Astronomical Software developer for the COSMIC-DANCe project

Star Formation in Ophiuchus *Photograph: ESO*

Idex-funded Contract

Contact

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Location

University of Bordeaux

Important dates

- Application deadline: 15/06/2017
- Job Start: early/mid September 2017

Keywords

Software development, C, C++, Astrometry

Description

The COSMIC-DANCE team is seeking a research engineer who will participate to the development of its advanced astrometric pipeline.
COSMIC-DANCe is an ERC and Idex-funded project that aims at identifying and censing ultralow-mass stars and free-floating planets in open stellar clusters. This is achieved by estimating precisely the positions and apparent motions of tens of millions of stars from hundreds of thousands of wide-field astronomical images.

Visit the project webpage (http://www.project-dance.com) to learn more about COSMIC-DANCE.

The COSMIC-DANCE project is built around a small and productive international team of scientists from France, Spain, UK, Germany, Japan and US, working in a friendly and enthusiastic atmosphere.
Laboratoire d'Astrophysique de Bordeaux offers very stimulating research environments with staff working in various areas of astrophysics and image processing. As a member state of ESO, ESA and CFHT, France has access to their first-class facilities. The beautiful city of Bordeaux offers one of the highest quality of living and a vibrant cultural life.

Activities

As a software developer you will be in charge of
- implementing and validating new algorithms for improving astrometric and photometric calibration, in the regime of a billion position measurements
- implementing and validating new estimators of the apparent motions of astronomical sources
- developing new scientific visualization schemes for calibration metadata.
- deploying and testing the software on our dedicated server farm
- contributing to software documentation, maintenance and user support

You will also be invited to participate to the planning and execution of astronomical observations at major observatories around the world (Hawaii, Chile, Canary Islands) and required to present the development at international conferences on astronomical data software.

Requirements, skills, qualifications

Required

- Excellent knowledge of the C/C++ language in the context of scientific computing
- Good knowledge of linear algebra
- Experience with the Linux environment
- Good command of the English language
- Teamwork spirit

An advantage

- Experience with astronomical data processing
- Experience with code optimization, vectorization and OpenMP or multithreading
- Experience with collaborative software development practices
- Experience with HPC

All nationalities are welcome to apply (subject to visa restrictions)

Creativeness, motivation, and independence are especially welcome.

Review of applications and interviews will start June 15, 2017, for a start early/mid September 2017. The contract is fully funded for two years.

Salary & Benefits

The Research Engineer contract is for 2 years. The gross monthly salary will range between 2,000-2,500 euros depending on the candidate experience. Contracts are awarded and administered by the university of Bordeaux and carry all of the benefits attached to such contracts under French law, including in particular full medical insurance for the applicant and his/her family, unemployment benefits, and pension.

Application

Applications should include a CV, a cover letter describing the applicant's background and motivation and a brief description of past software developments and future plans, as well as 1 or 2 letters of reference. These documents must be submitted by email as a PDF file to Hervé Bouy (herve.bouy@u-bordeaux.fr)