



MBEC2014
6th European Conference
of the International Federation for
Medical and Biological Engineering

MBEC2014

*Towards new horizons in
biomedical engineering*

7-11 September 2014
Dubrovnik, Croatia



FIRST CALL FOR PAPERS

The 6th European Conference of the International Federation for Medical and Biological Engineering (MBEC 2014) will be held in Dubrovnik, Croatia, from 7th to 11th September 2014. The conference program will consist of plenary/keynote lectures, symposia, workshops, invited sessions, oral and poster sessions, and exhibitions. MBEC 2014 will be a great opportunity for an exchange of ideas and presentation of the latest developments in all areas within the field of biomedical engineering. Topics of interest include but are not limited to:

BIOMEDICAL SIGNAL PROCESSING

- Physiological systems modeling
- Time-frequency and time scale analysis
- Nonlinear dynamic analysis
- Adaptive and parametric filtering and estimation
- Pattern recognition and soft computing techniques
- Data mining and processing

BIOMEDICAL IMAGING AND IMAGE PROCESSING

- Magnetic resonance imaging / Computed tomography / Mammography
- Ultrasound imaging / Optical imaging and microscopy
- PET and SPECT
- Electrical and magnetic source imaging / Impedance imaging
- Multimodality imaging / Novel imaging modalities
- Image processing, analysis and classification

BIOSENSORS AND BIOINSTRUMENTATION

- Physical sensors and sensor systems
- Bioelectric, biological and chemical sensors and sensor systems
- Physiological monitoring / Instrumentation / Integrated systems
- Implantable technologies, sensors and systems
- Wearable sensors / Body area and wireless sensor networks / Telemetric systems

BIO-MICRO/NANO TECHNOLOGIES

- Internal, implanted and portable miniaturized systems
- BioMEM / NEMS
- Microfluidics / Lab-on-a-chip devices
- Nano-biotechnology

BIOMECHANICS, ROBOTICS AND MINIMALLY INVASIVE SURGERY

- Musculoskeletal models and human movement analysis
- Orthotic, prosthetic and rehabilitation robotics and biomechanics
- Cardiovascular and respiratory fluid mechanics and biomechanics
- Human-robot interaction / Robot-aided surgery
- Biologically inspired robotics / Micro-biorobotics
- Minimally invasive surgery

CARDIOVASCULAR, RESPIRATORY AND ENDOCRINE SYSTEMS ENGINEERING

- Cardiac and respiratory function and modeling
- Cardiovascular and respiratory signal processing and modeling
- Cardiovascular electrophysiology and regulation
- Respiratory disease / Sleep disorder / Respiratory engineering
- Endocrine systems, function, modeling and control

CONTRIBUTED PAPERS

Each contribution must be prepared according to the IFBME Proceedings Series format. Manuscripts should be up to four (4) pages long and should be submitted electronically in their final form before the submission deadline, including an abstract, no longer than 300 words. Submissions must include the paper title, each author's name and affiliation, the suggested topics in which the paper falls, and the IFBME copyright transfer form. Check the conference website (<http://www.mbec2014-ifmbe.org>) for information on the submission process, detailed publication guidelines and templates. All papers will be peer-reviewed under the supervision of the International Program Committee.

SPECIAL SESSIONS & WORKSHOPS

Prospective organizers are invited to submit proposals for special sessions or workshops to the conference technical secretariat e-mail address (info@mbec2014-ifmbe.org) by the 1st April 2014. Proposal must include a title, rationale, contact information, and a description of how the session will be organized.

SOCIAL PROGRAM

Social program will include a welcome reception, a guided city tour with visits to local attractions, a conference dinner and a student party.

