



**Instituto de Engenharia de Sistemas e Computadores de Coimbra
INESC Coimbra**

Notice of opening of international selection procedure for the recruitment of one doctorate research associate (Ref. INESCC/MAnAGER/02/2020)

1. In the INESC Coimbra Direction meeting on the 12th October 2020, it was decided to open an international selection competition for one PhD research associate position within the Project MAnAGER - Models and algorithms for automated stand-alone and aggregated energy management systems to enhancing demand response in the SME and residential sectors, Project number POCI-01-0145-FEDER-028040, funded by FEDER and OE. Under unfixed term contract according with the Project proposal and the applicable legislation, the PhD researcher will perform the following tasks, according to the approved work program of the project:

Development and computational implementation of models and algorithms, including mathematical programming methods, meta-heuristics and hybrid approaches, to deal with bi-level optimization problems (Stackelberg equilibrium) with applications to the design of time-of-use electricity tariffs, considering demand flexibility by means of demand response programs. Analysis of the computational performance of different types of models and algorithmic approaches, considering time constraints for the computation of solutions.

Study of bi-level optimization models and algorithms applied to different types of markets in the electricity sector, in particular involving demand response.

2. Applicable Legislation

Decree-Law no. 57/2016, of August 29, (amended by Law n. 57/2017 of 19 July), as well as the Regulatory-Decree n.º 11-A/2017, from 29 December, approving a regime for contracting doctorates, aimed at stimulating scientific and technological employment in all areas of knowledge (RJEC); and Labor Code, approved by Law no. 7/2009, of February 12, in its current version.

3. In accordance with article 13 of the RJEC, the selection committee of the competition is composed as follows:

- i. President - Prof. Carlos Alberto Henggeler de Carvalho Antunes, Full Professor, Faculty of Sciences and Technology, University Coimbra.
- ii. Prof. Marta Alexandra dos Reis Lopes, Adjunct Professor, College of Agriculture, Polytechnic Institute of Coimbra.
- iii. Prof. Luís Miguel Pires Neves, Coordinator Professor, School of Technology and Management, Polytechnic Institute of Leiria.



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4. The location of employment is at INESC Coimbra, Department of Electrical and Computer Engineering, Polo II, University of Coimbra, 3030-790 Coimbra.
5. The monthly remuneration to be attributed corresponds to level 33 of the unique remuneration table, approved by Administrative Rule no. 1553-C/2008, of December 31, and altered by the Decree-Law no. 10-B/2020, of March 20, and is of the value of 2134,73 Euros. Benefits include a daily lunch subsidy of 4.77 Euros, per working day.
6. The selection process is open to national, foreign and stateless candidates who hold a Ph.D. degree in Electrical and Computer Engineering, Informatics Engineering, Mathematics (Computation branch) or related fields and holders of a scientific and professional curriculum that shows a profile appropriate to the activity to be developed. If the doctorate 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 the date of the deadline for the present selection process.

<http://www.acm.gov.pt/-/como-obter-reconhecimento-de-qualificacoes-estrangeira-1>

The academic degrees obtained in countries other than Portugal require a registration by a Portuguese Institution in accordance with the Decree-Law no. 66/2018, of August 16, and Portaria no 33/2019, of January 25. The presentation of the certificate is mandatory for the signature of the contract. This information can be obtained at: <https://www.dges.gov.pt/pt/pagina/reconhecimento?plid=374>.

7. In accordance with article 5 of the RJEC, the selection is made through the evaluation of the scientific, technological and curricular background of the candidates.
8. The evaluation of the scientific, technological and curricular background will give priority to the relevance, quality and timeliness of the candidate's activities during the past five years.
9. The period of five years referred to in the preceding paragraph may be extended by the selection committee, at the request of the candidate, when justified on the grounds of suspension of scientific activity for socially protected reasons, namely on the grounds of parental leave, prolonged serious illness and other legally protected reasons for unavailability to work.



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10. Required Profile:

Academic qualification: PhD in Electrical and Computer Engineering, Informatics Engineering, Mathematics (Computation branch) or related fields.

Minimum requirements:

- a) PhD degree;
- b) Demonstrated experience in the topics: bi-level optimization models and algorithms; utilization of mathematical programming solvers, in particular CPLEX; computer programming; electricity markets.

Other requirements:

- a) Capability of writing technical/scientific documents in English language;
- b) Leadership, a strong motivation to work in a team, combining excellent organization skills with the ability to meet deadlines;
- c) Excellent communication skills and ability to establishing collaborative links with industrial partners.

11. The evaluation of the scientific, technological and curricular background of the candidates will focus on the relevance, quality, timeliness and suitability of their background to the functions to be performed, according to the following curricular criteria:

C1: Quality of the CV (scale 0-100);

C2: Prior expertise in the field (scale 0-100).

The final score of the curricular criteria (CCS) will be obtained by the expression:

$$CCS = 0,7 \times C1 + 0,3 \times C2.$$

12. The three best candidates according to score in the curricular criteria (CCS) will be called for an interview with the selection committee, which may be conducted remotely by skype or videoconference if the candidate requires it. The score of the interview (IS) will be expressed in the scale 0 – 100.

13. The final score (FS) of the candidates selected for the interview will be determined according to the expression: $FS = 0,9 \times CCS + 0,1 \times IS$.

14. Minutes of the selection committee meeting including a report of the evaluation is available to the candidates whenever requested.



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15. After completion of the evaluation process, the selection committee will draw up a list of the eligible candidates in order of their classification.
16. If the selected candidate is not willing to occupy the position, the selection committee can decide to invite the next eligible candidate in the ordered list.
17. The final evaluation of the selection committee will be approved by the INESC Coimbra Board of Directors, which also makes the decision on the hiring.
18. Application Procedure:
 - a) Application to the position is formalized by sending the following information addressed to the Selection Committee reference of number of this position (given at the top of this document), full name, number and date of the Citizen's card or civil ID, tax identification number, date and place of birth, marital status, residence and contact address, including e-mail address and telephone contact.
 - b) The application shall be accompanied by documents proving the conditions described in point 6 for admission to this selection process, in particular:
 - Copy of certificate or diploma;
 - Detailed curriculum vitae;
 - List of publications including DOI link ;
 - c) The candidates should send their applications and supporting documents, in digital (PDF) format, to the email address secretaria@inescc.pt.
 - d) The deadline for application is the 13th November.
19. Candidates who incorrectly formalize their application or who do not give adequate proof of the requirements of this selection process are excluded from admission to the competition. The selection committee has the power to require any candidate, in case of doubt, to present documents proving his statements.
20. False statements by candidates shall be punished in accordance with the law.
21. Admitted and excluded candidates will be notified of their inclusion or exclusion by email. The final classification of eligible candidates will be sent to each candidate by email with notification of receipt of delivery.



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22. Prior hearing and deadline for the Final Decision: After being notified, the candidates have 10 working days to comment the decision. Within a maximum of 10 days from the deadline for prior hearing, the final decisions of the selection committee will be given.

23. The present selection process is exclusively intended to fill the vacancy indicated and it is terminated when the final list of candidates is approved and the advertised position is filled.

24. Non-discrimination and equal opportunity policy: INESC Coimbra actively promotes a policy of non-discrimination and equal opportunity.

25. The selection committee approved this notice on 12/10/2020.

26. Under DL No. 29/2001, of February 3, a disabled candidate is given preference in the case of 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, on the application form.