BDR SEMINAR (Kobe & online hybrid)

Mechanobiology Seminar Series presents

Nicoletta Petridou

Developmental Biology Unit, EMBL, Heidelberg

Wednesday, May 28, 2025

12:00-13:00

8F Hall, Integrated Innovation Building (IIB) / Broadcast online via Zoom

*This seminar is open only for BDR members.
Please contact the seminar host for participation.

Noise amplification in cell cycle dynamics spatiotemporally coordinates tissue mechanics

Summary

During her postdoctoral training with C.P. Heisenberg at ISTA, Nicoletta Petridou made groundbreaking discoveries regarding how tissue material properties change in a spatially-temporally controlled manner to orchestrate tissue deformation during early zebrafish embryonic development. Her pioneering work combines quantitative mechanical mesurements with physical modeling through collaboration with theorists, revealing that these changes exhibit hallmarks of phase transition, thereby unshering a 'critical' concept that a wide spectrum of biological transitions may in fact be occuring at thermodynamic, mechanical, and compositional 'critical points'. In her own independent lab, which she launched in 2020 at EMBL, Heidelberg, Nicoletta continues to explore the theme of developmental phase transition in a number of contexts and phenomelogies related to cell bahaviors, pattern formation and tissue mechanics during zebrafish embryonic development. In her BDR seminar, she will be discussing with us these new findings that come out from her own lab.

Host: Yu-Chiun Wang
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