"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 a flexible and efficient administration and by high-end and innovative technologies.

In November 2013, the Centre for Genomic Regulation (CRG) received 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. We use population genetics predictions and statistical modeling, together with computational analysis of DNA sequencing data, to answer questions about mutational processes and selective pressures in cancer cells and the human population. The ideal candidate should be highly motivated and eager to work on evolutionary and biological problems through the use and development of theoretical and computational approaches.

About the lab

Cancer is a genetic disease, subject to population genetics forces like mutation, selection and stochasticity. We have recently demonstrated that coding sequences of cancer tumours not only exhibit positively selected mutations that drive cancer (www.nature.com/articles/s41588-019-0572-y), but that there exist genes that the tumour cannot afford to lose to the mutational pressure (www.nature.com/articles/ng.3987). In addition to genes, we have also identified cancer driver loci in the non-coding part of the genome (www.nature.com/articles/s41467-017-00100-x), which is another active ongoing research effort in the group.

Our group is particularly interested in how the evolution and survival of cancer cell populations relies on mutation influx as well as in the selection inference from allele frequency information. To this end, we develop mathematical and computational approaches to estimate mutation rates and selection. Estimates of the strength of selection in cancer allow for a prioritization of genes and non-coding regions by their disease relevance, with the ultimate goal of promoting therapeutic advances.

We have also studied mutation and selection in the framework of human polymorphisms (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.

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

Whom would we like to hire?

Professional experience

- You have experience with computational analysis of sequencing or other biological datasets
- You are familiar with principles of population genetics and statistical analysis

Education and training

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

Languages

- You are fluent in English

Competences

- You have highly developed organization skills
- You have the ability to communicate effective, both verbally and in writing
- You are excellence-driven

The Offer – Working Conditions

- **Contract duration:** 1 year with possibility of extension
- **Estimated annual gross salary:** Salary is commensurate with qualifications and consistent with our pay scales
- **Target start date:** Early 2021

We provide a highly stimulating environment with state-of-the-art infrastructures, 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 welcomes 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 are offering extended vacation period 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.
3. A brief statement of research interests
4. Contact details of two referees.

All applications must be addressed to Dr. Donate Weghorn and be submitted online on the CRG Career site - https://recruitment.crg.eu/content/jobs/position/postdoctoral-researcher-group-evolutionary-processes-modeling-

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**: Preselected 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 Human Resources department will send a Job Offer, specifying the start day, salary, working conditions, among other important details.

Deadline: Please submit your application by January 15, 2021.

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

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