Nicolas FARES

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Main interests: soft matter, statistical physics, biophysics & microfluidics.

Current: Brownian Motion in Complex Confinement

PhD thesis under the supervision of T. Salez (mail) and Y. Amarouchene (mail).
Experimental method: Mie holography, rheometry, usual microscopy.

Work Experience

5-month internship in Bayreuth Univ., Germany Mar 2022 - Jul 2022

Self-organization of flagellar algae (*Chlamydomonas Reinhardtii*) on curved surfaces.

5-month internships in Bordeaux Univ., France 2021 - 2022

- Quantifying confined Brownian motion through **holographic microscopy**.
- Probing inertial and soft-confinement effects through thermal **Atomic Force Microscopy**.

Shorter Internships 2019 - 2020

- M1: Heated gold nanoparticle near a membrane, through **molecular dynamics**.
- L3: solid-state physics of the bounce of a *ping-pong* ball.

Teaching

- Board of the association *Enseigner* at the ENS de Lyon (2019-2020).
- Python classes to undergraduate students (Bordeaux Univ., 2022-2023, 35 hours).

Academic Skills

Language: French (native), English (C1), Spanish (B1-2).
Programming: Python, Matlab. **Scientific communication**: Latex, Office.

Education

2018 - 2021 Bachelor' and Master's Degrees at **ENS de Lyon, France**
2015 - 2018 Intense preparatory class at **C.P.G.E. Aux Lazaristes, Lyon, France**

Publications & Diffusion

- A. Alexandre, *et al.*. Non-Gaussian diffusion near surfaces. Physical Review Letters, 130(7), 077101 (2023).
- Z. Zhang *et al.* Visco-inertial force on an immersed sphere oscillating near a wall. Journal of Fluid Mechanics, in press.
- **Conference** in Cargese, France: Transport in narrow channels (20-minute talk).
- **Conference** in Bordeaux, France: International Marangoni Association 11 (15-minute talk)
- **Conference** in Rennes, France: GDR ISM (20-minute talk)