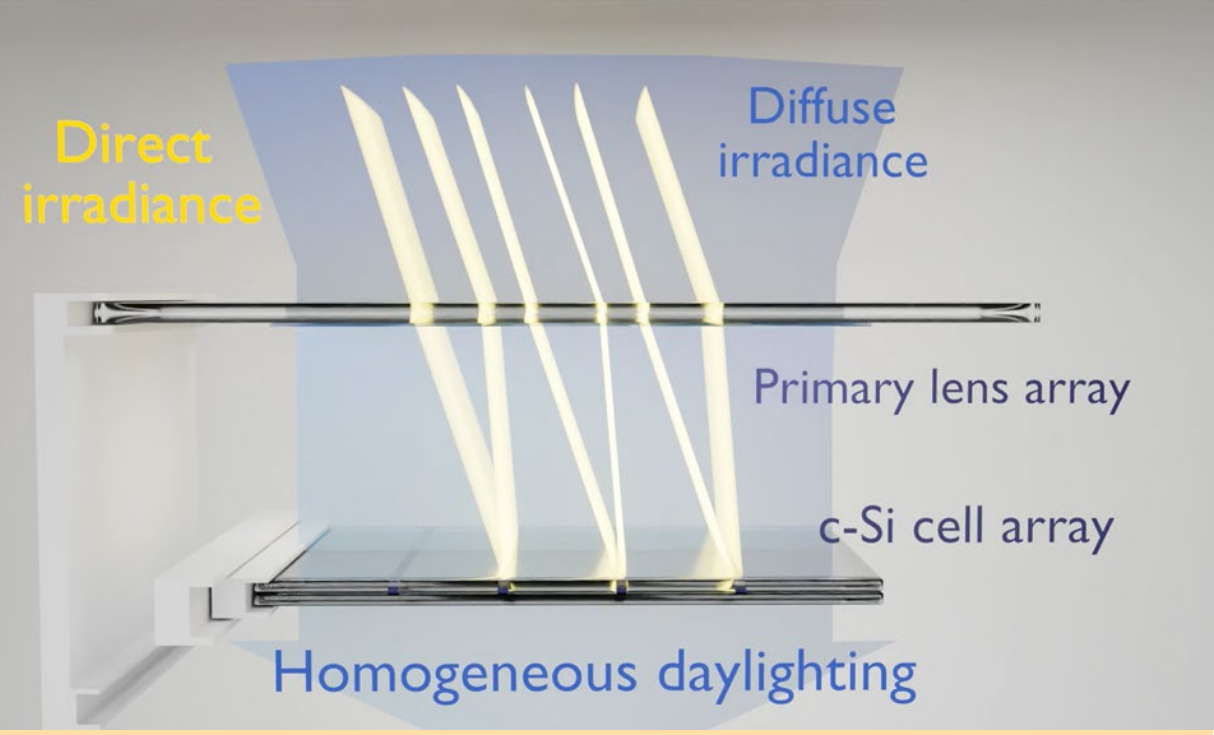


Open PhD position

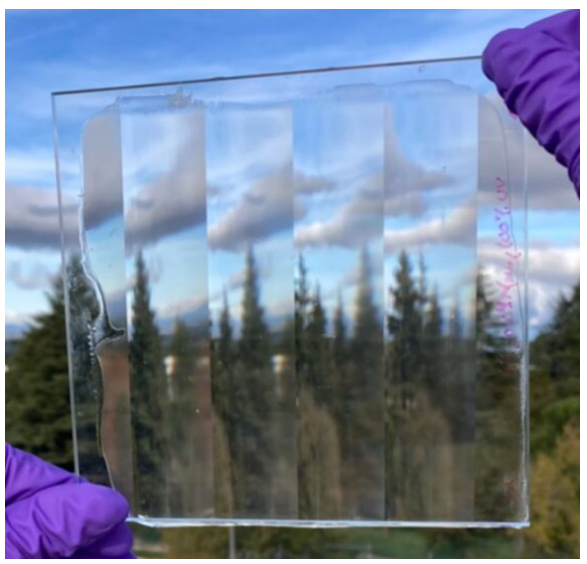
Smart building integrated photovoltaics

Instituto de Energía Solar Instruments and Systems Integration Group

INSTITUTO DE ENERGÍA SOLAR

www.ies.upm.es

The Instruments and Systems Integration group of the Solar Energy Institute is looking for a highly motivated PhD candidate to join a research project on developing next-generation building-integrated photovoltaic (BIPV) modules with active daylighting control. The project combines advanced micro-optics, photovoltaics, mechatronics, and building energy modelling to accelerate the adoption of solar technologies in architecture.



SCOPE

The PhD student will contribute to the prototyping, modeling and demonstration of a smart semi-translucent photovoltaic module based on an innovative optical system. The work will include:

- Optical and electrical characterization of micro-concentrator PV modules
- Development of building energy simulation models (EnergyPlus, PVlib)
- Integration of the module into architectural mock-ups and outdoor benches

REQUIREMENTS

- Master's Degree in engineering, physics or architecture
- Very good academic record and motivation for applied research
- Experience or interest in one or more of the following areas:
    - Photovoltaics and solar energy systems
    - Optical modelling or simulation (e.g., ray tracing)
    - Building energy modelling (e.g., EnergyPlus)
    - Mechatronics or embedded systems
- English proficiency
- Someone who enjoys working in a team environment and communicating

CONDITIONS AND APPLICATION

The contract is offered under the Spanish national FPI grant, with a typical duration of 4 years, open to extensions. A pre-contract may be offered depending on candidate's availability. Candidates are selected exclusively on merit and potential. Interested candidates should send his/her CV and academic transcripts to Dr. César Domínguez at cesar.dominguez@upm.es