dr. Teresa Calejo & Dr. Jonathan Massera</i></p> <p>BIOMEDICAL ENGINEERING EDUCATION & SOCIETY - Special Session: Advances in Biomedical Engineering Education and Teaching <i>Organizer: Professor Goran Devedzic</i></p> <p>BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING - Special Session: Advances in Bioimpedance Instrumentation and Measurement <i>Organizers: Marcel Młyńczak</i></p> <p>BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING - Special Session: Biosignals Interpretation - Part II <i>Organizer: Dr. Kristjan Pilt</i></p> <p>WEARABLE AND IMPLANTABLE SYSTEMS - Special Session: Implantable and Wearable Antennas, Sensors, and Systems for Wireless Medicine and Healthcare – Part II <i>Organizers: Dr. Toni Björninen & Dr. Johanna Virkki</i></p> <p>HEALTH TECHNOLOGY ASSESSMENT - HTA, Medical Device R&D, Manufacturing and Procurement: Compete or Collaborate?</p> <p>BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING – Electrocardiography</p> <p>Student Event</p>
8:15 – 16:00	Commercial Exhibition
19:00	Conference Dinner <i>Hotel Rosendahl, Departure from Tampere-Hall</i>

Thursday 15.6.2017

8:00	Registration
8:15	Plenary 8:15 Professor Molly Stevens: "Bio-responsive Hybrid Materials for Regenerative Medicine and Biosensing" 9:00 Professor Risto Ilmoniemi: "Stimulating and Measuring the Human Brain"
9:45	Coffee
10:15	Parallel Sessions BIOMEDICAL ENGINEERING IN DEVELOPING COUNTRIES - Special Session: Biomedical Engineering in Africa <i>Organizers: Professor Timo Jämsä</i> BIOMATERIALS - Special Session: Biomaterials and Tissue Engineering - Part II <i>Organizers: Dr. Teresa Calejo & Dr. Jonathan Massera</i> CLINICAL ENGINEERING AND THERAPEUTIC AND DIAGNOSTIC SYSTEMS - Special Session: How can Functional Electrical Stimulation Currently Support Movement Rehabilitation: Advanced Technology Meets Physiological Reality <i>Organizer: Professor Winfried Mayr, Dr. Matthias Krenn & Jose Luis Vargas Luna</i> BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING - Electroencephalography BIOSENSING AND BIOSIGNAL ANALYSIS AND PROCESSING – Electromyography and Functional Electrical Stimulation BIOPHYSICS AND MEDICAL PHYSICS - Biophysics and Medical Physics WEARABLE AND IMPLANTABLE SYSTEMS - Wearable and Implantable Systems Student Event: Career Planning
11:45	Keynote Professor Gordon Wallace: "New Materials and Fabrication Tools to Facilitate Neural Communications"
12:30	Closing Ceremony