Université Claude Bernard Lyon 1- Hosting offer for a MSCA Post-doctoral fellowship candidate in Velocity field reconstruction

Host Organisation	**Université Claude Bernard Lyon 1**
Department	**Physics**
Laboratory	**Institute of Physics of the two Infinites**
Website (lab / research team)	**https://perso.ip2i.in2p3.fr/courtois/**
Supervisor Contact name	**Prof. Helene Courtois**
Supervisor Contact email	**Helene.courtois@univ-lyon1.fr**

Host Organisation

The Université Claude Bernard Lyon 1 welcomes Marie Sklodowska Curie Postdoctoral Fellowships applications !

With 62 laboratories and more than 7000 publications per year, and leading French university in terms of the number of patents filed in collaboration with industry, Lyon 1 contributes to scientific and innovation progress in numerous fields: health, mathematics, IT, physics, chemistry, earth and space sciences, life sciences, etc. Creator of emerging knowledge and new technologies, the University is consolidating its research excellence on a global and international level by developing inter- and multidisciplinary approaches targeting the major challenges facing today society.

Host research lab/team

The Laboratoire IP2I is a leading research lab in Europe in Cosmology of the Nearby Universe.

Large-Scale Galaxy Surveys and Cosmological Structure Mapping: Their work involves assembling extensive galaxy catalogs, reconstructing the local density and velocity fields, and identifying large-scale structures, contributing to a deeper understanding of the cosmic web and the large-scale distribution of matter in the universe

The **Cosmic-Flows** research team

The Cosmic Flows project (e.g. Cosmicflows-4, 2023ApJ...944...94T) is a large-scale effort to map the three-dimensional distribution of galaxies and their motions in the nearby universe. By measuring galaxy distances and peculiar velocities—deviations from the Hubble flow—it

reconstructs the local cosmic structure, revealing large-scale flows, voids, and superclusters. This project provides crucial insights into the distribution of dark matter, the influence of gravitational interactions, and the dynamics of the local universe. Its impact on cosmography and nearby cosmology includes refining models of the cosmic velocity field, improving our understanding of the local expansion rate, and offering a more detailed picture of the environment surrounding the Milky Way, including structures like the Laniakea Supercluster.

The activity now proceeds with leader roles in international projects such as 4HS/4MOST on VISTA telescope in Chile and Tully-Fisher measurements using the WALLABY Australian SKA. The Cosmic Flows project will culminate by 2030 with about 1 million peculiar velocities of galaxies observed by all the current surveys (including DESI).

Hosting Offer

The **IP2I lab** offers to host a MSCA Postdoctoral Fellowship candidate (typically a post-doc of less than 8 years research experience since PhD defence), submitting an application to the next MSCA-2026-PF call for proposals (deadline 09th of September 2026), interested to work on the following research topic:

Velocity field reconstruction from peculiar velocity and from redshifts surveys in the Local Universe and in the Euclid context.

The fellowship could last for 12 to 36 months, depending on the type of Postdoctoral Fellowship.

Supervision

The successful Marie-Curie Post-doctoral fellow will be supervised by Prof. Helene Courtois

Application process

Interested candidates are invited to contact us exclusively by email at helene.courtois@univ-lyon1.fr

Make sure that you include the reference to this offer in the title of your email. Please attach a CV, a motivation letter, your MSc marks, **as well as a 1 page research proposal**.

Professional grant application support:

Candidates will receive the support of the supervisors, as well as online training from a professional grant application company, and advices from successful applicants, to prepare and submit their application with the IP2I lab as a host laboratory, to the next MSCA-PF call for proposals.