

Actin assembly and cell migration

Moderation: Stefan C. Müller

2nd speaker:

17:00 — ***Angela Stevens (Münster)***, joint work with *Jan Fuhrmann (Heidelberg)*:

A minimal mathematical model for the initiation of cell movement due to actin polymerization

In our model an "abstract" resting cell on a flat substrate is considered. The dynamics of the filaments of the cells actin cytoskeleton are described via the evolution of the respective filament ends and an additional equation for the concentration of the actin monomers. A free boundary problem for the membrane of the cell is formulated for which under suitable parameter conditions the emergence of actin polymerization fronts close to the membrane is shown.