BIOMATERIALS

- Biomaterials for sensing and actuation
- Biomimetics, bioinspired and patterned biomaterials
- Biomaterials in cellular and tissue engineering

NEURAL AND REHABILITATION ENGINEERING

- Brain physiology and modeling
- Neural signal processing
- Neural interfaces and regeneration
- Motor and sensory neuroprostheses / Brain-machine interface
- Rehabilitation and wearable technologies
- Brain functional imaging / Neurological disorders

MOLECULAR, CELLULAR AND TISSUE ENGINEERING

- Biomaterial-cell interactions
- Cellular force transduction
- Embryonic and stem cells in regenerative medicine
- Electrical fields at the cell and protein scale
- Electroporation
- Tissue engineering / Scaffolds in tissue engineering

BIOINFORMATICS AND COMPUTATIONAL BIOLOGY

- Bioinformatics and computational modeling of complex omic data
- Systems biology / Systems medicine
- Translational biomedical informatics for clinical applications
- Modeling of molecular, cellular and organ pathways

CLINICAL ENGINEERING AND HEALTH TECHNOLOGY ASSESSMENT

- Clinical engineering / Health technology management
- Health technology policy, economics and ethics / Health technology assessment
- Technology development, commercialization and management
- Safety and human factors engineering for medical devices & systems
- IT in medicine / Equipment interconnectivity and integration
- Clinical engineering and disaster preparedness

HEALTH INFORMATICS, E-HEALTH AND TELEMEDICINE

- Personal, pervasive, preventive, and participatory health systems
- Ambient assisted living / Smart homes
- Body area networks / Wireless technologies
- mHealth / eHealth / Telemedicine
- Health information management / Electronic health records
- Decision support methods and systems

BIOMEDICAL ENGINEERING EDUCATION

- Biomedical engineering education and curriculum development
- Biomedical undergraduate and graduate student research projects
- Career development in biomedical engineering

CONFERENCE WEBSITE

www.mbec2014-ifmbe.org

IMPORTANT DATES

Proposal of special sessions:

1 April 2014

Paper submission:

15 April 2014

Notification of paper acceptance:

26 May 2014

Early registration deadline:

8 June 2014

PUBLICATION

Papers will be published in the IFBME Proceedings Series (Springer).

Indexing

IFBME Proceedings are indexed by ISI Proceedings (Thomson Reuters), Scopus, Scimago, Google scholar.

IFBME YOUNG INVESTIGATOR COMPETITION

Young investigator competition (YIC) will be organized to recognize excellence in conference contributions whose primary authors are young investigators (persons under the age of 35). Young investigators must be the first authors of the paper and have to present the paper/poster at the conference themselves. Prospective candidates should express their intention to participate in YIC when submitting their paper. Three papers will be awarded upon the selection from the qualified finalists. The Award comprises of a diploma and of a monetary prize.



Croatian Medical
and Biological
Engineering Society



IFBME



European Alliance for
EAMBES
Medical and Biological Engineering & Science





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Martha Zequera Diaz, *Pontificia Univ. Javeriana (Colombia)*

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KEYNOTE SPEAKERS

Maria Teresa Arredondo, *Universidad Politécnica de Madrid*

Ilias Iakovidis, *European Commission*

Zhi-Pei Liang, *University of Illinois at Urbana-Champaign*

Damijan Miklavčič, *University of Ljubljana*

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Organized by

Croatian Medical and Biological Engineering Society

Sponsored by

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European Alliance for Medical and Biological Engineering & Science
University of Zagreb, Faculty of Electrical Engineering and Computing

VENUE

The Conference venue is Hotel Dubrovnik Palace (www.adriaticluxuryhotels.com/en/hotel-dubrovnik-palace), the 5 star hotel that has it all: high-tech conference rooms, spectacular sea views from every room, superb gastronomy and a luxurious wellness and spa centre. The hotel is located 4.5 km from the old town of Dubrovnik and 22 km from the Dubrovnik International Airport.

Dubrovnik, the host city of the MBEC 2014, is considered to be one of the most beautiful tourist destinations in the world. Located at the far south of Croatia, Dubrovnik is known as "the pearl of the Adriatic" because of its unique beauty and outstanding architecture. A town of an exceptionally rich historical and cultural heritage and preserved monumental architecture, Dubrovnik was among the first sites to be included in the UNESCO World Heritage List in 1979.



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