

**Institut für Signalverarbeitung
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Invitation for a Guest Lecture

Dear colleagues,

I want to invite you for the following guest lecture by

Dr. Michael Pucher
Institut für Schallforschung
Österr. Akademie der Wissenschaften
Dr. Ignaz Seipel-Platz 2
1010 Wien

”Ultrasound tongue imaging and articulatory-acoustic conversion of speech”

Friday, May 17, 2019 at 13:45 h
Seminar Room IDEG134, Inffeldgasse 16c/ground floor

Please forward this invitation to colleagues and friends.
Hope to see you all there!

Franz Pernkopf

Abstract:**Ultrasound tongue imaging and articulatory-acoustic conversion of speech**

We evaluated UltraFit, a headset for Ultrasound Tongue Imaging (UTI) by recording a speaker using an optical marker tracking system that provides sub-millimeter tracking accuracy. We show that the overall error range of the headset movement for this speaker lies within 3mm with most errors lying in a 1-2mm range. This makes the headset potentially suitable for speech science applications. We also show how to use articulatory features for the conversion to acoustic speech. Such a conversion has possible applications in silent speech interfaces, which are based on the processing of non-acoustic speech signals. With an intelligibility test we show that the usage of joint visual and articulatory features can improve the reconstruction of acoustic speech compared to using only articulatory or visual data.

Biography:

Michael Pucher obtained his doctoral degree (Dr.techn.) in Electrical and Information Engineering from Graz University of Technology in 2007. In 2017 he received the *venia docendi* in Speech Communication at Graz University of Technology with a habilitation thesis on Speech Processing for Multimodal and Adaptive Systems. He holds a master degree (Dipl.-Ing.) in Computer Science from Vienna University of Technology (TUW) and a diploma degree (Mag.phil.) in philosophy from University of Vienna. During the last years his work was focused on the improvement of state-of-the-art speech synthesis technologies for the synthesis of language varieties and audio-visual speech. Michael Pucher has also made significant contributions in the area of speaker verification spoofing, where he showed how adaptive synthesizers can spoof a speaker verification system. Currently he is working on sociophonetics, articulatory modeling and synthesis of singing speech. From 2007 to 2015 he was Senior Researcher at the Telecommunications Research Center Vienna (FTW). Since 2016 Michael Pucher is Senior Research Scientist at the Acoustics Research Institute (ARI) of the Austrian Academy of Sciences (ÖAW).