

CALL FOR PAPERS

IEEE Journal of Selected Topics in Signal Processing (JSTSP)

Special Issue on

“Automatic assessment of health disorders based on voice, speech and language processing”

The main aim of this special issue is to offer a forum that facilitates professional exchange of knowledge related to signal processing and machine learning methods for the assessment of a variety of health disorders related to voice and speech, and presentation of the recent research advances in the field. The scope of this special issue covers many aspects of voice and speech modelling and analysis, ranging from fundamental research to all kinds of advanced technologies and biomedical applications.

The **scope** of acceptable topics includes but is not limited to:

- Automatic detection of voice disorders from speech, electroglottographic signals and other associated sequences (e.g., air flow measurements, electromyographic signals, etc.)
- Signal processing techniques to extract new biomarkers from speech and the associated signals
- Automatic assessment and classification of voice quality by machine learning approaches
- New strategies for parameterization and modelling of normal and pathological voices (e.g., biomechanical-based parameters, complexity modelling, etc)
- Speech enhancement for pathological and oesophageal speech
- Technical aids and hands-free devices: vocal prostheses and aids for the disabled
- Assessment of voice quality in rehabilitation
- Non-speech vocal emissions (e.g., infant cry, snoring)
- Multi-modal analysis of disordered voice and speech
- Automatic assessment and differential evaluation of neurological disorders (e.g., Alzheimer’s, Parkinson, epilepsy, autism, schizophrenia) from voice and speech
- Detection and evaluation of depression, stress, mood and risk of suicide from speech and associated signals
- Processing and analysis of elderly speech and early detection of dementia
- Interaction of speech disorders with hearing impairments
- Computer-based diagnostic and training systems for voice and speech dysfunctions
- e-health and m-health applications
- Child speech in typical and atypical language acquisition

This special issue aims at offering an interdisciplinary platform for presenting new knowledge in the assessment of voice and health disorders from speech. The emphases are on both basic and applied research related to the monitoring of voice and speech production status, as well as clinical evaluation of new developments.

In addition to topic-specific research results, we invite high-quality submissions of tutorial or overview nature. We also welcome creative papers outside the areas listed above but related to the overall scope of the special issue. Prospective authors can contact the Guest Editors to ascertain interest on topics that are not listed above.

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

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