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Supervisor	Camille Scalliet
Supervisor page	https://camillescalliet.github.io/
Host Institution	Centre National de la Recherche Scientifique (CNRS) https://www.cnrs.fr/en
Research Lab	Laboratoire de Physique de l'Ecole Normale Supérieure https://www.lpens.ens.psl.eu/
Research Team	Classical and quantum many-body systems https://www.lpens.ens.psl.eu/research/phystat/equipe-18/

Project Title

Disorder-controlled nanofluidic transport

Project Description

Nanofluidics explores fluid transport at the nanoscale, holding potential for sustainable technologies. However, the molecular factors driving such flows remain unclear, with interfacial effects playing a key yet poorly understood role. This project introduces disorder as a tool to probe and control liquid-solid friction, leveraging the disordered nature of liquids, as well as exploring amorphous confining materials. Combining advanced numerical simulations and theory, this project will deepen our understanding of liquid-solid friction at the nanoscale.

Keywords

nanofluidics, numerical simulations, statistical physics

Description of the Host Research Lab

The Laboratoire de Physique de l'École Normale Supérieure is an interdisciplinary fundamental research laboratory in physics and its interfaces. The laboratory's scientific activities cover a vast exploratory field in fundamental or applied physics, experimental or theoretical, and are organized into six axes: Astrophysics, Biophysics, Fluids and Interfaces, Fundamental Interactions, Quantum Materials and Devices, Statistical Physics.

To submit your application, please send an email with the required documents to
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