

iBIO: Integrated Biomedical Sciences Seminar Series

Heidi Hehnly, Ph.D.

Associate Professor
Department of Sciences & Mathematics
Syracuse Upstate Medical College (SUNY)

“Mechanisms coordinating lumen and cilia formation *in vivo*”

A fundamental question in cell biology is to understand how and when a cilium is made during tissue formation. A primary or motile cilium is a microtubule-based structure that extends from the surface of a cell and can sense extracellular cues to transmit to the cell body. Defects in cilia formation can lead to numerous disease states known as ciliopathies. Foundational studies identified two distinct pathways for ciliogenesis, an intracellular and extracellular. The extracellular is where the centrosome first docks to the plasma membrane followed by growth of the ciliary axoneme into the extracellular space. The intracellular is where the centrosome forms a cilium first within a ciliary vesicle in the cell cytosol before docking to the plasma membrane. These studies demonstrated that different ciliated tissues construct their cilia differentially potentially due to the nature of how a tissue develops. This presents an important argument that variations in cilia formation mechanisms may occur *in vivo* during specific types of tissue morphogenesis that will be discussed in my presentation. Our studies examine how cilia are assembled during Mesenchymal to Epithelial Transition (MET) in a vertebrate model, *Danio rerio* (zebrafish), specifically left-right organizer (Kupffer's Vesicle, KV) development.

Tuesday, November 15, 2022
GBSF & Zoom
10 a.m.

November
15



Heidi Hehnly, Ph.D.
Associate Professor
Department of Sciences & Mathematics
Syracuse Upstate Medical College (SUNY)

Host: Li-En Jao

ljao@UCDAVIS.EDU

