

#### 4 Research Initiation Grants (M/F)

Call open for applications for four Research Initiation Grants within the framework of projects “AIMS2”, “YML-Two” and “MNEST-II”, refs. 21039, 21061 and 21215, approved on the EIT-Manufacturing Program, funded by Horizon 2020 Framework (H2020), under the following conditions:

**Scientific Area:** Electrical and Computer Engineering

**Admission requirements:** Be a student enrolled in a higher technical professional course, a bachelor's degree, or in the 180 credits corresponding to the first six curricular semesters of work of an integrated master's degree, in the area of Electrical and Computer Engineering, a requirement to be duly proven at the time of signing the contract.

In accordance with article 9º of the Regulation of Research Grants of University of Porto, the grant cannot be awarded to anyone who has already benefited from research grants awarded under the terms of Research Grant Holder Status.

**Activity Outline:**

The fellows will be integrated in the EIT- Manufacturing research activity, within the tasks of the actions, as follows:

- **21039 – AIMS2 - AI for Manufacturing SMEs and Students**

Industry 4.0 is focused on information systems bringing together data from a large variety of sources. These data are subject to analytics to become the high fidelity information that enables systems to become more intelligent and autonomous. In these digital processes, Artificial Intelligence (AI) plays a central role in creating the necessary autonomy. In the Industrial transformation, there are frontrunners, followers and laggards among professionals, students and teachers. This AI-focused education project brings these groups together to accelerate the digital transformation.

Next to teaching new generations of students, the professional education of technical workers and teachers is crucial because most of the current workforce has not received formal education in these digital technologies.

This project will deliver state-of-the-art AI education using practical industry-relevant use cases to professionals and students in four countries, in cooperation with private companies.

Tasks in the grantee's work plan

- Task 4 - Development of course: Introduction, different sections with the experience of the partners and industrial use cases
- Task 5 Teaching & Testing & Validation pilots in the different Ecosystems
- Task 6 - Implementation in the EIT-manufacturing GLP system

- **21061 YML-Two - Young Manufacturing Leaders - Talented Workforce for an Open society**

The YML-Two evolves from the activities of the YML 2020 project, having a long-term perspective and aiming at creating an independent and self-sustaining global network of young people engaged in manufacturing. The twofold objective for 2021 is to enlarge the activities already in

place while, at the same time, give greater inclusiveness thanks to a structured interaction with the existing manufacturing ecosystem (industry, academy and policymakers), and EIT-M Innovation Community. The focus can now shift to the creation of new city-hubs and the ideation and deployment of concrete actions, such as seminars, webinars, company visits, and other initiatives reflecting members' needs.

FEUP role: Enlarge and support the initial community of Young Manufacturing Leaders starting from Porto and expanding to the rest of Western Europe and RIS countries. Lead the creation of two-way mentoring programme with industrial companies and external organisations. Contribute to the creation of inclusive learning and promotional materials for YMLs and in engaging local communities.

Tasks in the grantee's work plan

- Task 3 - YML engagement
- Task 4 - YML Main Event and WM Report
- Task 5 - YML Network enlargement and impact assessment

• **21215 - M-NEST II - Network for Empowering People in Added-Value Manufacturing Systems and Technologies - Phase II**

M-NEST-II focuses on the implementation of innovative courses that enable the financial exploitation and valorization of the educational assets supported by EIT-M, achieved under the two preceding activities - M-NEST-I and M-NEST-RI with complementary objectives. The M-NEST-I, focused on the implementation of a "distributed Teaching & Learning Factory" articulated with local educational programs, to build the most complete European TLF. M-NEST-RIS focused on the development and implementation of a new paradigm in value-added manufacturing (AVM) learning in Europe, based on the creation of a "distributed Teaching & Learning Factory", prepared to face the challenges raised by the exponential introduction of new AVM technologies (in the context of Industry 4.0) regarding the qualification of people.

FEUP led, locally, the design of the academic M-NEST (Teaching Factory Module) and professional (Learning Factory Modules). In the present activity it will continue to assume the leadership, coordination and management of this activity.

Tasks in the grantee's work plan

- Task 3 – M-NEST Professional Training Courses
- Task 5 – M-NEST Strategic Agenda

**Legislation and regulations:** Law N<sup>o</sup>. 40/2004, of 18th August, in its current wording (Statutes of Scientific Research Fellow) and Regulation of Research Grants of University of Porto.

**Work place:** The work will be developed at Digital and Intelligent Industry research lab (DIGI2), of the Systems and Technologies Research Center (SYSTEC) of the Faculty of Engineering of the University of Porto, under the scientific supervision of Prof. Gil Manuel Magalhães de Andrade Gonçalves, Doutor João Pedro Correia dos Reis e Mestre Rui Pedro Ferreira Pinto.

