

227th WPI-IIIS Seminar

Exploring the Role of Neural Dynamics During Sleep in Motor Memory Consolidation

This lecture explores how sleep facilitates motor memory processing and the refinement of motor skills. Our research examines the critical interaction between the prefrontal and motor cortices during sleep, demonstrating the importance of cross-area neural dialogue for the consolidation of memories and the enhancement of movements such as reaching and grasping. By manipulating this dialogue through optogenetic intervention in rats, we observed that disturbances in this neural communication during NREM sleep can hinder task performance improvements. This study underscores the significance of sleep in memory consolidation and identifies neural interactions essential for acquiring new skills.



Dr. Jaekyung Kim

Department of Biological Sciences,
Korea Advanced Institute of Science and
Technology (KAIST)

Date: **Friday, June 20, 2025**

Time: **10:00 – 11:00**

Venue: **1F Auditorium, IIIS Building**

*** On-site participation only**



Contact: International Institute for Integrative Sleep Medicine, University of Tsukuba
029-853-5857 (ext.5857) | wpi-iiis-alliance@ml.cc.tsukuba.ac.jp