

## Singing and Speaking with an Open Mind towards Time, Style and Culture

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Focus question: How do we teach a voice technique and a culture of voice training that is open to all styles and to the creation of new styles, so voice teaching and voice training does not only become historical and ethnocentric and does not only approach individuals that long to perform.

In this workshop we will let the voices sound and the ears listen and work with the creativity of the group and of the individual in the group.

We will focus on the connection between musical meaning, use of voice and creativity.

An underlying idea is that creativity and musicality depend on the singer's ability to be present in a mindful way, present in a playful way and communicating in a natural way

We will work with gibberish as a meta-language in communicative exercises

The methods presented have been used in the education of music teachers in Denmark, and in projects with children of all ages in, Denmark, Egypt and Iran.

MALENE BICHEL: Danish singer and voiceteacher, lecturer in Music Pedagogy at Rhythmic Music Conservatory, Assistant professor at Metropolitan University College, Copenhagen, educated as a classical singer, specialized in contemporary art music, voice improvisation, group creativity and in education of music teachers and voice teachers, Chair of the Danish Voice Association. As a singer she often collaborates with composers and small ensembles of different instrumentation, founder and leader of the experimenting vocal group "Klangsaft" (juice of sound) in Copenhagen, partner in the project "Ears Wide Open- Intercultural Dialogues Through Creative Musical Processes" in which Danish and Egyptian composers singers and ethno musicologists explored new approaches for intercultural musical education, Malene did presentations in Eurovox Riga 2015, ICVT Stockholm 2017, Eurovox Den Haag 2018 and workshops in Iran, Egypt, Norway, Germany, Italy and Malta.

## ASSISLT - Automated Software System in Speech-language Therapy

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The aim of our project is to create a software system to support speech therapy for adults and children with inborn and acquired motor speech disorders. The system focuses on individual treatment using exercises that improve tongue motion and thus articulation. The system offers an adjustable set of exercises recommended by a therapist, motivation by augmented reality, performance evaluation of therapeutic movements, and session archivation. It allows the therapist to evaluate the treatment schedule and its progress. Connection of the tongue movement to a computer game characters will increase children's motivation for regular exercising.

The main component of the system is a module evaluating the tongue motion based on image data from an ordinary web camera. In the preliminary step a patient mouth is located. Based on the expert expertise, we distinguished four groups of exercises requiring different information for evaluation of their execution. They are based on tracking of patient lips, cheeks, a tongue, and of its tip.

The proposed solution for detection of face parts, in our case mouth localizaton, uses Dlib library, based on HOGs. Dlib library automatically detects 68 points on face allowing an easy detection of mouth and lips. Based on the detected lips points, we compute features evaluating the group of lips exercises. The tongue and the tongue tip exercises utilize a segmentation of the tongue body and of its tip attained by convolutional neural network Unet. We use one neural network to output both results to achieve higher speed. The network is trained on data we acquired as well as downloaded from the internet with different quality to ensure robustness of our method.