SOLAR ENERGY INSTITUTE
TECHNICAL UNIVERSITY OF MADRID

September, 2018

PhD Position Available
at the Group of III-V Semiconductors on

GROWTH AND CHARACTERIZATION OF DILUTE NITRIDE MATERIALS FOR PHOTOVOLTAIC APPLICATIONS

INTRODUCTION

The **III-V Semiconductor Group at the Solar Energy Institute** of the Technical University of Madrid (http://www.ies.upm.es/Investigacion/IES_GI/S_III_V) is a leading research group in the field of high-efficiency multijunction solar cells. The activity of the group covers the whole life cycle of the solar cell development: modelling, manufacturing, characterization and reliability analysis. The group has achieved triple junction solar cells with efficiencies higher than 40% and now is developing next generation solar cells with an efficiency target approaching to 50% in collaboration with several European companies and research centres.

SCOPE

The work proposed will be engaged within a Spanish government project. The tasks to accomplish in the PhD work will cover the experimental growth and complete characterization of dilute nitride materials (GaInNAs, GaInNAsSb, etc.) suitable for very high efficiency solar cells.

REQUIREMENTS

- A degree in Physics, Electronic Engineering or Materials Science
- Basic knowledge on semiconductor physics, device physics and characterization techniques. Computational skills are highly desirable
- Good academic record (above 2.0/4.0 or 7.0/10)
- Great motivation for scientific work and ability for team work
- Full proficiency in English and basic knowledge of Spanish (or commitment to get it!) for foreign students. The full proficiency in English also applies for Spanish native speakers.
- Starting date in autumn 2018.

GENERAL CONDITIONS

- The selected candidate would start the PhD in our group within the frame of an FPI grant funded by the Spanish Ministry of Economy and Competitiveness
- Excellent experimental infrastructure and international atmosphere.
- Attendance to scientific conferences worldwide
- Research stays in partner labs in Europe and/or the USA

APPLICATIONS

Interested candidates should send his/her CV and transcripts of all undergraduate and graduate (if any) coursework to Prof. Carlos Algora (algora@ies-def.upm.es).