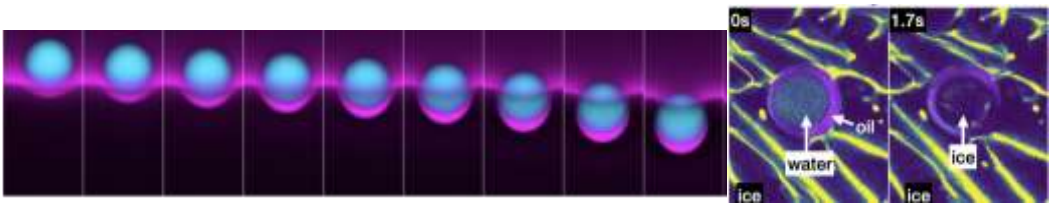
2 year Postdoc offer on the freezing of biomimetic objects

Our group works on interfacial related phenomena including drops and bubbles in reactive situations such as when a chemical reaction or a phase transition occurs close to the interface. We have studied recently the behaviour of oil droplets during freezing when they get encapsulated in ice crystals [1-3].

We are now investigating the freezing of biomimetic objects to better investigate the mechanisms at play during the cryopreservation of living cells.

We are seeking for a physical chemist or a physicist to contribute to this topic with an expertise in one or several of the following area : microfluidics, emulsions, vesicles, polymers, transport phenomena, hydrodynamics.

This work is in strong collaboration with D. Cuvelier at Institut Curie, S. Deville, C. Cottin Bizonne and C. Ybert at ILM Lyon, F. Frenandes at LCMCP Paris. Frequent meetings and joint experiments are foreseen over the course of this project.



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[1] Five-dimensional imaging of freezing emulsions with solute effects, Dedovets, D., Monteux, C. & Deville*, S. *Science* 360, 303–306 (2018). 10.1126/science.aar4503
[2] Objects interacting with solidification fronts : thermal and solute effects, S. Tyagi, C. Monteux, S. Deville, *Materialia*, 2020 (10.1016/j.mtla.2020.100802**)**
[3] Multiple objects encountering a solidifying front , S. Tyagi, C. Monteux, S. Deville, Sci. Rep, 2021, doi.org/10.1038/s41598-021-82713-3 **hal-03447949v1**