

**CALL FOR APPLICATIONS FOR A RESEARCH SCHOLARSHIP – MASTER’S STUDENTS IN THE
AREAS OF ELECTRONICS AND TELECOMMUNICATIONS OR COMPUTER SCIENCE – STRAPSHHELL
PROJECT**

Bearing in mind Regulation No. 437/2020 on Research Grants of the Polytechnic Institute of Setúbal, published in the 2nd series of the Official Gazette No. 83, of April 28, it is made public that, by order of 12-03-2026 from the President of the IPS, a competition is open for the award of a **Master Research Grant** aimed at carrying out R&D activities for candidates **enrolled in a Master Degree, in the areas of Electronics and Telecommunications or Computer Science**, within the scope of the Strapshell project - advancing oyster cultivation through sustainable tape systems, funded by IFAP/MAR2030, **with the period for receiving applications from 25-03-2026 to 07-04-2026**, in accordance with the following conditions:

- 1. Duration of the Scholarship** - The grant is valid for 12 months and may be renewed until December 31, 2027, the final date for completion of the respective project.
- 2. Recipients** - The scholarship is intended for candidates with the following profile:
 - Students enrolled on a master’s degree in Electronics and Telecommunications or Computer Science.
 - Programming skills (preferably in Linux environments, Python, C/C++, React, TypeScript, Node.js, Next.js, D3.js or equivalent).
 - Knowledge of cloud computing (e.g. AWS, Google Cloud, Azure).
 - Knowledge of or experience with IoT systems.
 - Understanding of communication protocols, particularly MQTT and/or LoRa.
 - Basic knowledge of databases (relational and NoSQL, e.g. MongoDB) and client-server systems.
 - Interest in developing data visualization dashboards.
 - Ability to work independently and within a multidisciplinary team.
 - Sense of responsibility, organizational skills and communication skills.
 - Previous experience in the areas mentioned will be an advantage but is not a mandatory requirement.
- 3. Financial component** - According to the Table, contained in Annex I to the FCT Scholarship Regulation, approved by Regulation No. 950/2019, published in the Diário da República, 2nd series of December 16 (updated version), the value of the Scholarship corresponds to € 1040,98 being paid monthly, by bank transfer.

**CALL FOR APPLICATIONS FOR A RESEARCH SCHOLARSHIP – MASTER’S STUDENTS IN THE
AREAS OF ELECTRONICS AND TELECOMMUNICATIONS OR COMPUTER SCIENCE – STRAPSHHELL
PROJECT**

4. Workplace - The work will be carried out on an exclusive basis at the Setúbal School of Technology, part of the Setúbal Polytechnic Institute, and at the company Marvelous Wave, Lda/Aquanostra, under the scientific supervision of Professor Ana Antunes and Professor Cláudio Sapateiro.

5. Activity plan - The candidate will perform functions in one of the Work Packages (WP) in which IPS is participating:

- Definition of the communication architecture between data acquisition systems and servers.
- Development of communication protocols based on LoRa and MQTT.
- Implementation of a local server, including a database for data storage and management.
- Development of a local dashboard for viewing real-time and historical data.
- Integration and synchronization of data with a remote (cloud) server.
- Development of an online dashboard, separate from the local one, for remote access.
- Installation, testing and validation of the system in a live environment.
- Preparation of technical documentation and support for the research team.

6. Assessment and ranking criteria:

6.1. Curriculum Assessment (CA) – (Maximum 100 points)

a) Academic Qualifications - Maximum 30 points

Registration for a master's degree in the areas of Electronics and Telecommunication or Computer Science	30 points
Enrolment on a master's degree in a related field	10 points

**CALL FOR APPLICATIONS FOR A RESEARCH SCHOLARSHIP – MASTER’S STUDENTS IN THE
AREAS OF ELECTRONICS AND TELECOMMUNICATIONS OR COMPUTER SCIENCE – STRAPSHHELL
PROJECT**

b) Technical knowledge relevant to the work plan (IoT, communications, programming, databases) – Maximum 40 points

