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Code:

Project: INVESTIGO AGAUR

Area: Advanced Materials for Energy

Area leader: Prof. Joan Ramon Morante

Group: Solar Energy Materials and Systems, SEMS

Group leader: Prof. Alejandro Pérez Rodríguez

The Solar Energy Materials and Systems (SEMS) group announces an INVESTIGO AGAUR fellowship:

Research position for development of optimized transparent conductive oxides

Position description: The candidate will carry out a multidisciplinary technological and scientific activity centered in the development and optimization of synthesis procedures of transparent conductive oxides (TCOs) for thin film solar cell devices based in emergent earth-abundant materials. The candidate will investigate and develop different transparent conductive oxides (TCOs), for optoelectronic applications (PV, Displays, LEDs, etc.). The research in TCOs will come together with the adaptation of the synthesis conditions and the characterization of the optoelectronics properties. This research will contribute in the improvement of the energy efficiency of electronics and optoelectronics devices for the energetic transition and the improvement of the renewable energy expansion.

Tasks to develop: The candidate will perform the following activities:

- 1) Synthesis of metallic and transparent conductive oxides (TCOs) layers on substrates and devices.
- 2) Characterization fundamental properties of materials at the nanometric scale.
- 3) Preparation of periodic experimental reports, including observations, conclusions and suggest future experiments.

Requisites:

- 1) The candidate must be between 16 and 29 years old,
- 2) Be signed in in the Spanish "oficina de desempleo"
- 3) In possession at minimum of degree in Physics, Materials Science, Chemist, Material enginery, or equivalent before the incorporation date
- 4) Incorporation in November 1st.

Next topics will be very well evaluated:

- 5) Experience in thin film technologies.
- 6) Experience in materials characterization.
- 7) Experience in deposition methods such as sputtering, thermal evaporation, e-beam, etc.
- 8) Experience optoelectronic and PV technologies
- 9) Previous experience in laboratory.



10) Recommendation letter is highly valuable

11) Master degree in related topic.

Candidacy:

Send the CV, a motivation letter and bachelor's and master's diploma (or certificate) to Dr. Victor Izquierdo-Roca (vizquierdo@irec.cat) (with copy to Prof. Alejandro Pérez-Rodríguez, e-mail aperezr@irec.cat) indicating Ref. 60/2022 in the subject of the e-mail.

Deadline: 1st October 2022

Starting date: 1st November

Expected duration of contract: 24 months.