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IEEE/ACM Transactions on Audio, Speech and Language Processing
Special issue on **Sound Scene and Event Analysis**

It is still difficult for a machine listening system to demonstrate the same capabilities as human listeners in the analysis of realistic acoustic scenes. Besides speech and music, the analysis of other types of sounds, generally referred to as environmental sounds, is the subject of growing interest from the community and is targeting an ever increasing set of audio categories. In realistic environments, multiple sources are often present simultaneously, and in reverberant conditions, which makes the computational scene analysis challenging.

Typical tasks on audio scene analysis are audio-based scene classification and audio event detection and recognition targeting categories such as "door knocks", "gunshots", "crowds", "car engine noise", as well as marine mammal and bird species, etc. The wide heterogeneity of possible sounds means that novel types of signal processing and machine learning methods should be developed including novel concepts for audio source segmentation and separation. Beyond recognizing sound scenes and sources of interest, a key task of complex audio scene analysis is sound-source localization.

Further, most of the methods developed until now are probably not tractable on big data so there is also a need for new approaches that are, by design, efficient on large scale problems. Acquiring large scale labelled databases is still problematic and such datasets are most likely collected on heterogeneous sets of acoustic conditions (mobile phone recordings, urban/domestic audio,…) most of which are usually offering a degraded version of the signal of interest with potential variable annotation strategies. Therefore methods to tackle large scale problems also have to be robust against signal degradation, acoustic variability, and annotation variability.

We invite papers on various topics on Sound Scene and Event Analysis, including but not limited to :

* Audio scene classification;   * Big data in environmental audio;
* Sound event detection and classification   * Environmental sound recognition;
* Large-scale environmental audio data sets;   * Computational auditory scene analysis;
* Acoustic features for environmental sound analysis;
* Source localization methods for environmental audio scene analysis
* Source separation for environmental audio scene analysis

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Important Dates:
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Revised manuscript due: November 7th, 2016
Second review completed: Dec. 5th, 2016
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