Three years post doctoral position in Molecular Virology / Cell biology at Pasteur Institute Paris.

A 3 years postdoctoral research position is available in the second or third semester of 2023 to study Respiratory Syncytial Virus (RSV) multiplication in the team of Marie-Anne Rameix-Welti (M3P team) at Pasteur Institute. M3P team is also affiliated to INSERM and Paris Saclay-Versailles St Quentin University (UMR 1173).

Subject area: Virology and Cellular biology

Background: The respiratory syncytial virus (RSV) is a major and ubiquitous agent of respiratory viral infections in humans. There is currently no vaccine or effective antiviral marketed. Understanding the replication mechanisms of this virus is essential to allow the development of appropriate preventive and curative strategies. RSV is a single-stranded negative RNA virus whose multiplication is exclusively cytoplasmic. We recently demonstrated that viral genome transcription and replication occur within cytoplasmic membraneless organelles, called viral factories (VFs), resulting from liquid liquid phase separation (LLPS) (Rincheval *et al*, 2017, Nature Comm; Risso-Ballester *et al*, 2021, Nature). After replication process, the newly synthetized genomic RNA produced in the VFs must be exported to the plasma membrane where virion assembly and budding is believed to occur. We recently demonstrated that viral RNPs (ribonucleoproteins = viral genomic RNA encapsidated and associated with polymerase complex) are moving along the microtubules hijacking the rab11 network (Cosentino *et al*, 2022, PLoS Path).

Research project: Our research is mostly focused on cracking the mysteries of the viral factories and dissecting the late stages of RSV multiplication (export, assembly and release). The post-doctoral fellow project will aim at dissecting the mechanisms of RSV RNP export. In particular we will aim at i) revealing the cellular and viral factors involved in this transportation steps and dissecting the interactions between these factors; ii) understanding how vRNPs are prepared for export in the VFs (e.g. how the

"vRNP to export" are sorted from the ones that are used as matrix in the VFs); iii) exploring how the viral infection affect the Rab11 network function. These studies would be done in classical cell lines but also in polarized and differentiated cell models closer to the natural targets of RSV. We will develop innovative imaging approaches to address these questions and will rely on distinctive tools we developed in the lab e.g. recombinant RSV expressing a fluorescent RNP that enable visualization of RSV RNPs in living cells.

Who we are looking for: The ideal candidate would have a PhD in cellular biology/virology with a strong track record of scientific productivity. Proficiency with advanced imaging methods and/or time-lapse microscopy is a must. Experience and knowledge related to intracellular trafficking and/or complex cellular processes such as polarization, will be a plus. Experience in virology is not mandatory. Manuscript writing and presentations in meetings will be required.
We are looking for someone highly motivated, capable to plan and execute experiments independently and to actively contribute scientifically to the group. Fluency in English is required.

What we are offering: Funding for a 3 years full time contract.
A fundamental research project addressing a critical question with cutting edge tools and technologies.
A creative environment in an interdisciplinary research institute, in the very heart of Paris (Pasteur Institute 25-28 rue du Dr Roux 75015 Paris).
Further development opportunities for a successful candidate could arise in the context of the development of our team just starting at Pasteur Institute.

To apply please address to marie-anne.rameix-welti@pasteur.fr
A cover letter giving a brief description of previous research experience, and a motivation to why you are applying

- A CV including a list of publications
- Proof of completed PhD
- Contact details of three references