



université
PARIS-SACLAY

Postdoctoral fellow / research engineer – bioinformatics / computational biology / biostatistics for 3D genome organization

Gif-sur-Yvette (Paris area), France

Summary:

A position for a **postdoc** or **research engineer** in **bioinformatics / computational biology / biostatistics** is available in the team of Daan Noordermeer (Institute for Integrative Biology of the Cell (I2BC), Gif-sur-Yvette – France). The project combines **tool development** and **analysis** of **genomics data** generated by the team on genome-wide and single-cell **3D genome organization** (Illumina and Nanopore sequencing data).

The project:

3D genome organization is an essential determinant of **genome function**. Recent genomics-based Chromosome Conformation Capture approaches (4C-seq, Hi-C, Hi-ChIP) have revealed that mammalian genomes are functionally compartmentalized, with TADs (Topologically Associating Domains) as most prominent examples. Members of the Noordermeer team have made important contributions to the state-of-the-art (e.g. [Vieux-Rochas et al, PNAS 2015](#); [Moindrot et al, Nucleic Acids Research 2012](#); [Noordermeer et al, Science 2011](#); [Noordermeer et al, Nature Cell Biology 2011](#)).

How the positioning of the various compartment borders is decided, and if there is **cell-to-cell variation**, has remained a **challenge to study** at high resolution. In this project, funded by the French National Research Agency (ANR), we will take a genomics-based approach to address this question. The role of the candidate will be to develop and apply new computational tools to analyze the structure of 3D domains and their borders on a genome-wide scale (Hi-ChIP; Mumbach et al, Nature Methods 2016) and in single-cells (by leading the **data analysis strategy** for a **novel technology** that combines Chromosome Conformation Capture with Nanopore sequencing).

The candidate:

We are looking for an **excellent** and **motivated candidate** with a passion for both the **development of computational tools** and **the analysis of biological data**. The candidate should have a **PhD** in **genomics** with a focus on computational tool development or bioinformatics data analysis and a proven record of academic excellence. In this multi-disciplinary project, the candidate will work in close **collaboration** with **experimental biologists**. We are therefore looking for a **team player** that can independently and efficiently develop and use analysis approaches for the data generated by the experimentalists.

The team:

The Noordermeer team is an **international** and **multi-disciplinary** group of 9 people, with both wet-lab and computational biology expertise. The team has direct and prioritized access to state-of-the-art **genomics technology** (Illumina Next-seq 500, Oxford Nanopore MinION and GridION) and the **I2BC computational cluster**. The working language in the Noordermeer team is **English**.

Team website:

www.i2bc.paris-saclay.fr/spip.php?article307&lang=en

The institute:

The Institute for Integrative Biology of the Cell (**I2BC**) is an academic research center (750 people) located in **Gif-sur-Yvette (France)**, within the University Paris-Saclay area. The institute has a strong **expertise in computational biology and genomics**, with a mix of computational and experimental groups and an in-house genomics platform. Bioinformaticians in the institute form a lively community with many informal and formal contacts, including a monthly internal seminar series.

The I2BC is located in Gif-sur-Yvette, in the green and hilly Chevreuse Valley, 20 km south of Paris. Gif-sur-Yvette has a direct metro connection with Paris (RER B line, 30 minutes) and is located near the Paris-Orly airport and high-speed TGV train connections (Massy TGV train station). As such, the region combines possibilities for a wide variety of outdoor activities (rock climbing, cycling, running) with access to the world-class infrastructure and cultural activities of the Paris metropole.

I2BC website:

<http://www.i2bc.paris-saclay.fr/?lang=en>

University Paris-Saclay website:

<https://www.universite-paris-saclay.fr/en>

Employment:

The postdoc or research engineer position is for **2 years** fulltime (one year followed by one year renewal) with salary according to standard CNRS remuneration. The salary includes pension benefits and health insurance. Depending on the desired scientific involvement, the candidate can be recruited as postdoctoral fellow or research engineer. Postdoctoral fellows will be encouraged to apply for independent funding. The **start date** is **August-October 2018**.

How to apply:

To apply, send a **CV** with a statement of **research interests** and contact details for at least **2 references** directly to Daan Noordermeer: daan.noordermeer@i2bc.paris-saclay.fr. Interviews will start immediately and will continue until the position is filled. International candidates are highly encouraged to apply.