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국문 강연제목: 초음파 기반의 전자약 기술

영문 강연제목: Ultrasound-mediated Neuromodulation

Abstract

In the current aging society, the number of patients suffering from degenerative brain diseases is continuously increasing. However, many of these brain disorders are intractable and difficult to treat. Non-invasive brain stimulation is an attractive alternative method to a pharmaceutical approach that attempts to treat brain disorders through physical stimulation. Among the various direct brain stimulation techniques, such as electrical, magnetic, and optical, ultrasound has been proposed as a new modality for neuromodulation due to its distinct advantages such as high spatial resolution and in-depth targeting. As ultrasound modality is still in the early stages of development, further investigations on various aspects such as neuromodulation mechanism, therapeutic effects, and safety are still required. In this talk, I will introduce new neurotools which are essential for uncovering the fundamental mechanisms of ultrasound brain stimulation and ultimately for developing an effective therapeutic means for brain disorders.

Brief Biosketch

Hyunjoo Jenny Lee is an Associate Professor in the School of Electrical Engineering and the KAIST Endowed Chair Professor at the Korea Advanced Institute of Science and Technology (KAIST). She received the B.S. degree and M.Eng. degree in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology (MIT), Cambridge, MA, in 2004 and 2005, respectively, and the Ph.D. degree in Electrical Engineering from Stanford University, Stanford, CA, in 2012.