

**Marie Skłodowska Curie Action –Postdoctoral Fellowship 2022  
(MSCA-PF-2022)**

<b>Contact Person/Scientist in charge</b> <i>(datos del IP del grupo de investigación o responsable científico)</i>	<b>Name</b>	Carlos
	<b>Surname</b>	del Cañizo
	<b>Email</b>	carlos.canizo@upm.es
<b>Department /Institute /Centre</b> <i>(datos del centro/departamento donde estaría ubicado el investigador a contratar)</i>	<b>Name</b>	Instituto de Energía Solar – Universidad Politécnica de Madrid
	<b>Address</b>	ETSI Telecomunicación – Avenida Complutense, 30 28040 Madrid
	<b>Province</b>	Madrid
<b>Research Area</b> <i>(en base a las 8 áreas científicas establecidas en MSCA. Se podrán seleccionar entre una y tres áreas científicas por EOI)</i>		Information Science and Engineering (ENG) Physics (PHY)
<b>Brief description of the Centre/Research Group</b> <i>(Max. 1600 caracteres con espacio: información sobre el centro / grupo de investigación / personal científico, destacando los aspectos más relevantes de los mismos. Incluir URL si es posible.)</i>		<p>UPM is the largest technological university in Spain, and it is among the Spanish universities with strong research activity, the first in the capture of external resources in a competitive regime.</p> <p>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. 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. 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&amp;D strategies. The Institute comprises several R&amp;D groups covering topics such as Photovoltaic systems, Concentration Photovoltaics, Silicon Technology, Multijunction Solar Cells and New Concepts for Solar Cells. Nowadays, around 30 professors, 35 PhD students and 15 administrative and technical staff are employed at IES-UPM.</p> <p>The position will be devoted to the Silicon Technology research line, contributing to the development of high efficiency solar cells on low-cost environmental-friendly substrates. More at <a href="http://www.ies.upm.es">www.ies.upm.es</a></p>
<b>Project description</b> <i>(Max. 1800 caracteres con espacio: breve descripción sobre el proyecto /línea de investigación en el que se acogería al investigador/a Marie S.Curie.)</i>		<p>Photovoltaic (PV) solar energy is playing a leading role in the decarbonization of the energy sector, with more than 700 GW of installed capacity at present and prospects of reaching 20 TW by 2050. Being crystalline silicon technology the workhorse of today's PV, it has the potential to improve further, continuing in its path of cost reductions while guaranteeing a minimization of its environmental impact. To do so, an integral approach of the whole value chain, from the starting material to the decommissioned modules, will be pursued in the project, aiming at the development of high efficiency silicon solar cells with ultrathin wafers and low-cost environmental-friendly Si feedstock.</p> <p>The key points in the project will be:</p> <ul style="list-style-type: none"> <li>-To reduce the CO<sub>2</sub> emissions, the energy consumption, and the overall fabrication cost per unit area of newly manufactured solar cells by the use of Upgraded Metallurgical Silicon and the use of ultrathin Si substrates (&lt;50 micrometers) providing optimized light trapping schemes.</li> <li>-To increase the energy production per unit area of operating PV devices by developing an industrially-feasible technology for advanced solar cell</li> </ul>



## Expression of Interest – UPM Supervisor

	<p>architectures: bifacial solar cells and tandem silicon-heterojunction structures.</p> <p>-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.</p>
<p><b>Applications: documents to be submitted and deadlines</b></p> <p><i>(Indicar qué documentación deberá remitir el /la investigador/a interesado/a al centro para establecer el contacto: CV, letter of motivation, letter of references, etc., así como la fecha límite para el envío de la misma. Recomendado: Hasta finales de abril 2022)</i></p>	<p>CV with cover letter</p> <p>Reference letters and/or contacts will be appreciated</p> <p><b>Deadline: 09/05/2022</b></p>