

# ASHBi SEMINAR

## Paleogenomic analysis on human demography and adaptation in insular East Asia

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Date **Monday, 1 Aug 2022**

Time **13:00 – 14:00 [JST]**

Venue **Hybrid\*** \*Register via the right QR code



**Zoom Online / Conference Room**

**B1F, Faculty of Medicine Bldg. B**

### Abstract

Most of the world's population is fed by farming today. In the past, however, human ancestors lived as foragers for tens of thousands of years before subsistence practises transformed from food collection to food production in the Holocene period. This agricultural revolution is a relative blip on the evolutionary timescale, but its impacts on human demography and adaptation were enormous. Given that agriculture emerged in different ways, at different times, and for different reasons, it is crucial to understand regional uniqueness in the impacts of this transition. Our research focuses on Japanese prehistory, where its lifeway transitions were characterised by many thousands of years of insular isolation of foragers followed by recent but radical shifts to wet rice farming and then to the rise of the state. Generating 12 ancient Japanese genomes from pre- and post-farming periods, we found a tripartite structure of Japanese genomic origins, in which each of the three distinct ancestors derived from the hunting-gathering, agrarian, and state formation phases made a significant contribution to the formation of modern Japanese populations. We further employed genome-wide selection scans to identify the adaptive genes and traits that were hardwired into the pre-agricultural populations or that continue to characterise the modern populations. This talk will discuss the power and applicability of ancient human genomes in untangling the genetic legacy of the cultural transitions and its impacts on phenotypic variation in Asia today.

Organizer : Graduate School of Medicine

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

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