Marie Skłodowska Curie Action – Postdoctoral Fellowship
Expression of interest - Hosting offer
2023 (MSCA-PF-2023)

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Department /Institute /Centre **Name**	Instituto de Energía Solar
Address	Avda. Complutense, 30
Province	Madrid
Research Area	Information Science and Engineering (ENG) Physics (PHY) Chemistry (CHE)
Brief description of the Centre/Research Group	The project will be carried out at the Instituto de Energía Solar (IES-UPM), a worldwide recognized center devoted to photovoltaics that was founded in 1979 by Prof. Antonio Luque. Follower of a collaborative research philosophy, during its more than 40 years of history the Institute has coordinated multitude of projects of great impact and range regarding either goals, size and funding. Some of these projects have been considered by the European Commission as examples of success, and by USA and Japan as a source of inspiration in the implementation of their own R&D strategies. The Institute comprises several R&D groups covering topics such as Photovoltaic systems, Silicon Technology, Concentration Photovoltaics and New Concepts for Solar Cells. Nowadays, around 20 professors, 35 PhD students and 10 administrative and technical staff are employed at IES-UPM. The position will be devoted to the Silicon Technology research line, contributing to the characterization of silicon substrates, the development of novel silicon-based solar cells, and the reduction of the environmental footprint of the technology all along the lifetime of the solar module, from the material to the end-of-life.
Project description	Being the workhorse of today's PV reality, crystalline Silicon technology has the potential to improve further, both in terms of cost reduction and in minimization of the environmental impact of the PV technology. The project will follow an integrated approach, considering the whole value chain of the photovoltaic technology, from module manufacturing to its decommissioning and recycling, including the installation and operation as part of the system throughout its entire lifetime. It covers three main lines of activity and refers to three stages of the entire lifetime of the PV module, namely fabrication, operation, and end of life. They can be summarized in the following objectives: 1. to reduce the greenhouse gass emissions, the energy consumption, and the overall fabrication cost per unit area of newly manufactured solar cells, by the use of a novel Si material and the

	implementation of novel interconnection and encapsulation approaches; 2. to increase the energy production per unit area of operating PV devices by means of bifaciality and loss minimization, together with an improved forecasting capacity; 3. to determine the technical and economic feasibility of module decommissioning, specifically the recycling of the active component of the PV module, i.e., the solar cell.
Applications: documents to be submitted and deadlines	CV with cover letter Reference letters and/or contacts will be appreciated Deadline: April 30th, 2023