

1 Research Grant Announcement (M/F)

Call open for applications for a research grant within the framework of project PRODUTECH4S&C – “PRODUTECH SUSTENTÁVEL & CIRCULAR - Soluções inovadoras, sustentáveis e circulares com impacto na fileira das tecnologias de produção”, with reference POCI-01-0247-FEDER-046102, co-financed by the European Regional Development Fund (ERDF), through the Operational Programme for Competitiveness and Internationalization (COMPETE 2020), under the PORTUGAL 2020 Partnership Agreement, under the following conditions:

Scientific Area: Electrical Engineering, Robotic

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 Electrical Engineering, or similar areas, a requirement to be duly proven at the time of signing the contract.

or

- To be 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, 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 Electrical and Computer Engineering, Informatics Engineering, Chemical or Mechanic Engineering , or related field.

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 works have the following objectives:

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- Develop multi-robot path planning and scheduling solutions;
- Develop HM Interfaces for configuration and operation of the multi-robot system and integration with IIoT, MES and ERP platform;
- Promote the demonstration, in an industrial environment, of multi-robot solutions.

The grantee will be integrated with the Research activity of the PRODUTECH4S&C project team, within the scope of the activities of PPS 3 and 5. The work plan aims at the participation of the grantee in the following project activities:

- Contribute to the design, conception and development of path planning solutions for multi-robot systems;
- Contribute to the design, conception and development of scaling solutions for multi-robot systems;
- Contribute to the design, conception and development of interface solutions for configuring the multi-robot system;
- Contribute to the design, conception and development of interface solutions for the operation of the multi-robot system;;
- Perform tests in a laboratory environment;
- Install, run tests and demonstrations in an industrial environment;
- Write documents for scientific dissemination and reports for project management.

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](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 the Department of Electrical and Computer Engineering of the Faculty of Engineering of the University of Porto (FEUP), under the scientific supervision of Professor Pedro Luís Cerqueira Gomes da Costa.

Grant duration: Initial duration of **6 months**, with the predicted starting date in **May 2022**, on an exclusive basis eventually renewable but never exceeding the end of the project.

The renewal will be done according to article 6 of the Research Grants Regulation of the Foundation for Science and Technology, I.P.

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If the recruitment procedures do not allow the grant to last for a minimum of 3 consecutive months, in accordance with paragraph 3 of article 6 of the Research Grant Regulations of the Foundation for Science and Technology, I.P. , the scholarship will not be awarded.

Stipend: The grant stipend amounts to 1.144,64€ 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 curriculum (60%) of the candidates will be evaluated based on the merit of the candidate and the following factors will be considered:

- a) Academic training (Master in Electrical and Computer Engineering, Informatics, Chemical or Mechanic Engineering – up to 6 points; Others Masters – 2 points)
- b) Publications or patents in the automation, robotics, or control fields – up to 3 points, Publications in other areas – 2 points
- c) Experience in the project area – up to 3 points; in related areas – 2 points; Other areas – 1 point
- d) Knowledge in: (I) UNIX/Linux environments; (II) Programming languages (Python, C, C++, C#); (III) Interactive content creation platform (Unity); (IV) Framework ROS (Robot Operating System); (V) Framework QT; (VI) English fluency – up to 5 points.
- e) Experience in the design and creation of applications and Web services: HTML, PHP, Javascript, on the AngularJS and Smarty framework – up to 3 points.

The curriculum of each candidate will be evaluated in a 1-20 points scale. Candidates with less than 13/20 points in the curricular evaluation will not be invited for the interview.

In the interview (40%) topics related with the work plan, experience and the candidate's CV will be discussed with the invited candidates.

Selection Jury:

President: Professor Pedro Luís Cerqueira Gomes da Costa

Effective member: Professor António Paulo Gomes Mendes Moreira

Effective member: Professor Paulo José Cerqueira Gomes da Costa

Supplementary member: Professor Hélio Mendes de Sousa Mendonça

Supplementary member: Professor Armando Jorge Miranda de Sousa

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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 09-05-2022 to 20-05-2022 (until 23h59m, GMT time).

Applications must be formalized by email to pedrogc@fe.up.pt and to recursoshumanos@fe.up.pt, clearly stating the reference **FEUP-PRODUTECH4S&C_PPS3 e 5** and including the following pdf documents: Motivation letter, 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 6^o of the Research Grants from FCT, IP - Regulation No. 950/2019, of 16 December.

Oporto, __/__/__

Signature

(scholarship holder)

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