

Andrew W. Forrester

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Objectives: I plan to continue on as a researcher and educator, most likely as a professor at a university, after getting a Ph.D. in physics for my work in condensed matter (see Experience below for details).

Education: **University of California, Los Angeles (UCLA) 2005 – present**
Ph.D., Physics (expected 2011)
M.S., Physics (2007 June)
★ Graduate Assistance in Areas of National Need (GAANN) Fellowship

California State University, Long Beach (CSULB) 2000 – 05
B.S., Physics and Mathematics (2005 May)
★ President’s Scholarship: Full (tuition, room/board, etc.) 4-year academic scholarship at CSULB

Experience: **Unpublished graduate research 2005 – present**
Currently at UCLA I am working with Dr. Gary Williams on a vortex-loop theory of the superfluid phase transition. I have also done research on gravito-electromagnetism and quantum field theory. My extensive notes are available on my website, along with the other papers mentioned here.

Senior thesis 2003 – 05
As a culmination of my participation in the University Honors Program at CSULB, I did research in quantum mechanics with my advisor, Dr. Chi-Yu Hu, and wrote a paper titled “Spectroscopy of Antihydrogen in a Laser Field via the Time Dependent Schrödinger Equation.”

CERN Summer Student Program Summer 2004
For this Research Experience for Undergraduates (REU) program, Northeastern University and the National Science Foundation (NSF) funded my travel to and from the European Organization for Nuclear Research named CERN. I attended a lecture series with 160 other students and worked on my individual research project under the supervision of Marco Calvi and Andrzej Siemko. I wrote a paper on my research titled “Simulating Quench Signals in the LHC Superconducting Dipoles.” I also gave a lecture on my research for the student program, and it can be viewed from my website.

Los Alamos Summer School (LASS) in Physics Summer 2003
LASS is another REU funded and run by the NSF, the Los Alamos National Laboratory, and the University of New Mexico, at Los Alamos. I attended a lecture series with 16 other students and worked on my individual research project under the supervision of my mentor, Yogesh Joglekar. I wrote a paper on my research titled “Conductivities in Bilayer Quantum Hall Systems,” which was published with the other students’ papers in the LASS Research Reports, Volume 6.

Atomic force microscopy 2002 – 03
I worked for Dr. Chuhee Kwon at CSULB, learned how to use an Atomic Force Microscope (AFM), and wrote manuals for Dr. Kwon’s classes on how to use the AFM and prepare samples.

Naval Air Warfare Center, China Lake, CA Summer 2001
As a Physical Science Technician, I performed an in-depth literature search in support of a development project, among other tasks.

California Algebra Standards 2000
I was employed by Mr. Gary Maxwell, a teacher and school district official of Ridgecrest, to write and illustrate the California Algebra Standards for the state-funded Math Matters program. My work was distributed throughout the state to teach three key algebra standards (6, 7, and 8).

Honors: ★ Graduated from CSULB *magna cum laude* in the University Honors Program, member of Phi Kappa Phi Honor Society, winning awards in both the physics and mathematics departments
★ Awarded for service as President of the Society of Physics Students (SPS) of CSULB, 2002 – 2004
★ 2002 Undergraduate Award in Analytical Chemistry (named by the American Chemical Society Division of Analytical Chemistry and the journal Analytical Chemistry)