



The same, only different: how does the cytoskeleton adapt to meiosis-specific functions?

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Abstract: We are generally interested in how the cell division machinery, the cytoskeleton in particular, adapted to divide the large oocyte in a highly asymmetric manner to produce a single fertilizable egg, filled with nutrients to support embryonic development. I will present two examples for such meiosis-specific adaptations. First, as chromosomes scattered in the exceptionally large oocyte nucleus are located too far from the spindle to be efficiently captured by microtubules, an additional, actin-dependent mechanism is required to transport chromosomes to within their capture range. In recent work, we revealed that this F-actin network transporting chromosomes contracts by a novel, depolymerization-driven mechanism. Second, I will show how the cytokinetic machinery adapted to support divisions in large oocytes manifesting as coordinated waves of cortical contractions traveling across the cell.