

Post-Doctoral Researcher Vacancy

Applications are invited for fully funded Post-doc position on shape shifting colloidal nanoplatelets in the context of an ERC Consolidator project that will start on may 1st 2020.

Context

Applications are invited for an ERC-funded post-doctoral researcher position to work with Benjamin Abécassis about shape shifting ultra-thin colloidal nanoplatelets. The overall goal of the project is to exploit the mechanical instability of thin nanoplatelets to synthesize new chiral and adressable nanoparticles. By applying forces at the surface of 2D thin objects, it is possible to create a wide variety of 3D shapes such as helices, twists and rolls. Moreover, minute changes on these forces can induce dramatic shape-shifting between different geometries. Our goal is to use this general principle to establish a new class of nanostructures that current synthetic strategies can not afford. Within this general framework, the aim of the post-doctoral fellowship is to develop scattering methods to characterize nanoplatelets with complex shapes and better understand the self-assembly of ligands at their surface. Another topic of interest is the formation mechanism of thin nanoplatelets which will be assessed using time-resolved in situ experiments. The researcher will work in strong collaboration with other members of the team who will study the synthesis, shape control and surface functionalization of the nanoplatelets.

Profile

We are more specifically looking for a physical-chemist with a strong focus on X-ray and neutron scattering experiments. Previous experience in this domain would be considered as an asset but is not mandatory. Strong candidates with a will to learn in this area are encouraged to apply. We are seeking for applicants with one or more of the following area of expertise:

- data acquisition at synchrotron light sources, neutron sources or other larger scale facilities, programming in Python,
- research experience in materials science, colloidal nanocrystals, nanoparticles, soft-matter,
- research experience in small angle X-ray/neutron scattering,
- total scattering and PDF methods.

Practical details

Informal inquiries by email or phone are welcome. For the post doc position, the initial appointment is for 1.5 year but an extension could be granted upon mutual agreement. The start date is flexible but will not be before May 1st 2020. Please send a CV with a list of publications and the name of 2 or 3 references. Application deadline is April 30 2020 but the position will remain open until filled. We offer a competitive salary (depending on previous experience) with full social security cover. The lab is located in Ecole Normale Supérieure de Lyon in the south of Lyon, close to the city center, is easily accessible by public transportation and provides researchers with an ideal environment.

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