Far-Field Speech Processing in the Era of Deep Learning
Speech Enhancement, Separation and Recognition

Far-field speech processing has become an active field of research due to recent scientific advancements and its widespread use in commercial products. This field of research deals with speech enhancement and recognition using one or more microphones placed at a distance from one or more speakers. Although the topic has been studied for a long time, recent successful applications (starting with Amazon Echo) and challenge activities (CHiME and REVERB) greatly accelerated progress in this field. Concurrently, deep learning has created a new paradigm that has led to major breakthroughs both in front-end signal enhancement, extraction, and separation, as well as in back-end speech recognition. Furthermore more deep learning provides a means of jointly optimizing all components of far-field speech processing in an end-to-end fashion. This special Issue is a forum to gather the latest findings in this very active field of research, which is of high relevance for the audio and acoustics, speech and language, and machine learning for signal processing communities. This issue is an official post-activity of the ICASSP 2018 special session "Multi-Microphone Speech Recognition" and the 5th CHiME Speech Separation and Recognition Challenge (CHiME-5 challenge).

Topics of interest in this special issue include (but are not limited to):
- Multi-/single-channel speech enhancement (e.g., dereverberation, noise reduction, separation)
- Multi-/single-channel noise robust speech recognition
- Far-field speech processing systems
- End-to-end integration of speech enhancement, separation, and/or recognition

Prospective authors should follow the instructions given on the IEEE JSTSP webpage: https://signalprocessingsociety.org/publications-resources/ieee-journal-selected-topics-signal-processing, and submit their manuscript through the web submission system at: https://mc.manuscriptcentral.com/jstsp-ieee.

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Guest editors:

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