

## CALL FOR APPLICATION

### INSERM CHAIR Recruitment

## New epigenetic molecular targets to understand the mechanism of oncogenesis and develop personalized anticancer therapies

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.

Application on EVA: <https://eva3-accueil.inserm.fr/sites/eva/chaieres/2023/session2/Pages/default.aspx>



<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>	Auvergne-Rhône-Alpes
<b>Location/ Site concerned:</b>	Grenoble, Institut pour l'Avancée des Biosciences, Inserm U1209-CNRS 5309-UGA
<b>Partner institution:</b>	Université Grenoble-Alpes
<b>Research contact Administrative contact</b>	M. Pierre HAINAUT: <a href="mailto:Pierre.HAINAUT@inserm.fr">Pierre.HAINAUT@inserm.fr</a> <a href="mailto:chaieres-professeur-junior@inserm.fr">chaieres-professeur-junior@inserm.fr</a>
<b>Research fields EURAXESS :</b>	Biological sciences, Cancer research, Public Health, Immunology
<b>Keywords:</b>	Epigenetics, heterochromatin, cell plasticity, microenvironment, metabolism, experimental therapy

<b>Job title to be filled:</b>	New epigenetic molecular targets to understand the mechanism of oncogenesis and develop personalized anticancer therapies / Nouvelles cibles moléculaires épigénétiques pour comprendre le mécanisme de l'oncogenèse et développer des thérapies anticancéreuses personnalisées.
<b>Body after tenure:</b>	Research Director
<b>Anticipated duration of the contract:</b>	4 years

<b>Scientific domains/fields:</b>	cell biology/molecular biology/experimental therapy CoCNRS 11, 21, 22,24,27,28 ; CNU 64,65
<b>Corresponding specialized scientific commissions (CSS):</b>	CSS1: Biologie cellulaire, moléculaire et structural CSS2: Cancérologie, maladies génétiques CSS5 : Immunologie, Microbiologie, Infection CSS6 : Santé publique, santé des populations
<b>Project name:</b>	Interactions between epigenome, metabolism and cellular and mechanical microenvironments in development and diseases

<b>Funding :</b>	
<b>ANR package :</b>	200k€
<b>Co-funding University Grenoble Alpes, IAB</b>	130k€
<b>Total project</b>	330k€

<b>Remuneration package Quota</b>	3 500€ - 5 000€ according to research experience Full Time
-----------------------------------	---

### Strategy of the host institution:

The Institute for Advanced Biosciences develops fundamental and translational research programs with a focus on understanding the molecular and cellular mechanisms by which cells adapt to the constraints of their environment at all scales of the living (from molecules to ecosystems). This strategy is based on 4 keywords: epigenetics, environment, cell plasticity and cancer. IAB brings together 19 research teams and groups supported by 6 technical platforms (300 staff). The main translational endpoints are cancers, infectious diseases (viruses and parasites), fertility and development pathologies and prevention of environmental exposures in early life.

IAB develops translational and pre-clinical research programs in partnership with CHU Grenoble-Alpes and actively cooperates with other research centers of the Grenoble site, in particular EMBL, IBS and molecular chemistry/pharmacochemistry and physics departments of UGA.

### Strategy of the host laboratory:

Research at IAB encompasses a wide range of topics and expertise, from molecular genetics and epigenetics to cell biology, molecular pathology, parasitology, immunology and environmental epidemiology.

Research is organized in three interacting Departments: Signalling through Chromatin, Cell plasticity, Micro-environment and Signalling and Environment, Reproduction, Infections and Cancer. This scientific structure provides a framework for bringing together ideas, methods and people to find out innovative responses to biological and medical questions. The common goal of this interdisciplinary approach is to elucidate the mechanisms by which complex biological and pathological phenotypes emerge and transform along trajectories of health that link environmental exposures, metabolism, infectious diseases and cancer. An underlying theme across all topics is experimental therapy, with many programs oriented towards pre-clinical proof of concept of novel targets and interventions. IAB programs take advantage of an exceptionally rich technological environment in Grenoble, encompassing platforms dedicated to structural biology (EMBL, IBS),

proteomics (CEA), quantitative fluorescence microscopy, flow cytometry, genome and protein engineering, metabolomics/lipidomics, in vivo imaging and animal models.

