



EINLADUNG

zum Vortrag im Rahmen des Seminars des SFB/TRR 31

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Raum G26.1 – 010, Rechenzentrum der Universität Magdeburg und
Raum W2 1-143, Universität Oldenburg
(per Videokonferenz)

MEG and fMRI studies of auditory stream segregation

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Auditory stream segregation represents one of the major psychophysical phenomena to study the mechanisms of auditory scene analysis. In this talk, I will review a number of our studies using MEG and fMRI to study neural correlates of stream segregation in human auditory cortex. The basic observation utilized in these studies is the finding that activity in auditory cortex to a sequence of sounds depends on the rate of presentation. While the physical stimulus rate is usually kept constant in stream segregation experiments, the perceived rate is often lower during stream segregation. For example, when repeating stimuli, consisting of tones A and B, are presented, and the frequency difference (ΔF) between tones is small enough for both to be integrated into one stream, the AC activity is strongly suppressed. As ΔF is increased, the A and B tones segregate into separate streams; at the same time, the evoked response increases to close to that evoked by a sequence of A or B tones presented in isolation, an effect that correlated well with a perceptual measure of streaming. Subsequent experiments using the pitch of complex tones and interaural time differences as cues for streaming produced similar results. Together these data suggest that feature-selective adaptation may be a general mechanism subserving auditory stream segregation.