

Sophia University

音声コミュニケーション講演会

Effect of room acoustics on speech intelligibility
under noise between native and non-native listeners

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Date: Oct. 11th, 2022 (Tue.) / Time: 13:30–15:00

Place: Sophia University, Room: 3-347

Language: English

※要事前申し込み

Abstract: Room acoustics such as reverberation is known to affect our ability to understand speech, i.e. speech intelligibility, especially when the environment is noisy due to auditory masking. When the listener is a non-native speaker of the language spoken, the degradation of speech intelligibility is often very severe, causing an equity issue under the current multilingual society. Previous studies have found that speech intelligibility can be improved when the target speaker and noise sources are located in different directions from the listener by mitigating the effect of auditory masking, also known as spatial release from masking (SRM). However, most studies investigated the effect on native listeners in controlled anechoic environments, little is known how the acoustics of the environment would affect the SRM particularly for non-native listeners. This talk introduces our recent studies that investigated how different room acoustics would affect the speech intelligibility under noise between native and non-native listeners of English language. Subjective listening tests were conducted in rooms with different acoustical characteristics that were virtually reproduced in an anechoic chamber using a sound reproduction system. Groups of native and non-native English listeners were recruited who transcribed sentences in noise. The results show that SRM is observed both from native and non-native listeners, however its benefit is affected by reverberation as well as the listeners' nativity of the language spoken. The talk will also discuss how widely available sound reproduction systems could be used for speech perception studies.

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