

## **CALL FOR RESEARCH GRANTS**

### **Process IMPROVE-02**

It is open a call for one research fellowship at the "Institute of Systems and Robotics – University of Coimbra" (ISR-UC), in the framework of the project "IMPROVE - Nonlinear Control, Estimation and Fault-Detection Tools with Provably Guarantees for Mobile Robotic Systems" (reference: POCI-01-0145-FEDER-031823), co-financed by the Foundation for Science and Technology (FCT), the "Competitiveness and Internationalization Operational Programme" (COMPETE 2020), Portugal 2020 (PT2020), and the European Union through the European Regional Development Fund (ERDF), with the following conditions:

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

**Admission requirements:** Holding a degree at the master/MSc level in the area of Electrical and Computer Engineering, Informatics Engineering, Engineering Physics, or a related area; and cumulatively university student enrolled in a doctoral/PhD course.

Preferential conditions: Control, digital control, intelligent control, estimation, computational intelligence, machine learning, computer programming; Knowledge in the subject area of the activity object / work plan of the fellowship.

**Work plan:** Research and development activities in methodologies for nonlinear and optimization based control and estimation; Cooperative control and estimation of multiple systems; Fault detection and isolation schemes of multiple mobile robotic systems; Shop floor logistics and manipulation. Other application examples: cooperation of air and marine autonomous robotic vehicles for ocean monitoring and sampling.

**Applicable law and regulation:** Statute of the Research Fellow; and Regulation of Research Grants of the Fundação para a Ciência e a Tecnologia, I.P.; both in their current wording. 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.

**Location:** "Institute of Systems and Robotics – University of Coimbra" (ISR-UC).

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

**Renewal:** Fellowship(s) eventually renewable, for additional period/s, making a total duration not greater than 18 months. The time periods of the fellowship(s) (including the renewals) will be

adjusted, if necessary, so that no fellowship will terminate after the end of the project (predicted to be 2021/05/31).

**Scientific Orientation:** Prof. Rui Alexandre de Matos Araújo.

**Financial conditions:** The amount of the grant is € 1064.00 corresponding to the monthly compensation stipulated in the FCT table. The payment of the grant will be made by bank check or by bank transfer at the end of the month. To this value it is added the social security (Seguro Social Voluntário, first level contributions), in case the candidate chooses for its assignment, and the personal accidents insurance. The financial amount of the grant will not be increased during the entire period of the fellowship.

**Selection methods:** Curricular evaluation (70%) and interview (30%) to the 10 candidates best classified in the curricular evaluation part. For a candidate that does not have an adequate profile (global evaluation under 50%), the fellowship will not be granted to him/her.

**Selection and attribution criteria:** The curricular evaluation will focus on the following criteria: (1) Curricular elements presented, including the adequacy of the profile and merit of the candidate to the needs of the project (40%); (2) Knowledge in the area of the work plan and desired profile; Control, digital control, intelligent control, estimation, computational intelligence, machine learning, computer programming; knowledge in the subject area of the activity object / work plan of the fellowship (30%). 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 Urbano José Carreira Nunes, Professor Rui Alexandre de Matos Araújo.

**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). 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; (4) Document proving the enrolment as a university student in a doctoral/PhD course, in the academic year of the application date.

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.

**Submission of applications:** Between 2020/02/28 and 2020/04/03.

**Publication date:** 2020/02/12.

**Deadline for application:** 2020/04/03.

**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.