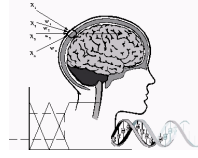




# International

*Innovation in Knowledge Based and Intelligent Engineering Systems*



## INVITED SESSION SUMMARY

### Title of Session:

**AI, Robotics, and Digital Health**

### Name, Title, and Affiliation of Chair:

Dr Mohamed Bennasar, The Open University, UK  
Dr Yulia Hicks, Cardiff University, UK  
Professor Hiroharu Kawanaka, Mie University, Japan  
Professor Blaine Price, The Open University, UK  
Professor Rossi Setchi, Cardiff University, UK

### Details of Session (including aim and scope):

In recent decades, the research landscape in Artificial Intelligence (AI) and its application in domains such as robotics, human-machine systems, and digital health has witnessed significant growth. This evolution is now making a substantial impact on various facets of people's lives, spanning manufacturing, transportation, communications, healthcare, and numerous other applications.

Crucially, recognising and bridging the gap between the genuine needs in areas like robotics and digital health and the ongoing research is essential to ensure that technological progress effectively aligns with real-world requirements.

The aim of this invited session is to highlight the pivotal role played by AI and Digital Health in the transformation of healthcare services. It also aims to present and engage in discussions about recent advances in AI, Robotics, Human Machine Systems, and associated digital technologies that have the potential to enhance performance in manufacturing, transportation, and communications.

Topics of interest for submission include, but are NOT limited to:

- Artificial Intelligence, including machine learning and deep learning.
- AI Diagnostic systems.
- Robot perception, including robot vision and tactile sensing.
- Remote Monitoring.
- Electronic Health Records (EHR) Systems.
- Clinical Decision Support Systems (CDSS).
- Wearables and activity recognition.
- Natural Language Processing (NLP) in healthcare.
- Personalized Medicine.
- Human pose tracking and estimation.

- Human robot/machine interaction and collaboration.
- Industrial/medical big data.
- Multi-modal human robot/machine interfaces.
- Computer-assisted Devices for Medical and Healthcare Use.
- Robot Assisting Systems in Medical/Clinical Fields.
- The Challenge of Interdisciplinary Collaboration to address the relevant real-world challenges.

**Important Dates:**

Submission of papers: **April 29, 2024**

Notification of Acceptance: **May 15, 2024**

Receipt of publication files: **June 3, 2024**

**Main Contributing Researchers / Research Centres (tentative, if known at this stage):**

Centre for Artificial Intelligence, Robotics and Human-Machine Systems, Cardiff University.

Digital Health Lab, The Open university, UK

Graduate School of Engineering, Mie University

**Website URL of Call for Papers (if any):**

**Email & Contact Details:** [hicksya@cf.ac.uk](mailto:hicksya@cf.ac.uk), [mohamed.bennasar@open.ac.uk](mailto:mohamed.bennasar@open.ac.uk), [kawanaka@elec.mie-u.ac.jp](mailto:kawanaka@elec.mie-u.ac.jp)