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 **PhD position (early stage researchers).** 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, entrepreunership, 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, $Cu_2ZnSn(S,Se)_4$, 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 host organization the newly recruited researcher must not have resided or carried out his/her main activity in the country of the host organization, 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. The researcher may be of any nationality.
- The candidate must be a EARLY STAGE RESEARCHER as defined in the ITN programme. This meaning that at the time of the recruitment she or he has not been awarded the doctorate degree and is in his 4 first years (full time equivalent) of his /her research carrer, counted form the diploma that gives the rights to embark in a doctoral degree.

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.

Project No. : FP7-PEOPLE-2012-ITN-316488

Position 6: Development of optimal CZTS and CZTSe based heterojunction solar cells (Code ESR3.2)

Country: Switzerland
Institution: Empa – Swiss Federal Laboratories for Materials Science and Technology
Duration: 36 months
Incorporation: August 1st, 2013
Deadline for applications: May 1st, 2013

Department: Advanced Materials and Surfaces
Head of the Department: Dr. Pierangelo Gröning
Group: Laboratory for Thin Films and Photovoltaics
Group Leader: Prof. Ayodhya N. Tiwari
Fellowship Supervisor: Dr. Yaroslav Romanyuk
Field: Photovoltaics, Thin film deposition

The PhD candidate will carry out a multidisciplinary activity with the final goal to develop cost effective CZTSSe solar cell devices aiming at possible industrial application. This includes the deposition of photovoltaic grade CZTS(Se) layers by chemical and PVD methods, development of alternative back contacts and buffer layers for optimal heterojunctions with CZTS(Se) absorbers, study of interfaces as well as preparation of solar cells and their opto-electronic characterization.

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

- 1 secondment of 3 months at University of Uppsala (Sweden)
- 1 secondment of 3 months at University of Northumbria (United Kingdom)
- 1 industrial secondment of 1 month at Abengoa Solar New Technologies (Spain)
- Participation in 5 specialized Workshops
- Participation in 2 intensive courses in management and business

Requirements: Candidates must hold/have a Master degree in Physics, Chemistry, Electrical Engineering, Material Science or equivalent. Previous experience in thin film deposition, materials characterization techniques, semiconductor devices or solar cells, equipment design and testing skills will be considered as advantages. Good knowledge of English (oral and written) is important and knowledge of German would be an advantage. The fellowship will be paid according to the Marie Curie ITN rules (http://cordis.europa.eu/fp7/people).

Submission: applications have to be submitted via e-mail to kestcells@irec.cat and yaroslav.romanyuk@empa.ch, including the following documents (please specify the code ESR3.2 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. Motivation letter
7. Letter certifying that the candidate fulfils the international mobility criterion.

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