

183rd WPI-IIIS Seminar

Translational control in the brain: understanding cellular diversity and plasticity

Brains are comprised of a wide variety of cell types and need to dynamically adjust their gene expression to meet the demands of ever-changing environmental requirements, including memory formation, nutritional changes, and sleep needs. While recent advances in transcriptome analyses have revealed differential and dynamic expression of mRNAs, regulations at the level of protein translation remain to be understood. Recently, we have established a cell-type specific ribosome profiling, to monitor the distribution of ribosomes on a genome-wide scale ('translatome') in genetically defined cells in the *Drosophila* brain. Our dataset revealed remarkable diversity in the translatome among different cell types, such as neuronal and glial cells, and activity-dependent translational changes. In this seminar, I will discuss the crucial roles of translational regulations that underlie cellular diversity and plastic changes in the nervous system.



Dr. Toshiharu Ichinose

Frontier Research Institute for Interdisciplinary
Sciences, Tohoku University

Date: **Thursday, July 27, 2023**

Time: **14:00 – 15:00**

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