



“Multiscale modeling of membrane-actin interactions”

Speaker

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Time

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12 o'clock

Location

**Center for Biostructural Imaging of
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*Von-Siebold-Straße 3a, 37075 Göttingen
Seminar Room*

Abstract

The interactions between the plasma membrane and the actin cytoskeleton are fundamental to many cellular processes including membrane trafficking, cell shape regulation, and cell motility. These processes are inherently mechanochemical in that they harness complex molecular machineries to drive changes to the physical organization of the cell. As a result, they lend themselves to interrogation using both modeling and experimental approaches. In this talk, I will discuss three such efforts from my group— modeling endocytosis and the associated actin-membrane interactions, modeling actin assembly as a function of cross-linkers, and finally, modeling synaptic plasticity. I will also highlight the feedback between experiments conducted by our collaborators and the model predictions we generated, sharing both failures and successes along the way.