

# Axel Voigt Group – Project 2

## **Optimizing wetting properties of nanostructured surfaces**

The performance of optical surfaces is severely impaired by bioorganic and greasy surface coatings in the application situation. Existing coating systems are at best superhydrophobic, but not superamphiphobic (water and grease repellent).

Superamphiphobic properties can be achieved by nanostructuring the surface. Bio-inspired nanostructures enable new, promising solutions in this area. The proposed project, in cooperation with Carl Zeiss AG therefore aims to systematically investigate nanoscale surface structures with regard to the combination of the properties of superamphiphobicity, hardness and transparency and to prepare the production of the structures on an industrial scale for exploratory purposes. We aim for simulating this using two-phase flow problems on nanostructured surfaces.

You should have a degree in Mathematics and Physics with a specialization in numerical solution of partial differential equations and be interested in interdisciplinary problems.