

Speaker: **Yuting Geng** (Ritsumeikan University, Japan)

Biography:

Yuting Geng is currently a specially appointed assistant professor in Ritsumeikan University, Japan. He received the B.E. degree in communication engineering from Northeastern University, China in 2016, the M.E. and Ph.D. degrees in information science and engineering from Ritsumeikan University, Japan in 2020 and 2022, respectively. His current research interests include signal processing for acoustics. He received the 20th Student Presentation Award from the Acoustical Society of Japan in 2020. He is a member of the Acoustical Society of Japan.

Title:

Ultrasonic Audio-spot and Potential Applications in Internet of Things

Abstract:

Generally, electro-dynamic loudspeakers are widely used for speech and music reproduction. However, the spreading sounds may become noise for non-target listeners nearby. In contrast, parametric array loudspeaker can reproduce audible sounds in a narrow area along the propagation axis utilizing the straightness of ultrasounds. Therefore, an audio-spot can be constructed by parametric array loudspeaker that the audible sound can only be heard at this spot. In this talk, the basic principles on ultrasonic audio-spot will be introduced. Recent studies on parametric array loudspeaker for performance improvement and novel applications will also be presented. Moreover, the potential applications of ultrasonic audio-spot in internet of things will be discussed.