



Project Acronym: KESTCELLS

Project title: Training for sustainable low cost PV technologies: development of kesterite based efficient solar cells. (Grant agreement no: 316488, FP7-PEOPLE-2012 ITN, Multi-ITN)

The Marie Curie Initial Training Network Kestcells is recruiting 1 **post-doctoral position (experienced researcher ER)**. KESTCELLS is a network for the structured interdisciplinary training of researchers in advanced thin film photovoltaic (PV) technologies. The project proposes the development of new technologies compatible with the cost, efficiency, sustainability and mass production requirements that are needed to become a reliable and future alternative to conventional non renewable energy sources. With this objective in mind, KESTCELLS network will focus on the development of kesterite based solar cells.

The consortium is formed by research institutes, universities and companies with strongly complementary expertises. All these aspects are relevant for the definition of a structured interdisciplinary training programme for the formation of high level researchers that will be required in Europe for the development of competitive PV technologies

The candidate will work in the framework of the KESTCELLS Project, being part of a Project with a high level consortium, formed by Research Groups that are reference groups in the Thin Films Photovoltaic field in Europe. This will ensure a career development in a highly professional environment, with training in the different aspects of the Photovoltaic Technology, from fundamental material science aspects, to growth techniques in thin films technology, characterization, innovation and industrial implementation, entrepreneurship, etc. A complete training program will include local training activities, as well as network wide activities (thematic and network workshops, intensive courses), and several stays at Academic and Industrial sites.

Research fields:

Thin Films Photovoltaics, Kesterites, $\text{Cu}_2\text{ZnSn}(\text{S},\text{Se})_4$, Physical Vapour Deposition, Chemical Routes, Characterization, Modelling, Solar Cells

Elegibility criteria:

- The ITN project is subject to a very restricted mobility criteria: they are required to carry out trans-national mobility when taking out they appointment.

At the time of recruitment by the *Abengoa Solar (SPAIN)*, the *researcher* must not have resided or carried out his/her main activity (work, studies, etc...) in the country of the *Abengoa Solar (SPAIN)* for more than 12 months in the 3 years immediately prior to his/her recruitment under the *project*. Compulsory national service and/or short stays such as holidays are not taken into account.

As far as international European interest organisations or international organisations 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 recruitment by the *Abengoa Solar (SPAIN)* in the same recruiting organisation.

- The candidate must be a EXPERIENCED RESEARCHER as defined in the ITN programme. Experienced researcher: means a researcher who, at the time of recruitment by the beneficiary, is: 1) in possession of a doctoral degree, independently of the time taken o aquire it, or has at least four years of full-time equivalent research experience and 2) has less than five years of full-time equivalent research experience

The recruitment process will be open, transparent, impartial and equitable following the guidelines of the European Charter of Researchers. Applications will be collected by the coordinator and distributed to the members of the consortium.



Position: Industrial scale up and transferability. Study of scale up and industrial transferability of PVD processes (Code ER6.1)

Country: Spain
Institution: Abengoa Solar NT
Duration: 24 months
Incorporation: 15 August 2014
Deadline for applications:
Laboratory: Soland R&D Center, Abengoa Solar

Head of the Laboratory: Fernando Jesus Castaño
Group: Jose Maria Delgado Sanchez
Group Leader: Emilio Sanchez Cortezon
Fellowship Supervisor: Jose Maria Delgado Sanchez
Field: Photovoltaics

The will carry out a multidisciplinary activity with the final aim to conduct a technical and economical feasibility analysis of the CZTS PVD manufacturing process. The will determine and analyze the critical points in the CZTS PVD manufacturing process. The will create and manage a Failure Mode effect analysis of the CZTS PVD manufacturing process where different actions will be analysed to evaluate the technical risks and principal modes of failure with this Absorber. The will have access to internal equipment at the Soland R&D center to conduct Proof of concept experiments in the manufacture of CZTS by vacuum techniques. The will manage this tasks making use of the DMAIC methodology (Define, Measure, Analyze, Improve, and Control).

The recruited candidate will be involved in the following training activities:

- IREC (M26 , 3 months, Industrial implementation of techniques for absorber homogeneity assessment)
- AMU (M30, 3 months, Optical & optoelectronic based techniques for industrial process monitoring)
- Participation in two intensive courses in management and bussines
- Participation in all the Project Meetings

Requirements: Candidates must hold/have a

- Physics or Chemistry background. The candidate must show a proven experience in thin film photovoltaics with the material CZTS (kesterites). This experience can be scientific communications, articles, PhD. Thesis, in the field of CZTS (kesterites).
- Be able to work in Spain

Salary: Monthly remuneration according to Marie Curie ITN Rates (<http://cordis.europa.eu/fp7/people>).

Submission of the candidacy: candidacy has to be submitted via e-mail to kestcells@irec.cat and mauxiliadora.ruiz@solar.abengoa.com, including the following documents (please specify the code ER6.1 in the application):

1. CV including photo and personal data
2. Degree diploma
3. Certificate of records of the degree including marks average
4. Master diploma or certificate
5. Certificate of records of the master including marks average
6. PhD diploma (if apply)
7. Motivation letter
8. Letter certifying that the candidate fulfils the international mobility criterion

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Additional information: www.kestcells.eu or kestcells@irec.cat