



# International

*Innovation in Knowledge Based and Intelligent  
Engineering Systems*



## INVITED SESSION SUMMARY

### **Title of Session:**

Signal and Image Processing Algorithms and Pattern Recognition Techniques for Automated Identification/Classification Systems

### **Name, Title and Affiliation 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 (including aim and scope):**

Signal and image processing and pattern recognition are fundamental issues in the design of many automated identification/classification systems.

In these systems input data are typically acquired using sensors, then a representation of the acquired data is usually obtained using a feature extraction algorithm, and finally a decision is made based on the feature vector.

Particular interest is addressed to automated systems based on pattern classification i.e. systems that are able to assign an unknown input pattern  $x$  to one out of more than two classes. Typical examples are speech and face recognition systems, medical and healthcare decision making systems (based on ECG, EEG, sEMG, PPG signals), and industrial quality control systems.

This session aims to present original, unpublished results on recent advances in signal and image processing algorithms and pattern recognition techniques for automated identification/classification systems.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
- Machine Learning for Data Modeling;
- Bioinformatics;
- Face Recognition;
- Speaker Recognition: Identification and Verification;
- Speech Recognition;
- Image Coding, Processing and Analysis;
- Computer Vision and Image understanding;
- Artificial Intelligent Techniques and Recognition;
- Document Processing 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.

Submissions for the conference must be made as complete papers (there is no abstract submission stage) submitted as PDF documents through the [PROSE online submission and review system](#). The guide length for full papers is 8 to 10 pages (maximum). Follow the [KES 2018](#) guidelines for more information on paper submission.

**Publication:**

Full papers will be reviewed by the IPC and if accepted and presented, they will be published in Elsevier's [Procedia Computer Science](#) open access journal, available in ScienceDirect and submitted to be indexed/abstracted in CPCI (ISI conferences and part of Web of Science), Engineering Index, and Scopus (to be confirmed).

**Important dates:**

- Submission of papers: **Extended 30 April 2018.**
- Notification of acceptance: **Extended 18 May 2018.**
- Final paper publication files to be received by: **Extended 1<sup>st</sup> June 2018.**
  
- Conference: Belgrade, Serbia, 3 – 5 September 2018.

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

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

**Email & Contact Details:**

Dr. Paolo Crippa: [p.crippa@univpm.it](mailto:p.crippa@univpm.it)  
DII – Department of Information Engineering, Università Politecnica delle Marche  
Via Brecce Bianche, 12  
60131 Ancona (AN), ITALY