

Post-Doc Position in Top-down proteomics 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 and is ranked as a top-level institution for publication impact in the field of microbiology and neuroscience.

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 Unit. The Unit is composed of a research group and a proteomics facility headed by Mariette Matondo. The main research axes of the Unit are: top-down proteomics and structural proteomics (in particular cross-linking mass spectrometry) with major applications in the field of infectious diseases. The facility proposes state-of-the-art service mainly in bottom-up proteomics. The Unit is equipped with five Orbitrap mass spectrometers, including an Orbitrap Lumos and an Orbitrap Eclipse with UVPD and ETD. The Unit is the French partner of the European Proteomics Infrastructure (EPIC-XS).

Starting date: ASAP

Job type: Post-doc 24 months

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 top-down proteomics and/or Orbitrap 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: 36-43 k€ / year depending on the experience of the candidate and including health insurance and paid annual leave

Project. Microtubules are essential cytoskeletal elements composed of alpha- and beta-tubulin heterodimers involved in a range of cellular functions. The *tubulin code* is an emerging concept proposed recently to explain the functional diversity of microtubules and linked to the existence of a large variety of post-translational modifications (PTM). One of them is (poly)glutamylation (polyE), which consists on the addition of one or several glutamate residues on the side chain of a glutamate. A defect in glutamylation can lead to important human pathologies such as ciliopathies and thus characterizing this PTM in detail is of the outmost importance to decipher the tubulin code. We propose here to develop a combination of bottom-up and top-down strategies to achieve this goal. The developments will be mainly undertaken in the framework of project funded by the French Research Agency and in collaboration with the Unit of Philippe Bastin at Institut Pasteur et of Carsten Janke at Institut Curie.

If you are interested, please send a CV and motivation letter to Julia Chamot-Rooke (julia.chamot-rooke@pasteur.fr).