

Regular Wednesday IMG seminar



Jacobus van Grootel

Laboratory of Developmental Mechanobiology

“An evolutionary tale of twists and turns: Evolution of actomyosin-driven morphogenesis”

Understanding how biological shape evolves has long fascinated evolutionary biologists. Animal shape generation, i.e. morphogenesis, starts during early embryogenesis and involves species-specific movements of cells relative to each other. The forces required to drive these movements arise in the actomyosin cytoskeleton of embryonic cells. Although, much has been learned about the force-generating mechanisms that underlie morphogenesis, very little is known about how these mechanisms evolve. In this project we will study the evolution of early embryo morphogenesis in nematode worms. To this end, we will quantitatively characterize actomyosin-driven morphogenesis in a panel of nematode species covering more than 100 million years of evolutionary distance. Moreover, we will monitor evolutionary change directly by performing experimental evolution, in which we let populations of genetically perturbed *C. elegans* nematodes evolve in the lab over many generations. Altogether, we aim to understand how evolutionary processes, like natural selection and drift, tune the force-generating mechanisms underlying animal shape generation.

The seminar will be held

on Wednesday 21st June 2023 at 15:00

in the Lecture hall of the Institute of Physiology

(Institute of Physiology of the Czech Academy of Sciences, Vídeňská 1083, Prague 4)
