European Commission

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Research Student Fellowship (BI – Bachelor)

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Apply

17/12/2022

Job Information

Organisation/Company	LIP - Laboratório de Instrumentação e Física Experimental de Partículas
Department	LISBON
Research Field	Physics » Applied physics
Researcher Profile	First Stage Researcher (R1)
Country	Portugal
Application Deadline	30/12/2022 - 17:00 (Europe/London)
Type of Contract	Temporary
Job Status	Full-time
Hours Per Week	35
Offer Starting Date	Sun, 01/01/2023 - 12:00
Is the job funded through the EU Research Framework Programme?	Not funded by an EU programme
Reference Number	EXPL/FIS-PAR/0905/2021
Is the Job related to staff position within a Research Infrastructure?	No

Offer Description

LIP opens a call for selection of fellows a **Research Student Fellowship (BI – Bachelor)** for participation in the project "Unveiling the space-time structure of jets", reference EXPL/FIS-PAR/0905/2021, funded by FCT/MCTES through national funds (State Budget – OE).

Work plan:

The work plan will be carried out in the context of the activities of the Phenomenology group at LIP, namely in the research connected to heavy-ion collisions at the LHC (Large Hadron Collider at CERN, Switzerland).

Jets are the fragmentation result of a very high-energy quark or gluon. When traversing the QCD medium produced in heavy-ion collisions (the Quark-Gluon Plasma), these high-energy particles lose energy, and the resulting jet is modified with respect to proton-proton collisions (jet-quenching). A crucial test of distinct energy loss mechanisms is how the energy loss depends on the length of the traversed medium (so-called path-length dependence). As such, the objective is to determine if one can infer such path-length dependence from jet observables as being the di-jet or boson-jet asymmetry. The candidate is expected to evaluate these observables through simulations based on Monte Carlo event generators that include jet-quenching effects. Among those, the candidate will further explore the role of the medium recoiling particles and different geometry collisions. In addition, a quantile analysis of these models will be investigated to determine the jet clustering radius that can enhance the differences and similarities between the several effects contributing to the jet energy loss.

Legislation:

The fellowship contract will be established according to the "Regulations for Research Grants of the Foundation for Science and Technology" (https://dre.pt/application/conteudo/127238533) and to the Status of Scientific Research Fellow (Law nº 40/2004, August 18th, and its successive amendments).

Duration:

The fellowship has a maximum duration of 5 months, with a foreseen starting date on January 01, 2023. The fellowship cannot be further renewed.

The working plan will be carried out at LIP-Lisbon under the supervision of Dr. Liliana Apolinário and Prof. José Guilherme Milhano

Applicants should submit: a motivation letter and a curriculum vitae (both in English), including the list of classifications obtained in the different curricular units, and other relevant documents, as a PDF file, by email to natalia@lip.pt and ofelia@lip.pt

Requirements

Research Field	Physics » Applied physics
Education Level	Bachelor Degree or equivalent

Skills/Qualifications

Bachelor Degree in Physics, Physical Engineering or equivalent.

Demonstrable knowledge of Physics of Strong Interactions. Competence in programming in C++, ROOT and/or Python.

Specific Requirements

Knowledge on jet physics will also be favoured.

Languages	ENGLISH
Level	Excellent

Research Field	Physics » Applied physics
Years of Research Experience	1 - 4

Additional Information

Benefits

The monthly amount of € 875,98, is in accordance with the values stipulated in the “FCT Regulation for Research Studentships and Fellowships”:

https://www.fct.pt/apoios/bolsas/docs/Tabela_de_Valores_SMM_2022.pdf

This amount will be paid on a monthly basis through a bank transfer to the grant holder's bank account.

Eligibility criteria

Applicants should fulfill the requirements to join a course granting a higher academic degree (Master) or in a non-academic degree course, as stipulated in the “Regulations for Research Grants of the Foundation for Science and Technology” (Article 6).

On the starting date of the grant, the candidate should present a proof of enrollment in the course granting, or not, a higher academic degree.

In the event of the degree was awarded by a foreign higher education institution, the degree must comply with the provisions of the Decree-Law nº. 66/2018, of 16 august (https://www.dges.gov.pt/en/pagina/degree-and-diploma-recognition?plid=1…). The selected candidate must provide the recognition of the degree when signing the contract.

Selection process

Evaluation:

The members of the jury will take into consideration the CV (50%) and the required field adequation (50%). If none of the

candidates fulfills the appropriate profile, the scholarships will not be awarded.

Members of the Jury:

Effective

- Doutor José Guilherme Milhano
- Doutora Liliana Apolinário
- Doutor João Pires

Alternates

- Doutor Pablo Guerrero Rodriguez
- Doutor Grigorios Chachamis

Additional comments

Advertising / notification of results

The results of the evaluation will be communicated by email; 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, who 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.

Equality and non-discrimination Policy

We are committed to promoting a policy of non-discrimination and equal access, thus no applicant may be privileged, benefited, damaged, or deprived of any right or exempted from any duty. This includes ancestry, age, sex, sexual orientation, marital status, family situation, economic situation, education, origin or social condition, genetic heritage, reduced work capacity, disability, chronic disease, nationality, ethnicity or race, land of origin, language, religion, political or ideological beliefs or trade union affiliation.

Website for additional job details https://www.lip.pt/?section=about&page=recruitment

Work Location(s)

Number of offers available	1
Company/Institute	LIP - Laboratório de Instrumentação e Física Experimental de Partículas
Country	Portugal
City	Lisbon
Postal Code	1649-003
Street	Av. Prof. Gama Pinto, nº 2

Where to apply

E-mail	ofelia@lip.pt

Contact

City	LISBON
Street	Av. Prof. Gama Pinto, nº 2
Postal Code	1649-003
E-Mail	natalia@lip.pt