



International

*Innovation in Knowledge Based and Intelligent
Engineering Systems*



INVITED SESSION SUMMARY

Title of Session:

Signal Processing and Pattern Recognition Techniques for Modern Decision-Making Systems

Name of Chair:

Dr. Paolo Crippa, Department of Information Engineering, Università Politecnica delle Marche
Prof. Claudio Turchetti, Department of Information Engineering, Università Politecnica delle Marche

Details of Session:

Signal processing algorithms and pattern recognition techniques are key issues in the design of modern automated decision-making systems.

In these systems input data are typically acquired using sensors, then representations of the acquired data are usually obtained using feature extraction algorithms, and finally decisions are made based on the feature vectors.

Particular interest is addressed to decision-making systems based on pattern classification i.e., systems capable of assigning an unknown input pattern to one out of more than two classes. Typical examples are image, face and speaker recognition, human activity monitoring, medical and health decision-making (ECG, EEG, sEMG, PPG, ...) and industrial quality control systems.

This session aims to present original, unpublished results on recent advances in signal processing and pattern recognition for decision making systems. The suggested but not limited scope of the session includes the following topics:

- Healthcare Applications of Pattern Recognition
- Industrial and Medical Applications of Pattern Recognition;
- ECG, EEG, sEMG, PPG Based Recognition Systems;
- Multi-Sensor Health Monitoring Systems;
- Data Fusion Techniques;
- Machine Learning for Data Modeling;
- Speaker Recognition: Identification and Verification;
- Face Recognition;
- Image Coding, Processing and Analysis;
- Computer Vision and Image Understanding;
- Artificial Intelligent Techniques and Recognition;
- Fuzzy and Hybrid Techniques in Pattern Recognition;
- Statistical & Structural Pattern Recognition;
- Neural Networks;
- Parallel and Distributed Pattern Recognition;
- Dimensionality Reduction in Pattern Recognition;
- Robotics and Remote Sensing Applications of Pattern Recognition;
- Shape and Texture Analysis;
- Signal Processing and Analysis;
- Special Hardware Architectures;
- Embedded Systems.

Not only theoretical papers but also practical application papers will be welcome.

The invited session papers should be prepared in Springer style and must be submitted electronically using the [KES-IDT 2022 conference web page](#) (follow the KES-IDT 2022 guidelines for more information on paper submission).

Publication:

The conference proceedings will be published by **Springer** as book chapters in a volume of the [KES Smart Innovation Systems and Technologies](#) series, submitted for indexing in [Scopus](#) and Thomson-Reuters [Conference Proceedings Citation Index \(CPCI\)](#) and the [Web of Science](#).

Important dates:

- Paper submission: **Extended 14 February 2022.**
- Notification of acceptance: **Extended 22 February 2022.**
- Camera ready papers submission: **4 March 2022.**
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- Conference: 20 – 22 June 2022.

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