

**Postdoctoral Position**  
**Role of myeloid cells at the maternal-fetal interface**  
**in late pregnancy and delivery**  
**Institut Cochin, Paris**



A postdoctoral fellowship for 2 years is available as early as June 2021 at Institut Cochin. The Myestrom research project, funded by the ANR, is an exciting interface between immunology, reproductive biology and epigenetics . It aims to further unravel the heterogeneity and functions of myeloid subpopulations at the maternal-fetal interface and unveil their dynamics during parturition.

**Context**

Prematurity and its complications are the leading cause of death in children under the age of 5 years and can cause long-term health problems. Our goal is the identification of all cell types of the human and murine maternal-fetal interface, especially myeloid and stromal cells, and the characterization of their crosstalk and fate during labor, to better understand the molecular mechanisms responsible for labor onset. NK cells were already shown to play a role in abortions during early pregnancies, but our current results indicate a role for myeloid cells in the onset of delivery. Placental samples from spontaneous and C-section deliveries and mouse models will be studied in parallel. We will use cutting edge technologies, including multidimensional spectral cytometry (Cytek Aurora) and single-nucleus RNA sequencing, on the basis of already robust preliminary results.

Institut Cochin provides a highly dynamic scientific life between fundamental and clinical research in the center of Paris (<https://www.institutcochin.fr>), with a lively JeCCo Young researcher Club, numerous scientific seminars. The postdoctoral fellow will work with Anne Hosmalin, 3I Department (Infection, Immunity, Inflammation), specialist in dendritic cells and myeloid cells during HIV infection and cross-presentation, Céline Méhats, DRC Department (Development, Reproduction, Cancer) expert in maternal-fetal interface and pregnancy outcomes and Ludivine Doridot, expert in epigenetics during pregnancy and endometriosis, with the support of excellent state-of-the-art core facilities (GenomICs, Cybio).

## Job description

The successful post-doctoral fellow will perform detailed immunophenotyping of myeloid cells of maternal-fetal interface during late pregnancy. The project will include a variety of ex vivo and in vitro approaches in human and mouse models, including multidimensional cytometry and Single cell profiling (snRNA-seq and snATAC-seq).

## Keywords

Maternal-fetal interface, parturition, myeloid cells, multidimensional cytometry, Single nucleus profiling

## Candidate profile

- PhD in Immunology
- Strong experience in Immunology and demonstrated skills in multidimensional flow cytometry, cell biology, including cell cultures, molecular biology is required.
- Experience in myeloid cell biology, mouse models, single-cell and bulk transcriptomics and genomics are a plus.
- Dedicated, highly self-motivated and innovative, autonomous and rigorous. Good communication skills that allow productive interactions with an interdisciplinary team (Bioinformatics and biology). Ability to communicate in both spoken and written English.
- Prior experience in the field of reproduction is not mandatory.

## Availability, type and duration of the contract

- 24 months, as early as June 2021, Fixed-term employment (CDD)
- Already funded by the ANR (Agence Nationale de la Recherche)
- Salary level determined according to experience following Inserm internal guidelines, i.e. according to experience. Exceptional skills may be considered.

## How to apply

- Motivation letter, CV and two reference letters should be sent to [anne.hosmalin@inserm.fr](mailto:anne.hosmalin@inserm.fr) and [celine.mehats@inserm.fr](mailto:celine.mehats@inserm.fr)
- For the subject line, please use “Myestrom post-doctoral biology position 2021”
- Any questions regarding this position can be sent to this e-mail address.

## References

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