



Channing Network Science Seminar

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Epithelial-to-Mesenchymal Transition, Cancer Metastasis and Fibrosis

Epithelial cells are adherent cells that form the tightly adhered top layer of cavities, glands, and other structures throughout the body. Mesenchymal cells are loosely connected to each other. Transitions between them, called Epithelial-to-Mesenchymal Transition (EMT), are central to many fundamental biological processes including embryonic development and tissue regeneration, wound healing, and diseases like fibrosis and tumor invasiveness. I will discuss our efforts on using integrated mathematical modeling and quantitative measurements to investigate dynamics of the intracellular regulatory networks of EMT, microenvironmental effect on tumor progression and migration, as well as recovery from acute kidney injury and progression to chronic kidney diseases.

Bio: Professor Xing received his Ph. D. in theoretical chemistry with Professor William H Miller at UC Berkeley. He then did a postdoc with Professor George Oster also at UC Berkeley on studying the mechanochemistry of protein motors. After a brief stay at Lawrence Livermore National Laboratory as an independent research fellow, he took a faculty position at Virginia Tech. In 2015 he moved to University of Pittsburgh. His current research focuses on the dynamics and regulation of cell phenotypic transitions.

Hosted by Yang-Yu Liu