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Inserm
La science pour la santé
From science to health

HR EXCELLENCE IN RESEARCH

# CALL FOR APPLICATION

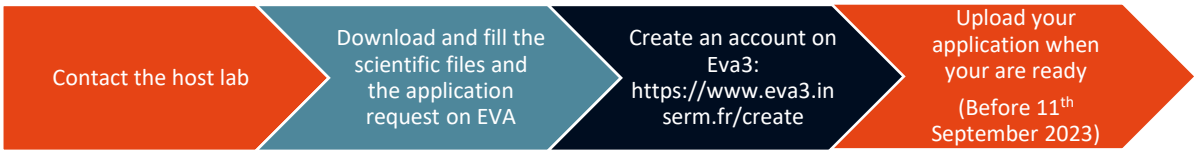
# INSERM CHAIR Recruitment

## Skin Immunosurveillance in relationships with commensal virus homeostasis and dysbiosis

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/chaires/2023/session2/Pages/default.aspx

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| **Supporting institution:** | Inserm : Institut national de la Santé et de la recherche médicale |
| **Name of the head of the institution:** | Pr. Didier Samuel |
| **Academic region:** | Versailles |
| **Location/ Site concerned:** | Paris-Saclay University - MI2 – U996 Inserm |
| **Partner institution:** | Paris-Saclay University |
| **Research contact** | Dr. Françoise Bachelerie (Director): francoise.bachelerie@universite-paris-saclay.fr |
| **Administrative contact** | chaires-professeur-junior@inserm.fr |
| **Research fields EURAXESS :** | Immunology, microbiology |
| **Keywords:** | Immunosurveillance, Inflammation, Pathogenic potential of the skin-virome, Human papillomaviruses (HPV), Infectious diseases, Models, Therapeutic intervention. |

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| **Job title to be filled:** | Chaire en immunosurveillance et virome cutané : relations et rôle dans les pathologies inflammatoires |
| **Body after tenure:** | Research Director |

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| **Anticipated duration of the contract:** | 5 years |
| **Scientific domains/fields:** | Immunology, microbiology |
| **Corresponding specialized scientific commissions (CSS):** | CSS3 : Physiologie et physiopathologie des grands systèmes<br>CSS5 : Immunologie, Microbiologie, Infection<br>CSS7 : Technologies pour la Santé |
| **Project name:** | Skin Immunosurveillance in relationships with commensal virus homeostasis and dysbiosis |
| **Acronym:** | VIGILE |

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| **Funding for the 5-year period:** | |
| **ANR package :** | 200k€ |
| **Co-financing (operation (animal models and organoids/3D cultures)- for the 5-year period** | 100k€ |
| **Total project** | 300k€ |
| **Annual charged-Salary** | 59k€ minimum |

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| **Remuneration package** | 3 500€ - 5 000€ according to research experience |
| **Quota** | Full Time |

## Strategy of the host laboratory:

The UMR996 “Inflammation, Microbiome and Immunosurveillance” Inserm-UPSaclay project benefits from its double affiliation with the schools of Medicine and Pharmacy of the Paris-Saclay university. It is developing in a multidisciplinary context relying on a strong community of experts in Biology, Chemistry, and Pharmacotechnics with whom collaborations are favored by grant programs led by the Interdisciplinary action "Health and Therapeutic Innovation" and the graduate schools (GS) "Health & Drug Sciences" and "Life Sciences and Health". The researchers, professors, associate professors and clinicians of the Inserm UMR996 have the shared ambition of conducting fundamental research related to diagnostic and therapeutic applications in the fields of inflammation and immunosurveillance.

**One of the research axes of the unit focuses on skin immunosurveillance mechanisms and, in turn, the role of viral communities or (i.e. virome) inhabiting human epithelia in their homeostasis and immunity**. We are investigating the mechanisms that trigger the pathogenic potential of the virome leading to inefficient epithelial immune responses, uncontrolled inflammation and the emergence of pathologies (autoimmunity, allergy, cancer) in which these commensal microbes may play an initiating or worsening role, with a perspective to develop new therapeutic approaches. The UMR996 recently integrated the new Henri Moissan Institute in Saclay Campus, hosting a large panel of technical facilities, where it benefits from a scientific environment of excellence.

In this attractive context, but also in the perspective of the departure of senior leaders, the recruitment of a young leader within the framework of an Inserm chair would make it possible to reinforce this challenging theme, to contribute to the development of innovative research within the immuno-inflammation axis and thus to preserve the competitiveness and ambition of the UMR996 project.

