

SOLAR-TRAIN is an innovative project focused on durability and life time assessment of photovoltaic modules. As part of the H2020 Marie Skłodowska-Curie Actions (MSCA) Innovative Training Networks (ITN) SOLAR-TRAIN invites applications for 14 Marie Skłodowska Curie fellowships starting in March 2017. The successful candidates will join the project as early stage researchers (ESRs) for three years with the possibility to enroll a PhD Program and finish with a PhD thesis.

The National Renewable Energy Centre of Spain (CENER) is a technology Centre specialized in applied research, for the development and promotion of renewable energies. The Photovoltaic Solar Energy Department works midway between basic research and industrial manufacturing environments in order to support the sector and contribute to reducing the costs of kWh produced by PV means. R&D+i activities are complemented with Laboratories accredited for testing for certification and other services, including support for PV plants optimum development.

The infrastructures for testing and research are deployed over more than 700 m². Laboratories are equipped with cutting-edge tools in both aspects, the testing of components (PV modules, inverters, trackers...) and the research in materials technology and process for PV cells fabrication. The outdoor tests requiring high dose and continuous radiation are done in Almería (Southern Spain).

As of **March 1st** the following Marie Skłodowska Curie fellowship will be assigned:

Investigation on PV Module Degradation Modes

Project description

The research activity proposed has as main goal to help making optimum decision about PV technology and module installation in every location, by knowing "a priori" which are the weaknesses of the specific products. In that sense, the research will be centered on the identification of the potential degradation modes of the PV modules depending on construction aspects, materials and location of use.

The steps on the development will include:

- ✓ Study of constructive aspects of a PV module
- ✓ Identification of the material properties that are more influenced by various climatic conditions
- ✓ Use of non-destructive detection tests for "a priori" diagnosis of degradation mechanisms
- ✓ Analyses of the activation energies for specific killing defects
- ✓ Definition of figures of merit for PV modules testing that could contribute to detect the risk of performance loss in the field
- ✓ To confirm (modelling and real data) the hypothesis established

Your profile

- ✓ Higher degree (MSc, Diploma) in physics, chemistry or related engineering science that qualifies for a doctoral degree
- ✓ Good knowledge of English language
- ✓ Willingness to move countries for ESR placement and temporary secondments
- ✓ Advanced user of software for simulation and modelling
- ✓ Knowledge of basic experimental techniques (materials analysis, electrical tests...)
- ✓ Data analysis by matlab and visual basic

Application

Please apply till **11 December 2016** according to the instructions on project website www.solar-train.eu

