BDR SEMINAR (Kobe & online hybrid)

James Sharpe

EMBL Barcelona

Thursday, March 19, 2026

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.

※This seminar is a part of the BDR Transition Code Project Seminar Series for 2025-2026.

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

https://krs2.riken.jp/m/bdrseminarregistration (Registration deadline Mar 17)

Out on a limb: How to build an organ, in silico

Summary

Limb development is a paradigm model system for understanding organogenesis. The rapid development of cutting-edge technologies over the past decade for omics and imaging provides us with a huge amount of data. But a true understanding of complex biological systems, will require mathematical models which seek not just to represent and predict, but also to understand the underlying dynamical behaviours over time - in other words to explore mechanistic hypotheses. I will explain some of our work both describing and explaining limb development through computer modelling. In particular, we aim, ultimately, to go beyond the individual mechanistic models of sub-parts of the problem (regionalisation, symmetry-breaking, shape control) and to integrate these into a more complete multi-scale model to understand how these basic modules interact and feedback on each other to create the overall layout (or “bauplan”) of the vertebrate limb.

RIKEN BDR

RIKEN Center for Biosystems Dynamics Research (BDR)

Host: Yoshihiro Morishita

Laboratory for Developmental Morphogeometry

Contact: yoshihiro.morishita@riken.jp