



"Soft-Matter Seminar"

Prof. Lydéric Bocquet

Université Lyon I

Interfacial flows, from nano- to macro- scales

The advent of microfluidics and nanofluidics has motivated the current great interest in understanding, modeling and generating motion of liquids in artificial or natural networks of ever more tiny channels or pores. Because of the huge increase in hydrodynamic resistance that comes with downsizing, new solutions for moving fluid at such scales have to be explored.

In this context I will present theoretical and experimental work performed in our group, concerning flows at solid interfaces from the nano- to the macro-scales. I will focus in particular on two experimental works : (1) a colloidal probe approach to address the nano-hydrodynamics of liquids at solid interfaces; (2) the dynamics (and large slippage) of liquids at superhydrophobic surfaces, made of carbon nanotube forests.

I will conclude by discussing alternative strategies to move fluids in confined geometries based on interfacial transport.

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16:00 Uhr

Raum PH 3344

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