

Looking for MSCA postdoctoral fellows to work on the project : « Obesity and breast cancer: patient-derived tumoroid models and mechanistic study of adipose microenvironment–tumor crosstalk »

Université Clermont Auvergne is looking for applications from candidates interested in submitting a project to the MSCA POSTDOCTORAL FELLOWSHIP (MSCA-PF) 2026 call for proposals (Deadline: 09/09/26). See §3 for eligibility criteria

Candidates will also have the unique opportunity to participate in the first MSCA-PF Master Class (**apply before 13/03/2026**, see below)

1. About the research project

Supervisor : **Laetitia DELORT**, Professor et ECREIN Team, UMR1019 INRAE-Université Clermont-Auvergne ([ECREIN - UNH - Unité de Nutrition Humaine](#))

The postdoctoral research project will be part of a project entitled : Obesity and breast cancer: patient-derived tumoroid models and mechanistic study of adipose microenvironment–tumor crosstalk.

Key words : Breast cancer tumoroids (PDO)-Obesity-Tumor microenvironment-Therapeutic resistance-3D culture-biomarkers

Obesity is a major risk factor for postmenopausal breast cancer and an unfavorable prognostic factor, influencing tumor growth, inflammation, therapeutic resistance, and recurrence. This project aims to develop a patient-specific tumoroid model exposed to an obesogenic microenvironment in order to explore the interactions between adipocytes, pro-inflammatory cytokines, and tumor cells. The analyses will integrate multi-omic and functional approaches to identify the metabolic and inflammatory signatures of obesity in breast cancer and test their impact on therapeutic sensitivity.

The project is very broad and there are various research directions that could be developed as part of a postdoctoral fellowship, including the following (other directions are possible depending on the postdoctoral fellow's interests and areas of expertise):

- Establish and characterize tumoroids derived from obese and non-obese breast cancer patients.
- Analyze the transcriptomic and metabolic differences between these tumoroids.
- Reconstitute an obesogenic microenvironment by co-culture with adipocytes and macrophages derived from human adipose tissue.
- Evaluate sensitivity to treatments (chemotherapy, hormone therapy, metabolic inhibitors).
- Identify predictive biomarkers related to obesity (cytokines, metabolites, gene expression).

¹ https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-euratom_en.pdf

2. About the host institution and the unit :

Université Clermont Auvergne (UCA) is a multidisciplinary higher education institution located in Clermont-Ferrand, France. The university is composed of 20 faculties, 5 doctoral schools and 39 research laboratories working in the fields of fundamental and engineering sciences, life and health sciences as well as law, human and social sciences.

With 40 000 students, including almost 5 500 (14%) international ones and 3.800 staff, it plays a key role in the territorial structuration and the building of a European level region.

On March 2019, UCA has received a grant the "HR Excellence in Research" label for its European Strategy Human Resources for Researchers, also called HRS4R (Human Resources Strategy for Researchers). The quality of foreign students' hosting at UCA has also been recognized with the award of the French label « Bienvenue en France » (Welcome in France) in March 2020.

Human Nutrition Unit, UMR INRAE-Université Clermont-Auvergne

The main objective of the ECREIN team is to characterize the response of immunocompetent cells (ICCs, i.e., immune, adipocyte, endothelial, epithelial, and chondrocyte cells) to changes in their microenvironment. This project falls within the field of immunonutrition, with two major objectives:

1) To Identify the relationships between immune/inflammatory alterations and metabolic disorders linked to nutritional status in physiopathological situations (notably aging, cancer, obesity, osteoarticular pathologies, food allergies and intolerances).

2) To Maintain/optimize the response capacities of immunocompetent cells through targeted nutritional interventions in a preventive and/or therapeutic approach. To this end, a strategy for modulating the dialogue between CICs and other tissues (breast, intestine, bones in particular) is developed through the use of immunomodulatory bioactives (pre- and probiotics, vitamin D, plant bioactives), in order to prevent the risk of chronic pathology associated with aging.

In this context, we select and evaluate plants/bioactives of natural origin exerting effects on immunocompetent cells and/or with anti-proliferative activity thanks to our associated skills in phytochemistry and biology.

The team includes about 20 permanent staff and 10 non-permanent members (PhD students, post-docs, etc.).

3. European Postdoctoral Fellowships (EF): eligibility

We are looking for a candidate for a 2-year European Postdoctoral Fellowship.

Applicants must:

¹ https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-euratom_en.pdf

- be in possession of a doctoral degree or have successfully defended their doctoral thesis at the date of the call deadline (10th September 2025)
- have a maximum of 8-year experience in research from the date of award of the doctoral degree at the date of the call deadline
- not have resided or carried out their main activity (work, studies, etc.) in France for European Fellowship or in the country hosting the outgoing phase for Global Fellowship for more than 12 months in the 3 years at the date of the call deadline
- be nationals or long-term residents of the EU Member State or Associated Country (for GF only, there is no nationality restriction for EF).

4. Application to the Master Class

For the first time, a Master Class will be organised in Clermont-Ferrand during the week of the 8th of June 2026. The aim is to host candidates for the MSCA PF grant for 3 days so that they can visit the town, the lab and work together with their supervisors on the project proposal, with the mentoring of european support services from UCA, CNRS, INSERM and INRAE.

Once the candidate and their supervisor have agreed, [expressions of interest](#) must be completed and sent to cap-europe@uca.fr before the 13th of March 2026.

More information on CAP Europe website [here](#).

¹ https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-euratom_en.pdf