Thursday 11th October, 2018
Scuola Normale Superiore, Sala Stemmi

Morning

08:45 Opening session

09:00 D. Demolin "The multiple dimensions of speech"

> Several dimensions of speech are discussed with an emphasis on proprioception. Models of animal communication including notions such as the global dynamics of systems and phenomena of collective intelligence are explored to the extent that they provide important cues to the functioning and evolution of sound systems in natural languages.

09:45 B. Gili Fivela "On the relevance of visual and audio information in conveying sentence modality in Italian"

> Prosodic and visual analysis of statements and questions uttered with or without a surprised attitude shows that changes at the phonological level and facial movements are not always associated in a straightforward way.

10:15 C. Celata, M.P. Bissiri, C. Bertini, I. Ricci, V. Barone "From multilevel speech analysis to multimodal speech tutoring"

> Multilevel phonetic data provide rich information on speech production dynamics that can be used to implement 3D interfaces of articulatory dynamics with clinical and educational purposes.

10:45 coffee break

11:15 P. Birkholz "Novel approaches to biosignal-based speech recognition and synthesis"

> Biosignal-based speech recognition refers to the recognition of speech that was produced without making audible sound (silent speech). In this talk I present two novel methods based on electro-optical stomatography and radar technology that we recently developed in our lab to potentially overcome the limitations of current approaches to silent speech recognition.

12:00 F. Cutugno "The CHROME project: Resources and methods for multimodal interaction in cultural heritage services"

> Multimodal Interaction (i.e. the synchronous use of many communication channels - typically speech + gestures - to convey a unique meaning during human machine dialogue) is nowadays used in many fields, in this talk I will present its application in Cultural Heritage fruition.

12:30 I. Poggi, L. Vincze, F. D'Errico, A. Origlia, A. Ansani, C. Cecconi, R. Savy "The gestures of the tourist guide and their communicative functions"

> Video-recordings of art commentators are annotated and analysed to uncover patterns of specialization of recurrent verbal and body communication strategies.

13:00 Lunch

Afternoon

14:15 Sponsors' show-and-tell. P. Turriziani (InteractiveMedia), "Mobile Multimodal Interaction and Multiple Knowledge Bases"; M. Palmerini (Cedat85), "Mediamonitor: speech recognition for digital archive storage and retrieval"

14:45 L. Drijvers "The neural mechanisms of how iconic gestures boost degraded speech comprehension in native and non-native listeners"

> Face-to-face communication integrates auditory input, such as speech, with visual input, such as iconic co-speech gestures. These iconic gestures can enhance speech comprehension in adverse listening conditions. In this talk, I will address how the neural integration of iconic gestures and

speech is modulated by speech degradation and native listener status, and how this can be indexed by modulations of event-related potentials, such as the N400, and oscillatory brain dynamics.

15:30 M.G. Busà, F. Cavicchio "Synchronization of Speech and Gesture aids Fluency in L2"

The fluency of L2 English speakers improves when they are given feedback on how to coordinate hand gesture and speech in storytelling.

16:00 R. Pieraccini "The story of Jibo, the first *social robot*"

On 2013, Cynthia Breazeal, an MIT researcher known as one among the pioneers of the new discipline, highly based on multimodality, named "Social Robotics", created a company aiming at commercializing Jibo, the first social robot. Jibo came at life on late 2017. The talk will present the history of Jibo from the first prototypes to the market launch and the recent epilogue.

16:45 General discussion and conclusions with coffee break