

Title: Unlocking Pathophysiological and Novel Therapeutic Mechanisms for Mood Disorders: Insights from Synapse Research

August 27th (Wednesday), 9:00-10:55

Grand Ballroom, Songdo CONVENIA, Incheon, Korea

Registration KSBNS2025.org

Organizer



Ji-Woon Kim

College of Pharmacy, Kyung Hee University

Explore how ketamine and psilocybin are revolutionizing depression treatment with rapid, lasting effects beyond traditional antidepressants. Join leading experts as they unveil the synaptic, astrocytic, and circuit-level mechanisms driving this therapeutic breakthrough.

Speakers



Lisa M. Monteggia

Department of Pharmacology, Vanderbilt University, USA
"Mechanism of Rapid Antidepressant Action"

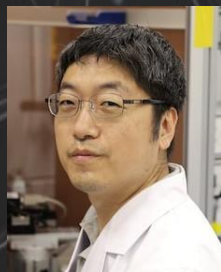
She is a world-renowned neuroscientist whose research has transformed our understanding of the molecular basis of depression, synaptic plasticity, and neurodevelopmental disorders. Her pioneering discoveries on BDNF-TrkB signaling, MeCP2-mediated epigenetic regulation, and ketamine's rapid antidepressant mechanisms have established new paradigms for developing fast-acting and targeted treatments in psychiatry.



Ege T. Kavalali

Department of Pharmacology, Vanderbilt University, USA
"Functional nano-organization of central synapses and rapid antidepressant action"

Dr. Ege T. Kavalali is a pioneering neuroscientist whose work has redefined our understanding of synaptic transmission by distinguishing between spontaneous and evoked neurotransmission and elucidating vesicle recycling dynamics. His discoveries—spanning SNARE function, synaptic vesicle pool heterogeneity, and rapid antidepressant mechanisms involving ketamine—have deeply influenced both basic neuroscience and translational neuropsychiatry, establishing novel therapeutic targets for mood disorders.



Juhyun Kim

Emotion, Cognition & Behavior Research Group, Korea Brain Research Institute
"Neurophysiological effects of psilocybin on the cortical and claustral circuits"

Dr. J. Kim is a leading neuroscientist whose work has illuminated key mechanisms of synaptic function and plasticity, with particular focus on AMPA receptor dynamics, cortical circuit organization, and neurodevelopmental regulation. His impactful research—featured in journals like Nature, Science Advances, and PNAS—has significantly advanced our understanding of neuropsychiatric disease mechanisms and innovative therapeutic strategies.



Jeongyeon Kim

Emotion, Cognition & Behavior Research Group, Korea Brain Research Institute
"The role of astrocytic PLCh1 in the lateral habenula associated with depression"

She is a pioneering neuroscientist who has significantly advanced our understanding of neural circuit mechanisms underlying affective empathy, fear memory, and motor control, and their relevance to psychiatric and neurodegenerative disorders. Her multidisciplinary research—from elucidating synaptic plasticity in emotion-related circuits to developing non-invasive neuromodulation technologies—has had a profound impact on both basic neuroscience and translational psychiatry.