

2022年度 第3回 生命科学技术国際卓越講義

*World-leading Innovative Lectures
in Life Science & Technology
The University of Tokyo*



Cell cycle control of chromatin structure and function

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Date: Thursday, 6th, October, 2022

Time: 9:00AM ~ 10:30AM

10:30-10:45 Refresh(15min)

10:45-11:30 Interview Session with Students and Young Researchers

(Attending an interview session needs another registration (see your e-mail))

Venue: Zoom (meeting URL will be sent after registering)

Participants: Up to 500 participants

Please register by this QR code or clicking the following link

[Registration Form](#)



Abstract:

Chromosome morphology and function dramatically change during the cell cycle. In interphase DNA is compatible for unwinding, a critical event for replication, repair, and transcription, whereas in mitosis these processes are suppressed as chromatin compacts to facilitate chromosome segregation. The nucleosome, the fundamental DNA-folding unit in eukaryotes, is thought to affect most DNA-associated processes in the nucleus, but

it remains poorly understood how the structure, organization and function of the nucleosome are regulated during the cell cycle. Developing the template-, reference- and selection-free (TRSF) cryo-EM pipeline to simultaneously reconstruct cryo-EM structures of protein complexes from interphase or metaphase chromosomes, we began to assess the structural features of nucleosomes in functional chromosomes. Our attempts to understand the cell cycle-dependent regulation of nucleosome-related activities by combining cryo-EM and the unique cell-free *Xenopus* egg extract system will be presented.

Organizer: World-leading Innovative Graduate Study Program for Life Science and Technology

Cooperation: Graduate Program for Leaders in Life Innovation, The University of Tokyo

Clinical Research Promotion Center, The University of Tokyo Hospital

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