Postdoctoral Position in Theoretical Biophysics (F/M) (F/H)

LOCALISATION DU POSTE 75005 PARIS, ÎLE-DE-FRANCE 75005
ÉTABLISSEMENT Institut Curie

ENVIRONNEMENT ET CONTEXTE DE TRAVAIL

Notre établissement fait partie de l'Université PSL. Située au cœur de Paris, celle-ci fait dialoguer tous les domaines du savoir, de l'innovation et de la création. Classée parmi les 50 premières universités mondiales, elle forme au plus près de la recherche des chercheurs, artistes, ingénieurs, entrepreneurs ou dirigeants conscients de leur responsabilité sociale, individuelle et collective.

STRUCTURE D'ACCUEIL

The Curie Institute Research Center

The Institut Curie is a major player in the research and fight against cancer. It consists of a hospital and a Research Center of more than 1000 employees with a strong international representativeness.

The objective of the Curie Institute Research Center is to develop basic research and to use the knowledge produced to improve the diagnosis, prognosis, and therapeutics of cancers as part of the continuum between basic research and innovation serving the patient.

MISSION D'ENSEIGNEMENT

Laboratory

Physics of Cells and Cancer Lab, Institut Curie (Paule Dagenais, Pascal Silberzan)

Team: **Biology-inspired Physics at MesoScales**

PASCAL SILBERZAN - Institut Curie

Collaboration with LPENS (Xiaowen Chen, Vincent Hakim)

Team: **Theoretical neuroscience and biophysics**

Biophysique et Neuroscience Théoriques | LPENS

The project

Collective cell migration, a key process in living systems, remains largely underexplored in the intermediate-density subconfluent regime, where cell clusters coexist with isolated cells, as is often the case in morphogenesis and tumor progression.

A 2-year postdoctoral position in theoretical biophysics is opening in the Physics of Cells and Cancer Lab (Institut Curie - Paule Dagenais, Pascal Silberzan) and LPENS (Xiaowen Chen, Vincent Hakim). Working between the two labs, the project will focus on computational analysis and theoretical understanding of collective cell migration on patterned surfaces. In the subconfluent regime, we recently observed in vitro a new mode of collective migration driven by asymmetric micro-rails (ratchets) whose period is smaller than a cell size.

The project will study how directed collective flows emerge from cell-cell collisions, governed by cell density and substrate geometry. In the long run, the aim includes the exploitation of controlled collective migration to design new cell-sorting strategies, where collective effects can amplify subtle mechanical differences between cell types.

MISSION DE RECHERCHE

COMPÉTENCES ATTENDUES

Training and Skills required

- Training :

Applicants should hold or expect to complete a PhD in physics or a related field, with strong background in soft matter / nonequilibrium statistical physics / numerical simulation / statistical inference.

- Scientific skills :

Previous experience with data analysis would be a plus but not required.

- Language skills :

Perfect fluency in English is required.

Abilities

Applicants should be able to work interactively in a collaborative research environment, including physicists and biologists.

All our opportunities are open to people with disabilities

Contract information

Type of contract: Fixed-term contract.

Starting date: September 2026

Duration: 24 months

Working time: full time

Remuneration: according to the current grids

Benefits: Collective catering, reimbursement of transportation fees up to 70%, supplementary health insurance

Location of the position: Paris

Reference: not to be completed

Contact

Please send your CV, letter of motivation and 2 references

Publication date: 21/04/2026

Deadline for application: once filled

Institut Curie is an inclusive, equal opportunity employer

and is dedicated to the highest standards of research integrity.

https://euraxess.ec.europa.eu/sites/default/files/brochures/eur_21620_en-fr.pdf

NON DISCRIMINATION, OUVERTURE ET TRANSPARENCE

Notre établissement, comme l'ensemble de l'Université PSL, s'engage à soutenir et promouvoir l'égalité, la diversité et l'inclusion au sein de ses communautés. Nous encourageons les candidatures issues de profils variés, que nous veillerons à sélectionner via un processus de recrutement ouvert et transparent.

CONTACT

8sns1pmw2k5k@emploi.beetween.com

AUTRES INFORMATIONS

Recherche principal : **Sciences biologiques** Recherche secondaire : **Biologie**
Durée du contrat24 mois

Expérience souhaitée
1 à 4 années d'expérience (R2) an

Référence
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