



## MATHEMATICS DEPARTMENT

### CONTEST FOR PH.D. RESEARCH SCHOLARSHIP

17 of November 2021

A tender is now open for the attribution of a research grant to carry out R&D activities per student enrolled in a PhD, aiming at consolidating their scientific training through the development of research work within the scope of the PRACE-6IP Project, with ref. H2020-INFRAEDI-823767, funded by the European Commission, under the E-Infrastructures H2020-INFRAEDI-2018-2020 program, under the following conditions:

**Scientific Area:** Astrophysics

**Admission requirements:** Master in Astronomy/Astrophysics or Atomic Physics; enrollment in a PhD.

#### Selection criteria:

1. Curriculum assessment
  - 1.1. Articles published in peer-reviewed journals.
  - 1.2. Articles published in scientific conference proceedings.
  - 1.3. Participation in research projects.
  - 1.4. Oral or panel communications.
  - 1.5. Academic curriculum.
  - 1.6. Other relevant performances.
  
2. Technical and scientific experience
  - 2.1. Programming language: Python or Julia and Fortran 2018.
  - 2.2. Experimental determination of effective sections of atomic processes.
  - 2.3. Software development for determination of effective sections and calculations of atomic processes.
  - 2.4. Modeling optically thin astrophysical plasmas.

**Selection methods:** Curriculum assessment (50%) and technical and scientific experience assessment (50%). If necessary, an interview will be carried out. Minimum weight for granting a scholarship: 25% in the curricular component and 25% in the technical and scientific component.

**Selection Committee:**

President: Doctor Miguel A. de Avillez

1st Effective member: Doctor Alfredo Palace Carvalho

2nd Effective member: Doctor Mauro Guerra

1st Substitute Member: Doctor Sandra Vinagre

2nd Substitute Membe: Doctor Manuela Oliveira

**Work plan:** (i) Development of software for exploration, (i) processing and analysis of atomic data; (ii) Software development for plasma emission; (iii) Development, implementation and testing of parallelization models.

**Applicable legislation and regulations:** The granting of the research scholarship will be carried out upon the signing of a contract between the University of Évora and the scholarship holder, as per the draft [https://www.fct.pt/apoios/Minuta\\_Contrato\\_Bolsa.docx](https://www.fct.pt/apoios/Minuta_Contrato_Bolsa.docx) , under the terms of the Research Fellowship Statute (Law No. 40/2004 of 18 August and Decree-Law No. 123/2019 of 28 August) and in accordance with the legislation and Regulation of Research Grants of the “Fundação para a Ciência e Tecnologia”, IP, in force, regulation no. 950/2019 of December 16, 2019 (<https://www.fct.pt/apoios/bolsas/regulamento.phtml.pt> ) and other applicable rules.

**Workplace:** The work will be developed at the Department of Mathematics of the University of Évora, under the scientific supervision of Doctor Miguel A. de Avillez.

**Duration of the fellowship:** The fellowship will last for 12 months and is scheduled to start on January 2022.

**Monthly maintenance subsidy amount:** The scholarship amount corresponds to €1104.64 monthly, according to the table of scholarships awarded directly by the FCT, I.P. in the country (<http://fct.pt/apoios/bolsas/valores> ), payments being made monthly, by check or bank transfer.

**Form of advertising/notification of results:** The final results of the evaluation will be publicized through a list ordered by final grade, posted in a visible and public place at the University of Évora, and the candidate(s) will be notified by email. Pursuant to the right of prior hearing of interested parties, the Final Classification project will be announced by any written means to all interested parties. After communicating the provisional list of the results of the evaluation, candidates have a period of 10 working days to express their opinion in a preliminary hearing of interested parties.

**Deadline for application and form of submission of applications:** The competition is open from November 17 to December 2nd, 2021 and the results of the selection will be published on December 6, 2021.

Applications must be formalized, obligatorily, by email and by sending an application letter accompanied by the following documents: (i) Curriculum Vitae, (ii) qualification certificates and (iii) three letters of recommendation.

For the purposes of candidacy, the proof may be replaced by a declaration of honor by the candidate, but the failure to demonstrate, in the contracting phase, the possession of the required degree on the application deadline or the non-presentation of proof of enrollment or enrollment in the study cycle or non-degree course, for scholarships with this component, imply the cancellation of the candidate's assessment.

Academic degrees obtained in foreign countries require registration by a Portuguese Institution in accordance with Decree-Law No. 66/2018, of August 16th and Ordinance No. 33/2019, of January 25th. The presentation of the certificate is mandatory for the signing of the contract.

More information can be obtained at:

<https://www.dges.gov.pt/en/pagina/degree-and-diploma-recognition>

Applications must be sent by e-mail to:

Professor Doutor Miguel A. de Avillez

Grupo de Astrofísica Computacional

Departamento de Matemática, Universidade de Évora

E-mail: [mavillez@uevora.pt](mailto:mavillez@uevora.pt)

