

Postdoctoral Position in Genomics (M/F)



The hosting structure

Institut Curie Research Center

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

The objective of the 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.

Context

Laboratory

We are looking for motivated and productive post-doctoral fellows to join our team “Replication Program and Genome Instability” (<https://institut-curie.org/team/chen>) at the Institut Curie, Paris, France. The team focuses on using cutting-edge high-throughput genomic approaches and genome-wide data analyses to study the spatio-temporal replication program of the human genome and how replication stress impacts on genome stability in normal and cancer cells, in population as well as at single molecule/cell level.

The project

It is well known that DNA replication is a vital process in all organisms. At each cell division, the activation of over 30,000 replication origins in a coordinated manner is essential to ensure the duplication of >6 billion base pairs of the human genome. During differentiation and development, this program must adapt to changes in chromatin organization and gene transcription. Its deregulation can challenge genome stability, which is a leading cause of many diseases including cancer and neurological disorders. To move the field forward, novel approaches to investigate DNA replication at the single molecule/cell level are required. Leveraging on our expertise in high-throughput single molecule/cell data analysis, our Impulscience project of the Fondation Bettencourt Schueller (<https://www.fondationbs.org/en/life-sciences/impulsciencer/discover-2022s-laureates>) aims to develop original interdisciplinary methodologies by combining cutting edge high-throughput single molecule/cell imaging/sequencing, mathematical/computational modelling and bioinformatics analyses. With these, we will study the replication program in mammalian cell lines and in developmental model organisms under normal and pathological conditions. This project will finally be able to decipher, at an unprecedented depth, how the replication program links with genome instability in cancer and during neurogenesis.

Bibliographical references

Brison O., et al. *Nat. Commun.* 10:5693 (2019)
Promonet A., et al. *Nat. Commun.* 11:3940 (2020)
Wang, W. et al. *Mol. Cell*, 81, 2975-2988.e6 (2021)
Gnan, S., et al. *Nat. Commun.*, 13, 2329 (2022)

Constraints and risks

- Short periods of travel
- Use of biological/chemical products
- Possibly working with mouse models

Candidate Profile

Training and Skills required

- Both wet and dry-lab postdoc positions are available
- Training: Applicant should hold, or in the process of completing, a PhD degree in biology, bioinformatics or related areas
- Scientific skills: should have solid computational/statistical skills or a solid skill in molecule/cellular biology, and a strong interest in genome biology
- Professional experience desirable: experience with single-cell omics, linear tracing analysis, high-throughput imaging analysis, or neurogenesis is a plus
- Language skills: very good English level and communication skills

Abilities

- Ability to work independently, managerial abilities, aptitude for working in a team
- The candidate should be highly motivated, curious and enthusiastic to work in a collaborative team

All our opportunities are open to people with disabilities

Contract information

Type of contract: Fixed-term contract.

Starting date: As soon as possible

Duration: up to 5 years (renewable contract)

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: 2022-12-UMR3244-POSTDOC01

Contact

Please send your CV, letter of motivation and 3 references, to C.L. Chen (chunlong.chen@curie.fr).

Publication date: *December 14th, 2022*

Deadline for application: *June 30th, 2023*

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