BDR SEMINAR (Kobe & online hybrid)

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15:00-16:30

1F Auditorium, DB Building C, Kobe / Broadcast online via Zoom

Zoom meeting URL will be announced on the event day by e-mail.

※Non-BDR members: Please register from the following link.

https://krs1.riken.jp/m/bdrseminarregistration (Registration deadline: Sept 14)

Decoding cellular deformation from pseudo-simultaneously observed multiple molecular activities and their coordination

Summary

Live-cell imaging based on fluorescence emission is a fundamental technology for live measurement of molecular activities that regulate dynamic cellular functions such as cell motility, cell cycle and cell division. Biosensors have been developed that allow the observation of each regulatory molecule with individual cells. On the other hand, there are limitations in designing biosensors that can simultaneously observe multiple molecules with the identical cell based on spectroscopic principles, and we have yet to elucidate the cellular control mechanisms by coordinating multiple molecular activities. In this seminar, we will introduce Motion-Triggered Average (MTA), a data analysis method we have recently developed that transforms individually observed multiple molecular activities during cell migration into pseudo-simultaneous observation data. In addition, we will discuss the principle of decoding cellular deformation from multiple molecular activity time series, which was revealed by the integrated analysis of MTA and model prediction.

*This seminar is co-hosted by the pioneering project "Prediction Science" and is part of the Prediction Science Seminar.