
Regular Wednesday IMG seminar



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“Actomyosin contractility in the maturing oocyte terminates a transient wave of clathrin mediated endocytosis”

In sexually reproducing animals, an unfertilized oocyte becomes an embryo via oocyte maturation, ovulation and fertilization. In *C. elegans*, as oocytes mature, a contractile cortex forms underneath the cell membrane, which coincides with thousands of dynamic cortical actin condensates. Concurrently, the cell membrane is remodeled via clathrin-mediated endocytosis (CME). It is entirely unclear how CME, membrane mechanics and the actin cytoskeleton are interlinked during oocyte maturation. Here, we find that oocyte maturation triggers a transient wave of CME. It requires cortical actin condensates, forming distinct rings at clathrin-coated pits. After this, a contractile cortex forms, and ring-like structures become punctate. The punctate condensates are incapable of internalizing vesicles. We find contractility as a primary mechanism to stop endocytosis. Altogether, we have identified a novel developmentally controlled switch in endocytic behavior before oocyte-to-embryo transition.

The seminar will be held

on Wednesday 6 May 2026 at 15:00

in the Milan Hašek Auditorium at IMG

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