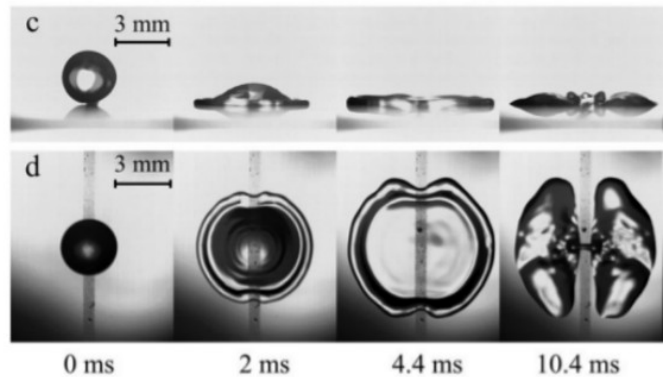


Computational design of functional surfaces for droplet manipulation

Background:

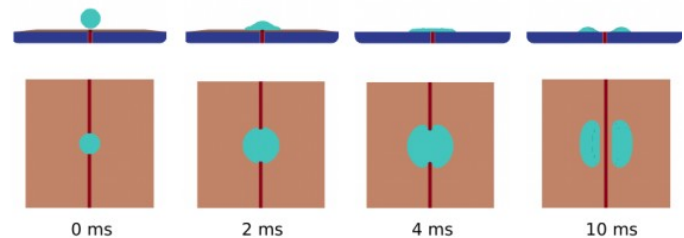
In many medical, biological and technical applications, the capillary force plays an important role. In recent years, the static droplet-shape under the influence of surface tension has been intensively investigated. The dynamic wetting process, however, is still a great challenge for researchers (see figure^[1]).



Your job:

Your job is to computationally design functional surfaces for droplet manipulation based on the phase-field model coupled with the Navier-Stokes equations. This model should be validated.

The functional surfaces can be either chemically or mechanically heterogeneous. The simulations are proceeded with the IAM-CMS developed phase-field solver PACE3D. The results are analyzed with the developed post-processing tools.



Requirements:

Basic knowledge of materials science is required. Experience in computational fluid dynamics (CFD) is an advantage.

We offer:

- Intensive care
- Modern workstations and high-performance computers as work environment
- Productive and dynamic atmosphere in a team of employees
- Cooperation with international research groups
- Career prospects as a young scientist

Contact:

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[1] Song et al. *Physical Chemistry Chemical Physics*, 17(21):13800–13803, 2015.