

## CALL FOR APPLICATION

### INSERM CHAIR Recruitment

#### Live-cell imaging for high-dimensional phenotyping of cancer

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>	OCCITANIE
<b>Location/ Site concerned:</b>	INSERM U1037 - Centre de recherches en cancérologie de Toulouse (CRCT)
<b>Partner institution:</b>	Université Toulouse-III-Paul-Sabatier
<b>Research contact:</b>	Pierre CORDELIER : <a href="mailto:pierre.cordelier@inserm.fr">pierre.cordelier@inserm.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 Science)
<b>Keywords:</b>	Cancer, Imaging, Label-free, Longitudinal, Resistance

<b>Job title to be filled:</b>	Chaire - Live-cell imaging for high-dimensional phenotyping of cancer
<b>Body after tenure:</b>	Research Director
<b>Anticipated duration of the contract:</b>	5 years
<b>Scientific domains/fields:</b>	Health and Biology

<b>Corresponding specialized scientific commissions (CSS):</b>	Oncology genetic diseases – CSS2
<b>Project name:</b>	Live-cell imaging for high-dimensional phenotyping of cancer
<b>Remuneration package</b>	3 500€ - 5 000€ according to research experience
<b>Quota</b>	Full Time

### Strategy of the host institution:

The French National Institute for Health and Medical Research (INSERM) is the primary public institution dedicated to biomedical and health research. Inserm conducts research with a focus on translating research findings into clinical and therapeutic applications that address current public health challenges. Partners include universities, hospitals, and international research organizations.

Inserm is steadfastly committed to advancing excellence in biomedical research and translating the latest scientific discoveries into tangible medical benefits for patients. This proposal articulates a comprehensive strategy aimed at attracting high-level research fellows, fostering robust international collaborations, and promoting cutting-edge technological innovation to strengthen the French research community. By implementing this strategy, Inserm seeks to support the sustained development and significantly increase the international visibility of the Cancer Research Centre of Toulouse (CRCT). Through this CPJ, the institution will reinforce multidisciplinary and translational approaches that deepen the understanding of the complex biological mechanisms underlying oncogenesis and therapeutic resistance, ultimately improving outcomes for patients suffering from hard-to-cure neoplasms. Inserm will invest in creating state-of-the-art research environments and dedicated technological platforms designed to accelerate the translation of scientific discoveries into effective therapeutic advances, while also maximizing opportunities for clinical and economic valorisation. Together, these efforts form a cohesive and forward-looking strategy that enhances Inserm's position as a global leader in biomedical research and innovation.

### Strategy of the host laboratory:

The objective of the CRCT (U1037) is to attract and retain talented scientists who will become tomorrow's leaders at the interface of molecular biology, translational oncology, and interdisciplinary sciences, including engineering, data science, and technological development. The candidate will be expected to strengthen the international visibility of the CRCT and to contribute to the diversification and enrichment of our scientific programs. He/she will also play a key role in teaching and mentoring students. The candidate will benefit from strong institutional support, including dedicated administrative assistance and access to seed funding, to ensure scientific innovation, pedagogical impact, and long-term career development.

### Summary of the scientific project:

High-dimensional phenotyping techniques, such as proteomics and transcriptomics, provide information on the expression of thousands of proteins or genes at the single-cell level. These

advances have revolutionized biology by offering a detailed description of cell states both in vitro and within tissues. More recently, spatial approaches, often based on fluorescence microscopy, have enabled precise localization of these phenotypes, further improving our understanding of tissue organization and responses. However, several biological processes that rely on dynamic transitions in cell state (differentiation, dedifferentiation, epithelial–mesenchymal transitions, metabolic plasticity) remain out of reach. These dynamic changes, which are central to cancer biology, play key roles in metabolic adaptation, tumorigenesis, and therapeutic resistance. This project aims to develop microscopy techniques capable of high-dimensional and temporal phenotyping, applicable to 2D/3D models and clinical samples, to characterize the mechanisms underlying chemoresistance.

