

# EMMA A. IDEAL

517 Orange St Apt 9, New Haven, CT 06511  
1-805-990-2953 / emma.ideal@yale.edu

---

**Objective:** Physics, Ph.D., Experimental High Energy Physics

---

**Education:**

Expected May 2015      **Yale University**  
*Physics, Ph.D.*  
Thesis topic: Searches for the Standard Model Higgs Boson  $H \rightarrow \tau^+ \tau^- \rightarrow lh$  with ATLAS

September 2011      **Yale University**  
*Physics, M.Phil.*

May 2010      **Yale University**  
*Physics, M.S.*

June 2009      **University of California, Los Angeles**  
*Physics, B.S.*  
*Magna cum Laude, Highest Honors in Physics, College of Letters and Science Honors*  
*3.81 Overall GPA, 3.87 Physics GPA*

---

**Research Experience:**

September 2009 – Present      **Yale University, ATLAS Collaboration**  
Advisor: Assistant Professor Sarah Demers  
• Tau data quality development  
• Tau spin effects in  $Z \rightarrow \tau\tau$  embedded samples for SM Higgs analysis

March 2009 – June 2009      **UCLA Directed Research**  
*CMS Collaboration*  
Advisor: Associate Professor Rainer Wallny

October 2008 – Dec 2008      **UCLA Directed Research**  
*CMS Collaboration*  
Advisor: Professor Jay Hauser

June 2008 – August 2008      **Research Experience for Undergraduates (REU)**  
*University of Chicago, Enrico Fermi Institute*  
Advisor: Professor Henry Frisch  
• REU paper: “An Audio Integrator Box: Indication of Spill at the Fermilab Test Beam”  
Submitting for publication to UCLA’s Undergraduate Science Journal  
→ [http://psec.uchicago.edu/Documents/emma\\_ideal\\_reupaper.pdf](http://psec.uchicago.edu/Documents/emma_ideal_reupaper.pdf)  
• REU presentation: “An Audio Integrator Box: A Physics Alarm Clock”

January – March 2008      **UCLA Honors Project, Physics 189HC**  
Adjunct to Quantum Mechanics, Physics 115B  
Advisor: Professor Ernest Abers  
• Honors paper, “The Solar Neutrino Puzzle”

---

**Professional Activities:**

March 2012	<p><b>ATLAS Higgs/Tau Workshop</b>  <i>Oxford University, England</i></p>
October 2011	<p><b>ATLAS Analysis Jamboree on Higgs Searches</b>  <i>Lawrence Berkeley National Lab, Berkeley, California</i></p>
October 2011	<p><b>Co-creator of ILASPY (Insights into Life and Academic Success in Physics at Yale)</b>  <ul style="list-style-type: none"> <li>• Established a group of current Yale graduate students whose goals will be to facilitate new students' transitions to graduate school</li> </ul> </p>
September 2011	<p><b>Joint Conference of the National Society of Black Physicists (NSBP) and the National Society of Hispanic Physicists (NSHP)</b>  <i>Austin, Texas</i>  <ul style="list-style-type: none"> <li>• Organized and ran a booth for Yale University to recruit minority undergraduates to our physics graduate program</li> </ul> </p>
May 2011	<p><b>New Haven Science Fair Judge (Grades K-12)</b>  <i>New Haven, Connecticut</i></p>
April 2011	<p><b>United States delegate to the 4<sup>th</sup> International Conference on Women in Physics</b>  <i>Stellenbosch, South Africa</i>  <ul style="list-style-type: none"> <li>• 26 delegates were selected to represent the U.S.</li> <li>• Co-organized and led a professional development workshop</li> <li>• Wrote an article about the conference published in the Yale Daily Bulletin</li> <li>• Interviewed by APS about the conference and an article was published in APS News</li> <li>• Currently developing a book on women in physics with another member of the delegation that is intended to inspire young women to pursue physics as a career</li> </ul> </p>
January 2011 – May 2011	<p><b>Yale University Teaching Fellow- Head TF</b>  <ul style="list-style-type: none"> <li>• Physics 201, 2<sup>nd</sup> semester advanced undergraduate introductory physics</li> </ul> </p>
October 2010 – Present	<p><b>WISAY (Women in Science at Yale) mentor</b>  <ul style="list-style-type: none"> <li>• Connected with a female undergraduate physics major at Yale to discuss physics, inform her of research and learning opportunities, and provide support and guidance</li> </ul> </p>
October 2010 – Present (In progress)	<p><b>Yale University Certificate of College Teaching Preparation</b>  <ul style="list-style-type: none"> <li>• Working to complete a comprehensive training program in college teaching which involves observing others while teaching, being observed while teaching, completing an advanced teaching series and a fundamentals teaching series, developing a sample course including syllabi and teaching materials, and completion of an exit interview with a fellow from Yale's Graduate Teaching Center</li> </ul> </p>
October 2010	<p><b>ATLAS Tau Workshop</b>  <i>University of Freiburg, Germany</i>  <ul style="list-style-type: none"> <li>• Presented on ATLAS Tau Data Quality status</li> </ul> </p>
September 2010 – Dec 2010	<p><b>Yale University Teaching Fellow- Head TF</b>  <ul style="list-style-type: none"> <li>• Physics 200, advanced undergraduate introductory physics</li> </ul> </p>
September 2010	<p><b>Yale University Fundamentals of Teaching Physics Series</b>  <ul style="list-style-type: none"> <li>• Completed a series of 3 workshops geared toward teaching college physics</li> </ul> </p>
January 2010 – May 2010	<p><b>Yale University Teaching Fellow</b>  <ul style="list-style-type: none"> <li>• Physics 166L, undergraduate physics laboratory</li> </ul> </p>

March 2010 – May 2010	<b>Yale University Advanced Teaching Series</b> <ul style="list-style-type: none"> <li>• Completed a series of 5 workshops centered on effective teaching strategies, handling disputes in the classroom, plagiarism, diversity, and other topics in teaching</li> </ul>
September 2009 – Dec 2009	<b>Yale University Teaching Fellow</b> <ul style="list-style-type: none"> <li>• Physics 165L, undergraduate physics laboratory</li> </ul>
January 2009	<b>4<sup>th</sup> Annual Conference for Undergraduate Women in Physics</b> <i>University of Southern California</i> <ul style="list-style-type: none"> <li>• Presented my UChicago REU research</li> </ul>
April 2008 – June 2008	<b>Homework Reader</b> <i>UCLA Physics and Astronomy</i> <ul style="list-style-type: none"> <li>• Graded homework for Physics 105B (Analytic Mechanics) and Physics 115A (Quantum Mechanics)</li> </ul>
January 2008	<b>3<sup>rd</sup> Annual Conference for Undergraduate Women in Physics</b> <i>University of Southern California</i>

---

**Awards/Honors:**

February 2012	<b>2012 Association for Women in Science (AWIS) Kirsten R. Lorentzen Award</b>
April 2010	<b>NSF Graduate Research Fellowship Award (3-year graduate support)</b>
April 2009 – Present	<b>Elected to Phi Beta Kappa Honors Society</b>
November 2008 – Present	<b>Elected to the Golden Key International Honour Society</b>
March 2006 – June 2009	<b>UCLA Dean's Honor List</b>
September 2005 – June 2009	<b>UCLA College of Letters and Science Honors Program</b>
September 2005 – June 2006	<b>Jean C. Cook Estate Scholarship</b>

---