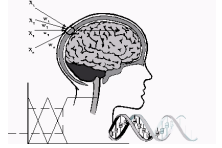




International

*Innovation in Knowledge Based and Intelligent
Engineering Systems*



INVITED SESSION SUMMARY

Title of Session:

Physiological and knowledge-based engineering for education and learning

Name of Chair:

Atsuko K. Yamazaki (Digital Hollywood University, Japan)

Co-chairs:

Masato Soga (Wakayama University, Japan)

Tsukasa Yamanaka (Ritsumeikan University, Japan)

Details of Session:

Physiological information has been increasingly used over recent years to recognize the affective state of learners to evaluate a learning and teaching system. This information can be often very important to assess how effective the system is for educational and training purposes in terms of learner's cognition process, which is crucial to designing a digital educational system. Due to rapid changes in technology and the pandemic of COVID-19, digital educational systems are expected to play a greater role in every aspect of education. By using the analysis of both knowledge-based and physiological factors, the outcomes of a digital educational system can be assessed more accurately and improved with regard to its quality.

This invited session focuses on and invites studies related to learning system development and improvement by utilizing knowledge-based methodologies and physiological measurement data, such as a heartbeat rate, blood pressure, brain signals through electroencephalography (EEG), and hemodynamic signals through near infrared spectroscopy (fNIRS).

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