Sonya Dawn Sawtelle

(802) 461-3429

sonya.sawtelle@yale.edu

30 Pearl St.
New Haven, CT
06511

Curriculum Vitae

Education

Ph.D.Applied Physics, Yale University, New Haven, CT
Expected May 2017

B.S. Physics, Indiana University, Bloomington, IN
August 2011, GPA 3.98/4.0

M.Ed. General Secondary, Indiana University, Bloomington, IN
August 2009, GPA 3.96/4.0

B.S. Neuroscience, Tulane University, New Orleans, LA
May 2007, GPA 3.3/4.0

Awards

Sterling Prize Fellowship, Yale University
Awarded to 30 out of 10,500 applicants, 8/2012-5/2014

IU Founders Scholar for 2012, Indiana University
Honors for cumulative GPA, 1/2012

Baccalaureate with Departmental Honors, Indiana University
Honors for GPA and senior research, 8/2011

Baccalaureate with Highest Distinction, Indiana University
Honors for GPA, granted to 5 students out of 498 in the class, 8/2011

Dean's Honor Scholarship, Tulane University
Full academic scholarship for four years, 8/2003—5/2007

Sonya Dawn Sawtelle

Research Experience

Research Assistant, PI: Mark Reed

Yale University, 7/12-current

Working on nanoscale biosensors and single molecule transport.

Recently I have worked on a bacteria concentrator and detector device for identifying pathogenic bacteria at low concentrations in water of biological fluids. I also have worked on fabricating and testing nanowire field-effect transistors for use in ultra-low concentration protein sensing for medical and defense applications. My most recent project is the investigation of quantum effects in charge transport through a single molecule at cryogenic temperatures.

Research Assistant, PI: Dr. Andrew Rinzler

University of Florida, 6/11 – 8/11

Optimized organic thin film transistors (OTFTs) to be used as switching transistors in a display prototype for a novel OLED architecture.

I investigated the effect of different organic semiconductors, substrate surface treatments and electrode orientations on transistor performance by fabricating and testing devices. Wrote up and presented this work to the REU cohort of students and advisors.

Research Assistant, PI: Dr. Chen-Yu Liu

Indiana University, 8/10 – 5/11

Conducted a finite element simulation of magnetic fields in a magnetogravitational trap for ultracold neutrons.

I used Autodesk Inventor to model the geometry,and used COMSOL and Matlab for finite element solution and analysis. I collaborated with other members of the group through our weekly meetings, and participated in a cross-institutional planning meeting regarding the broader experiment.

Sonya Dawn Sawtelle

Recent Employment

MCAT Instructor, Kaplan Inc.

New Haven, CT 11/11 – 8/12

Instructor for Medical College Admission Test (MCAT) preparatory course at Yale. Material included college-level Physics, General and Organic Chemistry, Biology .

Tutor, Athletic Academic Support Services

Bloomington, IN 8/10 – 12/10

Personal tutoring for Indiana University student athletes taking Introductory Chemistry, Organic Chemistry, and Physics of Sound.

Substitute Teacher, Monroe County Schools

Bloomington, IN 10/08—5/10

Substitute teaching at the elementary and secondary levels. I substituted in many different grades and subjects, including Special Education.

Memberships

American Physical Society, student member 8/2010

Society of Physics Students, member 8/2010