

## Editorial

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Our team is glad to offer to the scientific community this first issue of the *Journal of Speech Sciences* (JoSS). JoSS is an open access journal which follows the principles of the Directory of Open Access Journals (DOAJ), meaning that its readers can freely read, download, copy, distribute, print, search, or link to the full texts of any article electronically published in the journal.

JoSS covers experimental aspects that deal with scientific aspects of speech, language and linguistic communication processes. Experimental approaches are emphasized in the journal in order to stimulate the development of new methodologies, of new annotated corpora, of new techniques aiming at fully testing current theories of speech production, perception, as well as phonetic and phonological theories and their interfaces.

JoSS occupies an ecological niche not covered by other journals where our community usually publish, especially as regards its strength in linguistic and linguistically-related aspects of speech sciences research. Another reason for its special place in the speech research ecosystem is the optionality of language's choice among four. Though English is the journal main language and of its communication in the website and between reviewers, authors, and editors, people can disseminate their work in Portuguese, in Spanish (Castilian) or in French, provided they add an extended, 500-word abstract in English. This is a measure which contribute in making their work visible outside the luso-, hispano-, and francophone communities.

The first set of selected papers for this Special Issue covers the area of **Experimental Prosody**. Six manuscripts were submitted, from which the process of reviewing selected two papers. For completing this issue, we decided to invite five distinguished scholars of the speech sciences community to offer three review papers covering three aspects: (1) analysis-by-synthesis modelling in intonation research (Hirst), (2) a general view of methodological aspects in speech prosody research (Xu), (3) a general view of research in Speech Sciences in Spain (San-Segundo, Martínez-Hinarejos, and Ortega). All five papers of this Special Issue present recent progress and significant advances in areas of speech science devoted to experimental approaches in prosody research.

The paper by Jair Silva and Alexandro Meireles is written in Portuguese. It presents a sociophonetic study of the speech rhythm of a Brazilian dialect, Capixaba, in the State of Espírito Santo, Southeastern Brazil. The authors show that social variables can explain a reorganisation of utterances' rhythmic structure as speech rate increases, as well as illustrate the modification of at least two descriptors of rhythm in the following way: the standard deviation of syllabic and stress group duration are smaller for the male gender and advanced age group, and stress group duration varies lesser for the male gender and the advanced age group.

The paper by Carolina Silva and Maria Cristina Name, also written in Portuguese, investigated the role of phonological phrase boundary cues on syntactic parsing by Brazilian Portuguese native adults. They proposed two experiments in order to investigate that: in the first experiment, a sentence-reading task, participants produced different prosodic patterns for ambiguous words (verb or adjective) in different syntactic structures. Duration, pitch and energy values of the segments around the  $\phi$ -boundaries were measured and revealed that (i)  $\phi$ -boundaries were marked by acoustical reliable cues; and (ii) the lexical categories N, V and ADJ have different behaviors in the prosodic structure. In the second experiment, listeners were asked to complete auditory ambiguous sentences in relation the the Verb/Adjective categories. The results suggested that BP adults are able to use phonological phrase boundary cues to decide if an ambiguous word is a verb or an adjective and, then, to constrain syntactic analysis.

The paper by Rubén San-Segundo, Carlos Martínez-Hinarejos, and Alfonso Ortega provides a review of the main areas of speech technology worked on by research groups in Spain, their main contributions in the recent years and the main focus of interest these days. The description relates to five main areas: audio processing including speech, speaker characterization, speech and language processing, text to speech conversion and spoken language applications. The paper has also the

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important role of informing about the existence of the Spanish Network of Speech Technologies (RTTH. Red Temática en Tecnologías del Habla), a research network that includes almost all the researchers working in this area. The paper presents some figures of the work of the interegrated research centres, the objectives of the network, and its main activities during the last years.

The paper by Daniel Hirst describes the application of the analysis by synthesis technique to the melody of speech. A complete series of processes is described from the acoustic analysis of fundamental frequency ( $f_0$ ), via the phonetic modelling of  $f_0$  using the Momel algorithm, to the surface phonological representation of the curves using the INTSINT alphabet. Each step is designed as a reversible process which can be used to generate an acoustic output allowing an objective evaluation of the analysis. The author argues that an explicit set of modelling tools like the ones proposed will allow linguists to test different models of phonological structure which can result in the availability of more and better data on a wide variety of languages.

The paper by Yi Xu discusses key methodological issues in prosody research, aiming at highlighting progress toward developing predictive knowledge about speech prosody. His review brings to light a continuous progression in speech prosody research in terms of methodological precision as the field goes through major methodological paradigms, described by the author as analysis-by-introspection, analysis-by-transcription, analysis-by-hypothesis-testing and analysis-by-modeling. All these paradigms are evaluated in terms of their effectiveness in establishing knowledge that is generalisable. The need for linking and integrating between different subareas of prosody research is plead by the author.

This journal was only made possible thanks to a great team working for the journal, and an exceptionally good editorial board. The editor is in debt with all of them and thanks them vividly. The success of this initiative, though, is in the hands and appreciation of JoSS readers. That is why we invite you to freely read, download, copy, distribute, print, search, or link to the full texts of the five papers of this issue. It is up to you now. Good reading and long life to speech sciences research with JoSS.

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