Programming skills (preferably in Linux environments, Python, C/C++, React, TypeScript, Node.js, Next.js, D3.js or equivalent)	Up to 8 points
Knowledge of cloud computing (e.g. AWS, Google Cloud, Azure)	Up to 6 points
Knowledge of or experience with IoT systems	Up to 6 points
Knowledge or experience of systems using communication protocols, namely MQTT and/or LoRaBasic	Up to 6 points
knowledge of databases (relational and NoSQL, e.g. MongoDB) and client-server systems	Up to 6 points
Knowledge or experience of data visualization <i>dashboards</i>	Up to 8 points

c) General analysis of the Curriculum Vitae - maximum 30 points

Very good	30 points
Good	25 points
Satisfies	15 points
Does not satisfy	0 points

6.2. General analysis of the Letter of Motivations – (Maximum 100 points)

Very good (presents motivational factors related to the activities to be performed as a scholarship holder duly framed in the role)	100 points
Good	75 points
Satisfies	50 points
Does not satisfy	0 points

**CALL FOR APPLICATIONS FOR A RESEARCH SCHOLARSHIP – MASTER’S STUDENTS IN THE
AREAS OF ELECTRONICS AND TELECOMMUNICATIONS OR COMPUTER SCIENCE – STRAPSHHELL
PROJECT**

6.3. Selection Interview - (Maximum 100 points)

Motivation and interest in the project	Up to 25 points
Technical knowledge	Up to 25 points
Communication skills	Up to 25 points
Critical thinking and independence	Up to 25 points

6.4. The final classification (FC) will be calculated using the following formula:

$$CF = 0,5 \times AC + 0,2 \times CM + 0,3 \times E$$

6.5. For recruitment purposes, candidates must achieve a minimum final score of 50 points. Candidates will be ranked on a scale of 0 to 100 points, rounded to the nearest whole number, in accordance with the weighting assigned to the criteria specified above.

6.6. For a candidate to be successful, they must achieve a minimum total score of 50 points and must have obtained at least half the maximum possible score in each of the selection methods to be applied in the competition.

6.7. In the event of a tie, the tiebreaker will be the candidate who achieved the highest score in the Interview component.

6.8. Based on the final ranking list, a recruitment reserve will be established, which will be used for the eventual recruitment of successful candidates if those ranked in positions eligible for recruitment withdraw.

7. Application documents - The application must be accompanied by the following documentation:

- Letter of motivation addressed to the President of the IPS
- Candidacy form (signed)
- Detailed CV;
- Certificates of qualifications for academic degrees held
- Proof of student status for the course and degree attended at a Portuguese Higher Education Institution, issued by the respective academic services

**CALL FOR APPLICATIONS FOR A RESEARCH SCHOLARSHIP – MASTER’S STUDENTS IN THE
AREAS OF ELECTRONICS AND TELECOMMUNICATIONS OR COMPUTER SCIENCE – STRAPSHHELL
PROJECT**

- Documents and visas relating to residence in Portugal (for applicants who are not citizens of Portugal or another European Union Member State)
- 8. How to submit your application** - The application must be made by filling out the standard form, available on the IPS website, at www.ips.pt, and sent to bolsas.investigacao.dgp@ips.pt or through the address, Campus do IPS, Estefanilha, 2910 761 Setúbal, until the application deadline.
- 9. The jury is made up of:**
- President**
Doctor Victor Manuel Esteves Antunes, Coordinating Professor at the Setúbal School of Technology/IPS
- Effective vowels**
Doctor Ana Luísa Lopes Antunes, Adjunct Professor at the Setúbal School of Technology/IPS
Doctor Cláudio Miguel Garcia Loureiro dos Santos Sapateiro, Adjunct Professor at the Setúbal School of Technology/IPS
- Substitute members**
Doctor Ricardo Manuel Nunes Salgado, Adjunct Professor at the Setúbal School of Technology/IPS
Doctor Ana Maria Álvares Tavares da Mata, Adjunct Professor at the Setúbal School of Technology/IPS
- 10. Applicable legislation and regulations** - The scholarship is awarded under Law No. 40/2004 of August 18, in its updated version (Statute of the Scientific Research Fellow) and Regulation of Scholarships and Research of the Foundation for Science and Technology, available for consultation at <https://www.fct.pt/apoios/bolsas/regulamento.phtml>