

PUBLIC NOTICE

Call for allocation of a Scientist Scholarship

Reference: BII/FhP-25/10

The call for allocation of a *Research Integration Grant* for a Student attending a Master's degree is open and subject to the following conditions:

1. **General scientific field:** Engineering.
2. **Specific scientific field:** Informatics and Computing Engineering or Electrical and Computer Engineering.
3. **Admission Requirements:** i) Student attending an academic Master's degree in the field of Informatics and Computing Engineering or Electrical and Computer Engineering; ii) Knowledge on C and embedded development (micro-controllers); iii) Some experience or interest in Kubernetes and IoT orchestration; iv) Proficiency in English and excellent communication skills and teamwork.
4. **Work Plan:** The Student will perform research activities within the Connected Things (Cyber-physical systems) group on edge & cloud computing topics. The student will have the chance to be part of the development of an IoT ecosystem to orchestrate IoT deployments. The ecosystem comprises an innovative orchestration framework – FITA – that addresses the automated IoT node provisioning and management through Cloud orchestration. The objective of the internship is to explore the possibility of implementing a lightweight Kubelet-like agent for microcontrollers, capable of reporting the node lifecycle, fetching microcontroller compatible images from an OCI registry and deploy workloads.
 - 4.1. **Tasks:**
 - Familiarisation with Kubernetes and Kubelet responsibilities.
 - Implement a basic Kubelet-like agent in C in a traditional OS.
 - Port the implementation to a Zephyr RTOS-based microcontroller.
 - Analyse and detail the resource requirements for the implementation.
 - Test and validate the implementation with FITA.
5. **Applicable law and regulation:** Portuguese Statute of the Scientific Research Scholarship Holder [*"Estatuto do Bolseiro de Investigação Científica"*], approved by Law no. 40/2004, of August 18, amended by Decree-Law no. 202/2012, of August 27, Law no. 12/2013, of January 29, Decree Law no. 89/2013, of July 9 (hereinafter referred to as the "Statute"), Law no. 123/2019, of August 28 and the Research Scholarships' Regulation of Associação Fraunhofer Portugal Research (hereinafter referred to as the "Regulation").

6. **Place of work:** Fraunhofer Portugal AICOS, Porto, Portugal, under the scientific supervision of MSc. João Oliveira.
7. **Scholarship's Duration and Regime:** The scholarship shall have a duration of 3 months, eventually renewable for equal periods of time or until the term of the project, with an estimated starting date on September 2025, according to article 13 of the Regulation and article 3 of the Statute, under exclusivity regime, except for the exceptions expressly set out in nos. 3 and 4 of article 5 of the referred Statute.
([https://www.fraunhofer.pt/content/dam/portugal/fhp/careers/grants/Regulamento Bolsas Fraunhofer Portugal Research 2021.pdf](https://www.fraunhofer.pt/content/dam/portugal/fhp/careers/grants/Regulamento_Bolsas_Fraunhofer_Portugal_Research_2021.pdf))
8. **Amount of the monthly maintenance allowance:** The amount of the scholarship corresponds to €651,12 as per table of amounts of the scholarships of Associação Fraunhofer Portugal Research (https://www.fraunhofer.pt/content/dam/portugal/fhp/careers/grants/regulamento_bolsas.pdf). The payment of the scholarship shall be made on a monthly basis by wire transfer.
9. **Selection Procedures:** The selection procedures to be used shall be made based on the following parameters:
A – Current average in the Master's degree; B – Alignment of academic choices with the work to perform; C – Curriculum evaluation in accordance with the objectives of the project. The following percentage weighting shall be given to the selection parameters: $0,2 \times A + 0,3 \times B + 0,5 \times C$.
10. **Composition of the selection panel:** Chairman: Doctor Filipe Miguel Monteiro da Silva e Sousa; Permanent Members: Doctor Waldir Aranha Moreira Júnior and Doctor Francisco Maria Cruz Nunes.
11. **Publication/notification of the results:** The final evaluation results shall be published in a list ordered by the final score and posted in a visible and public place at Fraunhofer, Portugal. The approved applicant shall be notified by email.
12. **The opening period of the call:** The call is open from 12-08-2025 to 26-08-2025.
13. **Documents and deadlines for application:** Applications must be submitted by means of an application email with the following documents: *Curriculum Vitae*, required qualifications certificate, and other evidencing documents deemed relevant.

Applications should be delivered during the call's opening period, sent by email with acknowledgment receipt to jobs@fraunhofer.pt, in *pdf* format, by 11:59 p.m. August the 26th 2025.