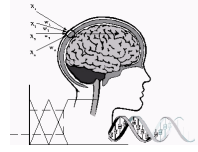




International

*Innovation in Knowledge Based and Intelligent
Engineering Systems*



INVITED SESSION SUMMARY

Title of Session:

Knowledge-Based Engineering Systems with Physiological Insights for Social Innovation and Well-Being

Name, Title and Affiliation of Chair:

Name of Chair:

Atsuko K. Yamazaki (Digital Hollywood University, Graduate School, Japan)

Co-chairs:

Hiroshi Hasegawa (Shibaura Institute of Technology, Japan)

Kayoko H. Murakami (Shibaura Institute of Technology, Japan)

Details of Session (including aim and scope):

Physiological data has emerged as a critical resource in the evolution of knowledge-based engineering systems, particularly those designed to drive social innovation in health and well-being. These data not only enable more precise evaluation of system performance but also inspire the development of cutting-edge digital solutions. The rapid advancement of technologies such as generative AI and virtual reality has further amplified the role of digital systems as catalysts for transformative social innovation. By integrating insights from both knowledge-based approaches and physiological data, these systems can deliver more accurate outcomes, higher quality performance, and enhanced societal impact. This invited session focuses on research and advancements in system development that utilize knowledge-based methodologies alongside physiological measurement data, including heart rate, blood pressure, brain activity and hemodynamic signals. Contributions exploring innovative system designs that promote societal well-being and drive meaningful social change are particularly encouraged.

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

Hiroshi Hasegawa / Shibaura Institute of Technology, Japan

Kayoko H. Murakami / Shibaura Institute of Technology, Japan

Mayu Shintani / Shibaura Institute of Technology, Japan

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