

## Computer Engineer for H2020 European Project ASTERICS Temporary Contract for 24 Months

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### General Context:

Under the framework of an European project H2020-ASTERICS ([www.asterics2020.eu](http://www.asterics2020.eu)) and the astroparticle experiment Cherenkov Telescope Array (CTA), a study of distributed Big Data storage solution to provide long term access and archiving of volumes of scientific data of several petabytes has been envisaged. From the comparative study of existing solutions, the deployment of one or more prototypes in the context of the needs of the experiment and the development as well as the execution tests of functionalities, performance and scalability. The associated challenges include the transfer of files between the different sites concerned, the hierarchical management of several types of storage, management of copies/duplicates, management of access rights and eventually access to data in an international observatory environment.

### Responsibilities:

As a member of H2020-ASTERICS team at LAPP, the successful candidate will work with the IT department of LAPP, major French and European computing centers as well as certain members of CTA project. His/her main responsibilities will include:

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- Participate in defining the Use Cases and Software requirements for the CTA project.
- Conduct a thorough comparative study of existing solutions and new distributed architectures (Grid, Cloud, ...) used in Big Data environments for both Archiving and associated databases (File Catalogs, Metadata, ...).
- Manage the deployment of prototypes and the execution of benchmarks with the support of the IT department and in liaison with the engineers and researchers of LAPP in charge of the development of scientific software.
- Development of associated tools and interface libraries for the possible adaptation of the solutions to the problems of the experiment,
- Draft technical and periodic reports,
- Present results in ASTERICS meetings or workshops.
- Participate in technical training for the transfer of skills to the community.

### Competencies:

- Proficiency in Linux operating system, good knowledge of distributed architectures and databases
- Proficiency in scripting languages and knowledge of object programming languages (Python, C++, Java).
- Ability to work in the context of an international project.

- Successful candidate should be able to work with autonomy, rigor, dynamism, team spirit and should be able to take initiative.
- Good level of written and spoken English is mandatory.

#### **About LAPP:**

Created in 1976, the LAPP is one of the 19 laboratories of the National Institute of Nuclear and Particle Physics (IN2P3). LAPP has about 150 researchers, professor-researchers, engineers, technicians, administrators, students and foreign visitors. The research carried out at the LAPP aims to study the physics of elementary particles and their fundamental interactions, as well as the exploration of the connections between the infinitely small and the infinitely large. LAPP is involved in LHC experiments with CERN (ATLAS, LHCb), neutrinos, astrophysics (HESS, CTA) or gravitational waves (Virgo). The candidate will be a member of the ASTERICS team at the Particle Physics Laboratory of Annecy-le-Vieux (LAPP) and integrated into the IT department (20 people).

#### **Contract Duration:**

The employment contract will be signed for a period of 24 months. The gross salary will range between 2300 € to 2800 € depending upon the qualification and seniority of the candidate.

#### **Application details:**

A Curriculum Vitae and a letter of motivation should be sent to the administrative contact listed below.

#### **Administrative Contact:**

Chantal VALLEE  
Tél : 04 50 09 16 02  
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#### **Technical Contact:**

Nadine NEYROUD  
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#### **Scientific Contact:**

Giovanni LAMANNA  
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**Application Deadline:** 28 February 2017