

# Maria Paula Angarita

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**Objective:** To acquire a PhD candidacy as part of a diverse and multi-disciplinary research group in the physical sciences or engineering.

## Education

**Florida International University – Miami, Florida** **Expected Graduation May 2012**

B.S. in Physics (GPA: 3.69 on a 4.0 scale), Honors Track

-Minor in Economics

-Minor in Mathematics

**Miami Dade College – Miami, Florida** **Graduated May 2009**

Associate in Arts Degree (with Honors)

Physics (GPA: 3.65 on a 4.0 scale)

**School for Advanced Studies – Miami, FL** **Graduated June 2009**

High School Diploma (with Honors)

(GPA: 3.69 on a 4.0 scale)

## Research/Academic Work Experience

**Massachusetts Institute of Technology** **June – August 2011**

MIT Summer Research Program Intern

Department of Physics

Condensed Matter Experiment

Jarillo-Herrero Group

Project: to draw on existing knowledge of graphene to explore the photocurrent response in the topological insulator  $\text{Bi}_2\text{Se}_3$ . I measured the electronic current induced by shining a focused laser beam onto nanoscale devices that allowed tunability of the charge carrier densities under local voltage-controlled top gates. In conjunction with electronic transport measurements, I used the spatially resolved photocurrent signal to fully characterize these devices for future optoelectronic measurements.

**Vanderbilt University – Nashville, Tennessee****May –August 2010**

Research Experience for Undergraduates (REU) Intern

Department of Physics &amp; Astronomy

Biophysics Experiment

Shane Hutson Lab

Project: investigating the viscoelastic properties of the amnioserosa cells in fruit fly embryos. I developed and calibrated a prototype of the electromagnet that applied a two-second magnetic-field pulse to the superparamagnetic microbeads that I injected in the early stages of morphogenesis, as well as optimized the methodology with which to inject these beads.

**Florida International University – Miami, Florida****December 2009-Present**

Physics Teacher Education Coalition (PhysTEC) Learning Assistant

Physics Education Network

Project: Shaping and improving introductory physics labs into more student-centered and inquiry-driven sessions. Undergraduate performance in physics courses improves when concepts are presented in ways that provide more context and meaning; I achieve this by directly engaging them in the lab sessions and helping them get through tutorials and lessons.

**Course Work****Physics**

Introductory Mechanics

Introductory Electromagnetism

Modern Physics (two semesters) &amp; lab

Thermodynamics (statistical physics)

Intermediate Mechanics (two semesters)

Mathematical Methods in Theoretical Physics

Quantum Mechanics (ongoing academic year)

Intermediate Electromagnetism (ongoing academic year)

Senior Research Lab (ongoing academic year)

Independent Study

**Mathematics**

Calculus I, II, multivariable calculus

Ordinary Differential Equations

Linear Algebra

Advanced Differential Equations

Mathematical Statistics/numerical analysis (ongoing academic year)

## **Economics**

Principles of Macroeconomics

Principles of Microeconomics

Intermediate Macroeconomics

Intermediate Microeconomics

Theory of International Trade (ongoing academic year)

World Economy (ongoing academic year)

## **Honors & Awards**

### **2011 Joint Annual Conference**

**September 2011**

#### **National Society of Black Physicists**

#### **National Society of Hispanic Physicists – Austin, TX**

- Undergraduate 1<sup>st</sup> place poster award from the Optical Society of America (OSA) and the International Society for Optics and Photonics (SPIE)
- Best Poster Award from the Thomas Jefferson Accelerator Facility
- 2<sup>nd</sup> place poster award from the American Physical Society, Division of Materials Physics

### **2010 International University Physics**

**December 2010**

#### **Competition – Miami, FL**

- Accomplished Competitor

### **Florida International University – Miami, FL**

**August 2009-Present**

Presidential Scholarship Recipient

### **Florida International University – Miami, FL**

**December 2009 - December 2010**

Dean's Academic Achievement List

### **Florida International University Honors**

**September 2009**

#### **College – Miami, FL**

Tony Menendez Computer Scholarship  
Recipient

**Simon Youth Foundation**  
Academic Scholarship Recipient

**June 2009**

## Activities and Affiliations

<b>Society of Physics Students FIU Chapter – Miami, FL</b> Vice President	<b>May 2011 – present</b>
Council for Student Organizations Representative	<b>February 2010-May 2011</b>
<b>Northeastern Conference for Undergraduate Women in Physics – Cambridge, MA</b> Poster Presenter	<b>January 2011</b>
<b>2010 Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference – Anaheim, CA</b> Poster Presenter	<b>October 2010</b>
<b>2010 American Physical Society Minority Bridge Program Conference – Washington, D.C.</b> Florida Int'l University Student Representative & Spokesperson	<b>June 2010</b>
<b>Center for Integrated Space Modeling (CISM) Space Weather Weekend – Huntsville, AL</b> Participant	<b>March 2010</b>
<b>Southeastern Conference for Undergraduate Women in Physics – Durham, NC</b> Attendee	<b>January 2010</b>