

ThyssenKrupp Acciai Speciali Terni, inside its Automation and Control Process Department in Terni, hires a three years contract for an Early Stage Researcher (ESR) to work on:

Energy savings by integrated production

Purpose of the post

Marie Curie Initial Training Networks (ITNS), an initiative of the Commission of the European Communities, provide training and research experiences for researchers at the beginning of their careers by giving them the opportunity to spend up to three years in another country as part of an international, high-quality research project. These training networks contribute to knowledge transfer through the promotion of multidisciplinary research and the interaction of researchers on all levels working within the project.

The ENERGY-SMARTOPS Marie Curie FP7 ITN project has the aim to generate and test creative ideas for energy savings in large scale industrial sites. The research focus is on integrated control and operation of processes, rotating machinery and electrical equipment to achieve energy savings.

The current vacancy

We are seeking an Early Stage Researcher (ESR) to work in ThyssenKrupp Acciai Speciali Terni in the ENERGY-SMARTOPS ITN.

The tasks of the post will be to explore research ideas and concepts in the area of production planning and scheduling optimization. The successful candidate will also work on case studies with the employing partner and with other consortium partners.

This 3-year mobility program will provide eligible ESRs with in-depth-training at a host Consortium organization (i.e. ThyssenKrupp Acciai Speciali Terni) as well as a period of secondment to another Consortium partner. Additional short-term visits to partner facilities will provide the recruited person with network-wide training including interdisciplinary and intersectional transfer of knowledge and new techniques.

The post offers:

1. Individualized research and training plans tailored individually to each ESR;
2. Working contracts with benefits adjusted to living conditions according to EU guidelines;
3. International mobility with relocation assistance;
4. International secondment to a Consortium partner;
5. Complementary Skills Training;
6. Career development counselling and a career exploratory allowance.

Funding notes

Candidates must:

1. Be in the early stage of their research career with less than four years postgraduate research experience;
2. Undertake international mobility by moving to a different country to take up the post;
3. Undertake research training activity provided by the ENERGY-SMARTOPS Consortium and will be expected to;
4. Undertake self-study training for ISA Certified Automation Professional.

Conditions of employment

Salaries

Salaries are negotiated with individual employers according to funding provided by the grant and local conditions. Salaries are taxable and there may be other mandatory deductions. The salary of an FP7 Marie Curie programme includes a base salary which is adjusted for cost of living in the host country. The overall salary also includes mobility, travel and career exploratory allowances. These are also subject to tax.

Eligibility and mobility requirements

ESR requirement: the hired person must be an Early Stage Researcher (ESR)

Early-stage researchers are those who are, at the time of selection by the host institution, in the first four (full-time equivalent) of their research careers. This is measured from the date when they obtained the degree which formally entitles them 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.

Example A: a researcher has graduated with a first degree in biology in 2004 and would like to start her PhD in 2007. She is eligible as an ESR within the ITN as she has less than 4 years of research experience and no PhD.

Example B: a researcher obtained her PhD after 3 ½ years. She is not eligible as an ESR within the ITN even though she has less than 4 years of research experience.

Example C: a person obtained a first degree in engineering 2005 and has since then been working as a software developer in a bank. He is eligible to be recruited as an ESR in 2011 because he has had no prior research experience.

Mobility requirement. The hired ESR must be undertaking international mobility.

At the time of selection by the host organisation, researchers must not have resided or carried out their main activity (work, studies, etc.) in the country of their host organisation for more than 12 months in the 3 years immediately prior to their recruitment. Short stays, such as holidays, are not taken into account. As far as international European interest organisations or international organizations are concerned, this rule does not apply to the hosting of eligible researchers, however the appointed researcher must not have spent more than 12 months in the 3 years immediately prior to the selection by the host organisation in the same appointing organisation.

Example E: a French researcher has moved to Germany for the first time and has carried out research there for the last six months. He can be appointed within an ITN team in Germany.

Example F: a German researcher has spent 11 months in Germany just prior to his appointment. Before that period he's been working in the UK for 3 years. Thus, he can be appointed in an ITN team in Germany.

