

Job description:

LIP opens a call for selection of fellows for one Research Grant (Graduate student) for participation in the project AUGER, in the framework of the projects with reference CERN/FIS-PAR/0031/2019 and CERN/FIS/PAR/0034/2019, funded by FCT/MCTES through

national funds (State Budget - OE), under the following conditions:

Requirements: Graduation in Physics, Physical Engineering or equivalent. The candidate must be enrolled in a course granting a higher academic degree or in a non-academic degree course, as stipulated in the Regulations for Research Grants of the Foundation for Science and Technology (Artigo 6°).

Preference criteria: Experience in software development with Python, C and/or C++, good knowledge of Linux systems. Knowledge on particle physics in particular on very-high-energy cosmic-ray experiments will be favoured.

Work plan:

It has been shown in recent works that the measurement of the exponential tail found in the muon number distribution at the ground for proton-induced showers can give access to properties of the first ultra-high-energy interaction.

The goal of this project is to assess the feasibility of this measurement at the MARTA engineering array (EA), currently being built in the Pierre Auger Observatory.

MARTA stations will have resistive plate chambers placed underneath the water Cherenkov detector, which should enable a direct measurement of the shower muonic component.

The selected candidate will use the state-of-the-art shower and detector simulations

to design analysis strategies with a reduced number of stations to integrate the MARTA EA with the full surface detector.

Legislation: A fellowship contract will be celebrated according to the "Regulations for Research Grants of the Foundation for Science and Technology" in force, (https://dre.pt/application/conteudo/127238533) and to the Status of Scientific Research Fellow (Law n° 40/2004 de 18 de Agosto, and its successive amendments).

Duration: The fellowship has a duration of 3 months, eventually renewable until the end of project, with a foreseen starting date on 01st February 2021.

Work Place: The grant holder will carry the research activity at LIP in Lisbon, Portugal, in the Auger group and under the scientific supervision of Dr. Lorenzo Cazon and Dr. Ruben Conceição.

Amount: The monthly amount of the grant 805,98€ is in accordance with the values stipulated in the "FCT Regulation for Research Studentships and Fellowships " in force: (https://www.fct.pt/apoios/bolsas/docs/Tabela_Valores_SMM_LOE_2020.pdf). This amount will be paid on a monthly basis through a bank transfer to the grant holder's bank account.

Evaluation: The members of the jury will take into consideration the CV (50%), research experience in the required field (50%).

Members of the Jury: Prof. Pedro Assis, Dr. Lorenzo Cazon, Dr. Ruben Conceição

Advertising / notification of results: The results of the evaluation will be communicated by email through a list sorting the candidates, according to their attributed mark; in case of disagreement, the candidates have a period of 10 working days to contest the decision, as provided for in the Code of Administrative Procedure in a preliminary hearing. At the end of this period, the arguments presented will be analysed by the jury committee, which will simultaneously communicate the final decision to all the candidates who submitted allegations. The final results of the shortlisted applicants will be communicated by e-mail. In case of disagreement, the candidates have a period of 15 working days to contest the decision.

Application deadline: From 14th January to 27th January 2021 (17:00 - Lisbon time).

Applicants should submit a curriculum vitae, diploma and a list and grades of university courses and other relevant documents for the evaluation.

Contact:

LIP

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Ofélia Janeiro

e-mail: ofelia@lip.pt

Vacant posts: 1

Type of contract: Other

Job country: Portugal

Job city: Lisboa

Job company/institute: Lip-Lisboa

Application deadline: 27 Janeiro 2021 (The Application's deadline must be confirmed on the Job Description)

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2. Dados de contactos da organização

Organization/institute: Laboratório de Instrumentação e Física Experimental de Partícula LIP (Lisboa)	
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