



## CNRS researcher position at LP2I Bordeaux Competition 2022 - SECTION 01

### High energy gamma-ray physics and associated instrumentation for CTA

#### **DESCRIPTION:**

In the framework of its recruitment campaign for 2022, the French CNRS offers a "Chargé(e) de Recherche" (researcher) permanent position at the Laboratoire de Physique des 2 Infinis Bordeaux (starting January 1<sup>st</sup> 2022, the CENBG will have a new name: LP2I Bordeaux) on the Cherenkov Telescope Array (CTA) project. The goal of this recruitment is to consolidate the participation of the Astroparticules team in the technical activities of the CTA project, and in the slightly longer term to contribute to the scientific exploitation of high-energy observations of cosmic-ray accelerators with CTA.

Our gamma-ray Astronomy group consists of 5 permanent physicists (Denis Dumora, Marie-Helene Grondin, Marianne Lemoine-Goumard, Benoit Lott and Thierry Reposeur) and 2 PhD students. The group works in gamma-ray astrophysics since 1995 through ground-based Cherenkov telescope development and use (first on the CELESTE experiment and then on the H.E.S.S Cherenkov telescopes) and has been working on the Fermi project since 2000. Since 2014, a part of the group is working in the CTA collaboration and the Astroparticules team has committed to building and delivering the front door of the NectarCAM for the Middle Size Telescopes (MST).

Our technical activities will in the short term focus on the test and commissioning of the NectarCAM prototype camera, first in a dark room at CEA Saclay, and subsequently on the first MST prototype installed on the CTA-North site. We will be involved in the installation of all MSTs on site for the first scientific data taking.

Furthermore, we are involved on the CTA Key Science Projects on cosmic-ray accelerators and more specifically on Galactic sources such as PeVatrons, supernova remnants and gamma-ray halos. Their analysis requires the development of "low level" data reconstruction algorithms adapted to the highest energies, as well as the construction of the associated instrument response functions. Methods for background modeling will be studied in view of producing a pipeline optimized for the study of extended gamma-ray sources.

#### **CONTACTS:**

The application procedure is described on the CNRS competitive admission Web site:

<http://www.dgdr.cnrs.fr/drhchercheurs/concoursch/default-en.htm>

Enquiries about this position profile and the group's activities may be addressed to the head of the Astroparticules group at LP2I Bordeaux: Marianne Lemoine-Goumard, [lemoine@cenbg.in2p3.fr](mailto:lemoine@cenbg.in2p3.fr)