

Friday, March 2nd

1:10 pm, 108 Plant BioSciences Building

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The development and polarization of ciliated epithelia

The directed beating of motile cilia is a critical aspect of tissue function in a variety of developmental and physiological contexts including proper neural development, egg migration through the oviduct and mucus clearance in the respiratory tract. The loss of cilia driven flow results in a wide range of phenotypes including hydrocephaly, infertility, situs inversus, and respiratory dysfunction. We use the ciliated epithelium of *Xenopus* larval skin as a model system to address multiple questions about the development of this tissue. In particular this talk will focus on the polarization of ciliated epithelia. Most epithelial cells polarize along the axis of the tissue, a feature known as planar cell polarity (PCP). The initiation of PCP requires cell-cell signaling via the non-canonical Wnt / PCP pathway. Additionally, changes in the cytoskeleton both facilitate and reflect this polarity. The mechanistic link between PCP signaling and changes to the cytoskeleton remain largely obscure, however, we have identified a novel microtubule regulating protein CLAMP that has a profound role in the establishment of proper polarity in ciliated epithelia.

All are welcome. Refreshments will be served.