

## CALL FOR RESEARCH GRANT

A call for three (3) research fellowship is open, in the framework of the TOOLING4G project “Advanced Tools for Smart Manufacturing” (reference: POCI-01-0247-FEDER-024516), co-financed by the European Regional Development Fund, by the Competitiveness and Internationalization Operational Program (POCI), in the scope of the System of Incentives for Research and Technological Development, in the following conditions:

**Scientific area:** Electrical and Computer Engineering, Informatics Engineering, Physics Engineering, or related areas.

**Admission requirements:** The scholarship is for students enrolled in a doctoral/PhD course in a Portuguese higher education institution; or enrolled in a course not conferring an academic degree integrated in the educational project of a Portuguese higher education institution.

The course not conferring an academic degree must be related to the work plan of the fellowship and, in this case, the fellowship can only be awarded to those who do not exceed, with the conclusion of the fellowship contract in question, including possible renewals, an accumulated period of two years in this typology exchange, followed or interpolated.

“Courses not conferring an academic degree” are the courses referred to in paragraph e) of number 3 of article 4 of Decree-Law no. 74/2006, of 24 March, in the current wording, provided that they are developed in association or cooperation between the higher education institution and one or more R&D units, in accordance with the provisions of paragraph e) of article 3 of the Regulation of Research Grants of the Fundação para a Ciência e a Tecnologia, I.P.

Preferential conditions: knowledge of computational intelligence, intelligent control, control, digital control, real-time systems, computer programming; knowledge in the subject areas of the activity object of the fellowship .

**Work plan:** The fellowships aim at consolidating scientific training through the development of research and development work in real-time systems, computational intelligence and control, in the domain of the molds and plastic injections industries, for: (i) Development of an application for monitoring and control of the mold; (ii) Development of an application for monitoring and control of the machines and peripherals; (iii) Development of algorithms for the prediction of defects in the injected products and failures in the tools, as well as their corresponding correction; (iv) Development of algorithms for the detection of failures that may occur in the injection process as well as in all the peripherals.

A large part of the work will focus mainly on algorithms, data processing, and machine learning.

**Regime:** The attribution of the fellowship does not generate or entitle a relation of a legal-labour nature, and the fellowship is undertaken in an exclusive dedication regime. The fellow is granted with

the Fellow Statute of the UC, in its current wording, according to the Statute of the Scientific Research Fellow, and according to the Regulation of Research Grants of the Fundação para a Ciência e a Tecnologia, I.P., both in their current wording.

**Location:** Partner facilities as needed and Department of Electrical and Computer Engineering, Faculty of Science and Technology (FCTUC-DEEC) at the University of Coimbra.

**Duration:** Six (6) months.

**Renewal:** The fellowships are eventually renewable through periods of equal or lower duration making a total duration not greater than 18 months. The period of each fellowship (including their renewals) will be adjusted if necessary in order for the fellowship to not terminate after the end date of the project. In the case of fellowships awarded to masters who are enrolled in non-academic degree courses, the fellowship with renewals cannot exceed one year.

**Scientific orientation:** Professor Rui Alexandre de Matos Araújo.

**Financial conditions:** The amount of the grant is € 1.064 corresponding to the monthly compensation stipulated in the FCT table (<https://www.fct.pt/apoios/bolsas/valores.phtml.en>), plus social security (Seguro Social Voluntário, first level contributions) and personal accidents insurance. The payment will be made by bank transfer. This amount will not be increased during the entire period of the grant duration.

**Selection methods:** Curricular evaluation (70%) and interview (30%) of the 10 candidates best classified in the curricular evaluation part.

In case no candidate has an adequate profile (global evaluation under 50%), the fellowship will not be granted.

Applicants to whom a scholarship has been awarded, and who has not submitted the relevant certificate of enrollment in course during the fellowship application phase, but just some evidence that the enrollment/enrollment/application has already started, a deadline will be established (equal to or before the date of signature of the fellowship contract) to submit that certificate. Candidates who do not present the certificate within this period will be excluded from the scholarship.

**Selection criteria:** The curricular evaluation will focus on the following criteria: (1) Curricular elements presented, including the characteristics of academic education and the mean overall final classification in the courses (e.g. Grade Point Average, GPA) (30%); (2) Knowledge in the area of the work plan and desired profile; knowledge on real-time systems, computational intelligence, intelligent control, control, digital control, computer programming; knowledge in the subject areas of the activity object of the fellowship (40%). In the interview, motivation, commitment, perseverance, adequacy of the profile and merit of the candidate to the needs of the project, and knowledge in the area of the work plan and desired profile will be evaluated (30%).

**Jury responsible for selection:** Professor Aníbal Traça de Carvalho Almeida, Professor Rui Alexandre de Matos Araújo e Professor Urbano José Carreira Nunes.

**Formalization of application:** Applications must be formalized, obligatorily, by sending the following elements: (1) Letter of presentation, application and motivation; (2) Curriculum Vitae (CV) of the applicant, specifying skype address; (3) Copy of the certificate(s) of academic qualifications with the mean overall final classification in the courses (e.g. Grade Point Average, GPA); (4) Proof of enrollment in a doctoral/PhD course, or in a non-academic degree courses, or a declaration on the honor by the candidate that he/she will enroll in the course until the date of eventually signing a scholarship contract; (5) Declaration on the honor of the candidate(s) with the indication of the fellowship(s) of the type to which the contest is held and the respective duration of such fellowships. The CV should include: (i) contact information, (ii) Academic qualifications (including, for each course, a complete list of the concluded courses/subjects/curricular units and their classifications), (iii) List of scientific publications, (iv) Main projects where the applicant has participated, (v) other information considered relevant. information considered relevant.

The final evaluation results will be publicized through an ordered list (by final grade obtained), posted in a visible and public place at FCTUC-DEEC.

Candidates with foreign academic diplomas are obliged to present records of the recognition of such diplomas according to the Portuguese law.

**Applications submission:** Applications should be sent in PDF format by email to: [rui@isr.uc.pt](mailto:rui@isr.uc.pt).

**Submission of applications:** Between 11/09/2020 and 09/10/2020.

**Publication date:** 10/09/2020.

**Submission deadline date:** 09/10/2020.

**Additional information:** The evaluation results will be announced within 90 days after the end of the applications submission deadline, by notifying the applicants via email. After the announcement of the results, candidates are considered automatically notified to, if they wish to do so, comment on the results on a preliminary hearing period within 10 days after that date. After this, the selected candidates will have to declare in writing their acceptance. Unless a justification worthy of consideration is presented, if the declaration is not submitted within the referred period, it is considered that the candidate waives the grant. In case of resignation or withdrawal of the selected candidate, the next candidate with the highest evaluation score will be notified immediately.