JOB DESCRIPTION

Job Title: PhD student positions in Integrative Computational Network Biology

Context and Mission of the role

Professor Nataša Pržulj is looking for several PhD students to work in analyzing large-scale molecular and patient data to aid personalizing treatment. The successful candidates will work on the prestigious ERC Consolidator grant of Prof. Pržulj titled "Integrated Connectedness for a New Representation of Biology". The successful candidates will complete a PhD, which will address multiple topics: developing and applying sophisticated models and algorithms carefully tuned to extract relevant biological and medical knowledge from systems-level real-world molecular and medical data, including whole genome sequences, epigenetic data, protein-protein interaction networks, signaling networks, metabolic networks, transcriptional regulation networks, gene and disease ontologies, drug similarity networks, drug-target interactions, drug-drug interactions, patient records, lifestyle data, electronic health records etc.; the aim is to mine these inter-linked heterogeneous networked data for new biological and medical insight that would lead to improving diagnostics, discovering new biomarkers, improving patient stratification and treatment, personalizing treatment and facilitate rational drug development. The successful candidates will join a dynamic research group of Prof. Przulj within BSC. The students will work in a highly sophisticated HPC environment, will have access to systems and computational infrastructures, and will establish collaborations with experts in different areas.

Responsibilities

- Complete a PhD in computational biology.
- Collaborate with various research groups across Europe, USA, Canada and elsewhere.

Requirements

- Education:
  - MSc in Computer Science, Mathematics, Physics, Bioinformatics, or a related field.
  - BSc in Computer Science is preferred.
- Essential Knowledge and Professional Experience:
  - Fluency in spoken and written English.

Competences

To be successful in this role the candidate should have:

- Good technical skills including at least some of the following: bioinformatics, network biology, network medicine, network analytics, medical informatics, algorithms, statistics, machine learning, programming in C, C++, a scripting language and Matlab, using a parallel computing environment, scientific computing, data analysis, graph, network and complexity theory
- Good written and verbal communication skills in English
- Ability to work in a professional environment within a multidisciplinary and international team
- Critical and creative thinking skills
- Ability capacity to interact and build strong relations with a diverse members/stakeholder/staff base
- Ability to work independently and in a team
- Ability to take initiative, prioritize and work under set deadlines and pressure

Conditions

- A competitive salary will be provided, matched to the cost of living in Barcelona, depending on the experience and skills of the candidate.

Applications Procedure

Please send the following documents to natasha@bsc.es:

1. A full CV including contact details.
2. Academic transcripts from Undergraduate and MSc.
3. Three letters of recommendation. The references should email their letters directly to natasha@bsc.es.
4. A statement of motivation and research interests.

Diversity and Equal Opportunity Employment

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.

About BSC

BSC-CNS (Barcelona Supercomputing Center – Centro Nacional de Supercomputación) is the National Supercomputing Facility in Spain and manages MareNostrum, one of the most powerful supercomputers in Europe. The mission of BSC-CNS is to develop, investigate and manage information technology in order to facilitate scientific progress. With this aim, special dedication has been taken to areas such as Computer Sciences, Life Sciences, Earth Sciences and Computational Applications in Science and Engineering.