

Mini-Symposia Title:

Digital Transformation of Health and Care in the 21st Century:
key enabling technologies

Mini-Symposia Organizer Name & Affiliation:

Giuseppe Fico - Universidad Politécnica de Madrid

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Sergio Guillén - Alliance of Internet of Things Innovation

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Leandro Pecchia - University of Warwick

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Dimitris Fotiadis - University of Ioannina

Mini-Symposia Speaker Name & Affiliation 6:

Maria Fernanda Cabrera - ACTIVAGE.ORG ASSOCIATION

Theme:

- 01. Biomedical Signal Processing
- 02. Biomedical Imaging and Image Processing
- 03. Micro/ Nano-bioengineering; Cellular/ Tissue Engineering &
- 04. Computational Systems & Synthetic Biology; Multiscale modeling
- 05. Cardiovascular and Respiratory Systems Engineering
- 06. Neural and Rehabilitation Engineering
- 07. Biomedical Sensors and Wearable Systems
- 08. Biorobotics and Biomechanics
- 09. Therapeutic & Diagnostic Systems and Technologies
- 10. Biomedical & Health Informatics
- 11. Biomedical Engineering Education and Society
- 12. Translational Engineering for Healthcare Innovation and Commercialization

Mini-Symposia Synopsis— Max 2000 Characters

Green Deal, digital transformation and resilient recovery of economy are key priorities for the 21st century. This is extremely relevant for health and care. Healthcare systems must proactively lead these massive changes, with the compounding factors of sustainability, accessibility and appropriateness. Technology is increasingly present in all healthcare areas, not only for specific tasks such as diagnostic and treatment, but also for carrying out managerial and logistic processes and procedures. The combination of clinical expertise, patient data, environmental resources availability and the best available research evidence could be translated into clinical algorithms, patients' pathways, decision-assistance tools and optimization procedures. Evidence-based medicine revolutionized medicine relying on the fundamental idea that data-driven procedures can considerably accelerate medicine effectiveness and safety, while containing costs. In the same manner, data driven management is revolutionizing industries and also demonstrating high value for hospitals. Social media, internet of things, sensors, big data artificial intelligence, extended reality, nanotechnology, robotics and 3D printing are spanning the digital transformation of healthcare, by radically transforming the way that users access and interact with health services. A precondition to this revolution is the adoption of data-driven and evidence-based approach, which is now possible thanks to the available technology. However, healthcare management is not data-driven yet. Clinical and logistic processes works substantially in silos. Tapping into those data streams requires creating favorable technological, economical and social conditions. In this session thought leaders in different fields will show how this transformation can be led in different geographical areas and contexts, showing how health informatics may drive this change.