



## **HOT TOPIC 7: Acoustic analysis of Speech and Voice**

**Organizers:** Antonio Romano, Valentina De Iacovo and Marco Gamba (Università di Torino)

**Industrial Partners:** AISV (Italy), Translated (Italy) and Pervoice (Italy).

### **ABSTRACT**

The Hot Topic “Acoustic Analysis of Speech and Voice” aims at giving a specific glance to the field of human and animal communication with particular reference to the technological progresses of the last years. It mainly addresses to PhD students of the linguistic, biological, phoniatric disciplines, as well as to professionals dealing with speech processing, speech therapy, artistic and professional voice and language learning. The organization of classroom time includes hours of theory and hours of practical work.

### **TRAINING FLOW**

(THEORETICAL) – Singing voice analysis and experimental approaches: **Nathalie Henrich B. (Grenoble) 1h30**

(PRACTICAL) – Speech technologies for Voice Analysis **Nathalie Henrich B. 1h00**

(THEORETICAL) – Acoustic analysis and benefits for phonetics and phonology: **Barbara Gili Fivela (Lecce) 1h30**

(THEORETICAL) – Speech technologies: **Franco Cutugno (Napoli) 1h30**

(PRACTICAL) – Speech technologies and scripting: **Antonio Origlia (Napoli) 1h00**

(PRACTICAL) – Introduction to statistical analysis of acoustic measures of speech: **Paolo Mairano (Lille) 1h00**

(THEORETICAL) – Phonetic parameters for dysarthric speech + (PRACTICAL) – Data analysis of normal and disordered speech: **Helmer Strik (Nijmegen) 1h30**

(THEORETICAL) – Phonetic parameters for L2 learner speech + (PRACTICAL) – Data analysis of normal and L2 learner speech: **(Catia Cucchiari) (Nijmegen) 1h30**





## KEY TRAINERS

**Nathalie Henrich Bernardoni** is Researcher of the French National Center for Scientific Research (CNRS), in its Institute of Human and Social Sciences (INSHS - CNRS) at the University of Grenoble (France). Her main scientific topics are Vocology, Physiology of human vocal-fold biomechanics, Speech and singing signal processing, Voice analysis and synthesis, Ethnomusicology. She is member of MOVE team (Analysis and Modelling of Human in Movement : Biomechanics, Cognition, Vocology).

**Barbara Gili Fivela** is Associate Professor at the University of Lecce (Italy). Her main scientific topics are Phonetics and Phonology, Prosody and Pragmalinguistics. She is president of the Associazione Italiana Scienze della Voce (AISV - Special Interest Group dell'International Speech and Communication Association - ISCA) and vicedirector of the CRIL (Centro di Ricerca Interdisciplinare sul Linguaggio - Laboratorio Diffuso di Ricerca Interdisciplinare Applicata alla Medicina).

**Franco Cutugno** is Associate Professor of NATURAL LANGUAGE PROCESSING and Human-Machine Interaction at the Department of Electrical Engineering and Information Technology (DIETI), University Federico II of Naples. He pursues research activities at the Urban/Eco Interdepartmental Centre and at the PRISCA-Lab (Projects in Intelligent Robotics and Advanced Cognitive Systems). His main scientific topics are Acoustic phonetics, Computational linguistics, Speech processing, Mobile app design and Technological applications in the Cultural Heritage sector.

**Antonio Origlia** is a Researcher at DIETI and teaches Computer Science and Game engines and interactive experience.

**Paolo Mairano** is Associate Professor at University of Lille (France). He teaches English Phonetics and Phonology. His main research topics are Acquisition of phonetics and phonology of an L2, oral corpora in L1 and L2, rhythmic typology of languages, speech synthesis, prosody, linguistic resources.

**Helmer Strik** is Associate Professor at the Centre for Language Studies (CLS) of the Radboud University Nijmegen (The Netherlands). He is Principal Investigator of the PI group 'Language and Speech, Learning and Therapy' at CLST (Centre for Language and Speech Technology). He is also Initiator, co-founder & Chief Scientific Officer at NovoLanguage Nijmegen and occupies the Chair of the Special Interest Group' (SIG) on 'Speech and Language Technology in Education' (SLaTE) at the 'International Speech Communication Association' (ISCA).





**Catia Cucchiarini** is Senior researcher at the Centre for Language Studies and the Centre for Language and Speech Technology of the Radboud University Nijmegen (The Netherlands). She is member of the Research group 'Language and Speech, Learning and Therapy'. Her main research topics are: Computer Assisted Language Learning, Speech recognition, Phonetics, Second language acquisition.

