

**NOTICE OF OPENING OF AN INTERNATIONAL SELECTION PROCEDURE FOR THE
RECRUITMENT OF A RESARCHER POSITION UNDER DECREE-LAW No. 57/2016, OF AUGUST
29th, AMENDED BY LAW No 57/2017 OF JULY, 19th.**

1. By order of 14/11/2018, the Dean of FEUP, Professor João Bernardo de Sena Esteves Falcão e Cunha, deliberated to open an international selection procedure for the recruitment of 1 Doctoral Researcher within the scope of Project “S4Bridges - 01-0145-FEDER-031355 - A smart approach for the maintenance of existing bridges“ funded by Fundo Europeu de Desenvolvimento Regional (FEDER), trough COMPETE2020 – Programa Operacional Competitividade e Internacionalização (POCI) and with the support of the FCT/MCTES trough national funds (PIDDAC) for research scientific activities in the area of Civil Engineering, in the form of a Uncertain Term Employment Contract, under the Labour Code, never exceeding the maximum limit of six years.

The recruitment of this research position aims at the development of R&D activities in the scope of the area of Civil Engineering for the development, implementation and application of damage detection methodologies based on the data collected by structural health monitoring systems. The research work is to be developed within the Project S4Bridges and contemplates the following project tasks:

Task 3 – Damage detection methods;

Task 4 - Laboratory characterization of the smart structures;

Task 5 - In field demonstration of a smart bridge;

2. Applicable Legislation: Decree-Law no. 57/2016, of 29 August, approving a regime for hiring doctorates to stimulate scientific and technological employment in all areas of knowledge (RJEC), in the wording introduced by the first amendment provided Law no. 57/2017, of July 19, Regulatory Decree no. 11-A/2017, of December 29, and Labour Code, Law on 7/2009, of 12 February, in its current version .

3. In the wording of article 16 of Decree-Law no. 57/2016 of 29 August, this procedure is exempted from the authorization of the members of the Government responsible for the areas of Finance and Public Administration, namely in paragraph no.3 of article 7 of the LTFP; from the prior favourable opinion of the members of the Government responsible for the areas of Finance and Public Administration as mentioned in no. 5 of article 30 of the LTFP and from the



procedure for the recruitment of workers in the requalification situation referred to in Article 265 of the LTFP.

4. In accordance with article 13 of the RJEC and according to the appointment, the jury is composed as follows:

President: Mário Jorge Seixas Pimentel

Member: Carlos Filipe Ferreira de Sousa

Member: Rui Manuel Carvalho Marques de Faria

Substitute Member: António Abel Ribeiro Henriques

Substitute Member: Sandra da Conceição Barbosa Nunes

5. The work will be developed at Civil Engineering Department of the Faculty of Engineering of the University of Porto (FEUP).

6. The monthly remuneration to be attributed is the one provided in no. 1 of article 2 of the Regulatory decree no 11-A/2017, December, 29, corresponding to the level 33 of the single remuneration table, approved by the Administrative Rule no. 1553-C/2008, December 31, in the amount of € 2128,34 Euros, on exclusive dedication.

7. The applicants may be national, foreign and stateless candidates holding a doctor degree in Civil Engineering, or other related area, and holding of a science curriculum and training to reveal a profile suitable for the activity to develop. If the Doctor degree has been awarded by a foreign higher education institution, it must comply with the provisions of Decree-Law no. 341/2007, of October 12, and any formalities established there must be fulfilled until the expiration date for the application.

8. General requirements for admission to competition are those defined in the previous paragraph. In order to determine the profile appropriate to the activity to be developed, the following criteria are defined:

- Implementation of structural health monitoring systems in bridges, involving the selection of the sensors and equipment and the programming of data acquisition units;
- Signal processing;
- Development and application of algorithms for data analytics (regression models, principal component analysis, artificial neural networks, cointegration, autoregressive models, among others);
- Development and application of algorithms for data classification (cluster analysis, support vector machines) and application of control charts.



- Numerical modelling of the structural behaviour of bridges;
- Autonomous writing of scientific papers and reports of scientific activities.

9. In terms of the article 5 of the RJEC, the selection is made through the evaluation of the scientific and curricular careers of the candidates.

10. The evaluation of the scientific and curricular path, taking into account the profile appropriate to the activity to be developed, focuses on relevance, quality and current impact of:

- a) the scientific, technological, cultural or artistic production of the last five years considered to be more relevant by the applicant;
- b) the applied or practice-based research activities developed over the last five years and considered as having the greatest impact by the candidate;
- c) the activities of extension and dissemination of knowledge developed during the last five years, in particular in the context of culture and scientific practices promotion that are considered by the candidate to be of greater relevance;
- d) the activities of management of science, technology and innovation programs, or the experience in observing and monitoring the scientific and technological system or higher education, in Portugal or abroad.

11. The period of five years referred to in the preceding paragraph may be increased by the jury, at the request of the candidate, when justified on grounds of suspension of scientific activity for socially protected reasons, namely on grounds of parental leave, prolonged serious illness, and other situations of unavailability for work legally protected.

12. This position is open for carrying out activities in the domain of the development and implementation of structural health monitoring systems in bridges and on damage detection methods based on the data collected by these systems, below designated as area of preference.

The evaluation criteria are the following:

The Evaluation of the Scientific Career and Curriculum Vitae (ESCC) focuses on three parts described below and the final classification is obtained by: $ESCC = 0.2 AQ + 0.6 SCC + 0.2 MCI$.

1. Academic Qualifications (AQ)

Assessment of the area of study of the candidate: PhD in Civil Engineering, AQ = 5 points; PhD in Related Areas, AQ = up to 3 points.

