240_21_LS_CG_R2

Job Reference

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Position

Postdoctoral researcher - Phylogenomics (R2)

Data de tancament

Dimarts, 30 Novembre, 2021
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About BSC

The Barcelona Supercomputing Center - Centro Nacional de Supercomputación (BSC-CNS) is the leading supercomputing center in Spain. It houses MareNostrum, one of the most powerful supercomputers in Europe, and is a hosting member of the PRACE European distributed supercomputing infrastructure. The mission of BSC is to research, develop and manage information technologies in order to facilitate scientific progress. BSC combines HPC service provision and R&D into both computer and computational science (life, earth and engineering sciences) under one roof, and currently has over 700 staff from 49 countries.

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Context And Mission

The Computational Genomics group, led by ICREA professor Toni Gabaldón, is looking for a postdoctoral researcher to work in the context of phylogenomics.

The Life Sciences Department at the BSC integrates the independent research of senior scientists that work on various aspects of computational biology, ranging from bioinformatics for genomics to computational biochemistry and text mining. The Computational Biology group (http://cgenomics.org), which is jointly affiliated to the Institute for Research in Biomedicine (IRB), is involved in multiple projects covering a wide range of topics including evolutionary and comparative genomics, phylogenomics, and metagenomics. One of the central projects of the group is funded through an Moore-Simons fundations project (LECA-TIME)
and is focused on understanding the timing and modularity in the acquisition of genes in the Last Eucaryotic Common Ancestor (see Pittis and Gabaldón 2016, Vosseberg et. al. 2020). In this context we are looking for a motivated postdoc with expertise in phylogenetics and evolutionary biology to work in a phylogenomic projects aimed at faithfully reconstructing the evolutionary history of thousands of gene families, to discover ancient trends in gene family evolution. The candidate will work in collaboration with other researchers in the Comparative Genomics Group of the Life Sciences Department as well as other research groups at the BSC and IRB. The work is in the framework of the research lines of the group, involving in the study of the origin of eukaryotes, their genomes, and their evolution, including the development of new tools and approaches.

The Researcher will work in a highly sophisticated HPC environment, will have access to state-of-the-art systems and computational infrastructures, and will establish collaborations with experts in different areas both at international and local levels, in particular. The Researcher’s tasks will involve applying state of the art phylogenetic methods for the reconstruction of evolutionary processes and the discovery of selective processes and constraints that drive the evolution of gene families in the ancestral eukaryotes.

**Key Duties**

- Development and application of state-of-the-art phylogenomic analysis methods for the study of relevant evolutionary processes.
- Perform phylogenetic and comparative analysis of large datasets of protein families from diverse organisms.
- Inference of functional properties of proteins, based on their sequence, reconstruction of potential metabolic properties of ancestral organisms.
- Inference of ancestral evolutionary processes, including horizontal gene transfer, directional selection, gene loss and duplication.
- Explore novel applications for the evolutionary analysis of gene families, including the development of novel computational tools and approaches.
- Preparation and presentation of scientific articles.
- Collaborate in the preparation and presentation of scientific projects.
- Establish and maintain collaborations with national and international researchers.

**Requirements**

- **Education**
  - Ph.D. in a topic related to comparative and evolutionary genomics (or equivalent).

- **Essential Knowledge and Professional Experience**  
  - Experience in molecular evolution, and phylogenomics.
  - Knowledge of evolutionary concepts and processes.
  - Familiarity with metabolism and cell biology of diverse eukaryotes.

- **Additional Knowledge and Professional Experience**  
  - Knowledge and experience in phylogenetic tools (IQ-tree or similar, ETE3, etc.).
  - Knowledge and experience in protein evolution.
  - Programming: Python.
  - Use of HPC cluster.

- **Competences**
Fluency in spoken and written English.
Capacity to explore new research lines.
Good communication and presentation skills.
Ability to work both independently and within a team.

Conditions

- The position will be located at BSC within the Life Sciences Department
- We offer a full-time contract, a good working environment, a highly stimulating environment with state-of-the-art infrastructure, flexible working hours, extensive training plan, tickets restaurant, private health insurance, fully support to the relocation procedures
- Duration: Temporary - 2 years renewable
- Salary: we offer a competitive salary commensurate with the qualifications and experience of the candidate and according to the cost of living in Barcelona
- Starting date: asap

Applications procedure and process

All applications must be made through BSC website and contain:

- A full CV in English including contact details
- A Cover Letter with a statement of interest in English, including two contacts for further references - Applications without this document will not be considered

In accordance with the OTM-R principles, a gender-balanced recruitment panel is formed for every vacancy at the beginning of the process. After reviewing the content of the applications, the panel will start the interviews, with at least one technical and one administrative interview. A profile questionnaire as well as a technical exercise may be required during the process.

The panel will make a final decision and all candidates who had contacts with them will receive a feedback with details on the acceptance of rejection of their profile.

For more information follow [this link](#)

Deadline

The vacancy will remain open until suitable candidate has been hired. Applications will be regularly reviewed and potential candidates will be contacted.
OTM-R principles for selection processes

BSC-CNS is committed to the principles of the Code of Conduct for the Recruitment of Researchers of the European Commission and the Open, Transparent and Merit-based Recruitment principles (OTM-R). This is applied for any potential candidate in all our processes, for example by creating gender-balanced recruitment panels and recognizing career breaks etc.

BSC-CNS is an equal opportunity employer committed to diversity and inclusion. We are pleased to consider all qualified applicants for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, disability or any other basis protected by applicable state or local law.

For more information follow this link

This position is reserved for candidates who meet the requirements and have the legal status of disabled persons with a degree of disability equal to or greater than 33%. In case there are no applicants with disabilities that meet the requirements, the rest of the candidates without declared disability will be evaluated.

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