Biophysics and Systems Biology Seminar Series

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"Cytoskeletal control of cell polarity in the Drosophila oocyte"

Abstract:

The major body axes of the embryo, anterior/posterior and dorsal/ventral, are first established during Drosophila oogenesis. After the first stages of polarity establishment, both the actin and microtubule cytoskeletons are radically rearranged in the oocyte. Fluid flows accelerate 10-fold and become highly coordinated in response to these changes. We are working to understand how the critical timing of this transition is controlled by the actin cytoskeleton. Two actin nucleators, the formin Capu and the tandem WH2 nucleator Spir, collaborate to build a mesh that fills the oocyte. In the course of studying Capu, we have also gained insight into how other formins function. We will explore the mechanism of mesh assembly, the role of the actin mesh in controlling fluid flows and establishing polarity, and how formins can build distinct structures.

Thursday, February 1, 2018 at 10:00AM
Natural Sciences 2, Room 1201

Hosts: Lara Clemens, lclemens@uci.edu, and Dr. Jun Allard, jun.allard@uci.edu.

If you're interested in meeting with Dr. Quinlan, please contact Lara Clemens or Dr. Allard.