BDR SEMINAR (Kobe & online hybrid)

Co-hosted by
Multimodal ECM Seminar

Transformative Research Area (A)
MULTIMODAL ECM

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University College London

Monday, September 8, 2025
11:00-12:00
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://krs2.riken.jp/m/bdrseminarregistration (Registration deadline: September 4)

Coping with mechanical stress: tissue dynamics during development, homeostasis and repair

Summary

During growth and development, tissue dynamics, such as tissue folding, cell intercalations and oriented cell divisions, are critical for shaping tissues and organs. However, less is known about how tissues regulate their dynamics during tissue homeostasis and repair, to maintain their shape after development. In this talk, we will discuss how mechanical forces can influence each of these processes, such as how differential growth rates can generate precise folds in tissues. We will also discuss how tissues respond to mechanical perturbations, such as stretching or wounding, by altering their mechanical properties via the cytoskeleton and extracellular matrix, to change tissue dynamics, and thus preserve tissue shape and patterning. We combine genetics, advanced imaging, AI-assisted image analysis, experimental biophysics, and computational modelling across multiple animal model systems to study these processes.

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