**Postdoctoral Position in Oncology (M/F)**

in the framework of a collaborative project on retinoblastoma

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### The hosting structure

**Institut Curie Research Center**

Institut Curie is a major player in the research and fight against cancer. It consists of a Hospital group and a Research Center of more than 1000 employees with a strong international representativeness.

The objective of the Research Center is to develop basic research and to use the knowledge produced to improve the diagnosis, prognosis, and therapeutics of cancers as part of the continuum between basic research and innovation serving the patient. It is located on 2 main sites, one in central Paris, the other in Orsay (suburb of Paris). These two sites are easily connected by public transportation with a direct RER line.

The Institut Curie treats and follows all patients in France with retinoblastoma.

### The hosting teams

The proposed project will be performed between two teams with complementary expertise, one located in Orsay (the Signaling and Cancer Progression team headed by Celio Pouponnot) and one located in Paris (the Molecular Oncology team headed by François Radvanyi). The two teams have a long lasting collaboration. Although the post-doctoral candidate will be mainly located at Institut Curie Orsay, there will be frequent meetings/experiments at Institut Curie Paris.

Celio Pouponnot’s team has a strong expertise in experimental biology focused on cell signaling in pediatric cancer.

François Radvanyi’s team has a strong expertise in omics data analyses applied to different cancers, retinoblastoma but also adult cancers like bladder cancer and breast cancer.

### Context

The candidate will join a four year funded project by La Ligue Nationale Contre le Cancer on retinoblastoma. This project, both related to basic and translational cancer research, gathers all the teams of the Research Center of the Institut Curie and of the Curie Hospital studying retinoblastoma.

Retinoblastoma, a cancer of the developing eye, is the most common intraocular malignancy of childhood. Although all retinoblastomas arise from a developing cone precursor following RB1 inactivation or MYCN amplification, they present an important inter- and intra- molecular heterogeneity which is just beginning to be revealed by the work of the host teams (Liu et al., 2021).

### The project

The goal of the project is to characterize the different tumor cell populations present in retinoblastomas (their underlying signaling pathways and key transcription factors controlling their fate, the genetic and epigenetic modifications compared to the normal cell of origin), the relationships between these tumor cell populations (existence of reversible or irreversible transitions) and with the non-tumor cells (existence of paracrine loops).
This project is based both on large scale multiomics data already obtained (Liu et al., 2021 and Liu, Hua et al. unpublished results) and on additional data that will be acquired during the first part of the project. It will benefit from the help of an engineer also devoted to the project and of different platforms of the Institut Curie (CRISPR’IT, Single cell, Genomics, NGS). A large variety of techniques will be used during the project either to acquire new data (like single cell ATAC-seq, spatial transcriptomics) or to test hypotheses (like perturb-seq).

The candidate will work in a multidisciplinary environment (in collaboration with other experimental biologists, including cancer biologists and developmental biologists, but also with bioinformaticians and clinicians of different specialties: ophthalmologists, pediatricians, radiologists, geneticists, pathologists).

The results of this project should have an impact not only in the field of retinoblastoma but more generally in the field of pediatric cancers, MYCN/MYC-amplified cancers and RB1-deficient cancers.

Keywords: retinoblastoma, pediatric cancers, RB1 tumor suppressor gene, MYCN, systems biology.

Selected references of the hosting teams


Candidate Profile

Training and Skills required
- Training: PhD with strong experience in cell culture. Knowledge in cancer biology will be appreciated.
- Scientific skills: molecular biology and cell biology techniques
- Language skills: ability to write and communicate in English

Desirable Knowledge, skills and abilities:
- Preferably with experiences in 3D cell culture/primary tissue culture
- Practice of animal models are not mandatory but will be a strong asset
- Competence in basic NGS data analyses and statistical methods is a strong merit but not required.

Abilities
- Scientific rigor
- Excellent analytical and synthetic capabilities
- Well organised, ability to work independently together with a high team spirit
- Dynamic personality with passion for innovation and problem-solving
- A will to work in a multidisciplinary environment
- Ability to communicate

All our opportunities are open to people with disabilities

Contract information

Type of contract: Fixed-term contract.
Starting date: The funding is already available
Duration: 18 months with a possibility to extend to 3 years.
Working time: full time
Remuneration: according to the current grids of the Institut Curie and to the experience of the candidate
Benefits: Collective catering, reimbursement of transportation fees up to 70%, supplementary health insurance
Location of the position: Orsay and Paris

Contact

Please send your CV, letter of motivation and 2 references, to francois.radvanyi@curie.fr and celio.pouponnot@curie.fr

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Deadline for application: March 2022

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