



Engineering Position in Scientific Computing at CIEMAT Madrid

The CIEMAT-Física de Partículas Research Unit of Excellence María de Maeztu (Mdm-CFP) at the Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas (CIEMAT) in Madrid is offering a **two-year position for a Computing engineer** in the field of high throughput computing for data-intensive science. The announcement can be found at <http://cfp.ciemat.es/engineer> and the official call has been published at the CIEMAT Job Vacancies webpage <https://goo.gl/gq8Dzd>

The Mdm-CFP Unit is involved in large international experiments at the forefront of knowledge and technology in Particle and Astroparticle Physics, Cosmology, detector R&D and Scientific Computing. The Mdm-CFP Scientific Computing group is engaged in the development and implementation of data-intensive distributed computing technologies, such as Grid and Cloud computing, providing infrastructure and support to the scientific projects of the Unit.

The CERN Large Hadron Collider (LHC) science program has utilized a globally federated computing infrastructure for the last 10 years to enable the storage, processing and analysis of the hundreds of petabytes of data produced by the LHC experiments. This innovative computing infrastructure, the Worldwide LHC Computing Grid (WLCG), is a global collaboration that joins computing centers from around the world via Internet using high-speed communication networks. At present, WLCG comprises about 750k processing cores, 400 PB disk space and 600 PB of archival storage distributed over 42 countries. Our Unit operates two data centers, a Tier-1 site, the Puerto de Información Científica (PIC) in Barcelona, managed jointly with IFAE, and a Tier-2 site located in the CIEMAT site in Madrid.

From 2025, the LHC will face the High Luminosity phase (HL-LHC) with an anticipated increase of one order of magnitude in the data volumes produced by the experiments. The WLCG computing system will need to evolve to meet the computing exascale challenge. This new era for the LHC computing opens many research and development opportunities in the areas of distributed computing, massive parallelization of processing applications, virtualization and federation of services, application of machine learning and big data techniques for data processing and analysis, etc.

The successful candidate will join the computing group in Madrid and will be involved in service deployment and administration, troubleshooting and user support, as well as in development of tools/utilities, research of new useful technologies and design of viable solutions to address the challenges the Mdm-CFP Unit is facing. In an environment of continuous evolution and demanding requirements, the Unit strives to provide the best support to the Mdm-CFP scientific experiments and also create an operations and administration model that is as flexible and automated as possible. A detailed job description and required experience will be included in the official job offer.

The Unit offers a stimulating and flexible work environment, with countless learning and technological opportunities, within a scientific and research context. The successful candidate will enjoy a high degree of autonomy and self-organization, as well as the possibility to participate in conferences and workshops, and to be engaged in international collaboration communities.

General inquiries in relation to this position can be addressed to Mdm.CFP@ciemat.es.

For further information please contact: José María Hernández Calama (jose.hernandez@ciemat.es)

The CIEMAT Particle Physics Unit of Excellence is an affirmative action/equal opportunity employer. Eliminating gender inequalities by promoting equal opportunities for men and women is a core compromise of our group and it is our commitment to establish the necessary actions to close the gender gap.