ENHAnCE

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REPORT ABOUT ESR RECRUITMENT

Project Acronym: ENHAnCE	
Project full title: European training Network in intelligent prognostics and Health mAnagement in Composite structurEs	
Call: H2020-MSCA-ITN-2019	
Grant Number: 859957	
Deliverable nº: D 8.5	
Deliverable Nature: Report	
Dissemination Level: Public	
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Internally Approved: Dr. Manuel Chiachío (UGR)	**Date:** 30/12/2020

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 859957.

Introduction

The ENHAnCE programme is an international, interdisciplinary and inter-sectoral training in scientific and transferable skills designed to provide technical and professional training to 10 Early Stage Researchers (ESRs) fully in line with the purposes and nature of the Marie Skłodowska-Curie Actions programme. The training will pursue the clear purpose of improving the creative and innovative potential of the researchers to enhance their career and to advance research-based on opportunities of acquisition and transfer of new knowledge.

The project aims are to recruit the ESRs who best fit the 10 available positions of the ENHAnCE programme, looking not only for the academic merits but also for open-minded and team-spirited PhD candidates showing the capacity and enthusiasm to undertake the opportunity of developing a cutting-edge state-of-the-art research on intelligent prognostics and health management in composite structures. The ESR positions available in the ENHAnCE project are the following:

Table 1. **ESR positions of the project ENHAnCE**

ESR	PROJECT TITLE	HOST INSTITUTION		ENROLMENT IN DOCTORAL DEGREE
ESR 1	Reliable sensor networks for Structural Health Monitoring (SHM) systems in highly loaded composite structures.	German Aerospace Center (DLR)	Germany	Clausthal University of Technology (TUC)
ESR 2	Virtual Laboratory for Modelling and Optimisation of Manufacturing of Composites Structures with embedded structural health monitoring systems	Cenaero (CEN)	Belgium	Politecnico di Milano (POLIMI)
ESR 3	Computing Platform Based on Novel High-Order Numerical Methods for Smart FRP Composite Structures with Embedded AU-SHM sensors.	List CEA Tech (CEA)	France	University of Paris-Saclay (UPS)
ESR 4	Novel procedure for designing, manufacturing and assembling smart composite wind turbine blades with embedded AU-SHM sensors	Fidamc (FID)	Spain	Clausthal University of Technology (TUC)
ESR 5	Prognostic signatures based on data-fusion techniques from Lamb-wave and acoustic emission in real-world FRP laminates subjected to random fatigue damage	Delft University of Technology (TUDELF)	Netherlands	Delft University of Technology (TUDELF)
ESR 6	Development of super-fast Bayesian algorithms for real-time prognostics in composite structures using structural health monitoring.	Politecnico di Milano (POLIMI)	Italy	Politecnico di Milano (POLIMI)
ESR 7	Development of a System-Level Post-Prognostics Reasoner for FRP turbine blades using on-board SHM.	University of Strathclyde (STRATH)	Glasgow, UK	University of Strathclyde (STRATH)
ESR 8	Modelling risk of failure using guided wave propagation and interaction with damage in complex composite structures.	University of Nottingham (UNOTT)	Nottingham, UK	University of Nottingham (UNOTT)
ESR 9	Paradigm-Shift Research for System-Level Real-Time Prognostics of Cyber-Physical Assets using Deep Learning approaches.	Universidad de Granada (UGR)	Spain	Universidad de Granada (UGR)
ESR 10	Development of a prognostics-based self-adaptive Expert System for smart Composite Structures.	Universidad de Granada (UGR)	Spain	Universidad de Granada (UGR)

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Recruitment Process

Recruitment strategy

The recruitment strategy strictly followed the European Charter for Researchers (The Code of Conduct for Recruitment of Researchers) guaranteeing worldwide access and a fair and competitive selection of fellows by the host institutions in accordance to gender equality and minority rights. It involved an intensive advertisement national and international through different channels available to the members of the consortium to get as many qualified applicants as possible. These channels included EURAXESS (https://euraxess.ec.europa.eu/jobs/471470), web and social media, and academic and professional associations, among others.

The course of the recruitment and the timing has been as follows:

-**Advertisement**: The promotion was made internationally visible in online portals as EURAXESS (https://euraxess.ec.europa.eu/jobs/471470), also using the Science for Refugees option, research communities and mailing lists. Additionally, the partners used local channels for announcing the ESR positions. This period began on the 10th of December 2019.

-**Deadline**: The initial deadline for application, which was the end of March 2020, was extended 2 extra months due to the global pandemic circumstances until the end of May 2020, to better ensure the offer was available globally. The ESR 2 position had to be reallocated due to the renounce of the candidate for personal circumstances. A new advertisement process had to be opened and the position was covered again by a suitable candidate to start on due time.

-**Central Reception of Applications and Marie-Curie eligibility check** (ESR status and the Mobility Rule): The reception of applications was arranged centrally at the Coordinator level. All the applications were received by email as posted in the advertisements, containing the required documents: a detailed Curriculum Vitae, a letter of motivation, a research declaration, meaningful certificates, a list of MSc courses and grades, reference letters, and any other relevant documents or information. Those that did not accredit the program's conditions were discarded after the senders did not respond to the warnings.

-**First Review of Applications**: A first screening of the applications were carried out by the Coordinator to classify them into the different positions offered. Some of them include an order of preference for the different positions. Those including no preferences were categorized in the base of the academic background, country of origin to accomplish the mobility rule and experience. Once categorized, all the applications were sent to the beneficiaries to freely have the choice to select their own candidate. Also, a first eligibility check of the application was carried out at the Coordinator level. The first review of applications, including eligibility check, was done by early April 2020.

