

Role of ribosomal RNA methylation plasticity in breast cancers

Keywords: bioinformatics, data science, NGS, ribosomal RNA, 2'O-methylation, translational control, epitranscriptomic, cancer

A **research engineer position in bioinformatics** is open to work on an innovative joint research program between two teams of CRCL and Bioinformatics Center in Lyon, France. The program aims at investigating the role of rRNA 2'Ome in regulating mRNA translation in cancer. The successful applicant will join a multidisciplinary group to develop bioinformatics tools, in particular an R package from a pool of already existing R functions, and possibly to analyze datasets dedicated to RNA-seq based technologies: RiboMETH-seq (analysis of rRNA 2'Ome) and polysome profiling (analysis of translato). Overall, the objective of this program is to decipher the alteration of rRNA 2'Ome occurring in human tumors and determine their role in regulating specific translation.

Main tasks

- Development of the pipelines to automate analysis tasks when they become routines
- Helping the team to develop, implement and maintain tools, including software solutions (Nextflow, R package Bioconductor...) and web interfaces (Shiny)
- Writing documentations and reports included in the packages in English

Possibility to perform bioinformatic analyses of the data from the different projects, in particular NGS data, dependent on the competences and interests of the candidate

Required technical skills

- Hold a Master degree (Bac+5) in bioinformatics/informatics (or equivalent experience)
- Very good programming skills in R
- Expertise in manipulation and visualization of NGS data or other large scale biologic data with R
- Knowledge or high interest in R package development (Bioconductor or CRAN)
- Knowledge of bioinformatics tools, in particular in the NGS domain.
- Familiar with the work on linux environments and cluster computing
- Good knowledge in English (at least writing and reading)

Desirable knowledge, skills and abilities

- Ability to work independently and to communicate in an interdisciplinary research group
- Scientific precision, seriousness and curiosity, good oral and written communication abilities
- Knowledge and/or interest in Cancer biology
- Enthusiasm for visual analytics and data science

Lab/Location: The two teams are located on the Centre Leon Berard hospital campus in Lyon, France

Working language: French or English

Working commitment / Duration: Full-time position; 15 months (renewable once)

Contacts: Applicants should send a cover letter and a CV with at least one referee contact to

- **CRCL unit, JJ Diaz's lab** (www.crcl.fr, twitter @crcl): Virginie Marcel; virginie.marcel@lyon.unicancer.fr
- **Plat. Bioinformatics unit** (<http://www.synergielyoncancer.fr>): Janice Kielbassa; janice.kielbassa@lyon.unicancer.fr

Closing date: October 18, 2020 / **Starting date:** between December 2020 and February 2021