

1 Research Grant Announcement (M/F)

Call open for applications for one research grant within the framework of project Ferrovia 4.0, co-financed by the European Regional Development Fund (ERDF), through the Operational Programme for Competitiveness and Internationalization (COMPETE 2020), under the following conditions:

Scientific Area: Informatics and Computing Engineering or Electrical and Computers Engineering

Admission requirements: Candidates who cumulatively meet the following two requirements may apply for this grant:

Requirement 1:

- Be a student enrolled in a doctoral program in the area of Informatics Engineering Electrical and Computers Engineering, a requirement to be duly proven at the time of signing the contract.

or

- Holder of an academic degree enrolled in a non-academic degree course integrated in the educational project of a higher education institution, developed in association or cooperation with one or more R&D units, a requirement to be duly proven at the time of signing the contract.

Note: In the case of masters who are enrolled in non-academic degree courses, the scholarship can only be awarded to those who do not exceed, with this scholarship contract, including possible renewals, an accumulated period of two years in that typology of the scholarship, followed or interpolated.

and

Requirement 2:

- Hold a master's degree in Informatics and Computing Engineering, Electrical and Computers Engineering or related area.

If the degree has been awarded by a foreign higher education institution, it must comply with the provisions of the Decree-Law no. 66/2018, of august 16th, and any formalities established there must be fulfilled until the time of signing the contract.

Activity Outline: The FERROVIA 4.0 project addresses the technological and market challenges that the global railway sector faces, promoting innovative industrial research activities that enhance experimental development and the demonstration of new solutions capable of promoting greater operational capacity, sustainability, and competitiveness of the railway system. The project's overall

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objective is to develop different components, tools, and systems, to be tested on real rolling stock and infrastructure, which are oriented towards the economic and ecological sustainability of the railway system, in order to reduce operating and maintenance costs. PPS2 (Maintenance), which is focused on the theme of maintenance of rolling stock and infrastructure and focused on supporting the development and prototyping of products and services that add value to maintenance and asset management systems based on condition-oriented monitoring systems.

The scholarship holder will be integrated in the research activities of the FERROVIA 4.0 project team, within the scope of the tasks of activities 3, 5 and 6 of the PPS2, as indicated below:

Task 3.1 - Digitizing maintenance processes

Task 3.2 - Design the augmented reality system

Task 3.3 - Software Development

Task T5.1 - Data Collection

Task 6.2 - System Verification

In these tasks, the scholarship holder will have as main responsibility the participation in the design of the augmented reality system and in the implementation of prototypes for "status and data visualization (rolling stock and infrastructure)" and "Maintenance technician assistant".

Legislation and regulations: Law Nº. 40/2004, of 18th August, in its current wording (Statutes of Scientific Research Fellow) and Regulation of Research Grants of Fundação para a Ciência e a Tecnologia, in force (<https://www.fct.pt/apoios/bolsas/regulamento.phtml.pt>) and Regulation of Research Grants of University of Porto.

Work place:

The work will be developed at Digital and Intelligent Industry research lab (DIGI2), of the Systems and Technologies Research Center (SYSTEC) of the Faculty of Engineering of the University of Porto, under the scientific supervision of Prof. Gil Manuel Magalhães de Andrade Gonçalves.

Grant duration: Initial duration of **6 months**, with the predicted starting date in **October of 2021**, on an exclusive basis eventually renewable but never exceeding the project duration.

The eventual renewal of the scholarship will be carried out as determined in article 6 of the Research Grants Regulation of the Foundation for Science and Technology, I.P.

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Stipend: The grant stipend amounts to 1.104,64€ according to the table of values of the grants awarded directly by FCT, I.P. in the Country (<https://www.fct.pt/apoios/bolsas/valores>).

The payment will be made by bank transfer.

Selection procedure:

The selection of fellows will be based on a curriculum evaluation (CE), which will focus on the candidate's merit, and an interview (I). The curriculum of each candidate will be evaluated in a 1-20 points scale. The interview will be conducted with the two best ranked candidates whose classification in the curricular evaluation is equal to or higher than 14 points.

The curriculum of the candidates will be evaluated based on the merit of the candidate and the evaluation criteria for the curricular component (60%) are:

$$\text{Curricular Evaluation} = (40\%*A)+(30\%*B)+(30\%*C)$$

A) Academic training (Master in Informatics and Computing Engineering, Electrical and Computers Engineering -10 points; Masters in areas related to the research project – 5 points; Other Masters – 1 point)

B) Publications in the area of Informatics and Computing Engineering, Electrical and Computers Engineering - 5 points; Publications in areas related to the research project- 3 points; Publications in other areas – 1 point.

C) Research Experience in the project area – 5 points; in related areas – 3 points; Other areas – 1 point

In the interview (40%), candidates will be evaluated in a 1-20 points scale . In the interview, topics related with the work plan, experience and the candidate's CV will be discussed with the invited candidates.

The final classification of the candidates interviewed will result from the sum of the classifications obtained in the Curricular Evaluation – CE (60%) and Interview - I (40%). Candidates whose application is evaluated with a final score less than 15 (fifteen) points will not be eligible for a scholarship.

Selection Jury:

President: Gil Manuel Magalhães de Andrade Gonçalves

Effective member: Fernando Manuel Ferreira Lobo Pereira

Effective member: António Pedro Rodrigues de Aguiar

Supplementary member: João Pedro Correia dos Reis

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Supplementary member: Maria Margarida de Amorim Ferreira

Advertisement of final decision: The results of the evaluation will be released to the candidates by email to the email address indicated in the application process.

Deadline for applications and form of presentation of the applications:

The call is open from 11-09-2021 to 24-09-2021 (until 23h59m, GMT time).

Applications must be formalized by email to sas.systec@fe.up.pt and to recursoshumanos@fe.up.pt, clearly stating the reference **FEUP-Ferrovias 4.0-PPS2-INF** and including the following pdf documents: Motivation letter written in english, Copy of certificates evidencing academic degree (referring the classification of each separated or integrated degree), detailed Curriculum Vitae; Declaration on honor that the candidate fulfills the requirement contained in article 6 of the Regulation for Research Grants of the Foundation for Science and Technology, I.P. (model below. For student enrolled in a non-academic degree course integrated in the educational project of a higher education institution, developed in association or cooperation with one or more R&D units) and other documents considered relevant by the applicant.

In order to assure that all documents can be read, the preferred saving format is the Portable Document Format (.pdf).

Declaration on honour

I, (identification of the scholarship holder), holder of the Citizen Card / Visa / Residence Permit no. valid until _____, declare under honour, to be in the conditions of no. 5 of article 6º of the Research Grants from FCT, IP - Regulation No. 950/2019, of 16 December.

Oporto, __/__/__

Signature

(scholarship holder)

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