

## CALL FOR APPLICATION

### INSERM CHAIR Recruitment

## Identification of dysregulated embryonal programs in pediatric cancers

The Inserm chair recruitments opened to Inserm are intended for researchers with strong potential to manage and lead research teams and participate in national, European or international projects.

This recruitment, based on research and teaching projects, is aimed at researchers with a doctorate or equivalent and a first post-doctoral experience. The position is offered on a fixed-term contract (CDD) with a view to tenure in the Inserm Research Directors personnel at the end of the contract.

**How apply:** <https://pro.inserm.fr>



<b>Supporting institution:</b>	Inserm : Institut national de la Santé et de la recherche médicale
<b>Name of the head of the institution:</b>	Pr. Didier Samuel
<b>Academic region:</b>	Paris
<b>Location/ Site concerned:</b>	Inserm U830 - Institut Curie, <a href="https://curie.fr/unite/u830">https://curie.fr/unite/u830</a>
<b>Partner institution:</b>	Institut Curie, Université PSL
<b>Research contact:</b>	Olivier DELATTRE : <a href="mailto:olivier.delattre@curie.fr">olivier.delattre@curie.fr</a>
<b>Administrative contact:</b>	<a href="mailto:chaires-professeur-junior@inserm.fr">chaires-professeur-junior@inserm.fr</a>
<b>Research fields EURAXESS :</b>	Cancer research (Medical sciences)
<b>Keywords:</b>	pediatric cancers, cell-of-origin, bioinformatics, single cell analyses, development

<b>Job title to be filled:</b>	Chaire - Identification of dysregulated embryonal programs in pediatric cancers
<b>Body after tenure:</b>	Research Director
<b>Anticipated duration of the contract:</b>	5 years
<b>Scientific domains/fields:</b>	Cancer
<b>Corresponding specialized scientific commissions (CSS):</b>	CSS 2 - Oncology, genetic diseases

**Project name:**

Identification of dysregulated embryonal programs in pediatric cancers

**Remuneration package  
Quota**

3 500€ - 5 000€ according to research experience  
Full Time

**Strategy of the host institution:**

The Institut Curie (IC) is a private foundation devoted to the fight against cancer. The hospital complex treats all cancers, including the rarest. It devotes considerable space to innovation and clinical research. The IC research center is made up of 13 joint research units in association with the CNRS, Inserm and several IDF universities, a translational research department, and 19 technological platforms brought together in a single entity called CurieCoreTech. It hosts 87 research teams working on 6 themes encompassing the fields of biology, chemistry, physics, and mathematics from fundamental to the most applied aspects. It hosts a large developmental biology research unit.

Clinical and research activities in the field of pediatric oncology are gathered in the care and research SIREDO center headed by Olivier Delattre. It treats all types of pediatric solid tumors and lymphomas. SIREDO has a renowned international expertise in clinical, translational and basic research in the fields of brain tumors, neuroblastoma, sarcomas, retinoblastoma, rare tumors and early drugs development. Pediatric research teams are presently spread over three research units; the U830 headed by O Delattre hosts the Delattre, Schleiermacher and Bourdeaut teams, the UMR3348/U1021 headed by Arturo Londono hosts the Ayrault and Pouponnot teams and the UMR144 headed by Franck Perez hosts the Radvanyi team. In the future (2025) most pediatric teams should gather in a new unit namely, "Children's Oncology Research Unit" which will be headed by O Ayrault.

**Strategy of the host laboratory:**

More than 100 different cancer types can affect children. These cancers are suspected to emerge from dysregulation of normal embryonic development. The IC pediatric research teams mostly investigate the mechanisms of development of pediatric embryonal brain tumors (medulloblastoma, rhabdoid tumors, other embryonic entities), sarcomas, neuroblastoma and retinoblastoma. They develop a variety of techniques to investigate these tumors including genomics, epigenetics, proteomics, single cell approaches to characterize the tumor cells and the microenvironment. The teams have identified some key driver genetic alterations and developed a variety of cellular and animal models for these cancers. The understanding of cell transformation in pediatric cancers requires a better knowledge of the cell and tissue context in which these alterations are oncogenic. Recent data strongly suggest that cells-of-origin of pediatric cancers are early embryonic precursor cells.

This chair aims to support and intensify this work on the identification of the pediatric cancer

precursor cells, on the modeling of their development as well as in consolidating the existing dynamic in pediatric oncology at institute Curie.

#### Summary of the scientific project:

The scientific project will aim at modeling the early step of the development of pediatric cancers. It will address the spatial and temporal organization of the tissue of origin, the signaling pathways that are at stake to determine the trajectories and differentiation pathways of the cells. It will investigate how the genetic events reprogram the fate of the cells-of-origin. The project will require an excellent training in computational biology to compare at different levels (expression, epigenetic architecture, splicing...) the tumor cells with atlas of normal single cells during embryonic development. It will also require skills to develop spatial proteomics and transcriptomics to precisely investigate the interactions of the cells with their microenvironment both in a tumor and in a normal developmental context. Ability to interact with foetopathologists as well as with developmental biologists will be essential.

