

XIV Mediterranean Conference on Medical and Biological Engineering and Computing – MEDICON 2016

Systems Medicine for the Delivery of Better Healthcare Services

March 31st-April 2nd, 2016, Cyprus

The XIV Mediterranean Conference on Medical and Biological Engineering and Computing – MEDICON 2016, will consist of a number of themes covering a wide range of topics of interest to the biomedical engineering community as well as the healthcare community at large. Authors are invited to identify the topics that they wish to submit to, whether their submission fits within an identified theme, and whether they feel the audience would be that of biomedical engineering, or others. Submissions that are not tied to a theme will be given equal weight to those where relevance to a theme is identified. This will assist the Conference committee in planning the overall structure of the Conference. Authors are encouraged to submit to all the themes from a world perspective, including high, medium and low resource settings.

CONFERENCE THEMES

- T.1 Biomedical Signal Processing
- T.2 Biomedical Imaging & Image Processing
- T.3 Bioinstrumentation, Biosensors & Bio-Micro/Nano Technologies
- T.4 Bioinformatics, Computational Biology and Systems Biology
- T.5 Biomechanics, Robotics and Rehabilitation
- T.6 Therapeutic and Diagnostic Systems, Devices and Technologies & Clinical Engineering
- T.7 Healthcare Information Systems & Telemedicine
- T.8 Technologies for Active Ageing & Wellbeing
- T.9 Biomedical Engineering Education and Society
- T.10 Clinical Engineering and Health Technology Assessment

EXPERTISE/AUDIENCE

Biomedical Engineering

Clinical Engineering

Medical Physics

Other Healthcare professions

Theme 1: Biomedical Signal Processing

Topics:

1. Bio-signal Processing and Physiological Modelling
2. Nonlinear Dynamic Analysis of Biomedical Signals
3. Signal Pattern Classification
4. Adaptive and Parametric Filtering
5. ECG

6. Magnetoencephalography (MEG)
7. Other

Theme 2: Biomedical Imaging & Image Processing

Topics:

1. X-ray Imaging/ Mammography
2. Digital Tomosynthesis
3. Computed Tomography
4. Magnetic Resonance Imaging & Spectroscopy
5. Ultrasound Imaging and Optical Coherence Tomography
6. Molecular Imaging (SPECT and PET and Optical)
7. Multi-Modality Imaging
8. Imaging Bio-impedance and Bioelectric Sources
9. Optical Imaging and Microscopy
10. X-ray Phase Contrast Imaging
11. Image Processing, Display, Visualization and Analysis
12. Computer Aided Diagnosis
13. Imaging (Other)

Theme 3: Bioinstrumentation, Biosensors & Bio-Micro/Nano Technologies

Topics:

1. Biosensors and Nanobiosensors
2. Nanoparticles/Nanotheranostics
3. Lab-on-chip/Biochips
4. Hydrogels for BioMEMS and NEMS, BioMEMS-based 3D Scaffold Fabrication
5. Nanotoxicology Characterization, Dosing and Health Effects
6. Drug Delivery and Control Release
7. Body Sensor Networks
8. Other

Theme 4: Bioinformatics, Computational Biology and Systems Biology

Topics:

1. Imaging Informatics/Radiomics
2. Proteomics
3. Sequence Analysis
4. Genome Projects and Annotation
5. Analysis of Gene Expression

6. Comparative Genomics
7. Network and Systems Biology
8. Biological Modelling
9. Computational Biology
10. Other

Theme 5: Biomechanics, Robotics and Rehabilitation

Topics:

1. Orthopaedic Biomechanics
2. Tissue Mechanics
3. Cellular and Molecular Mechanics
4. Human Movement Biomechanics
5. Robotics and Mechatronics in Cancer Diagnostic and Therapeutics
6. Other Biomechanics and Artificial Organs
7. Rehabilitation Engineering and Robotics
8. Prosthetics
9. Other

Theme 6: Therapeutic and Diagnostic Systems, Devices and Technologies & Clinical Engineering

Topics:

1. Image-Guided Devices and Systems
2. Virtual Reality in Medicine
3. Endoscopy and Endoscopic Interventions
4. Robots and Manipulators in Therapy
5. Minimal Invasive Surgery and Instruments
6. Modelling and Simulation, Workflow, Patient Specific Modelling
7. Diagnostic Devices and Instrumentation, General
8. Point of Care Devices and Systems
9. Health Technology Assessment
10. Other

Theme 7: Healthcare Information Systems & Telemedicine

Topics:

1. Medical Informatics Technology
2. Health Information Systems
3. Cybersecurity
4. Telemedicine, Distant monitoring, Tele-homecare, and Domotics

5. Healthcare IT Standards: PACS, DICOM, IHE, HL7, etc.
6. Intelligent Data Analysis, Data Mining and Analysis, Machine Learning
7. Electronic Patient, Medical, or Health Records
8. Data Models and Representation
9. Information Quality, Privacy, Security, and Ethics
10. Other

Theme 8: Technologies for Active Ageing & Wellbeing

Topics:

1. ICT Solutions for Neurodegenerative Diseases & Dementia
2. ICT Solutions for Chronic Conditions
3. Supporting mobility of older adults by ICT
4. ICT based social interaction on the quality of life of older adults
5. ICT for independence & wellbeing of informal carers
6. Other

Theme 9: Biomedical Engineering Education and Society

Topics:

1. Education, Training and Certification in Biomedical Engineering, Clinical Engineering, Medical Physics
2. Mentorship Programs
3. Accreditation, Certification and Licensure Issues
4. Regional/Geographical Educational and Professional Issues and Experiences
5. Women's Training Initiatives
6. Career Development - Applying for an Academic or Hospital Positions
7. Technology Enhanced Education
8. Radiation Protection Education and Training of Health Professionals
9. Others

Theme 10: Clinical Engineering and Health Technology Assessment

Topics:

1. Hospital engineering
2. Health technology design, management and assessment
3. Regulation and standards for medical devices
4. Service delivery, facilities and general management
5. Education and training in CE and HTA
6. Human Factors Engineering
7. HTA/Clinical engineering related to Information Technology, eHealth and telemedicine
8. Appropriateness, sustainability, effectiveness of healthcare technologies
9. Safety, Risk Management and Disaster Preparedness
10. Quality and Lean Thinking
11. Early stage and/or premarket HTA
12. Methods and tools for HTA
13. Multi-criteria decision analysis in healthcare
14. Others