

# ASHBi SEMINAR

## Programmable DNA integration by CRISPR-associated transposase

Lecturer: **Makoto Saito Ph.D.**  
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Date **Tuesday, 2 August 2022**

Time **11:00 – 12:00 [JST]**

Venue **Zoom Online Meeting\***

\*Register via the right QR code



### Abstract

Genome engineering has revolutionized biomedical research. Although diverse CRISPR-Cas genome editing tools are currently available, general methodology for programmable DNA integration in living cells has been a long-standing challenge. For example, Cas9-mediated knock-in relies on target cell DNA repair machinery, which does not work efficiently in post-mitotic cells including neurons. Exploring the biological diversity of CRISPR systems, we recently identified CRISPR-associated transposase (CAST) systems, which precisely insert DNA in an RNA-guided manner at specific target sites on the genome of prokaryotic cells. In this seminar, I will discuss the basics of CAST systems and our approach to apply the systems for genome engineering in mammalian cells.

Organizer : Graduate School of Medicine

Institute for the Advanced Study of Human Biology (WPI-ASHBi)

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