

ANUNCI DE COBERTURA DE LLOC DE TREBALL
JOB OFFER ADVERTISEMENT

DIVISIÓ / DIVISION: EXPERIMENTS

Referència / Reference: 2020-TEMP-26

PLAÇA A COBRIR / OFFERED POSITION:

Postdoctoral researcher position at XAIRA beamline with focus on structural and/or bioinformatics/computational biology

DOCUMENTACIÓ A PRESENTAR / DOCUMENTS TO BE SUBMITTED:

Cover letter

Curriculum Vitae

Publication list

ALBA is a 3rd generation synchrotron light source, serving the Spanish, the European, and world-wide users, part of a broad science and industrial community. Funded by the Spanish Government (Ministerio de Ciencia, Innovación y Universidades) and the Catalan Government (Generalitat de Catalunya, Departament d'Economia i Coneixement), we form a national user facility with well-established user programs, highly appreciated in the Spanish research context, and well embedded into the European research infrastructure landscape.

Our highly motivated staff works in a multidisciplinary work environment with an atmosphere formed by lived diversity, inclusion and respect for our colleagues. Located close to Barcelona, you will find yourself in an area where others make vacation, with excellent connectivity to the world and an employer who understands the importance of life-work balance.

We are offering a postdoc position within the XAIRA beamline group to develop a powerful data analytics system that automatically pipeline and process the beamline data to biologically interpretable results. The beamline will deliver a X-ray beam in a spot size of ~1 μm and aims at providing the best conditions for challenging techniques in macromolecular crystallography (MX) such as low diffracting micron-sized crystals, native phasing and fixed-target serial crystallography.

FUNCIONS / TASKS:

As the successful candidate, you will work with a team of ALBA experts and external collaborators to build up the data acquisition and analysis pipelines of the macromolecular crystallography beamlines on a new high performance computing system. You will also participate in developing the data analytics systems of other stations having similar requirements such as the soft X-ray tomography (MISTRAL) beamline and the planned hard X-ray tomography (FAXTOR) beamline and the cryo-electron microscope. You will develop your own scientific program aligned with the groups, sections, and facilities goals and, once XAIRA is in operation, support users mainly, but not exclusively, related with your own scientific interests. In this diverse,

highly interactive team, you will have excellent conditions to refine your scientific expertise, the technical and computational background, and most importantly build a broad and carrying network for your future scientific career. You will build national and international recognition by using opportunities to publish and present your scientific results and approaches at conferences, workshops and seminars.

Specifically, you will

- Design, commission, develop and maintain the XAIRA data acquisition, storage and analysis system
- Participate in the integration of this data analytics system in the XAIRA beamline control system
- Proactively participate in the data analysis system of other beamlines at ALBA with similar requirements.
- Collaborate with the specifications and commissioning of the new High Performance Computing (HPC) system on which the beamline data analytics system will run
- Provide, once XAIRA is under operation, support to the general and industrial users in ALBA MX beamlines (XAIRA and XALOC) as a Local Contact.
- Develop your own scientific program which will be strongly aligned with the scientific program of the beamline and in the larger context of the section and facility. In details this includes, developing the research plan, contributing to the preparation of experimental proposals applying for general user beamtime at ALBA and/or other facilities, and contributing to the analysis and publication of the results.
- Engage in the beamline research program, national and European projects and collaborations. This may also include the initiation of new projects if appropriate.

REQUISITS / REQUIREMENTS:

- The applicant must have a doctorate in computational biology, bioinformatics or related disciplines.
- Proficient in managing large sets of data using own code and/or the current software on bioinformatics, proteomics and structural biology.
- Previous experience in analysing macromolecular crystallography datasets
- Knowledge in analysing data on X-ray microscopy or cryoelectron microscopy
- Ability to propose and conduct an independent research program using the MX instrumentation and the ALBA Biolab, ideally focused towards regulation of transcription, bacterial conjugation and protein-ligand interactions.
- A good level of English both written and spoken is a must. The working language at ALBA is English.
- Good interpersonal skills and capabilities to work in a group, adaptability to a multidisciplinary environment, sense of responsibility and capabilities to work in a group as well as to work independently.

SELECCIÓ / SELECTION:

- Sound practice of commonly used macromolecular crystallography, bioinformatics and computational biology techniques.
- Hands-on experience with macromolecular crystallography. Hands on cryo-electron microscopy, correlative fluorescence and X-ray microscopy techniques will be an asset

- Knowledge in analysing data on X-ray microscopy or cryoelectron microscopy
- Knowledge of programming languages especially Python
- Knowledge managing large sets of data using own code and/or the current software on bioinformatics, proteomics and structural biology
- Experience in batch processing in a cluster
- Good software development practices

CONTRACTACIÓ / CONTRACT TYPE: Temporal (2+3 years). The contract follows working conditions accordant to CELLS regulations.

Salary depends on qualifications and experience.

This position is reserved for those candidates having the legal status of persons with disabilities with a degree of disability equal or greater than 33%. If there are no applicants with disabilities that meet the requirements of the position, the rest of the applicants without declared disability will be evaluated.

Documents to be submitted:

- Cover letter
- Curriculum Vitae
- Publication list

CONTACT PERSON:

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TERMINI DE PRESENTACIÓ DE LA DOCUMENTACIÓ:

Deadline for documents submission: 16.11.2020