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Code:
Project SENSATE: Low dimensional semiconductors for optically tunable 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 Group (SEMS) announces a postdoctoral (R2.1.3) position in the frame of the project H2020-**SENSATE** ERC-CoG, in the research line:

Development of novel chalco-halide 1D materials with tuneable optical/electrical properties

The candidate will carry out a multidisciplinary scientific activity in the frame of the work package 3 (WP3) corresponding to the project: *Low dimensional semiconductors for optically tuneable solar harvesters (SENSATE)*. The candidate will be the leader of this specific WP and will be highly involved in the development and optimization of innovative 1D materials with tuneable optical and electrical properties. This activity will include an extensive research in chalcogenide-based materials, such as $Sb_2(S,Se)_3$ and $Sb_2(Sn,Ge)(S,Se)_4$ systems, halide-based materials, such as $(Sb,Bi)_4(Br,I)_4$ system, and additional mixed chalco-halide materials, for the development of disruptive transparent PV devices. In this context, a highly experienced researcher in thin film deposition will be required for the operation of atomic layer deposition (ALD) systems, thermal and e-beam evaporators, and sputtering systems along with the use reactive thermal furnaces for the synthesis of absorbers. Additionally, strong knowledge in advanced characterization will be required for the structural, chemical, electrical and optoelectronic characterization of samples and devices.

Requisites: The candidates need to be in position of the doctoral degree in Physics, Chemistry, Electronic Engineering, Materials Engineering or equivalent, before the incorporation date. Previous experience in (1) thin film deposition: e-beam evaporation, thermal evaporation, and sputtering; (2) reactive annealing furnaces; and (3) advanced material characterization: structural, electrical and optoelectronic is required. Previous experience in wide band gap kesterite and/or in Sb_2S_3/Sb_2Se_3 thin film PV technologies will be very well evaluated.

Candidacy: send the CV, a motivation letter and PhD diploma (or certificate) to Dra. Yudania Sánchez (ysanchez@irec.cat) and Prof. Alejandro Pérez-Rodríguez (aperezr@irec.cat) indicating SENSATE-ERC-CoG-01 in the subject of the e-mail

Deadline: January 6th 2021

Starting date: January 21st 2021
Duration of contract: 1 year (with option to be renovated for 2 years more)

For additional information, please contact with Dr. Yudania Sánchez (ysanchez@irec.cat) and Prof. Alejandro Pérez-Rodríguez (aperezr@irec.cat) indicating SENSATE in the subject of the e-mail.