

**Post-Doc Position in structural proteomics (cross-linking mass spectrometry)
at the Institut Pasteur Paris**

Context and environment: The Institut Pasteur is a non-profit private foundation dedicated to fundamental, interdisciplinary research and to translating scientific knowledge to medicine and public health. Topics of research cover microbiology and infectious diseases, cell biology, immunology, developmental biology and stem cells, neuroscience, genomics, genetics and cancer. The Paris campus houses 130 research units belonging to 11 research departments, employing about 2,600 people. It is recognized worldwide as a leader in infectious disease research.

Host laboratory: The Mass Spectrometry for Biology Lab <https://research.pasteur.fr/en/team/mass-spectrometry-for-biology/> headed by Julia Chamot-Rooke is a mixed Institut Pasteur/CNRS/Université Paris Cité Unit. The main research axes of the Unit are: top-down proteomics and structural proteomics (cross-linking mass spectrometry) with major applications in the field of infectious diseases. It is equipped with five Orbitrap mass spectrometers, including Tribrid Lumos and Eclipse.

Starting date: ASAP

Job type: Post-doc 24 months (ANR funding)

Candidate's profile: PhD (or post-doc) in biological mass spectrometry or proteomics. Knowledge in sample preparation, mass spectrometry and in the bioinformatic tools used in proteomics is required. A first practical experience in Orbitrap MS or cross-linking MS would be a plus. Good communication, interpersonal skills and experience in presenting concepts and data in oral and written formats (English is necessary).

Gross Salary: ~40 k€ / year depending on the experience of the candidate and including health insurance and paid annual leave

Project. Cross-linking mass spectrometry (XL-MS) is a versatile tool providing structural insights into protein conformation and protein-protein interactions. Its medium-resolution residue-residue distance restraints can be used to validate protein structures proposed by other methods (such as cryo-EM) and help derive models of protein complexes by integrative structural biology approaches. In past years, the MSBio lab at the Institut Pasteur developed an efficient XL-MS pipeline based on the use of an original trifunctional cross-linker (NNP9) for proteome-wide studies. In collaboration with several teams of biologists, we are interested in applying and optimizing this pipeline for the analysis of protein complexes important in human health. This includes piliation or secretion nanomachineries involved in bacterial virulence. The candidate will have access to state-of-the-art LC-MS/MS instrumentation to achieve this goal.

If you are interested, please send a CV (including two references) and a motivation letter to Julia Chamot-Rooke (julia.chamot-rooke@pasteur.fr) & Martial Rey (martial.rey@pasteur.fr).