

Publicação e Espera do edital no Eracarreers (10 dias úteis)	Publicação edital Email para FCT/Adl... PAD Requerimento ISEP Email para Virginia	11 de Dezembro
Concurso aberto (10 dias úteis)	Divulgação - ISEP - outros	25 de Dezembro de 2014 a 09 de Janeiro de 2015
Resultados	Decisão e Atas Email para candidatos	12 de Janeiro de 2015
Reclamações (10 dias úteis)		até 26 de Janeiro
Contrato	Documentação ISEP Email para FCT com info candidatos selecionados - CV - FCTSIG	01 de Fevereiro de 2015

IDENTIFICADOR: fdbf7c71-b85e-4683-9157-cb17b4199288

**1 MASTER RESEARCH SCHOLARSHIPS IN THE SCOPE OF PROJECT
GID-MICROREDE – SISTEMA DE GESTÃO INTELIGENTE E DESCENTRALIZADO DE MICRO-REDES DE
DISTRIBUIÇÃO PRIVADAS (ADI|QREN 34086)**

Bolsa de Investigação Ref. GID-MicroRede_2014-04

Project GID-MicroRede – Sistema de Gestão Inteligente e Descentralizado de Micro-redes de Distribuição Privadas (ADI|QREN 34086) is recruiting 1 young researcher owning a Master’s Degree in Electrical Engineering or similar, with experience in the area of Power Systems. This call concerns research activity in the area of intelligent short term management of distributed energy resources in a multi-player competitive environment, including monitoring and control. This project is co-funded by “Fundo Europeu de Desenvolvimento Regional” (FEDER) through COMPETE – “Programa Operacional Factores de Competitividade” (POFC), with the following conditions:

Research field: Electrical Engineering - Power Systems.

1. Duration of the Grant: from February 1st until June 30th 2014 (05 months duration).

2. Workplan: Energy policies aiming to lower the environmental impact of the power sector have resulted in a significant increase of Distributed Generation (DG), namely the one based on Renewable Energy Sources (RES). The investments in DG technologies based on RES are huge, namely in the European Union and in Portugal. However, there has been no sufficient effort in developing efficient management methods for the new energy resources. Due to the characteristics of these resources, the traditional management methods are inadequate. This fact, together with an incipient

use of smart grid concepts and opportunities is leading to successively higher wind curtailment and to a very low payback of the investments, largely paid with public funds.

GID-MicroRede project proposes the implementation of an intelligent and decentralized management system for private distribution microgrids, leading to a significant increase of the resource management efficiency for these microgrids and for the consumers connected to them.

In this way, the main objective of GID-MicroRede project is the development of methodologies adequate to private distribution micro-grids management considering RES-based generation. The need of a decentralized management of the network and resources is addressed. The project aims to develop software and hardware necessary to implement and use the proposed methodologies in real networks. A simulation platform is another result of the project. This makes possible to consider the validation and application of the proposed methodologies to networks with specific characteristics distinct from the characteristics of the real network developed in the project. In this way, the proposed management methodologies will be adapted to the characteristics of any type private micro-grid.

The result will be an innovative product, above the state of the art, able to position the project promoting companies in a very competitive level in national and international markets.

The project success is ensured by the consortium know how in the field. GID-MicroRede project is related to the scope of an international project involving 42 partners and 10 countries, in which the Portuguese consortium is very relevant, with ISEP being responsible for the work package concerning microgrid management. That project (SEAS - 12004) has obtained program ITEA2 - Call 7 Label (<http://www.itea2.org/project/index/view/?project=10156>). In order to achieve its goals, GID-MicroRede uses innovating approaches and techniques, including knowledge extraction, optimization, metaheuristics and multi-agent systems modelling and simulation.

The results will be tested using a prototype that enables realistic simulation and in a pilot installation using a real distribution network.

