Studies Engineer position in cell biology, IGDR, Rennes, France

We wish to welcome a highly motivated studies engineer in our multi-disciplinary team at the Institute of Genetics and Development of Rennes (https://igdr.univ-rennes.fr/en/). Research in the team focuses on the robustness of cell division through fluorescence microscopy and quantitative biophysical approaches, using the nematode model organism *Caernorhabditis elegans* (e.g. Bouvrais et al., 2021, EMBO report). The current development of an automated microscope allows us to transfer our studies to cultured human cell lines without synchronization, which is a necessary condition for studying the division robustness.

Project description:
The recruited engineer will be an integral part of the on-going research project, funded by the ANR and focused on the study of the regulatory role of microtubule rigidity in cell division. Thus, he/she will participate in the work carried out so far on the nematode with experiments on human cells. The scientific objective will therefore be to reveal division defects (spindle positioning, chromosome segregation) upon impairments of proteins known to regulate the microtubule flexural rigidity. In particular, the engineer will begin this study in the context of human cancerous cells displaying deregulated expression of the proteins of interest. Therefore, the technical objective will be to generate the cell lines necessary for the study and image them using an autonomous microscope to avoid the cell synchronization step. Finally, the engineer will devote part of his/her time to experiments performed using the *C. elegans* nematode.

Job activities:
- Activities related to the use of human cell lines and nematode lines (ordering, reception, maintenance, freezing, crossing) ; Generation of human lines with fluorescent labellings of the structures of interest (by transient transfection) and validation of these lines (sequencing and molecular biology approaches).
- Carrying out genetic disruptions (e.g. RNAi, overexpression) and acquisition of films and images of cell divisions by fluorescence microscopy ; Collection, analysis and interpretation of data, with the use of tools developed within the team.
- Participation in the traceability/transmission of data/experimental protocols to the team members; implementation of safety rules and good laboratory practices.
- Contributing to bibliography monitoring and publications/presentations relating to his/her work.

Duration and salary:
18-month full-time fixed-term contract. Gross monthly salary of around 2280 euros.

Expected skills:
- Hold a Master's degree in molecular biology, cell biology, or closely-related disciplines.
- Strong theoretical and practical skills in cell culture techniques and generation of human cell lines with expression of fluorescently tagged proteins; Proven experience in molecular and cellular biology (cell line transfections, genetic disruptions) and fluorescence microscopy.
- Ability to work collaboratively as part of a research team ; Strong organizational and communication skills, including the ability to express him/herself in English; Performing his/her activities in a healthy and safety way ; Basic computer skills.
- Prior experience in the study of cell division or microtubules, in image and data analysis, and in the use of the nematode model will be considered very favorably without being obligatory; Interest in biophysics and interdisciplinary approaches will be considered favorably.

Professional environment:
The IGDR is a dynamic and expanding institute of 15 teams comprising around 180 researcher and staff accounting for about fifteen different nationalities. Research at IGDR covers a wide range of disciplines,

including molecular biology, cellular biology, developmental biology, genetics, genomics, bioinformatics, microbiology, structural biology, immunology, cutting-edge microscopy, epigenetics, chemistry, cancer biology and biophysics. To carry out its research work, the institute uses different model systems (*Drosophila melanogaster*, *Caenorhabditis elegans*, *Xenopus*, mice, human cells) and has common technical platforms and services (e.g. sequencing, cell culture with L2 rooms, Fablab, Protein production, Q PCR). Finally, the institute benefits from cutting-edge equipment access within the Biosit federative structure, in particular a microscopy platform (Microscopy Rennes Imaging Center, MRic, https://microscopie.univ-rennes1.fr/).
Rennes is the capital of Brittany (north-western France), with easy and direct access to Paris (1.5 hours by train). Its rich tradition of cultural, musical and artistic events, as well as its close proximity to the coast, makes it a very welcoming and pleasant place to live.

Application procedure:
Interested candidates should provide a CV showcasing relevant expriences and a cover letter outlining project interest and position suitability. Recommendation letters can be provided, this being optional.
To apply: https://emploi.cnrs.fr/Offres/CDD/UMR6290-HELBOU-001/Default.aspx