The recruited researcher will work within the mentioned framework and is also expected to develop his/her own research on NDDs.

#### Summary of the teaching project:

The recruited researcher will participate in the teaching bioinformatics at M2 level in cancer research, Paris Saclay as well as in Systems biology, genomics and bioinformatics at université PSL. He/She may also take part in teaching at Ecole doctorale PSL. He/She will also contribute to post university training of oncopediatricians.

#### National Research Agency package:

200k€

#### Other package:

Co-funding (Institut Curie junior PI package)\*

- Staff support: 300k€
- a start-up funding (consumables, platforms): 120k€
- Privileged access to postdoc and PhD programs : 280k€

### Scientific dissemination/ Open Science:

#### Scientific communication and dissemination:

The recruited researcher will be encouraged to actively promote their results and define the target audience (advocacy groups patient organization, healthcare professionals, researchers, industry, funding agencies). He/she will also publish his/her results in high-level international scientific journals and present them at international conferences (AACR, EACR, SIOP etc.).

#### Open Science:

The recruited researcher will comply with INSERM and Institut Curie current policies about Open Science practices, in particular:

- Open access (OA) to scientific publications; OA to research data under the principle “as open as possible, as closed as necessary”, including access to information about the research tools and instruments needed to validate or re-use data; OA codes for the tools and models that will be proposed and developed during this project;
- Compliance with FAIR principles.
- Deposit of all the scientific productions from the chair in the national HAL archive, like the productions of the host laboratories;
- Publication of “pre-print” (e.g., via biorxiv.org);
- Use of GITHUB type servers for the distribution and sharing of software and data analysis procedures

### Science and society:

The U830 team members are fully involved in sharing their research with patients’ advocacy groups, with the public through participation to gold September events on pediatric oncology. He/She will also contribute enhancing the visibility of career paths in genetics (i.e. scientific and medical professions) among secondary school students through laboratory open days.

### Indicators:

Mentoring will be set up for the recruited applicant with a mentor internal to institute Curie and a mentor external to this organization. They will advise the recruited researcher on administrative, regulatory, human resources and financial aspects and also to seek solutions in case of difficulties. He/She will participate in the monthly meeting of U830 group leaders. He/She will have regular meetings with the unit director to monitor the progress of the project (ongoing experiments/developments, publication plans and promotion of results), teaching organization, fundraising, and discuss about the difficulties encountered and any possible reorientations. This follow-up will ensure the recruited researcher has the best conditions for site integration in prevision of his/her tenure at the end of the chair.

### **Selection of candidates:**

It is expected the recruited researcher to become rapidly a group leader in the GAD team. So the candidate should demonstrate ability to supervise Ph.D students, post-doctoral fellow and technical support staff. She/he should have the capacity to obtain competitive funding to manage her/his group.

Successful candidates are chosen by a selection commission composed of six to ten members, the majority of whom are specialists in the fields of research concerned.

The commission carries out an initial examination of the applications, focused in particular on candidate experience and skills relative to the research and teaching project presented above. A shortlist of candidates is then selected for interview.

Only candidates selected by the selection committee on the basis of their applications will be invited to interview.

The interviews are followed by a deliberation during which selection commission will discuss the quality, originality and, where appropriate, the interdisciplinarity of the research and teaching projects presented by the candidates, their motivation and their scientific and teaching supervision capacity.

The candidates selected at the end of the selection process will be offered a researcher contract, following approval from the President and CEO of Inserm.

### **Contract development and tenure:**

Mentoring will be set up for the recruited applicant with a mentor internal to institute Curie and a mentor external to this organization. They will advise the recruited researcher on administrative, regulatory, human resources and financial aspects, and also to seek solutions in case of difficulties. He/She will participate in the monthly meeting of U830 group leaders. He/She will have regular meeting with the unit director to monitor the progress of the project (ongoing experiments/developments, publications plans and promotion of results), teaching organization, fundraising, and discuss about the difficulties encountered and any possible reorientations. This follow-up will ensure the recruited researcher has the best conditions for site integration in prevision of his/her tenure at the end of the chair.

### Required profile:

Education Level : **Phd**

Researcher Profile : R3/R4

*R3 Established researcher A stage in a researcher's career describing those who have developed a level of independence and can be described as an established researcher*

*R4 Leading Research A stage in a researcher's career where they can be termed a 'leading researcher'. This would include the team leader of a research group or head of an industry R&D laboratory.*

Your application will be evaluated according to the following criteria :

- Relevance and originality of the project related to the research field
- International exposure in research projects
- Your ability to raise funds
- Participation in editorial and reviewing activities
- Your teaching experience
- Your ability to lead a team...

### Application instruction:

Applications can be submitted online at [EVA](#).

Deadline application: **September 10, 2024**

*Please complete the scientific file in English.*

***It is imperative to contact the laboratory corresponding to the Chair you have applied for in order to build the project with them.***

Position also open to 'Bénéficiaires de l'Obligation d'Emploi' (disabled persons), as defined in article 27 of law no. 84-16 of January 11, 1984 on statutory provisions for the civil service.