

## Call for Papers Special Session: Signal and Image Processing

## **Outline:**

Image processing is processing of images using mathematical operations by using any form of signal processing for which the input is an image, a series of images, or a video, such as a photograph or video frame; the output of image processing may be either an image or a set of characteristics or parameters related to the image. Most image-processing techniques involve treating the image as a two-dimensional signal and applying standard signal-processing techniques to it. Images are also processed as three-dimensional signals with the third-dimension being time or the z-axis. Image processing usually refers to digital image processing, but optical and analog image processing also are possible. Biometrics, on the other hand, refers to automatic recognition of people based on their distinctive anatomical or behavioral characteristics such as face, fingerprint, iris, retina, hand geometry, voice. Biometrics-based authentication could become an essential component of effective person identification solutions because biometric identifiers cannot be shared or misplaced, and they intrinsically represent the individual's bodily identity. However, in order to be really effective and adopted, biometric technologies need to be efficient in terms of accuracy, scalability and usability. Evaluating different biometric modalities, according to these three criteria is a very difficult task, since there may be large differences of maturity between modalities, in terms of assessment, databases and deployment for instance..

## **Topics:** Topics include but are not limited to:

- Present the latest advances in conventional signal- and image- based biometric modalities. A non-exclusive list of topics related to this point can be:
  - o Computer vision
  - o Character hand written text recognition.
  - o Assessment procedures for biometrics
  - o Voice biometrics
  - o Image biometrics
  - o Fusion of modalities
  - o Applications
  - o Implementation issues
- Propose prospective and exploratory works related to new modalities or hot topics in the domain like:
  - New sensors (IR- or 3D- cameras, microphone arrays)
  - Robustness to impostors (protocols, liveness tests)
  - o Screening and Tele-surveillance applications in smart spaces

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