



ORTEC

Houtsingel 5, 2719 EA Zoetermeer, The Netherlands
Marie Curie Actions, Experienced Researcher
Deadline for Applications: February 15, 2014
Expected Starting Date: October 1st, 2014

Contact person: Drs. Dave van den Hurck (Dave.vandenHurck@ortec.com)

Job description

The job is a full-time position for an Experienced Researcher (ER) in the field of Operations Research, with special emphasis on the development and improvement of mathematical algorithms applied at supply chain challenges in the energy and/or logistics business.

Job Duration 18 Months

Research Field Operations Research

Company description

The project will take place at ORTEC, within the MINO Initial Training Network (ITN) funded under the Marie Curie 7th Framework programme.

ORTEC is one of the world's largest providers of advanced planning and optimization solutions and services. ORTEC's products and services result in optimized fleet routing and dispatch, vehicle and pallet loading, workforce scheduling, delivery forecasting, logistics network planning and warehouse control. ORTEC offers stand-alone, custom-made and SAP® certified and embedded solutions, supported by strategic partnerships. ORTEC has over 1,750 customers worldwide, 700 employees and offices in Europe, North America, South America and the Pacific Region.

ORTEC's mission is to support companies and public institutions in their strategic and operational decision making through the delivery of sophisticated planning and optimization software solutions, professional consulting and mathematical modelling services.

ORTEC's success depends on our strong expertise in three fields:

- Operations Research (including strong connections with academia),
- IT (enabling us to implement our optimization solutions in ready-to-use software packages for businesses),

- Business knowledge of the sectors we are active in, e.g. Oil, Gas, Chemicals and Energy; Aviation; Courier, Express and Parcels. Our business consultants are recognized business partners.

Working place:

The project will mainly take place at the ORTEC Headquarters, Houtsingel 5, 2719 EA Zoetermeer, The Netherlands, under supervision of Drs. Dave van den Hurck. Some periods of training and/or research will presumably be spent at some of our business partners' offices. Moreover the project may involve regular customer visits or integration in a project team that works part-time on the customer's site. All will be local offices in The Netherlands.

Project description

The purpose of the position is the improvement of existing optimization methods and the development of new ones. You are responsible for delivering algorithms to be embedded in either new or existing commercial software solutions. You will have to collaborate with fellow team members working on the same problems, and with ORTEC consultants and/or business contacts representing (potential) end-users of the software.

As an Experienced Researcher at ORTEC, your role will be to represent the scientific approach in a small project team. Your activities include applying promising innovative approaches suggested in literature, and translating your knowledge of mathematical programming into computationally efficient algorithms with proven business value. This may include: upgrade linear approximations to solvable non-linear formulations in Supply Chain network design software; improve on multistep algorithms for solving very-large-scale mixed integer problems; develop new heuristics for finding start solutions; develop new branching strategies for branch-and-bound in order to globally optimize non-linear programs.

The ER position offers you an environment in which you are able to apply your mathematical knowledge at software solutions with immediate business impact in real world industry. You are offered the possibility to benefit from several relevant courses. There will be ample space to use your creativity and problem solving skills, and you will be guided by experienced business consultants.

Marie Curie Initial Training Network (ITN) MINO

The MINO ITN is an interdisciplinary research and training network of 11 full academic partners, 1 associated academic partner and 3 industrial companies.

All partners are internationally recognized to be leading experts in the field of Mathematical Optimization. The project has been funded under the [Marie Curie Framework 7th programme](#).

The aims of the MINO ITN are:

- 1) Training of the next generation of experienced researchers and managers in the field of Mixed-Integer Nonlinear Optimization.
- 2) Strengthening the cooperation between Academia and Industry by developing innovative decision making tools that will be used in a variety of applied fields, including energy production and distribution, image processing, biological networks, just to mention a few.
- 3) Pushing forward the scientific frontiers of Mixed-Integer Nonlinear Optimization.
- 4) Consolidating and expand the network of collaborations among the partners.

The network will deliver a joint multidisciplinary research and training programme for eleven Early Stage Researchers and three Experienced Researchers (ERs).

For further information about the network and the available positions, please refer to the project webpage www.mino-itn.unibo.it, or contact mino.recruitment@gmail.com, or refer to the associated vacancy announcements that can be retrieved from the [Euraxess website](#) using the keyword MINO.

ORTEC ER Activity

In the framework of MINO ITN the successful applicant for the ER position at ORTEC will be involved in both research and training activities as required by the general framework of ITN networks.

The research project available at ORTEC focuses on the development and improvement of optimization methods and the development of new ones. The final goal is always to have these methods embedded in either new or existing commercial software solutions.

The business area will be one of the sectors we are active in, e.g. Oil, Gas, Chemicals and Energy; Aviation; Courier, Express and Parcels.

Candidate Profile

The candidate is required to have a solid background in applied mathematics, including nonlinear programming and discrete optimization, and software

development skills, as well as a strong interest in the computational aspects of mathematical optimization.

General evaluation criteria will be the following:

- educational background relevant for the chosen position;
- previous research experience, relevant to the chosen position.
- language skills (good oral and written communication skills in English is compulsory);
- networking and communication skills (to be evaluated by an interview);
- willingness to travel internationally for the purpose of research, training and dissemination.

Eligibility requirements

ER appointments are full-time, fixed term for 18 months. Candidates matching the required profile for the available position will be continuously interviewed until a successful candidate is appointed.

