

Application deadline: open until filled in 2019

**Lab:**

Innate immunity is an ancient and universal form of defense against damages, threats and pathogens such as viruses. The Manel lab investigates the regulation, function and application of innate immunity. Our goal is to discover the molecular mechanisms that enable the immune system to distinguish self from non-self, inside cells. We study HIV, other viruses, auto-immunity, cancer and development of the immune system. We use primary human immune cells, mouse models, cell lines and computational tools. We develop applications of our research for clinical use.

Website: <http://minilien.curie.fr/ejggfa>

**Context and environment:**

Institut Curie is one of the biggest European research institutions with strong and interdisciplinary traditions. It also comprises a hospital specialized in cancer treatment, and therefore disposes of a continuum of expertise from basic research to patient care. It is located in the center of Paris in France, in a both cultural and scientific rich environment. Our immunology department includes 9 independent research teams in the fields of basic and applied immunology, working in a very collaborative and international environment.

**Project:**

The main scientific objective of the project is to perform bioinformatics analysis on *in vivo* mice models and *in vitro* human models, to further improve our understanding of the fundamental mechanisms of innate immunity, in the context of viral infections (HIV...), cancer and auto-immunity. In close collaborations with wet-lab postdocs and students, the selected candidate will design experiments and analyze results obtained by genomics technologies:

- ChIP-Seq, RNA-Seq, DamID, Affymetrix, single-cell RNA-Seq, single-cell ChIP-seq
- Downstream functional analyses

The selected candidate will benefit from direct interactions with a core of bioinformaticians in our Immunology & Cancer department (10 people), with the Bioinformatics research department and with the Bioinformatics platform at Institut Curie.

**Profile:**

- Master or PhD in bioinformatics, biostatistics or in biology with experience in bioinformatics
- Experience in manipulation, analysis, and visualization of NGS data
- Knowledge of statistics tools (R, Bioconductor)
- Proficiency in at least one high-level programming language (python, perl, bash scripting)
- Experience in working on LINUX environments
- Knowledge of the human and/or mouse genome structure
- Ability to communicate in an interdisciplinary research group
- Experience in working on HPC environments would be a plus

**Duration:** a 2-year CDD (French contract dedicated to a specific project).

**Salary:** Depending on diploma and experience.

This position is highly competitive and only outstanding candidates will be considered. Please send CV and two letters of reference to [nicolas.manel@curie.fr](mailto:nicolas.manel@curie.fr)

**References:**

- Lahaye X ... Manel N. NONO Detects the Nuclear HIV Capsid to Promote cGAS-Mediated Innate Immune Activation. **Cell**. 2018. doi:10.1016/j.cell.2018.08.062
- Silvain A ... Manel N. Constitutive resistance to viral infection in human CD141(+) dendritic cells. **Science Immunology**. 2017. doi:10.1126/sciimmunol.aai8071
- Cerboni S ... Manel N. Intrinsic antiproliferative activity of the innate sensor STING in T lymphocytes. **J Exp Med**. 2017. doi: 10.1084/jem.20161674
- Lahaye X ... Manel N. Nuclear Envelope Protein SUN2 Promotes Cyclophilin-A-Dependent Steps of HIV Replication. **Cell Reports**. 2016. doi: 10.1016/j.celrep.2016.03.074
- Gentili M ... Manel N. Transmission of innate immune signaling by packaging of cGAMP in viral particles. **Science**. 2015. doi: 10.1126/science.aab3628