
Computational Audio Processing in Real Acoustic Environments

Special Session at

26th EUROPEAN SIGNAL PROCESSING CONFERENCE (EUSIPCO) 2018

3 – 7 September, 2018 – Rome, Italy

<http://www.eusipco2018.org/>

Theme and Scope

Nowadays, computational algorithms are largely used to face complex modelling, prediction, and recognition tasks in different research fields. One of these fields is represented by digital audio processing, which finds applications in communications, entertainment, security, forensics and health to name but a few.

The typical methodology adopted in these tasks consists in extracting and manipulating useful information from the audio stream to pilot the execution of automatized services. Such an approach is applied to different kinds of audio signals, from music to speech, from sound to acoustic data. In addition, the importance of obtaining reliable performance by using data recorded in real acoustic ambient, where several unpredictable and corruptive causes (like background noise, reverberation, multiple interferences, and so on) always worsen the algorithm behavior, is a challenge of fundamental importance.

It is indeed of great interest for the scientific community to understand the effectiveness of novel computational algorithms for audio processing operating in these environmental conditions, in the light of all aforementioned aspects. Moreover, cross-domain approaches to exploit the information contained in diverse kinds of environmental audio signals have been recently investigated. The aim of this session is therefore to focus on the most recent advances and their applicability to a wide range of audio processing tasks in real acoustic environments.

Topics

Potential topics include, but are not limited, to:

- Machine Learning for Speech and Audio Processing
- Cross-domain Audio Analysis
- Deep Learning for Audio Applications in Real Acoustic Environments
- Audio-based Security Systems and Surveillance
- Speech and Audio Forensic Applications
- Transfer Learning for Changing Environments
- Big Data Audio Analysis
- Separation and Localization of Real Recorded Audio Sources
- Computational Acoustic Scene Understanding
- Computational Methods for Wireless Acoustic Sensor Networks
- Computational Audio Denoising and Dereverberation
- Context-aware Audio Interfaces

Important Dates

- **Tentative Title submission:** December 07, 2017
- **Paper submission:** February 18, 2018
- **Decision notifications:** May 18, 2018

Organizers

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