**Grant duration:** The grants will have a duration of 3 months, starting in September 2021, on an exclusive basis, possibly renewable, but not exceeding the completion date of the actions/project.

**Note: If it is not possible to ensure the scholarships for the initial 3-month period, the scholarships will not be awarded.**

**Stipend:** The grant stipend amounts to 446,12€ according to the table of values of the grants of the Regulation of Research Grants of University of Porto.

The payment will be made by bank transfer.

**Selection procedure:**

The selection of fellows will be based on a curriculum evaluation (CE), which will focus on the candidate's merit, and an interview (I). The curriculum of each candidate will be evaluated in a 1-5 points scale. The interview will be conducted with the **six** best ranked candidates whose classification in the curricular evaluation is equal to or higher than 4 points (4 in 5 points).

The evaluation criteria for the curricular component are:

$$\text{Curricular Evaluation} = (25\%*A)+(25\%*B)+(30\%*C)+(20\%*D)$$

- A. Academic training in the area of Electrical and Computer Engineering - 5 points; related areas – 3 points; other areas - 0 points.
- B. Academic training classification: average equal or higher than 15/20 - 5 points; average equal or higher than 13/20 and lower than 15/20 - 3 points; others - 0 points;
- C. Knowledge of automation, robotics and cyber-physical systems (1 to 5 points);
- D. Knowledge of industry 4.0, intelligent systems (IA based) and their application in the industrial domain (1 to 5 points).

After reviewing the submitted documentation, the Evaluation Panel will interview the top 6 ranked candidates, where it will be verified:

$$\text{Interview Classification} = (50\%*I-C1) +(25\% * I-C2) +(25\% * I-C3)$$

I-C1 - Knowledge and motivation to perform the job:

- Excellent knowledge and motivation - 4 to 5 points
- Good knowledge and good motivation - 2 to 3 points
- Lack of knowledge or motivation - 0 to 1 points

I-C2 - Attitude (evaluates the applicant's behaviour in terms of teamwork skills, conflict management skills, persuasiveness, presentation and confidence)

- Excellent attitude - 4 to 5 points
- Adequate attitude - 2 to 3 points
- Inadequate attitude - 0 to 1 point

I-C3 - Ability of expression and verbal fluency in Portuguese and/or English (coherence and clarity of speech, richness of vocabulary, ability to understand and interpret the questions asked).

- Very good ability of expression, communication or interpretation - 4 to 5 points
- Good capacity of expression, communication or interpretation - 2 to 3 points
- Difficulty of expression, communication or interpretation - 0 to 1 point

The final classification of the candidates interviewed will result from the sum of the classifications obtained in the Curricular Evaluation (CE) and Interview (I), attributing to each a weighting factor of 50%.

Candidates whose application is evaluated with a final mark of less than 4 (four) in 5 (five) points will not be eligible for a scholarship.

**Selection Jury:**

President: Gil Manuel Magalhães de Andrade Gonçalves

Effective member: Fernando Manuel Ferreira Lobo Pereira

Effective member: António Pedro Rodrigues de Aguiar

Supplementary member: João Pedro Correia dos Reis

Supplementary member: Maria Margarida de Amorim Ferreira

**Advertisement of final decision:** The results of the evaluation will be released to the candidates by email to the email address indicated in the application process.

**Deadline for applications and form of presentation of the applications:**

The call is open from **10-09-2021 to 23-09-2021** (until 23h59m, GMT time).

Applications must be formalized by email to [sas.systemec@fe.up.pt](mailto:sas.systemec@fe.up.pt) and to [recursoshumanos@fe.up.pt](mailto:recursoshumanos@fe.up.pt), clearly stating the reference **FEUP\_EIT-M\_EE-4BII** and including the following pdf documents: Motivation letter, Copy of the certificates (or equivalent document, stating the course average and grades in the curricular units), detailed Curriculum Vitae; Declaration on honor that the candidate fulfills the requirement contained in article 9 of the Regulation for Research Grants University of Porto, (model below) and other documents considered relevant by the applicant.

Declaration on honour

I, (identification of the scholarship holder), holder of the Citizen Card / Visa / Residence Permit no. valid until \_\_\_\_\_, declare under honour, to be in the conditions of no. 3 of article 9º of the Research Grants of University of Porto - Regulation No. 184/2021, of 03 March.

Porto, \_\_/\_\_/\_\_

Signature

\_\_\_\_\_

(scholarship holder)