Seminar/Talk

Multiscale modelling of heterogeneous cell-tissue dynamics

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Host: Edouard Hannezo

Experiments in biology generate a vast amount of data across multiple spatial and temporal scales. However, interpreting such complex data is challenging. Mechanistic mathematical modelling, together with statistical modelling, provides a powerful framework for exploiting such data to achieve mechanistic understanding, quantitative insights, and discoveries. In this talk, I will present novel mathematical models and techniques that I have developed and applied to improve practical understanding of routinely performed two- and three-dimensional biological experiments for cancer growth, nanoparticle-based therapeutics, and developmental biology. Mathematically, this involves stochastic individual-based models, coarse-graining procedures, coupled systems of nonlinear partial differential equations, free-boundary problems, and multi-scale mechanochemical models that capture key biological heterogeneity.

Friday, July 10, 2026 03:00pm - 04:00pm
Mondi Seminar Room 2, Central Building

This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: https://ista.ac.at/en/campus/how-to-get-here/ The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.