-**Selection Committee meeting**: On the 15th of April, and after a first screening of the applications was done, a meeting of the Selection Committee (based on the supervisors of each beneficiary, the Coordinator and the Equal Opportunity officer) was held to share the evaluation guidelines (please refer to Deliverable D8.3/D31 "Evaluation Guidelines"), to agree on the timeline and methodology for interviews, deadline for a first output, and data sharing management.

-**Second Review of Applications**: Each beneficiary received all the applications classified for easier scrutiny, with the freedom to chose one candidate not initially classified as optimum for their position. Irrespectively, each institution had also the opportunity to include their own choices in the process being monitored by the Coordinator, ensuring the same opportunity for each candidate.

-**Shortlisting and interview**: Each beneficiary made a shortlist for the interviews with at least 3 candidates. The interviews were held online by the academic and/or the industrial supervisor(s) during June, July and September 2020. One extra set of interviews was held to reallocate the position ESR 2 during November and December 2020.

-**Selection at the beneficiary level**: Finally the 10 candidates were selected, fulfilling all the requirements and selected as the most suitable to perform each position. After this, all candidates received a confirmation of the outcome of the recruitment process by the Coordinator. The contracts have been signed and the research declarations submitted to the EU portal from July 2020 to January 2021.

The recruitment process was coordinated centrally to ensure global equality in the assessment, opportunities, and that method followed the MSCA rules and the Code of Conduct for Recruitment (https://euraxess.ec.europa.eu/jobs/charter/code). However, each beneficiary had the freedom to make their choice according to their preferences, adequacy to their individual projects, and in compliance with their internal quality requirements codes and regional/national requirements. In general, the following criteria set up by the consortium was:

-To be in possession of a Master degree (or equivalent) in Aerospace engineering, Control engineering, Materials engineering, Mechanical engineering, Computing Engineering, Mathematics, Physics, or other related disciplines;

-Have personal ambition, strong interest in interdisciplinary scientific work and motivation to pursue a PhD degree;

-Be able to work independently and as part of a team;

-Have an excellent command of English, together with good academic writing and presentation skills.

Further details can be encountered in the Evaluation Guidelines, Deliverable D.31/D8.3.

Some statistics about the applications

The consortium received a total of 65 applications from 20 different countries worldwide for the 10 ESR positions, with 15% being from women. Up to 22 different academic backgrounds applied, from aeronautical/aerospace to transports, materials, artificial intelligence, robotics, energy, industrial, mechanical and civil engineering, to cite some of them.

In total, beneficiaries shortlisted and invited 30 candidates for interviews. The 3 most demanded positions were the ESR1 (21%), ESR 4 (20%) and ESR 6 (20%), whereas the least demanded were ESR 3 and ESR8 (3% each).

Recruitment outcome

The formal recruitment process ended in December 2020 so the milestone *MS3.End of the recruitment process,* which was initially set at month 10 (October 2020), was finally moved to month 13 (January 2021) due to the global pandemic situation. Finally, at that date the 10 ESRs were fully designated, with contracts signed and Research Declarations submitted in the Participant's Portal.

The delays in the recruitment of up to 6 months are not significant and will not impede with the future course of the project. The periods for secondment of the ESRs are flexible and can be adapted according to each fellow's career development plan. Also, the training activities and deliverables to be submitted can partially be adapted to the delays in the recruitment for those particular cases. Late recruited fellows have the opportunity to catch up with the course work. The ESRs that have been selected but not yet recruited due to the global situation of the pandemic at the time of the first training activity were attending this event, thus boosting their integration within the project.

The recruited positions were covered as follows:

Table 2. **ESRs recruited**

ESR	NAME	NATIONALITY	ACADEMIC MERIT	PAST COUNTRIES OF RESIDENCE	CONTRACT DATE	HOST INSTITUTION
ESR 1	Shankar Galiana	Spain	MSc in Science and Engineering of Advanced Materials	Spain	01/12/2020	German Aerospace Center (DLR), Germany
ESR 2	Aravind Balaji	India	MSc in Computational Mechanics of Materials and Structures	Germany	04/01/2021	Cenaero (CEN), Belgium
ESR 3	Amond Sarr Allouko	Ivory Coast	MSc Mechanical Engineering	France, Ivory Coast	07/10/2020	List CEA Tech (CEA), France
ESR 4	Tasdeeq Sofi	India	MSc Applied Mechanics	Austria	04/11/2020	Fidamc (FID), Spain
ESR 5	Morteza Moradi	Iran	MSc Aerospace Engineering	Iran	01/09/2020	Delft University of Technology (TUDELF), Netherlands
ESR 6	Tianzi-Li	China	MSc Civil Engineering	China	01/06/2020	Politecnico di Milano (POLIMI), Italy
ESR 7	Javier Contreras	Spain	MSc Civil Engineering	Spain	21/09/2020	University of Strathclyde (STRATH), UK
ESR 8	Wen Wu	China	MSc Mechanical Engineering	China	02/09/2020	University of Nottingham (UNOTT), UK
ESR 9	Juan Fernández	Spain / UK	MSc Civil Engineering	UK	14/07/2020	Universidad de Granada (UGR), Spain
ESR 10	Ali Saleh	Libanon	MSc Mechanical Engineering	Libanon	30/09/2020	Universidad de Granada (UGR), Spain