There are strict eligibility rules associated with the recruitment of Early Stage Researchers in Marie Curie Initial Training Networks.

Career: At the time of recruitment, applicants for the ER posts must either possess a Ph.D. degree or have at least four years of research experience, but not have more than five years of research experience. Research experience (full-time equivalent) is measured from the date when an ER applicant obtained the degree which formally entitled him/her to embark on a doctorate, either in the country in which the degree was obtained or in the country in which the research training is provided, irrespective of whether or not a doctorate was envisaged.

Mobility: Trans-national mobility (i.e. move from one country to another) is an essential requirement of Marie Curie Training Networks. At the time of recruitment by ORTEC, the applicant must not have resided or carried out their main activity (work, studies, etc) in the Netherlands for more than 12 months in the 3 years immediately prior to the reference date.

Language: A good knowledge of the English language is required, fluent speaking and writing, and it will be evaluated during the selection process.

How to apply

Applicant should provide the following documentation:

- The Application Form duly completed (attachment 1).

- A detailed CV including a summary of technical and scientific experiences. If applicable, the CV might contain detailed descriptions of previous research projects, a list of publications, and/or presentations at scientific meetings.
- A letter of motivation including research interests, reasons for applying for this programme, etc.
- If the candidate has a Ph.D. degree, copy of his Ph.D. Thesis; otherwise, undergraduate level certificates including university grades and the detailed list of university courses (with grades).

Copies of any other scientific publication that the candidate believes significant are also welcome. The applicant might also provide up to two recommendation letters with names and contacts of the two referees who are acquainted with previous academic and research/professional activity of the candidate.

The documents above need to be filled/ uploaded online via

<https://www.easychair.org/conferences/?conf=mino2013>

An e-mail acknowledgment will be sent once the application is submitted. In case of technical problems, please refer to mino.recruitment@gmail.com

Evaluation and Interview

The selection process will consist of CVs and records evaluation and an interview.

The Evaluation Committee in charge for the whole MINO project and consisting of the site leaders of all involved institutions will evaluate the candidates' CVs and their records. Based on the excellence of previous scholar and research career of the candidate and on the relevance of previous experiences with the work to be carried out during the 18 months commitment, the committee will either reject the application or admit the candidate to the interview.

The interview to assert the technical skills and motivation of the candidate will be carried out at ORTEC by Dave van den Hurck and department members. For those candidates not able to travel to Zoetermeer (The Netherlands) the interview process can take place by using Skype.

After the interviews, some of the applications can still be rejected. The remaining candidates will be ranked according to both their records and the interview itself. The candidate at the highest rank position will be offered the position. If for any reason the selected candidate will decline the offer, or will fail to comply with the requirements for enrolment in the position, the one following in the list will be chosen.

Rights and Responsibilities of researchers participating in Marie Curie Actions

The European Charter for Researchers is a set of general principles and requirements, which specifies the roles, responsibilities and entitlements of both researchers and the employers and/or funders of researchers. The aim of the Charter is to ensure that the nature of the relationship between researchers and employers or funders is conducive to successful performance in generating, transferring, sharing and disseminating knowledge and technological development, and to the career development of researchers.

It is obligatory for applicants to read and understand the detailed information regarding the rights and responsibilities of researchers engaged in a Marie Curie Initial Training Network. The European Charter for Researchers can be accessed at: <http://ec.europa.eu/euraxess/index.cfm/rights/europeanCharter>

Employment contract and remuneration

The selected candidate will be appointed under an employment contract with full social security and fiscal coverage, as foreseen by the Dutch national legislation.

The remuneration will be compliant with the rules of the ITN-PEOPLE, as foreseen in the [People Work Programme 2012, Annex III](#).

ATTACHMENT 1: ER-ITN MINO APPLICATION FORM

The undersigned (surname and first name) _____

Born in _____ (_____) on _____

city

Country

Address _____ Post code _____

City, Country

Telephone (*optional*) _____ / _____ ; e-mail address _____

IS APPLYING FOR

the competition for the awarding of no. 1 fellowship/s for research programmes to be carried out at _____ with reference to the call of Experienced Researcher -ITN MINO _____.

THE UNDERSIGNED HEREBY DECLARES UNDER HIS/HER OWN RESPONSIBILITY:

- citizenship (*specify*) _____ ;

- not to have been convicted for criminal offenses (otherwise, indicate which _____);

- to have been awarded a Ph.D. / Master degree (delete what not applicable) in _____ at University of _____ on (*date*) _____ discussing the thesis _____

_____ under the supervision of Professor _____

Concerning the Mobility Rule at *October 1, 2014* *:

From	To	Place	Activity
	<i>October 1, 2014</i>		

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**The candidate shall complete the table indicating, under his/her sole responsibility, the reference dates, the place of activity (town and country) and activity carried out during the previous 5 years.*

The candidate acknowledges that the MINO Evaluation Committee must accept the documents for the sole purpose of the admission to the opening and that the selected candidate may be required to provide the official translation and a legal recognition of his/her qualification, if required by the national Law of the Host Institution.

The undersigned will receive all communications regarding the competition at the following address _____, and will advise of any change of address.

THE UNDERSIGNED HEREBY ENCLOSES TO THIS APPLICATION THE FOLLOWING DOCUMENTS FOR THE PURPOSE OF ASSESSEMENT

- Curriculum vitae
- Letter of motivation
- Ph.D. Thesis or undergraduate certificates (including grades and university courses)
- N. _____ reference letter(s)

(Place and Date)

(Candidate's Signature)