INTERNATIONAL

INVITED SESSION SUMMARY

Title of Session:

Advances in Bioengineering Applications

Name, Title and Affiliation of Chair:

Dr Milan Simic School of Engineering, RMIT University, Melbourne, Australia

Details of Session (including aim and scope):

This session presents a comprehensive approach to the disciplines of Bioengineering and Biomedical Engineering. It covers combination of software engineering, computing, electronics, electrical, mechanical, mechatronics and chemical engineering in the role of medical applications. Application of engineering principles to living structures is known as bioengineering, while biomedical engineering covers concepts and design of medical equipment. Research into development and application of eHealth for assessment and management of various conditions will be considered. Particular emphasis is placed on artificial intelligence (AI), machine learning, data analytics, and digital technologies for medical diagnosis, treatment, rehabilitation, and healthcare management.

Topics of interest include, but are not limited to:

- Artificial intelligence and machine learning in medicine
- AI-assisted diagnosis, prognosis, and treatment planning
- Data privacy, ethics, and responsible AI in healthcare
- Artificial joints, prostheses, implants, and assistive technologies
- Physiotherapy, rehabilitation engineering, and therapeutic equipment
- Medical imaging, including ultrasound and MRI
- Biomedical signal processing, ECG, and medical image fusion
- Clinical instrumentation and diagnostic equipment
- Biomaterials, tissue engineering, and regenerative medicine
- Pharmaceutical engineering and drug delivery technologies
- eHealth, telemedicine, and remote patient monitoring
- Wearable sensors and smartphone-based health applications
- Health informatics, healthcare data analytics, and personalised medicine

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

Dr Milan Simic, School of Engineering, RMIT University, Melbourne, Australia

Website URL of Call for Papers (if any):

Email & Contact Details:

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