### Summary of the teaching project:

Major advances in super-resolution microscopy and live-cell imaging provide essential insights into tumour biology, invasion, and treatment response. Current techniques overcome the diffraction limit (~200 nm) and enable the visualization of structures at the nanometre scale (0.1–100 nm). The pioneering work of E. Betzig, S. Hell, and W. Moerner, awarded the 2014 Nobel Prize in Chemistry, made it possible to visualize single molecules, receptor clusters, and dynamic protein interactions that are key to understanding tumour signalling and therapeutic resistance. The teaching program will provide the necessary tools, including those based on artificial intelligence, to understand and select the microscopy technique best suited to a given biological question.

**National Research Agency package:** 200k€

**Other package:** 360k€

#### Co-funding\*

Dépenses de services externes prises en charges par le CRCT sur ses dotations de Subvention d'État : 22 000 € / an sur 5 ans

Dépenses communes de fonctionnement d'Unité prises en charge par le CRCT sur ses dotations de Subvention d'État : 17 000 € / an sur 5 ans

Dépenses d'infrastructure prises en charge par l'Inserm : 33 000 € / an sur 5 ans

\*source et montant

### Scientific dissemination/ Open Science:

**Scientific communication and dissemination:** The recruited candidate will play an active role in scientific communication and outreach, both within the academic community and to a broader audience. This includes presenting research findings at national and international conferences, publishing in peer-reviewed journals, and participating in outreach activities carried out in collaboration with institutional partners. The candidate will also be expected to contribute to science-communication initiatives aimed at strengthening public awareness and understanding of research, and to support the development of an ambitious communication strategy designed to increase the visibility and impact of the research center's work.

**Open Science:** The recruited candidate will be expected to promote and actively implement the principles of open science. This includes ensuring open access to publications, sharing research data and tools in compliance with ethical and legal standards, and contributing to collaborative platforms that foster transparency and reproducibility. The candidate will also play a role in raising awareness of open science practices within the CRCT and in integrating these principles into training activities and student mentoring.

**Science and society:** The recruited candidate will be encouraged to engage in constructive dialogue between science and society, to strengthen the connection between research and societal needs. This includes participating in public debates, contributing to awareness and educational initiatives, and collaborating with civil society or patient associations when relevant. The candidate will be expected to promote responsible research and innovation by integrating societal and ethical dimensions into their work, and by making science accessible and meaningful to diverse audiences.

#### Indicators:

**Teaching:** The recruited candidate will contribute to higher education at the undergraduate and/or master's level, in alignment with the institution's academic programs, including the EUR CARE initiative led by the CRCT. Responsibilities will include delivering lectures, supervising practical courses, designing pedagogical materials, and mentoring students. The candidate must demonstrate a strong commitment to pedagogical innovation and interdisciplinary approaches, ideally integrating their research activities into teaching. Experience in supervising master's students or doctoral candidates, as well as participation in international teaching activities or joint degree programs, will be considered an asset. Proficiency in English is required, and proficiency in the local language (or willingness to acquire it) is expected.

**Research:** The recruited candidate will be expected to develop an ambitious and independent research program aligned with the strategic priorities of the research center. Candidates should present a strong publication record, the ability to secure competitive funding, and a clear vision for establishing national and international collaborations. Attention will be given to candidates whose profile and scientific maturity are compatible with prestigious funding schemes such as the ERC Starting Grant. The candidate will also contribute to the scientific life of the institution, notably through mentoring early-career researchers and participating in interdisciplinary initiatives.

**Knowledge transfer:** The recruited candidate will be encouraged to take an active role in knowledge-transfer activities, including collaborations with industry, technology transfer, and the valorization of research findings. This may involve contributing to patent applications, participating in the creation of start-ups, or developing partnerships with public or private stakeholders. The candidate should demonstrate an interest in translating scientific advances into concrete applications with clinical or economic impact. Experience in innovation management, translational research, or interaction with technology-transfer offices will be considered a significant asset.

#### 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.

### 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 2, 2026**

*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.