



[Post-doctoral Position in Di Nunzio's lab
at the Institut Pasteur in Paris, France](#)

A post-doctoral position is available at the Institut Pasteur to join the Advanced Molecular Virology laboratory, which is focused on the basic study of the early steps of HIV-1 replication, with a particular emphasis on mechanisms implicated in the remodeling of the nuclear compartment during infection. Our studies contribute to highlight that among pandemic viruses, HIV-1 sequesters important biological processes to replicate in the host cell. Some of these viruses trigger a phenomenon called liquid-liquid phase separation (LLPS), whereby molecules change from a liquid to a more solid state and form membraneless organelles (MLOs) involved in several cellular functions. This is a newly characterized biological phenomenon, prompted also by HIV-1 infection, which is likely to aid viral replication or persistence and is still unexplored.

Our group combines molecular/cell biology, virology and quantitative microscopy techniques, such as single particle tracking of viral genomes. We developed unique tools to live track the viral reverse transcribed genome directly into the host cell. To gain structural insights into viral/host nuclear microenvironments, we aim to apply correlative light-cryo-electron microscopy (cryo-CLEM) techniques. The candidate will have the opportunity to work with several cutting-edge platforms in the campus, with a collaborative interdisciplinary team and an enthusiastic/passionate mentor. Enthusiastic, motivated and passionate candidates, holding a Ph.D. degree in virology, cell biology, biophysics or related fields are encouraged to apply. The Institut Pasteur provides excellent training and collaborative environment for research. For more information regarding projects in the laboratory, please visit: <https://research.pasteur.fr/en/team/advanced-molecular-virology/>

.Position available from Spring/Summer 2022

To apply, please send an email with a motivation letter, CV and contact information of three references to:

Francesca Di Nunzio: dinunzio@pasteur.fr

[Related publications from the Di Nunzio's laboratory:](#)

1: Blanco-Rodriguez G, Di Nunzio F. The Viral Capsid: A Master Key to Access the Host Nucleus. **Viruses**. **2021** Jun 20;13(6):1178. doi: 10.3390/v13061178. PMID: 34203080; PMCID: PMC8234750.

2: Scoca V, Di Nunzio F. Membraneless organelles restructured and built by pandemic viruses: HIV-1 and SARS-CoV-2. **J Mol Cell Biol**. **2021** Aug 4;13(4):259-268. doi: 10.1093/jmcb/mjab020. PMID: 33760045; PMCID: PMC8083626.

3: Scoca V, Di Nunzio F. The HIV-1 Capsid: From Structural Component to Key Factor for Host Nuclear Invasion. **Viruses**. **2021** Feb 10;13(2):273. doi: 10.3390/v13020273. PMID: 33578999; PMCID: PMC7916756.

4: Rensen E, Mueller F, Scoca V, Parmar JJ, Souque P, Zimmer C, Di Nunzio F. Clustering and reverse transcription of HIV-1 genomes in nuclear niches of macrophages. **EMBO J**. **2021** Jan 4;40(1):e105247. doi: 10.15252/embj.2020105247. Epub 2020 Dec 3. PMID: 33270250; PMCID: PMC7780146.

5: Blanco-Rodriguez G, Gazi A, Monel B, Frabetti S, Scoca V, Mueller F, Schwartz O, Krijnse-Locker J, Charneau P, Di Nunzio F. Remodeling of the Core Leads HIV-1 Preintegration Complex into the Nucleus of Human Lymphocytes. **J Virol**. **2020** May 18;94(11):e00135-20. doi: 10.1128/JVI.00135-20. PMID: 32238582; PMCID: PMC7269431 (**Cover August 2020**)

6: Buffone C, Martinez-Lopez A, Fricke T, Opp S, Severgnini M, Cifola I, Petiti L, Frabetti S, Skorupka K, Zadrozny KK, Ganser-Pornillos BK, Pornillos O, Di Nunzio F, Diaz-Griffero F. Nup153 Unlocks the Nuclear Pore Complex for HIV-1 Nuclear Translocation in Nondividing Cells. **J Virol**. **2018** Sep 12;92(19):e00648-18. doi: 10.1128/JVI.00648-18. PMID: 29997211; PMCID: PMC6146805.

7: Lelek M, Casartelli N, Pellin D, Rizzi E, Souque P, Severgnini M, Di Serio C, Fricke T, Diaz-Griffero F, Zimmer C, Charneau P, Di Nunzio F. Chromatin organization at the nuclear pore favours HIV replication. **Nat Commun**. **2015** Mar 6;6:6483. doi: 10.1038/ncomms7483. PMID: 25744187; PMCID: PMC4366494.

8: Di Nunzio F. New insights in the role of nucleoporins: a bridge leading to concerted steps from HIV-1 nuclear entry until integration. **Virus Res**. **2013** Dec 26;178(2):187-96. doi: 10.1016/j.virusres.2013.09.003. Epub 2013 Sep 16. PMID: 24051001.

9: Di Nunzio F, Fricke T, Miccio A, Valle-Casuso JC, Perez P, Souque P, Rizzi E, Severgnini M, Mavilio F, Charneau P, Diaz-Griffero F. Nup153 and Nup98 bind the HIV-1 core and contribute to the early steps of HIV-1 replication. **Virology**. **2013** May 25;440(1):8-18. doi: 10.1016/j.virol.2013.02.008. Epub 2013 Mar 21. PMID: 23523133; PMCID: PMC3860269.