



Two Doctoral Studentships in multi-terminal DC grid for offshore wind at University of Porto and EFACEC Porto (Portugal)



Faculty of Engineering at University of Porto & EFACEC Porto (Portugal) are offering TWO full-time doctoral studentships (postgraduate research) in multi-terminal DC grid for offshore wind, initial training network (MEDOW ITN), preferably starting in October 2013.

Multi-terminal DC grid for offshore wind (MEDOW)

A DC grid based on multi-terminal voltage-source converter is a newly emerging technology, which is particularly suitable for the connection of offshore wind farms. Multi-terminal DC grids will be the key technology for the European offshore SuperGrid. This project is a part of the Marie Curie Initial Training Networks (ITN) FP7-PEOPLE-2012-ITN project. This FP7 project is funded by the European Commission. It involves both academic and industrial partners from the UK, Spain, Portugal, Belgium, Denmark and China and is expected to complete in 2017.

Job Profiles

Applicants are invited for Early Stage Researcher (ESR) positions in the Marie-Curie Multi-terminal DC grid for offshore wind, initial training network (MEDOW ITN) at University of Porto & EFACEC Porto (Portugal). ESRs will work with leading researchers from the UK (Cardiff University, National Grid), Spain (UPC, Cinergia, Alstom Wind), Portugal (Uporto, Efacec), Belgium (Leuven, Elia), Denmark (DTU) and China (EPRI). To utilize the expertise of the ITN, and to facilitate multi-disciplinary collaboration, the researcher will have the opportunity for international secondments.

Position 1:

Host institution	University of Porto – Faculty of Engineering
Duration	36 months
Start date	October 2013
Project title	Protection of networks supplied from multi-terminal DC grids
Supervisor name	Helder Leite & Adriano Carvalho
Objectives	<ul style="list-style-type: none"> Investigation of AC protection with DC grid (Modelling and simulation training) Advance a solution to reduce the impact onto the AC protection (assessment and validation of protection scheme). Advance an upgrade on the AC protection to accommodate offshore wind power through DC grid Develop a protection algorithm suitable for DC grids;

Position 2:

Host institution	EFACEC ENGENHARIA E SISTEMAS SA
Duration	36 months
Start date	October 2013
Project title	DC fault isolation and DC network post-fault restoration
Supervisor name	Nuno Silva (EFACEC); Adriano Carvalho (Uporto); Helder Leite (Uporto)
Objectives	<ul style="list-style-type: none"> Determine the specification of DC circuit breakers to meet DC fault handling requirements; Development of an DC circuit breaker prototype; Determine procedures to clear the DC faults and restore the DC grid;

Requirements

Candidates must be eligible according to the ITN recruitment guidelines for Early Stage Researchers (ESR). The applicant must not have been awarded a PhD and their research experience must total ≤ 4 years at date of recruitment (counted from the diploma/degree that gives the right to embark in a doctoral degree). They must not have resided or carried out their main activity in Portugal for more than 12 months in the 3 years immediately

prior to their recruitment (short stays like holidays are not taken into account). Female candidates are also encouraged to apply.

Essential Criteria

- A Master degree in Electrical/Electronic Engineering from a leading University programme.
- Thorough knowledge of electrical power engineering and/or power electronics and/or control engineering and/or wind energy systems.
- Experience of computer simulation of power system dynamics and/or electromagnetic transients of electrical power systems and/or wind energy systems.
- Excellent English oral and written communication skills with well-developed interpersonal skills.
- Ability to work effectively and collaboratively within a multidisciplinary team.
- A proven enthusiastic, self-motivated individual.
- Experience of communicating to a variety of audiences through different media along with the ability to present confidently to academic and non-academic audiences at meetings and conferences.
- Commitment to high quality research.
- A creative, innovative, team-working attitude.

Desirable Criteria

- Experience in the use of Matlab simulink and PSCAD/EMTDC
- Expertise in techniques of modelling, power system simulation software and control of electric power transmission systems.
- Experience in using power protective relay
- Experience in the reporting and management of project progress.
- Experience/competence in data analysis and dissemination of research findings.
- Knowledge of control system design techniques

Further Information

If you have any more enquiries, you are welcome to contact Prof. Helder Leite (hleite@fe.up.pt / +351-225-081-800).

Application

Interested applicants should send their application via email to Prof. Helder Leite (hleite@fe.up.pt) before 20/07/2013. The email should be titled "Medow ESR" and in the body text indicates which of the two positions is of interest. The application should include the following:

1. Cover Letter
2. CV
3. Academic Report / Grade Transcript
4. Copy of BSc / MSc diploma
5. Two References