## Summary of the scientific theme:

The homeostasis of the skin, a barrier interface with the external environment, is controlled by interactions between immune cells (resident or recruited from the circulation) and non-immune cells (keratinocytes, melanocytes and dermal cells including fibroblasts, endothelial cells and sensory nerve cells). Recent discoveries over the past two decades about the skin microbiome, which encompasses large communities of bacteria and viruses, have significantly provided a new conceptual framework for studying the mechanisms controlling epithelial barrier integrity and defenses against pathogens. Along these lines, how the responses of skin-resident immune cells and non-immune cells may be shaped by the skin microbiome remains an unresolved question. Also, the existence of some commensal viruses with pathogenic potential raises the question of immunological and environmental factors that may bias these viruses towards pathobionts. In this respect, the case of human papillomaviruses (HPV), which is the virus on which the projects of the team "Immunoregulation, Chemokines and Viral Persistence" focus, is particularly edifying; metagenomics has revealed that this large family of more than 400 viruse types that represent the main commensal viruses of the skin, even though some of them are responsible for ~5% of cancers and constitute important comorbidity factors of various inflammatory diseases. One of the aims of the recruited researcher will be to characterize the underlying mechanisms that can promote a commensal-to-pathogen transition of virome communities and a harmful inflammatory response.
**As a PI, the recruited researcher is expected to develop an original theme built on his/her expertise in immunology and, ideally, on the skin environment. Alternatively, we will also consider candidates with expertise in microbiology, given that the team/unit scientists will provide complementary expertise in microbiology or immunology**. The recruited researcher will consider the implementation of models relevant to the study of the organization and physiopathology of the human skin environment, including the significant potential of skin organoids. These objectives will commit interdisciplinary projects with abroad biologists, chemists, or pharmacochemists, to contribute to the development of therapeutic strategies in the framework of the Henri Moissan scientific strategy.

## Summary of the teaching project:

28 hours of lectures or 42 hours of tutorials.

The recruited researcher will:

(i) Provide courses in the Master 2 Program "Biology applied to therapeutic and diagnostic innovation" (BioInnov), in the Master Degree "Pharmaceutical Sciences", based on their scientific expertise (https://www.universite-paris-saclay.fr/en/education/master/pharmaceutical-science/m2-biologie-appliquee-linnovation-therapeutique-et-diagnostique);

(ii) Organize thematic teaching sessions (lectures and practical) for the PhD students of the Therapeutic Innovation doctoral school

(https://www.universite-paris-saclay.fr/en/doctoral-schools/therapeutic-innovation:

https://www.universite-paris-saclay.fr/en/phd-program-health-and-drug-sciences-graduate-school-health-and-drug-sciences-heads);

(iii) Contribute to informing students regarding international mobility based on their own professional background, in relationship with our international relations department.

The contribution to the teaching and student education will take place in the frame of the Graduate School "Health & Drug Sciences" (HeaDS) (https://www.universite-paris-saclay.fr/graduate-schools/health-and-drug-sciences).

She/He will organize a Summer School (Twice in the 5-year contact) for the Paris-Saclay community and beyond, with the support of the Graduate School, as part of an interdisciplinary center (e.g. Microbes, https://www.universite-paris-saclay.fr/objets-interdisciplinaires/microbes).

## Scientific dissemination/ Open Science :

The recruited researcher is expected to develop an original multidisciplinary project that will generate innovative concepts and models breaking technological barriers. This work will be the source of publications in leading specialized and generalist journals (rank A), of valorization (patent, industrial collaboration) and of oral communications at international congresses/conferences/workshops, some of which may be set up by the recruited researcher and his/her team in Paris-Saclay.

**Open Science :**
Publications will be deposited on the HAL-Inserm platform. Omics data (e.g. genomics, transcriptomics, proteomics) will be shared and disseminated via publications. The recruited researcher will implement the guidelines for making data "FAIR" (Findable, Accessible, Interoperable, Reusable) in accordance with the global policy promoted by Inserm.

## Science and society:

The field of research on the relationship between viruses and their hosts (e.g. description and benefit of a virome, risk and susceptibility factors for the commensal/pathogenic transition, experimental systems as an alternative to animal models, etc.) is well suited for communication to a non-initiated public. Numerous actions led by Inserm (e.g. Sciences with and for society) or Paris-Saclay (e.g. international virtual café, Café Cadithe, Scoop.it) will offer the recruited researcher communication platforms for science popularization.

## 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 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:

Several criteria will make possible to follow and support the evolution of the recruited researcher in his/her research activities. Beyond the usual bibliometric indicators (e.g. publications, communications), the project must be deployed through a network of collaborations (national or European consortia or bilateral relations) giving rise to financial support (e.g. regional, national and European calls for projects) and to the recruitment of master's degree trainees, PhD students or post-doctoral fellows The teaching activities of the recruited researcher will also be periodically evaluated by the accredited training committee. In addition to this regular follow-up, an in-depth annual evaluation of the active progress of the Chair project will be carried out by a follow-up committee in order to offer all the guarantees that, at the end of the position, the recruited researcher will be able to join the ranks of Research Directors.

## Application instruction :

Applications can be submitted online at EVA.
Deadline application: 11th 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.