

Drops, Bubbles and Co

In this course, we discuss classical phenomena and recent developments in the physics of fluid interfaces – considering surface tension effects and the resulting hydrodynamics in problems such as wetting, impregnation, coating, Marangoni flows, non-wetting dynamics. The course is illustrated by movies and experiments, and it does not assume any prior knowledge in the field. We also consider applications, and discuss more particularly the vast and lively field of microfluidics and biomimetic situations where drop manipulation (by insects or plants) is involved.

Prerequisite: Overall, a basic Master 1 level in applied maths, physics or mechanics is required

Bibliography:

de Gennes, P. G., Brochard-Wyart, F., & Quéré, D. (2004). *Capillarity and wetting phenomena: drops, bubbles, pearls, waves*. Springer New York.

Timing: The Course offered in the first part (sept-nov) of the M2 year.

Credits: 3 ECTS

Hours: 30 hours.