



BIOMEDICAL SCIENCE FOR THE BENEFIT OF SOCIETY

**“PhD Bioinformatics - Single cell genomics of tissue regeneration”**  
*Centre for Genomic Regulation (CRG)*

### The Institute

The Centre for Genomic Regulation (CRG) is an international biomedical research institute of excellence, based in Barcelona, Spain, with more than 400 scientists from 44 countries. The CRG shares principles of an interdisciplinary, motivated and creative scientific team that is supported by high-end and innovative technologies and a flexible and efficient administration.

In November 2013, the Centre for Genomic Regulation (CRG) received the '[HR Excellence in Research](#)' logo from the European Commission. This is a recognition of the Institute's commitment to developing an HR Strategy for Researchers, designed to bring the practices and procedures in line with the principles of the [European Charter for Researchers](#) and the [Code of Conduct for the Recruitment of Researchers](#) (Charter and Code).

[Please, check out our Recruitment Policy](#)

### The role

The newly established **Single Cell Genomics of Tissue Regeneration** lab at CRG Barcelona is looking for a **PhD student (bioinformatics)**, who will enrol in the very active CRG International PhD program, which includes science and practical courses, a wide range of complementary skills training, access to many courses, mentoring via a thesis committee, and active participation in the organization of seminars, symposia and retreats.

### About the team/ lab/ department

The newly established 'Single cell genomics of tissue regeneration' lab at CRG Barcelona will focus on the development of cutting-edge single-cell genomic and bioinformatic tools to study the maintenance, regulation and development of adult stem cells in health and disease, with a focus on the hematopoietic system and myeloid leukemia. In the past, we have used single-cell RNA-seq to challenge the text book model of hematopoiesis (<https://www.nature.com/articles/ncb3493>), and we have developed integrated spatial and single-cell genomic approaches to map the organization of the hematopoietic stem cell niche (under revision). In parallel, we have developed methods to investigate mRNA isoform heterogeneity at the single cell level (<https://doi.org/10.15252/msb.20156198>), to study the effects of cancer mutations on gene expression (<https://www.biorxiv.org/content/10.1101/500108v1>), and to make single-cell RNA-seq more scalable (<https://doi.org/10.1534/g3.117.300257>).





In the new lab, we will build on this work in order to

- Integrate single-cell RNA-seq with lineage tracing, using naturally occurring mutations, and use these methods to investigate the developmental origin and maintenance of lymphoid immune cells.
- Further develop tools to identify cancer stem cells in leukemia by single-cell genomics, and thereby identify drug targets specific to leukemic stem cells.
- Use single cell genomics as a tool for the engineering of synthetic gene regulatory elements with high lineage specificity.

**Full publications:** <https://scholar.google.de/citations?hl=de&user=JFRp2zoAAAAJ>

**Whom would we like to hire?**

**Professional experience**

**Must Have**

- You have practical experience in molecular biology or bioinformatics
- Good working knowledge of statistics is needed
- You have substantial research experience

**Desirable but not required**

- An understanding of biology and genomics methods is a big plus

**Education and training**

- University degree (M.Sc. or equivalent) in Bioinformatics, Physics, Computer Science, Biology, or Biotechnology,

**Languages**

- You are fluent in English

**Technical skills**

- Knowledge of R and/or python
- Knowledge of the Linux command line

**Competences**

- Willingness to learn new skills, possibly outside of your comfort zone. We work in a highly interdisciplinary manner.
- Entrepreneurial spirit needed to help set up a new lab.





### The Offer

- **Contract duration:** 4 year PhD position
- **Estimated annual gross salary:** Salary is commensurate with qualifications and consistent with our pay scales.
- **Target start date:** 15th January, 2020

We provide a highly stimulating environment with state-of-the-art infrastructures, and unique professional career development opportunities.

We offer and promote a diverse and inclusive environment and welcomes applicants regardless of age, disability, gender, nationality, race, religion or sexual orientation.

The CRG is committed to reconcile a work and family life of its employees and are offering extended vacation period and the possibility to benefit from flexible working hours.

### Application Procedure

Applications are accepted exclusively online. Proposals must be written in English. **Please APPLY through the following link:**

<https://www.crg.eu/en/content/careers/job-opportunities>

Candidates may contact [imma.falero@crg.eu](mailto:imma.falero@crg.eu) for informal enquiries regarding the application and address scientific enquiries to [lars.velten@embl.de](mailto:lars.velten@embl.de)

**Deadline:** September 15th, 2019



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