Javier M. G. Duarte

CONTACT INFORMATION

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EDUCATION

California Institute of Technology, Pasadena, California
Candidate for Ph.D. degree in Physics **Entering September 2011**

Massachusetts Institute of Technology, Cambridge, Massachusetts
B.S. degree in Physics, B.S. degree in Mathematics **September 2006 – June 2010**
Thesis: A Study of Exotic $\bar{\nu}_e \to \bar{\nu}_{\not e}$ neutrino oscillations in Double Chooz
Thesis Advisor: Prof. Janet Conrad

PROFESSIONAL EXPERIENCE

Massachusetts Institute of Technology, Cambridge, Massachusetts
Technical Instructor **July 2010 – Present**

- Assisting in the teaching, maintenance, and development of the MIT Physics Junior Lab, a.k.a. 8.13/8.14

Massachusetts Institute of Technology, Cambridge, Massachusetts
Office of Minority Education
Residential Facilitator and Teaching Assistant **June 2010 – August 2010**

- Facilitated the Interphase program, which aims to prepare incoming MIT freshmen
- Assisted in teaching Newtonian Mechanics to a class of 30 students

Veritas Tutors, Cambridge, Massachusetts
Tutor **June 2010 – Present**

- Tutor in physics and mathematics at the high school and undergraduate levels

RESEARCH EXPERIENCE

MIT Laboratory for Nuclear Science, Cambridge, Massachusetts
Undergraduate Researcher **August 2009 – June 2010**

- Modeled exotic neutrino oscillation models in Double Chooz, a reactor neutrino experiment situated in France, to determine how sensitive a near detector would be to a hypothetical fourth neutrino

CERN [*Conseil Européen pour la Recherche Nucléaire*], Geneva, Switzerland
Undergraduate Researcher **June 2009 – August 2009**

- Investigated the signature of a particular model of supersymmetry, known as GMSB, in the ATLAS detector at the Large Hadron Collider by writing programs to simulate, analyze, and extract the signal of this new physics

Fermi National Accelerator Laboratory, Batavia, Illinois
Undergraduate Researcher **May 2008 – August 2008**

- Simulated a theoretical particle interaction (anomaly-mediated photon production) using C/C++ for a new detector to be commissioned at Fermilab
- Presented results at the American Physical Society Conference in May 2009

HONORS AND AWARDS

Gates Millenium Scholarship **2006 – Present**

PROGRAMMING

C, C++, Java, MATLAB, Linux shell scripting, ROOT, LaTeX 2_ε