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Numerical simulation of wetting on biomembranes

After the discovery of biomolecular condensates in biological cells, research in this field has increased dramtatically. Cells use those condensate droplets as well as membranes to structure their interior. The interaction between membrane and droplet can lead to topological changes in cells like fission or fusion of membranes, which are little understood.
In this talk, we will present a first numerical model to simulate the wetting of biomembranes via condensates, which can also include topological changes. The model uses a ternary phase-field approach and is thermodynamically consistent, coupling hydrodynamics, surface tensions as well as bending stiffness and inextensibility of the membrane

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