



Call for candidates for a doctoral position at GEP

REF. G2146

Published: 4/26/2021

Deadline: 30 august 2021

Reference: G2146

Research Activities: Material science and Renewable Energies

Candidate: Phd fellowship in silicon group – “Large-area HIT cells adapted to Moroccan climate”

Location : Benguerir

Duration : 36 months

Eligibility : Be enrolled in a doctoral thesis at a National University

DESCRIPTION

The research group "Silicon" at Green energy Park in Benguerir, Morocco, focuses on the synthesis and characterization of silicon-based materials for applications in Photovoltaic solar cells, biofuel generation and water treatment. We have well equipped labs for synthesis and material characterizations. The Heterojunction project of our group aims at developing low-cost and scalable high-efficiency amorphous-silicon / crystalline-silicon solar cell and module technologies. The objective of this thesis is to realize large-area silicon heterojunction cells adapted to Moroccan climate. The phd student's mission is to establish a baseline process at GEP for deposition of all passivation, conduction and metallization layers that leads to reproducible cells with high efficiency of . Finally, these optimized cells will be tested to assess their stability over time and their compatibility with Moroccan climate conditions.

Role of Phd Student

- Fabricating high-efficiency silicon heterojunction solar cells and performing accurate device characterization.
- Achieving temperature coefficients optimized for use in desert climate.
- Optimization of the a-Si passivation layers as well as the TCO and metallization layers.
- Achievement of a stable and reproducible baseline process at lab-scale.
- Publications of the scientific results in journals and conferences.;

REQUIREMENTS

- Be enrolled in a doctoral thesis at a National University;
- Hands on experience in solar cells fabrication and/or characterization would be an advantage
- Skills in material science and silicon based solar cells;
- Good knowledge of semiconductors deposition techniques
- Good analytical, synthesis, innovation and communication skills ;
- Strong interest in interdisciplinary research.



The candidate should send the following documents to contact@greenenergypark.ma

- A curriculum vitae;
- Copies of university degrees (doctorate registration certificate);
- A research proposal linked to the project description and to one of the issue areas of the call (2000 words, containing an explanation of topic, Scientific background of candidate, Methodology for completion of research proposal);
- Letter of recommendation by a professor.