The candidates to be selected will participate in the following project activities:

- A4 – Prototypes and pilots
- A5 – Tests
- A6 – Promotion and Results Dissemination

The Project Development includes:

- physical interfaces
- middleware
- database implementation and management, knowledge extraction from database data
- distributed energy resources scheduling
- microgrid management methodology
- agent based platform implementation for test and validation

The work of the selected candidates includes:

- Preparation, implementation, and test of case studies, prototypes and pilots and respective result analysis;
- Technical reports and scientific papers preparation and writing.

The selected candidates will work with GECAD project team and in close cooperation with the other project partners' team.

3. Supervision: The candidates to be selected will be scientifically supervised by Professor Zita Vale.

4. Academic Degree: Master degree in Electrical Engineering or similar

Minimum profile required: Solid formation in power systems. Participation in projects/works dealing with real and/or realistic engineering scenarios, requiring intensive software development and integration effort and the accomplishment of concrete goals within temporal deadlines. Writing and speaking proficiency in English. Good skills for team work, including close cooperation with industrial partners.

Preferred profile: Previous work experience in research activities in the area of power systems, multi-agent systems, and heuristic optimization. Good programming skills and experience in the development of artificial intelligence based computer applications. Experience in real and/or laboratorial prototypes in the power system and in the automation fields.

Candidates must have availability to start this research scholarship on the date mentioned.

5. Remuneration: As defined by FCT (€ 980.00/month), according to the table of stipends of the country (available in <http://alfa.fct.mctes.pt/apoios/bolsas/valores>), paid by bank transfer.

6. Workplace: The workplace is at GECAD – Knowledge Engineering and Decision Support Research Center in the following address:

ISEP/IPP
Rua Dr. António Bernardino de Almeida, 431
4200-072 Porto
Portugal

7. Legislation and regulations: Law no. 40/2004, of 18 August (“Estatuto do Bolseiro de Investigação Científica”); Regulation no. 405/2010, of 6 May (published in “Diário da República” no. 88, Serie II, of 6 May 2010) – “Regulamento de Bolsas de Formação Avançada do ISEP”; “Regulamento de Bolsas de Investigação da FCT, I.P., approved by Regulation no. 234/2012, of June 25, amended by Regulation no. 326/2013, of August 27” (www.fct.pt/apoios/bolsas/regulamento.phtml).

8. Candidates' selection methodology: Only candidates that have presented the complete set of application documents and showing evidence of having the required minimum profile required will be admitted. The selection method will take into account the following components: final classification of the BSc (15%) and of the MSc degree (35%), curriculum vitae evaluation (50%). In case of doubts, an interview can be undertaken and it will be conducted in English. In this case, the following elements will be taken into consideration: the final classification of the BSc (10%), and of the MSc (20%), the curriculum vitae evaluation (50%), and the interview (20%).

9. Evaluation panel: Prof. Zita Maria Almeida do Vale (panel coordinator), Prof. Maria Goreti Carvalho Marreiros and Prof. Isabel Cecília Correia Silva Praça Gomes Pereira. Members of the substitute panel: Prof. Sérgio Ramos and Prof. Carlos Fernando da Silva Ramos.

10. Results publication and notification: Candidates will be individually notified by email message on the final evaluation results.

11. Application documents: The application documents include: Curriculum vitae; diplomas of the BSc and MSc Degrees; document with courses marks; copy of any previously published works that are relevant for the application evaluation. An application letter with the fellowship reference (ref. **GID-MicroRede_2014-04**) should be included, indicating clearly the motivation of the application and the full contact information (as minimum: email address, mobile phone number, postal address) of the candidates. All the documents prepared by the candidates for the application should be written in English. Documents should be sent to zav@isep.ipp.pt. Additionally, they should also be sent to the following address:

GECAD (Knowledge Engineering and Decision Support Research Center)
ISEP/IPP
Rua Dr. António Bernardino de Almeida, 431
4200-072 Porto
Portugal

12. Application period: from December 25th 2014 until January 09th 2015.

13. Additional information can be obtained by phone +351-22-8340511 or by email zav@isep.ipp.pt.