

# ASHBi SEMINAR

## Unlocking the Roles of Metabolic and Epigenetic Interactions in Stem Cell Fate Decision

Lecturer: **Le Tran Phuc Khoa Ph.D.**  
Postdoctoral Fellow / University of Michigan



**Date** Wednesday, 18 December 2024

**Time** 11:00 – 12:00 [JST]

**Venue** Zoom Online Meeting

Register here



### Abstract

Metabolism contributes to cell physiology and behavior across multiple scales. It not only provides building blocks for macromolecule biosynthesis, but also has a profound impact on epigenetic and transcriptional landscape. Notably, epigenetic control is also essential for maintaining metabolic homeostasis. Stem cells use diverse strategies to determine their fate choices in response to environmental cues. To achieve biologically relevant functions, stem cells must orchestrate a highly coordinated network of metabolic demand, epigenetic mechanism, and transcriptional architecture. However, the specificity of such regulatory circuitry in ensuring stem cell functions remains an open question. In my seminar, I will discuss how the interplay between metabolism and epigenetics defines the fates of embryonic stem cells and preimplantation embryogenesis. I will also elaborate on how our findings have direct implications for reproductive health and cancer.

Organizer : Graduate School of Medicine  
Institute for the Advanced Study of Human Biology (WPI-ASHBi)

Contact: Prof. Masatsugu Ema  
[E-mail] mema@belle.shiga-med.ac.jp

