
Regular Wednesday IMG seminar



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“Evolutionary diversification of actomyosin-driven early embryo morphogenesis”

The shape of an animal arises during embryo morphogenesis and involves rotatory movements of cells relative to each other. These movements are driven by forces that arise in the actomyosin cytoskeleton. Biophysical studies in *C. elegans* have unraveled many of the physical mechanisms underlying morphogenetic cell rotations. However, little is known about whether and how these physical mechanisms diversified. We set out to study this by analyzing actomyosin-driven morphogenesis in a panel of nematode species that covers more than 100 million years of evolutionary distance. Although the overall pattern of cell orientations displays little variability in these nematodes, we find striking differences in the actomyosin behavior. This indicates that different force-generating mechanisms underlie similar types of morphogenetic cell rotations. Altogether, these results are indicative of developmental systems drift, where different physical mechanisms give rise to a similar developmental outcome.

The seminar will be held

on Wednesday 14th May 2025 at 15:00

in the Milan Hašek Auditorium at IMG

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