

PEDRO J. VILLALBA.

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Date of birth: January 20th, 1982

Nationality: Colombia.

Research Interests:

Nano-crystalline diamond for bio-applications, experimental and numerical analysis of biosensor behaviors, and diamond/conducting polymers structures for chemical sensing.

Formal Education:

- ◆ Ph.D student, University of South Florida, Tampa, Florida
Chemical and Biomedical Engineering Department
- ◆ M.Sc. – Universidad del Norte, Barranquilla, Colombia
Mechanical Engineering – (Energy conversion and Biomaterial transformations).
- ◆ BA. – Universidad del Norte, Barranquilla, Colombia
Mechanical Engineering.

Experience:

- ◆ Instructor – Chemical and Biomedical Engineering Department – University of South Florida, Modeling and Analysis of Engineering System, summer 2010.
- ◆ Teaching Assistant - Chemical and Biomedical Engineering Department, Modeling and Analysis of Engineering System; 2009 – 2010 - University of South Florida.
- ◆ Instructor - Mechanical Engineering Department – Division de Ingenierías, Universidad del Norte: Professor of Thermodynamics, Fluid Mechanics, Biotechnology and Bioprocess Modeling. 2005-2008.
- ◆ Research Scientist – Research Group in Biotechnology, Universidad Del Norte: Research scientist in production of bio-fuel using enzyme or bacteria catalyzed reactions.

Honors, Awards, Fellowships:

- ◆ Latin American and Caribbean Studies Program (LACS) fellowship. 2009-2010.
- ◆ Nomination to Hewlett Packard Best Paper award 2008 ASME IMECE. 2008.

- ◆ Outstanding Master Thesis. Title: modeling and dynamic control of a bioreactor for glycerin Conversion to 1,3 propanediol. Barranquilla – Colombia. 2008
- ◆ First Place, National best undergrad work competition Otto de Greiff, sustainable development area. Bogota – Colombia. 2006
- ◆ Magna cum laude bachelor's degree work (thesis). Title: Yucca (Manihot Esculenta Crantz) starch polysaccharide dextrination through biological procedures. Universidad del Norte, Barranquilla – Colombia. 2005.

Publications and Presentations:

- ◇ Referred Journal & Conference Publications
 1. Pedro Villalba, Homero San Juan and Marco Sanjuan. “Modeling and dynamic control of a bioreactor for glycerin conversion to 1,3 propanediol”. 2009 Proceedings of the ASME International Mechanical Engineering Congress & Exposition-DVD. ISBN: 9780791838631.
 2. Pedro Villalba, Homero San Juan and Antonio Bula. “Yucca (Manihot Esculenta Crantz) starch polysaccharide dextrination through biological procedures”. Interciencia ISSN: 0378-1844. v.33 fasc.4 p.314 - 316 ,2008.
- ◇ 2009 Conference Presentations
 1. Pedro Villalba, Homero San Juan and Marco Sanjuan. “Modeling and dynamic control of a bioreactor for glycerin conversion to 1,3 propanediol”. 2009 ASME International Mechanical Engineering Congress & Exposition. Orlando FL, November 2009
 2. Pedro Villalba, Reetu Singh, Ashok. Kumar, Venkat Bhethanabotla. “High Frequency Multidirectional SAW Biosensor Based On Diamond/Langasite Substrates”. Engineering Research Day 2009. University of South Florida. Tampa FL. October 2009.

PhD Coursework: (*partial*)

- ◆ Advance Transport Phenomena
- ◆ Microelectromechanical Systems: Chemical/Biomedical Sensors and Microfabrication.
- ◆ Anatomy
- ◆ Histology
- ◆ Bioelectricity
- ◆ Biomedical Engineering
- ◆ Biostatistic II
- ◆ Characterization of Materials