BIOMEDICAL SCIENCE FOR THE BENEFIT OF SOCIETY

Data Scientist / Postdoctoral Researcher
in the group 'Evolutionary Processes Modeling'
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 is composed by an interdisciplinary, motivated and creative scientific team which is supported both by flexible and efficient administration and by high-end and innovative technologies.

In April 2021, the Centre for Genomic Regulation (CRG) received the renewal of the 'HR Excellence in Research' Award 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

We are looking for a postdoctoral researcher to join the “Evolutionary Processes Modeling” group. The selected candidate will be in charge of finishing ongoing projects in the group, involving the development of probabilistic methods for the identification of non-coding cancer driver elements and of the tumor mode of growth. The ideal candidate should be highly motivated and eager to work on evolutionary and biological problems through the use and development of computational and statistical approaches. The candidate will analyze data, develop a computational pipeline and test biological hypotheses.

About the group

Cancer is a genetic disease, subject to population genetics forces like mutation, selection and stochasticity. Our group is particularly interested in how the evolution and survival of cancer cell populations relies on mutation influx and in how cancer driver events can be identified from observed mutation data. To this end, we develop mathematical and computational approaches to estimate mutation rates, tumor growth dynamics and selection. Analysis of the mutational processes acting in cancer genomes allows us to learn about carcinogenic mutagens (https://www.biorxiv.org/content/10.1101/2023.12.06.570467v1), while studying the spatial genetic heterogeneity of tumors tells us about the tumor mode of growth (https://elifesciences.org/reviewed-preprints/95338). Estimates of the strength of selection in cancer allow a prioritization of genes and non-coding regions by their disease relevance, with the ultimate goal of promoting therapeutic advances. Coding sequences of cancer tumors not only exhibit positively selected mutations that drive cancer (www.nature.com/articles/s41588-019-0572-y), but also a small fraction of genes that the tumor cannot afford to lose (www.nature.com/articles/ng.3987). In addition to genes, cancer driver loci can occur in the non-coding part of the genome (www.nature.com/articles/s41467-017-00100-x).

We are also interested in mutation rates and selection inference in the context of human genetic variation, including from single-nucleotide polymorphisms (https://www.nature.com/articles/s41467-025-66201-0; http://www.nature.com/articles/ng.3831; academic.oup.com/mbe/article-abstract/36/8/1701/5475505) and *de novo* variants (www.nature.com/articles/s41467-020-17162-z). Here, a particular focus of the group lies on the description of purifying selection in humans and across species, accounting for mutational processes as well as the effects of genetic drift.

C/ Dr. Aiguader, 88
08003 Barcelona
Tel. +34 93 316 01 00
Fax +34 93 316 00 99
www.crg.es

The Evolutionary Processes Modeling lab was established in October 2018 and is part of the "Computational Biology and Health Genomics" program at the CRG. Further information can be found at https://weghornlab.org/ and at www.crg.eu/en/programmes-groups/weghorn-lab.

Whom would we like to hire?

Professional experience

Must Have

- You are familiar with the principles of evolutionary processes or population genetics
- You have experience with computer programming
- You have experience with modeling, statistical analysis and/or machine learning
- Experience with DNA- or RNA-sequencing data analysis is a plus

Education and training

- You hold a PhD degree in population genetics, physics, statistics, bioinformatics, or a related discipline

Languages

- You are fluent in English

Technical skills

- Experience with computational data analysis
- Familiar with modeling and statistical analysis

Competences

- Highly developed organizational skills
- Good communication skills

The Offer – Working Conditions

- **Contract duration:** Technical and scientific activities contract (estimated duration until September 2027).
- **Estimated annual gross salary:** Salary is commensurate with qualifications and consistent with our pay scales.
- **Target start date:** April 2026.

We provide a highly stimulating environment with state-of-the-art infrastructure and unique professional career development opportunities. To check out our training and development portfolio, please visit our website in the training section.

We offer and **promote a diverse and inclusive environment** and welcome applicants regardless of age, disability, gender, nationality, ethnicity, religion, sexual orientation or gender identity.

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

Application Procedure

All applications must include:

1. A motivation letter addressed to Dr. Donate Weghorn.
2. A complete CV including contact details and a list of publications.

C/ Dr. Aiguader, 88
08003 Barcelona
Tel. +34 93 316 01 00
Fax +34 93 316 00 99
www.crg.es

3. Contact details of two referees.

All applications must be submitted online on the CRG Career site - http://www.crg.eu/en/content/careers/job-opportunities

Selection Process

- **Pre-selection**: The pre-selection process will be based on qualifications and expertise reflected in the candidates' CVs. It will be merit-based.
- **Interview**: Pre-selected candidates will be interviewed by the Hiring Manager of the position and a selection panel if required.
- **Offer Letter**: Once the successful candidate is identified the People department will send a Job Offer, specifying the start day, salary, working conditions, among other important details.

Deadline: Please submit your application on or before March 31, 2026.

Suggestions: The CRG believes in **ongoing improvement** and promotes a **culture of feedback**. This is one of the reasons we have in place, at your disposal as a candidate, a mechanism to gather your suggestions/complaints concerning your candidate experience in our recruitment processes. Your feedback really matters to us in our aim at creating a **positive candidate journey**. You can make a difference and help us improve by letting us know your suggestions through the following form.

HR EXCELLENCE IN RESEARCH

EXCELENCIA SEVERO OCHOA

C/ Dr. Aiguader, 88
08003 Barcelona
Tel. +34 93 316 01 00
Fax +34 93 316 00 99
www.crg.es