

Position	ESR1.4		
Title	Development of non-intrusive and intrusive energy-management algorithms		
Centre	Flemish Institute for Technological Research (VITO, www.vito.be)		
Location	Genk, Belgium		
Start date	1 July 2016	Duration	48 months
Closing date for applications	6 March 2016		
Communications of results	15 May 2016		

Job description

Individual Research Project

The objective of this Individual Research Project is to safeguard the profitability of renewable energy sources by improving the trading strategies used. In close collaboration with industrial partners, the project will develop not only algorithms for non-intrusive control (i.e. biddings on the spot market can be altered to increase revenues on other markets without interfering with the operations of wind turbines or solar panels) but also intrusive control (such as steer production and consumption).

Tasks

- Forecasting energy prices.
- Developing non-intrusive energy management methods.
- Developing machine learning algorithms for intrusive control.

Career

In Marie Skłodowska-Curie Actions, ESRs are paid a competitive salary, including a Mobility Allowance and a Family Allowance (subject to family situation). The successful candidate will be working on an Individual Research Project (IRP) at VITO (Energy Technology Department) and will have secondments related to their research at Delft University of Technology (TU Delft, www.tudelft.nl) and 3E (3E, www.3e.eu). She/he will be enrolled in the TU Delft PhD programme and conduct the research corresponding to the IRP at VITO as part of her/his thesis. Tuition fees will be covered by the fellowship and the network will also support training activities and periodical events, which will allow the ESRs to develop their career in a multi-sectorial environment and to obtain a wide knowledge on the control of electrical networks. A flavour of the working place can be found on www.energyville.be/en.

PhD Programme

The successful candidates will be enrolled in the PhD programme of the TU Delft Faculty Graduate School (<https://intranet.tudelft.nl/en/3me/organisation-services/graduate-school-3me>).

Supervisor

Dr. Fjo De Ridder

Planned secondments (compulsory)

The ESR will perform secondments at TU Delft (Delft, The Netherlands) and 3E (Brussels, Belgium), which will be less than 30% of the total employment time.



Eligibility conditions

1. The candidate must not have resided or carried out his/her main activity (work, studies, etc.) in **BELGIUM** for more than 12 months in the 3 years immediately prior to his/her recruitment under the project (short stays such as holidays are not counted).
2. The candidate must be within 4 years of the diploma granting you access to doctorate studies at the time of recruitment and has not yet been awarded the doctorate degree.
3. The candidate may be of any nationality.
4. The candidate must work exclusively for the project during the employment contract.
5. The candidate must fulfil the conditions to be in the PhD programme of the TU Delft Faculty Graduate School.

These conditions must be fulfilled at the starting date of the contract. The starting date for each position is tentative.

General requirements

Education Degree

To be eligible for the 3mE PhD programme of the TU Delft Faculty Graduate School, the candidate must:

1. have an MSc degree or equivalent
2. proven proficiency in the English language (e.g. being a native speaker or having a TOEFL score of at least 100 or an IELTS score of at least 7).

Qualifications

Preference will be given to candidate with a master degree (or equivalent) in mathematics, physics, electrical engineering, information technology or other relevant disciplines.

Language

English: Good communication skills both oral and written.

Experience

Desirable background in:

- Numerical optimization
- Optimal control
- Machine learning
- Applied mathematics
- Statistics
- Programming

Or anyone of good will.

Skills

- Ambitious and motivated.
- Strong motivation to pursue a PhD degree.
- Excellent skills in writing and presentation.
- Willingness to interact closely with the INCITE partners.



Job details

Gross salary	Between € 2720 and € 2970 per month depending on the family situation (amounts subject to taxation according to Belgian law). The position covers tuition fees and other training expenses.
Duration	48 months
Type of contract	Full-time
Hours per week	40 hours
Place of work	VITO Genk, Thor Park 8300, Poort Genk 8300, 3600 Genk, Belgium
Province/State	Limburg
Local language	Dutch
Country	Belgium

The contract will be subject to the regulations of the Marie Skłodowska Curie Innovative Training Network Fellowships of the European Commission and in accordance with the work contract regulations of Belgium.

Selection criteria

1. Motivation: why do you want this position?
2. Background experience: do you have any experience with any of the above mentioned background experience?
3. Programming skills: in which language do you prefer to program?
4. Ambition: what do you want to do in ten years from now?

After the first selection stage, the top five candidates will be invited to perform a remote interview via video conference.

Equal consideration will be given to female and male applicants.

Applications

All applications must include:

1. The **application form** (INCITE template).
2. A detailed **CV**, including list of publications, a Master thesis summary and the names of two referees (name, title, affiliation, e-mail and telephone number(s)) who are willing to provide detailed recommendation letters about the candidate (INCITE template).
3. One **motivation letter** for each position applied for (INCITE template).
4. **Copies of academic transcripts and degree certificates**, in English.

All applications must be submitted by means of on-line application on the official website of INCITE - www.incite-itn.eu using the templates available in the website.

For further information: coordinator-incite@irec.cat.

