

CALL FOR GRANT APPLICATIONS (AE2025-0356)

INESC TEC is now accepting grant applications to award 1 Research Grant (BI) within the scope of the OCEAN_FCT funded by National Funds through FCT - Portuguese Foundation for Science and Technology, I.P., project reference .

1. GRANT DESCRIPTION

Type of grant: Research Grant (BI)

General scientific area: ENGINEERING

Scientific subarea: Mechanical engineering

Area of Work: Maritime Infrastructures

Grant duration: 12 months, starting on 2025-12-01, with the possibility of being renewed for a maximum term of four years, in the cases of students enrolled in a PhD.

Scientific advisor: Diogo Neves

Workplace: INESC TEC, INESCTEC / FEUP, Portugal

Maintenance stipend: € 1309.64, [according to the table of monthly maintenance stipend for FCT grants](#) , paid via bank transfer. Grant holders may be awarded potential supplements, according to a quarterly evaluation process (Articles 19, 21 and 22 of the [Regulations for Grants of INESC TEC](#) and Annex II), up to a maximum limit of 50% of the monthly maintenance stipend.

INESC TEC supports costs with registration, enrolment or tuition fees, during the grant duration, under the terms established in the internal document: "[Payment of Tuition fees to grant holders](#)".

The grant holder will benefit from health insurance, supported by INESC TEC.

2. OBJECTIVES:

The main objective of the doctoral research will be to contribute to the development of an integrated monitoring and predictive maintenance system for floating wind structures, with the potential to be adapted to other types and configurations of offshore wind farms. The specific objectives include:

- Designing and implementing an SHM architecture that integrates distributed sensors (on the turbine, tower, floater, moorings, and cables) and combines them with an advanced robotic hub for inspection and data collection in the marine environment.
- Developing data analysis methodologies and numerical modelling tools for assessing structural behaviour, identifying damage, and predicting failures, using computational simulation and time series analysis techniques.
- Contributing to the experimental validation of the system, including laboratory testing and/or in situ monitoring campaigns.
- Proposing predictive maintenance strategies based on the collected data and developed models, with the aim of optimising operations and reducing maintenance costs.
- Contributing to the development of guidelines for adapting and scaling the system to different types of floating wind platforms and large-scale wind farms.

3. BRIEF PRESENTATION OF THE WORK PROGRAMME AND TRAINING:

The doctoral candidate's work plan focuses on the development of an integrated Structural Health Monitoring (SHM) system for floating wind platforms. It encompasses a comprehensive scope, ranging from literature review and complementary training in hydrodynamics and data analysis, to the implementation and experimental validation of analysis methodologies and numerical modelling.

The training plan includes participation in specialised courses, international conferences, and internships, aiming to develop advanced skills in SHM, fluid–structure interaction, and predictive maintenance, as well as the publication of scientific papers. The ultimate goal is to contribute significantly to the safety and efficiency of offshore wind energy production.

The candidate will undertake a training and capacity-building period at SINTEF OCEAN in Trondheim, Norway. The supervisory team is composed of Paulo Rosa Santos (FEUP) and Diogo Neves (INESCTEC), together with co-supervisors from INESCTEC and SINTEF Ocean (Norway), as outlined in the work plan.

4. REQUIRED PROFILE:

Admission requirements:

-Master's degree in Civil Engineering, Ocean Engineering, Mechanical Engineering, Naval Engineering, Maritime Hydraulics, or related fields, with a solid background in hydrodynamics, structural analysis, and fluid dynamics. Eligible applicants: Students who are enrolled, or who commit to enrol by the time of hiring, in a PhD degree-awarding study programme offered by a Higher Education Institution.

The awarding of the fellowship is dependent on the applicants' enrolment in study cycle or non-award courses of Higher Education Institutions.

Preference factors:

Preference will be given to candidates with experience in dynamic analysis of floating objects and moorings for offshore structures.

Minimum requirements:

- Experience in fluid-structure interaction, numerical modeling, dynamic analysis of offshore structures and/or processing of sensor data.
- Skills in scientific programming (Python, MATLAB, or equivalent) and use of simulation software (CFD, FEM) and CAD (e.g., AutoCAD, SolidWorks).
- Ability to design and conduct experimental tests (e.g., wave tank) and to process signals and sensor data.
- Proficiency in English, both spoken and written, and aptitude for working in multidisciplinary and international teams.

5. EVALUATION OF APPLICATIONS AND SELECTION PROCESS:

Selection criteria and corresponding valuation: the first phase comprises the Academic Evaluation (AC), based on the criteria referred to in Article 12 of the [Regulations for Grants of INESC TEC](#), while the second phase comprehends the Individual Interview (EI). All factors are evaluated on a scale of 0 to 100, taking into account the applicants' merit, suitability and conformity with the preference factors.

The weight of the AC factors are as follows: Academic Qualifications (FA, 40%), Scientific Publications (PC, 20%), Experience (EX, 20%) and Motivation Letter (CM, 20%).

Candidates who score less than 50 points in the AC average will be considered excluded on absolute merit. The top five candidates approved on absolute merit will be qualified for the individual interview. The Final Grade (CF) is obtained by the weighted average of AC (80%) and EI (20%).

DISABILITY INCENTIVE

Candidates who present a degree of disability equal to or greater than 90% will benefit from an incentive (20) in the score of the CV Assessment.

Candidates who present a degree of disability equal to or greater than 60% and less than 90% will also benefit from an incentive (10) in the score of the CV Assessment.

Said score may, in these cases, exceed 100 points.

Candidates must demonstrate the degree of disability during the application, namely through the submission of the Multi-Purpose Medical Certificate of Disability, issued in accordance with Decree-Law no. 202/96, of October 23 - currently in effect.

Candidates must declare, in the application form, the type of disability used throughout the selection process, in order to proceed with the required adaptations.

The Selection Jury is composed of the following members:

President of the Jury: Eduardo Silva
Full member: Diogo Neves
Full member: Paulo Rosa Santos (FEUP)
Substitute member:

Release of results and prior hearing: the results of the selection process, as well as the terms and procedures for prior hearing, will be released to the applicants by email, under the terms referred to in Article 13 of the Regulations for Studentships and Fellowships of INESC TEC.

6. FORMALISATION OF APPLICATIONS:

Application Documents:

1. Motivation letter;
2. Curriculum Vitae (must include the list of previous fellowships, their type, beginning and end dates, funding entities and host institutions);
3. Certificate or diploma degree;
4. Proof of enrollment in a degree awarding study cycle or in a non degree awarding Higher Education program.
 - The proof of enrollment may be presented just during the grant hiring stage.
5. Signed declaration stating the infringement of the grant holder's duties (article 14, no. 4)
6. Documental evidence to support the country of residence, residence permit or other legally equivalent document, in cases where the applicant is a foreigner or non-resident in Portugal - valid until the beginning of the grant.
7. Other supporting documents relevant to the final assessment.

Failure to deliver the required documents within the 90-day period after the date of the notice of the conditional awarding of the grant implies its cancellation.

Application period: From 2025-10-02 to 2025-10-17

Submission of applications: the application will be formalised by submitting the form available in the *Work With Us* section of INESC TEC website.

7. BINDING LEGISLATION AND REGULATION

The hiring process shall comply with the current legislation regarding the Research Grant Holder Statute, approved by Law no. 40/2004 of August 18, in its current wording, as well as by the [Regulations for Grants of INESC TEC](#) and for [FCT Grants Regulation in force](#).

For more information, please check the [Regulations for Grants of INESC TEC](#) and relevant annexes at www.inesctec.pt/bolsas

