



## PhD contract offer in the Technologies for Energy laboratory

### Instituto de Óptica- Spanish National Research Council (CSIC)

The Photonic for Energy and Sustainable Environment group (PEASER), and, in particular, the Technologies for Energy (TEN) laboratory of the Institute of Optics has published a vacancy to carry out a doctoral thesis entitled “ $\text{Sb}_2(\text{S},\text{Se})_3$  thin-film solar cells for integrated photovoltaic applications”

**Laboratory:** Technologies for Energy laboratory, Institute of Optics, CSIC, Madrid (Spain). [www.ten.io.csic.es](http://www.ten.io.csic.es)

**Supervisor:** Raquel Caballero

**Duration:** 3 years (includes a research stay at an international research center)

**Estimated start date:** December 2024-January 2025

**Summary:** The Technologies for Energy (TEN) Laboratory focuses on proposing and designing advanced materials and devices for sustainable energy. Among other topics, the TEN Lab investigates the development of emerging photovoltaic materials for sustainable energy conversion, with special emphasis on thin-film and low-dimensional chalcogenide materials.

The overall objective of this thesis is the fabrication and characterization of  $\text{Sb}_2(\text{S},\text{Se})_3$ -based solar cells on different substrates for outdoor and indoor photovoltaic applications. The framework of the thesis is included in the activities of the european SUNLIFE project (Versatility of sustainable, low-cost chalcogenide thin-film solar cells – CETP-FP-2023-00137). The project is a consortium formed by different universities, research centers and companies from Spain, France, Portugal, Estonia, Italy and Hungary.

**Mandatory requirements:** Be in possession of the necessary qualification (300 ECTS, Degree + Master) to enroll in a PhD program in Physics or Materials.

**Profile of the candidate:** A person with great motivation for experimental work in the laboratory with solid knowledge in materials science, applied physics, chemistry and with excellent oral and written communication skills. Experience in the synthesis and characterization of materials and photovoltaic devices will be valued.

**Application process:** An application must contain the following documents in English or Spanish: a complete curriculum vitae and a motivation letter.

**Deadline:** Please, contact Dr. Raquel Caballero ([raquel.caballero@csic.es](mailto:raquel.caballero@csic.es)) **before 31<sup>st</sup> October 2024.**