JOB DESCRIPTION

Key responsibilities

Research:

- To examine the melt shop and the Hot Rolling Mill area in order to identify the energy saving key point in the: flow production, single production phase, single plant functionalities and cooperation between the two areas;
- To analyse the existing tools for the production planning/scheduling (MSO and HSO) and the integration with the IT/automation systems;
- To formulate and simulate hypotheses on how to save energy;
- To identify the key indicator and evaluate the benefit;
- To implement the strategy on the existing it/automation systems;
- To undertake experiments to verify different aspects of jobs;

- To create documentation and application notes;
- To manage the above activities and report progress at review meetings;
- To write one or more papers summarising research findings for publication in journals and conferences;
- To work with other organizations in the Consortium on secondment.

Reporting:

- To report to the supervisor regularly on the progress of research;
- To prepare written reports on a quarterly basis summarising key research findings;
- To deliver verbal reports and presentations on a quarterly basis to the sponsor;
- To organize meetings with the project sponsor and write the minutes;
- To generate a final report detailing all research findings and an agenda for longer term research studies.

Training:

- To participate fully in the training programme of the ENERGY-SMARTOPS Consortium;
- ThyssenKrupp Acciai Speciali Terni will encourage the recruited person to undertake self-study training towards an ISA Certified Automation Professional.

Other duties:

- To provide general assistance from time to time with other research related activities, such as to collaborate with ESRs that will work on the same topic, specially with the ABB-DE;
- To comply with relevant policies of ThyssenKrupp Acciai Speciali Terni, including Financial Regulations, Equal Opportunities Policy, Promoting Race Equality Policy, Health and Safety Policy, Information Systems Security Policy and Intellectual Property Rights and Register of Interests Policies.

Job descriptions cannot be exhaustive and the post-holder may, from time-to-time, be required to undertake other duties, which are broadly in line with the above key responsibilities.

ThyssenKrupp Acciai Speciali Terni is committed to equality of opportunity and to eliminating discrimination. All employees are expected to adhere to the principles set out in its Equal Opportunities in Employment Policy, Promoting Race Equality Policy and Disability Policy and all other relevant guidance/practice frameworks.

PERSON SPECIFICATION

Applicants are recommended to demonstrate that they possess the following attributes by citing *concrete evidence* and *examples*. Candidates who are unable to give evidence of the essential elements of the person specification cannot be considered.

Education/Qualifications

Essential:

For appointment as Early Stage Researcher candidates must:

- Have an internationally recognized degree at masters level (or equivalent) in Engineering (Electronic/Computer Science/IT);
- Have less than four years research experience within their research careers in order to comply with ITN funding conditions;
- Be proficient in the English language;
- Be highly motivated and able to work both independently and as part of an interdisciplinary international team;
- Knowledge on optimization algorithms;
- Knowledge on the automation and control process;
- Knowledge on software programming on basic language;
- Technical Degree.

Desirable:

- Italian language knowledge;
- Metallurgic knowledge;
- Web/c# software programming.

Experience and Knowledge

Essential:

- Some experience of an industrial environment;
- Experience of writing, debugging and documentation of advanced engineering or scientific codes;
- Experience of plant optimization and scheduling;
- Some experience on automatic system and IT system;
- Familiarity with steel making and rolling.

Desirable:

- Experience of other high level languages such as C# and databases;

- Has work experience in a direct project for a company.

Competencies, Skills and Abilities:

Essential:

- Optimization/automation theory skill;
- Ability to find relationships between different level of technical learning;
- Communication skills and a flexible approach in tackling a wide variety of tasks. This might be demonstrated through work experience placements or internships;
- Ability to exercise initiative and judgement in carrying out research tasks;
- Ability to tackle a wide variety of tasks in an organized manner;
- Ability to relate appropriately to others and work as part of a team.

Desirable:

- Ability to write well for a technical audience (ideally with refereed papers in journals and conferences in the above areas).

How to apply and more information

Attached your CV and complete the application form post in www.acciaiterni.it/energysmartops

The personal information provided by the candidates on their application forms according to legislative decree no. 196/2003 (www.parlamento.it/parlam/leggi/deleghe/03196dl.htm) shall be handled exclusively for the purposes of personnel selection and possible recruitment based on fixed-time or collaboration agreement. In order to take part in personnel selection, the candidates are obliged to provide their personal data, under penalty of exclusion from competition. Every involved person has the rights set forth in art. 7 of law 196/2003 and can exercise them pursuant to art. 8 and 9 of the same law. These rights may be enforced to ThyssenKrupp Acciai Speciali Terni SpA, that is the personnel data processor. The personal data controller is the ThyssenKrupp Acciai Speciali Terni SpA HR Department.