

Filopodia rotate and coil by actively generating twist in their actin shaft

Friday, August 11, 2023 1:15 PM (15 minutes)

The cells in our bodies are highly dynamic: Myriads of vital processes take place inside a cell every second. An individual cell can use filopodia, dynamic 'cellular fingers', to 'feel', explore, and manipulate its close by environment for instance during development as well as during cancer invasion.

In this talk I will explain how we use optical tweezers in combination with fluorescence microscopy, to visualize the rotational dynamics of single filopodia as we simultaneously measure the forces they exert. I will furthermore show that a simple active mechanism is sufficient to explain much of the observed filopodial dynamics.

Presenter: Dr LEIJNSE, Natascha (NBI)