



Friedrich-Alexander-Universität  
Department Elektrotechnik-Elektronik-  
Informationstechnik

# EEI-Kolloquium

## Neural Speech Coding in the Era of Neural Networks

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**Donnerstag, den 13.07.2023, 16:30 Uhr**

Live: AudioLabs Seminar Room (3R4.04), Am Wolfsmantel 33, 91050, Erlangen

Online:

<https://us02web.zoom.us/j/88157654238?pwd=d2JxUTF3ZFoyR2FORjNkL0pZcE9HUT09>

Very low-bit-rate speech coding is extremely challenging for classical coding techniques. The paradigm usually employed is parametric coding, which yields intelligible speech at the cost of poor audio quality and unnatural synthesized speech. Recent advances in neural networks enable the creation of speech synthesis models of unprecedented quality. This, in turn, allows to code speech at very high quality at bit rates as low as 1.6 kbps. In this talk, we will give an overview of modern techniques for speech and audio coding using neural networks. We will then present our recently proposed speech coding neural models and explain the core ideas behind their design, such as VQ-VAE and GANs.