

CURRICULUM VITAE

2014

GENERAL INFORMATION

Name: Pablo Reyes Figueroa
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EDUCATION

- 2008-2010 Master of Science in Electrical Engineering. Thesis title: Synthesis and characterization of $\text{CuIn}_{1-x}\text{Ga}_x\text{Se}_2$ nanostructures. Center for Research and Advanced Studies of National Polytechnic Institute (Cinvestav). Mexico.
- 2003-2008 Mechatronics Engineering. Interdisciplinary Professional unit on Engineering and Advanced Technologies, National Polytechnic Institute. Mexico.
- 2000-2003 High School 2000-2003 "Center for Science and Technology Studies Estanislao Ramirez". National Polytechnic Institute. Mexico.

CURRENT STUDIES

- 2011-2014 Ph.D. in Science in Electrical Engineering. Department of Electrical Engineering at the Solid State Electronics section. Center for Research and Advanced Studies of IPN. Thesis title: Preparation and characterization of CIGS layers by multiple deposition techniques. Thesis Director: Dr. Velumani, S.

ACADEMIC STAYS

- Junio, 2010. Academic stay at the Université du Maine, Le Mans, France in the framework of cooperation between the Laboratory of Physics at Le Mans and CINVESTAV.

The academic stay consisted in experiments devoted to dielectric and EPR spectroscopy studies on CIGS and CdS doped with copper.
Responsible in France: Prof.Dr. A. Kassiba.

- January-December 2013 Academic stay at the Univerité de Nantes, Nantes, France in the framework of my co-tutelle agreement between Cinvestav and Université de Nantes.

PARTICIPATION IN CONGRESSES AND PUBLICATIONS

- Reyes, P. (2009). Assistance to Congress of Electrical Engineering (CIE-Cinvestav), Mexico city, Mexico.
- Reyes, P. (2010). Assistance to Congress of Electrical Engineering (CIE-Cinvestav), Chiapas, Mexico.
- Reyes, P.; Velumani, S.; A. Kassiba. (2010). Estructural Characterization of Mechanochemically Synthesized CdS:Cu nanopowders. *International Materials Research Congress (IMRC)*. Quintana Roo, México.
- Reyes, P.; Velumani, S.; A. Kassiba. (2010). Dielectrical Studies on Mechanochemically Synthesized CdS:Cu Nanopowders. *International Materials Research Congress (IMRC)*. Quintana Roo, México.
- Reyes, P.; Velumani, S. (2010). Estructural Studies on Mechanochemically Synthesized $\text{CuIn}_{1-x}\text{Ga}_x\text{Se}_2$ Nanopowders. *International Materials Research Congress (IMRC)*. Quintana Roo, México.
- Reyes, P.; Velumani, S. (2011). Synthesis of $\text{Cu}(\text{In}_{1-x}\text{Ga}_x)\text{Se}_2$ Nanopowders Followed by Thin Film Preparation Using Non-Vacuum process and its Characterization. *1st Workshop on Photovoltaic Innovation and Solar Cells*, Temixco, Morelos.
- Reyes, P.; Velumani, S. (2011). Mechanochemically Synthesized $\text{Cu}(\text{In}_{1-x}\text{Ga}_x)\text{Se}_2$ Nanopowder. *International Materials Research Congress (IMRC)*. Quintana Roo, México.
- Reyes, P.; Velumani, S. (2011). Studies on Textured ZnO Thin Films Using Chemical Wet Etching Methods. *Materials Research Congress (IMRC)*. Quintana Roo, México.
- Reyes, P.; Velumani, S. (2011). Structural and optical characterization of mechanochemically synthesized copper doped CdS nanopowders. *Materials Research Congress (IMRC)*. Quintana Roo, México.
- Reyes P.; Velumani, S. (2011). Preparation, Deposition of $\text{Cu}(\text{In}_{1-x}\text{Ga}_x)\text{Se}_2$ Nanopowder Thin Films by Non-Vacuum Processes and Its Characterization. *37th IEEE Photovoltaic Specialist Conference*, Seattle, Washington.
- Reyes, P.; Velumani, S. (2012). Structural and optical characterization of mechanochemically synthesized copper doped CdS nanopowders. *Materials Science and Engineering B*, Inpress, <http://dx.doi.org/10.1016/j.mseb.2012.03.002>.
- Reyes, P.; Velumani, S. (2012). CIS nad CIS nanopowder solution as precursor for CIS films deposited by ultrasonic spray pyrolysis. *Materials Research Congress (IMRC)*. Quintana Roo, México.
- Reyes, P.; Velumani, S. (2012). Preparation of sputtering target based on mechanochemically synthesized CIS nanopowder. *Materials Research Congress (IMRC)*. Quintana Roo, México.
- Reyes, P.; Painchaud, T.; Arzel, L.; Barreau, N. (2013). Preparation and characterization of CIGS layers by multiple deposition techniques. *Journées de l'École Doctorale 3MPL*, Angers, France.
- Reyes, P.; Painchaud, T.; Arzel, L.; Barreau, N.; Velumani, S., (2014). Deposition of CIGSe and CIGS layers by hybrid approach. *E-MRS*, Lille, France.

Reyes,P.; Painchaud,T.; Harel,S.; Arzel,L.; Barreau,N.;Velumani,S., (2014).
Oxidation of In_2Se_3 and $(\text{In,Ga})_2\text{Se}_3$ precursor layers and its effect on the
CISe and CIGSe based solar cells. E-MRS,Lille, France.

TRAINNING

Training on scanning electron microscope (SEM) at Carls Zeiss company,
Oberkochen, Germany (2011).

Training on atomic force microscope (AFM) at JEOL company, Mexico city,
Mexico (2011).

Training on optical transmittance (UV-VIS), X-ray diffraction (XRD), ellipsometry, I-
V measurements, Raman spectroscopy, photoluminescence, Hall effect,
secondary ions mass spectrometry (SIMS), C-V measurements. (All part of
electrical engineering coursework at CINVESTAV).

SKILLS

- Instruments:
X-ray spectrometry, SEM microscopy, energy dispersive analysis of X-rays
(EDAX), atomic force microscopy (AFM), Current-Voltage measurements,
Quantum efficiency, X-ray photoelectron spectroscopy measurements.
- Computer programs:
Origin, MSModeling, SimulaTEM, Gatan, Diamond, Orcad, Solid Works,
Autocad, Matlab, SRIM, WSxM, Microsoft office.
- Verbal Skills:
English: Read, write and speak fluently (TOEFL 600 pts).
Spanish: Native language.
French: Beginner.

References can be provided upon request