

Expression of Interest-UPM Supervisor

Marie Skłodowska Curie Action–Postdoctoral Fellowship 2026 (MSCA-PF-2026)

Supervisor Name	Carlos del Cañizo
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Institute Name/Location	Instituto de Energía Solar / Madrid
Research Area	Engineering (ENG) / Physics (PHY) / Chemistry (CHE)
Research team/group	The project will be carried out at the Instituto de Energía Solar (IES-UPM), a worldwide recognized centre devoted to Photovoltaic Solar Energy (PV). Follower of a collaborative research philosophy, during its more than 45 years of history the Institute has coordinated multitude of projects of great impact, with relevant contributions in aspects such as ultrapurification of silicon, novel solar cell structures (among them, the invention of the bifacial solar cell back in the 1970s), and the engineering of PV systems. Nowadays, around 35 professors and postdocs, 35 PhD students and 10 administrative and technical staff are employed at IES-UPM. The postdoctoral position will reinforce the research group “Silicon and New Concepts for Solar Cells”, specifically in the research line on Silicon Technology, which is well equipped for the manufacturing and characterization of photovoltaic materials and devices. Webpage: www.ies.upm.es
Keywords	Photovoltaic Solar Energy, Solar Cells, Silicon Technology, Optoelectronic Characterisation
Research Focus	<p><i>More efficient and sustainable photovoltaic silicon technology</i></p> <p>Being the workhorse of today’s PV reality, crystalline Silicon technology has the potential to improve further, in terms of cost reduction, efficiency enhancement and minimization of its environmental impact. The Silicon technology research line is willing to contribute to this improvement by the advanced characterization of silicon substrates towards the understanding of degradation mechanisms, the design, manufacturing and characterization of novel silicon-based solar cells including their use as bottom subcells in tandem structures, 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.</p> <p>This project will benefit from the infrastructures of the Silicon Technology group:</p> <ul style="list-style-type: none"> • A complete manufacturing line for silicon solar cells: wet benches, diffusion furnaces, PECVD reactor, photolithography, vacuum evaporators with e-beam and Joule effect sources, etc. • A well-equipped characterization lab for PV materials and devices: FTIR, ellipsometry, carrier lifetime measurements by photoconductance decay and microwave reflectivity, solar simulator, quantum efficiency set-up, UV-Vis-IR spectrophotometer, Haynes-Shockley set up, etc.
Applications: documents to be submitted and deadlines	CV with cover letter. Reference letters and/or contacts will be appreciated. Deadline for submitting these documents to the supervisor: April 30th, 2026