

**Thursday, January 25, 2024**

Refreshments at 3:15pm in PSF 101

Colloquium from 3:30pm - 4:30pm outside PSF 101

## **An Introduction to Molecular Motors, and In-Vivo Biophysics**

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### **Abstract:**

I will discuss the different perspective of physicists vs biologists, and how to potentially combine approaches from each area. In particular, I will focus on molecular motor transport and regulation, both in vitro with purified components, and also using tools to biophysically characterize transport at the single-cargo level inside of cells. I will in particular discuss how the simplest physics models are often wrong in biology, and how careful attention to biological details is essential. I should provide enough background that those with limited biological background can still follow the talk.

### **Biography:**

I was trained as a condensed-matter experimental physicist. My Bachelor's degree is in physics from the University of Chicago, and my PhD was in Non-linear dynamics (from UT Austin). After my PhD, I switched into single-molecule biophysics, working with Steven Block at Princeton. Because I wanted to relate single-molecule studies to what goes on in animals, once at Princeton, I started a collaboration with a drosophila geneticist, Eric Wieschaus. I ended up splitting my time between Steve and Eric, and stayed with Eric an extra year, once Steve Block moved to take a position at Stanford. I started a faculty position at UCI in 2000, and was awarded tenure in 2005, and became a full professor in 2009. While I remain at UCI, until recently I was also a visiting scholar at the Korean Institute for Advanced Study.