Seminar/Talk

Design Principles of the PAR Cell Polarity Network

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The conserved PAR polarity network drives cell polarity in a wide range of contexts, from asymmetric cell division and fate specification to epithelial and neural architecture. At its core is a set of conserved feedback pathways that segregate two sets of opposing PAR proteins into defined membrane domains that specify the axis of polarity and spatially regulate downstream pathways. We currently are working to define the basic principles of this intracellular patterning system that underlies its ability to robustly polarize cells in response to developmental cues, using the C. elegans embryo as a model system. A key question in the lab is understanding how polarized patterns emerge from and are defined by the interplay between the individual mobilities of PAR proteins and the modification of these mobilities in space and time. I will discuss recent work on functional specialization between distinct forms of a conserved PAR complex that balances cue sensing and effector functions of the PAR network as well as potential physical constraints on PAR polarity that arise during development.

Wednesday, September 20, 2017 02:00pm - 03:00pm
Mondi Seminar Room 1, Central Building

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