CALL FOR RESEARCH GRANT

Process 452523

It is open a call for one research fellowship, in the framework of the project "KhronoSim - System for Simulation and Test of Complex Systems" (reference: Project Nr. 17611), co-financed by the European Regional Development Fund (ERDF), through the "Portugal 2020" (PT2020) program, within the framework of the System of Incentives to Research and Technological Development (SII&DT) and the Operational Program for Competitiveness and Internationalization (POCI), with the following characteristics:

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.
Preferential conditions: knowledge on real-time systems involving software and/or hardware, simulation, control, digital control, intelligent control, computational intelligence, computer programming; Knowledge in the subject area of the activity object of the fellowship;
Activities of the fellowship: will focus on various areas of the project in an integrated way, namely the hardware architecture and the software architecture, and the closed-loop simulation and control architecture.

Work plan: It will be performed research activities for the development of architecture and platform of software and/or hardware for testing closed-loop systems involving: (i) real-time systems, (ii) simulation involving dynamic models of the environment and of the equipment (e.g. sensors, actuators), control algorithms (system under simulated test or real test), (iv) simulation control interface (execution of tests, gathering of results, etc). Steps of the project: preliminary studies, specification and integration of the architectures of hardware and software of the test bench, design of closed-loop simulators (simulation and control of the systems), test bench of the system under emulated test, test bench of the system under real test. Case study that will be the target of the development and validation of the system for simulation and test of complex systems: sun-synchronous earth satellite (sun-synchronous orbit). Activities of the fellowship: will focus on various areas of the project in an integrated way, namely the hardware architecture and the software architecture, and the closed-loop simulation and control architecture. The research activities will integrate in the current state of development of the KhronoSim project.

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

Location: Departamento de Engenharia Eletrotécnica e de Computadores, da Faculdade de Ciências Tecnologia - Universidade de Coimbra (FCTUC-DEEC) and Critical Software, SA. Facilities.

Duration: 6 months.

Renewal: Eventually renewable, until the end of the project (30/09/2018).

Scientific Orientation: Prof. Rui Alexandre de Matos Araújo.

Selection methods: Curricular evaluation (90%) and interview (10%) to 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.

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 (50%);
2. Experience and knowledge in the area of the work plan and desired profile: previous experience in works and/or research and development projects related to the research and development program to be developed; knowledge on real-time systems involving software and/or hardware, simulation, control, digital control, intelligent control, computational intelligence, computer programming; knowledge in the areas of activity of the fellowship (40%);
3. In the interview it will be valued the motivation, the commitment, the perseverance, the adequacy of the profile and merit of the candidate to the needs of the project, and the experience and knowledge in the area of the work plan and desired profile = 10%.

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 should be sent by email with the following documents and informations: (1) Letter of presentation, application and motivation; (2) Curriculum Vitae (CV) of the applicant; (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, and working experience, (v) other information considered relevant.

Candidates with foreign academic diplomas are obliged to present records of the equivalence/recognition of such diplomas and the conversion of the respective final notes to the Portuguese classification scale (whenever a final classification is attributed with the foreign diploma), issued by the Directorate-General for Higher Education or by a Portuguese public higher education establishment (regulated by Decree-Law no. 341/2007, of 12 October) or, in alternative, present the document of equivalence/recognition of such foreign qualifications to the corresponding Portuguese qualifications, issued by a Portuguese public higher education establishment (regulated by Decree-Law no. 283/83, of 21 June).

Applications submission: Applications should be sent in PDF format by email to: rui@isr.uc.pt.

Submission of applications: Between 28/12/2017 and 11/01/2018.

Publication date: 27/12/2017.

Deadline for application: 11/01/2018.

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 waivers the grant. In case of resignation or withdrawal of the selected candidate, the next candidate with the highest evaluation score will be notified immediately.