

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 write a PhD thesis.

With a staff of about 1100, the Fraunhofer Institute for Solar Energy Systems ISE in Freiburg, Germany is the largest solar energy research institute in Europe. Its application-oriented research focuses on the technical use of solar energy and the further development of sustainable energy supply. The group "Service Life Analysis" investigates the quality and durability of PV modules and solar thermal collectors, and their materials and components. Our team supports partners and customers in evaluating the durability of new components and innovative materials for use in solar energy systems. The prediction of the service life and energy yields forms an essential part of our work.

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

Development of Service Life Model for PV Modules

Project description

The objective of this position is to develop and validate a model for the service life of PV modules including the influence of climatic load conditions and different materials. Specific objectives are:

- ✓ Evaluation of the various aspects of PV-module degradation, e.g. polymer degradation and degradation of electrical parameters, involved loads for PV-modules
- ✓ Identification of relevant rate dominating effects for module degradation and related appropriate mathematical models
- ✓ Calculation of relevant transport phenomena in modules, quantification of specific impacts of various external and internal parameters such as temperature, irradiation, relative humidity etc. on specific module components (glazing, cells, metallization, encapsulation etc.)
- ✓ Identification of adequate micro climatic models for module degradation
- ✓ Combination of material degradation models and micro climate models in an integrated module degradation model for service life prediction for PV-modules with crystalline cells and EVA encapsulation in moderate climates
- ✓ Validation of integrated module degradation model with sample modules of different set-ups and/or technologies

Your profile

- ✓ Compliance with the mobility rules laid out in the [MSCA ITN guidelines](#): At the time of recruitment, candidates **must not have legally resided or have had their main activity** in the country of their host organization for more than 12 months in the last 3 years
- ✓ Willingness to move countries for ESR placement and temporary secondments
- ✓ Higher degree (MSc, Diploma) in physics, chemistry, related engineering science or mathematics that qualifies for a doctoral degree
- ✓ Fluent in English and willingness to travel
- ✓ Experienced in working with modelling and simulation
- ✓ Openness for interdisciplinary collaboration and topics

Application

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