#### **Summary of the scientific theme:**

The proposed project will aim at promoting original concepts and approaches for understanding the interactions between the dynamics of the epigenome, cellular metabolism and the cellular and mechanical microenvironment. Specifically, the project will aim at better understanding fundamental molecular and cellular processes that control heterochromatin dynamics and cellular plasticity in normal development and diseases.

Epigenome and the flow of information to and from the genome determine the type, position and precise function of each cell within complex systems of interactions between cells and their environment. The architecture of the epigenome and the activation of transcriptional programs is itself directly dependent on the metabolic and micro-environmental context of the cell. The disruption or alteration of these information flows are the basis of many pathologies, including cancers, and determine the trajectories of evolution towards resilient forms.

In addition to a solid fundamental component, the project should include a translational dimension (discovery of biomarkers, new therapeutic targets, experimental therapies). Two important criteria are (1) originality and relevance of the experimental models proposed and effective capacity to implement them; (2) consistency of the project with the strategic themes developed by the departments and teams of the IAB.

#### **Summary of the teaching project:**

The teaching project fulfills a need to renew and increase academic and university leadership in the field of cell biology applied to pathology, a strategic area for UGA-CHUGA interfaces and health site projects. Specifically the project will aim at strengthening teaching in epigenetics, biology of cell-cell interactions and cell-substrate interactions and their implications for cell plasticity and tissue reprogramming in diseases including cancers, chronic and infectious diseases.

The development of the teaching offer should lead towards taking on responsibilities for teaching units and courses, at bachelor's and master's level.

The candidate will also be expected to contribute to the development of an international teaching offer by leading and/or participating in summer school projects such as epigenetics applied to health.

#### **Scientific dissemination/ Open Science :**

The successful applicant is expected to publish in the best journals and conference in his discipline as principal author but also as co-author of publications co-developed with other teams and departments of IAB. About 70% of IAB publications involve researchers from more than one team, emphasizing the collaborative strategy of the unit. Whenever required, data and advanced results will be made available through publications and deposit in public databases such as bioRxiv and HAL. The successful applicant will comply with EU recommendations on Communication, Dissemination and Exploitation ([https://ec.europa.eu › quick-guide\\_diss-expl\\_en](https://ec.europa.eu/quick-guide_diss-expl_en)) and with Inserm best practices on signing scientific publications (<https://pro.inserm.fr/rubriques/recherche-responsable/integrite-scientifique/signature-des-publications-scientifiques>)

#### **Open Science :**

IAB is committed to Open Science and the successful applicant will comply with OS standards on two specific aspects: publications and data management, sharing and reuse. The relevant indicators for publication are those defined the EU indicators frameworks for fostering open knowledge practices in science and scholarship, including I4OC, OpenAIRE, Crossref and the European Open Science Cloud. Relevant indicators for data management, sharing and reuse and encapsulated into FAIR principles. Within these general principles, major innovations will be identified and processes for IP protection and patent filling prior to open publication.

### Science and society:

The successful applicant will comply to Horizon 2020 Programme Open Innovation and Open Science Research Infrastructures-Research Infrastructure Impact Assessment Pathways/science and society P12 Promoting engagement between science, society and policy. Specifically, the successful applicant will comply with Inserm and IAB established practice for scientific mediation and dissemination to the public. He/she will also actively participate in mediation events such as Fête de la Sciences, Nuit des Chercheurs or Journées Patients / Chercheurs. The successful applicant will receive appropriate media training.

### Selection of candidates:

It is expected the recruited researcher to become rapidly a group leader in the 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...

### Indicators:

#### Teaching

1. Capacity to effectively transfer knowledge through teaching
2. Usage and development of innovative teaching and pedagogical practices
3. Capacity to ensure student training through research at L3, M1 and M2 levels

#### Research:

1. Patents and Publications
2. Invited papers lectures in national and international conferences
3. Ability to organize workshop and conferences
4. Ability to supervise doctoral students and support staff
5. Capacity to leverage and obtain competitive funding
6. Capacity to compete in EU excellence programs (ERC) and to integrate EU/international research networks.

#### Knowledge transfer

1. Capacity to identify and prioritize major innovation towards IP and patent filling
2. Capacity to initiate value creation processes within the framework of Inserm-Transfert and other relevant actors.
3. Capacity to contribute expertise towards the development of expertise (e.g. risk evaluation), best practice (e.g. recommendations) or public policies.

### Application instruction :

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

Deadline application: 11<sup>th</sup> September 2023

*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.