2. Scientific Career and Curriculum (SCC)



Assessment of the relevance, quality and current impact of scientific career and curriculum. This evaluation focuses on the parameters described below and the classification is obtained by: $SCC = 0.8 SC + 0.2 RA$.

2.1 Scientific Production (SC)

Assessment of the scientific production (SCV), over the last five years. The classification is obtained by: $SC = 0,5 SCV + 0,5 SCQ$.

Quantitative Evaluation (SCV): publications in ISI journals or international conference proceedings, in the area of preference, SCV = up to 5 points; publications in related areas, SCV = up to 3 points; publications in other areas, SCV = 0 points.

Qualitative Evaluation (SCQ): the candidate must provide copies of up to 5 articles considered to be most relevant, SCQ = up to 5 points.

2.2 Research, Extension, and Management Activities (RA)

Evaluation of applied, or based on practice, research activities, as well as activities of extension and management developed in the last five years. This parameter includes (i) participation in R&D projects, services, and technology transfer and (ii) participation in science management and knowledge dissemination activities, including the organization of conferences, symposia, and scientific cooperation activities. Activities in the area of preference, RA = up to 5 points; activities in related areas, RA = up to 3 points; activities in other areas, RA = 0 points.

3. Motivation and Capacity for Innovation (MCI)

Evaluation of the candidate's motivation and capacity for innovation. For this evaluation, the applicant must submit the documents described below and the classification is obtained by the following formula: $MCI = LM$.

3.1 Letter of Motivation (LM)

Letter of motivation describing the relevance of the candidate's scientific career to this position: LM = up to 5 points.

13. The selection process includes a professional interview (PI), which exclusively intends for the clarification of aspects relates to the results of their research. Only the candidates with an Evaluation of the Scientific and curriculum Vitae (ESCC) exceeding 4 points are eligible for the professional interview. The (PI) will be classified on a scale of 0 to 5 values.

14. The final grade (FG) is the sum of the classifications obtained in the Evaluation of the Scientific and Curriculum Vitae (ESCC) and Professional Interview or presentation or a public demonstration session (PI) ($FG=0.9 ESCC + 0.1 PI$). The position can only be filled by candidates whose final grade is equal or greater than 4 points.



15. The jury shall deliberate by means of a nominal vote based on the selection criteria adopted and published, and abstentions are not allowed.

16. Minutes of the meetings of the jury are drawn up, containing a summary of what has taken place in the meetings, as well as the votes cast by each of the members and their reasons; these minutes should be available to candidates whenever requested.

17. After completing the application of the selection criteria, the jury will draw up an ordered list of successful candidates with their classification.

18. The final decision of the jury is approved by the maximum leader of the institution that also has to decide on the hiring.

19. Formalization of applications:

19.1. Applications must be formalized via email to recursoshumanos@fe.up.pt and to mjisp@fe.up.pt and should clearly state the reference **FEUP-S4Bridges - 01-0145-FEDER-031355**.

The application must include: complete name, number and date of the identity card, tax identification number, date and location birth, residence and contact address, including e-mail and telephone contact.

19.2 The application shall be accompanied by documents proving the conditions laid down in paragraphs 7 and 8 for admission to this call, namely:

- a) Copy of a doctoral certificate or diploma;
- b) PhD Thesis;
- c) Detailed Curriculum Vitae;
- d) Other documents relevant to the evaluation of the qualification in related scientific area;
- e) Copy of the 5 most relevant publications;
- f) letter of Motivation;
- g) Letters of Recommendation (optional);
- h) Documents proving professional experience;
- i) Information regarding scientific and technological production, applied research activities, activities of extension and dissemination of knowledge and activities of management of science, technology and innovation programs.

19. The application period starts on the day following the publication of this notice and takes place for a period of 10 (ten) working days.

20. Candidates who formalize their application incorrectly or do not prove the general requirements specified in this notice are excluded from admission to the competition. The jury



has the power to require any candidate, in case of doubt, to present documents proving their statements.

21. False statements by candidates shall be punished in accordance with the law.

22. The list of admitted and excluded candidates and the final classification list are published on the FEUP website at https://sigarra.up.pt/feup/en/noticias_geral.lista_noticias#gruponot12, and the candidates will be notified by email with receipt of delivery of the notification. These lists are also posted on FEUP's premises, located at Rua Roberto Frias, s / n, 4200-465 Porto.

23. Preliminary Hearing and deadline for the Final Decision: in accordance with article 121 of the Code of Administrative Procedure, after being notified, the candidates have 10 working days to pronounce. Within a maximum period of 90 days from the deadline for submitting applications, the final decisions of the jury are given.

24. The present competition is exclusively intended to fill the vacancies indicated, and may be terminated until the final list of candidates is approved and will expired with their respective occupation of the job on offer.

25. Non-discrimination and equal access policy: FEUP actively promotes a policy of non-discrimination and equal access, so that no candidate can be privileged, beneficiary, disadvantaged or private of any right or exemption from any duty owing, in particular, to ancestry, age, sex, sexual orientation, marital status, family status, economic situation, education, social origin or condition, genetic heritage, reduced working capacity, disability , chronic illness, nationality, ethnic origin or race, territory of origin, language, religion, political or ideological beliefs and trade union membership.

26. The selection boards approved this notice at the meeting held on 16/11/2018.

27. Under the terms of D.L. No. 29/2001, of February 3rd, the disabled candidate has preference in equal classification, which prevails over any other legal preference. Candidates must declare their respective degree of incapacity, the type of disability and the means of communication / expression to be used in the selection process, under the terms of the aforementioned diploma.

