Benjamin Blonder

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McCall Outdoor Science School, P.O. Box 1025
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EDUCATION

Swarthmore College. Swarthmore, PA. Graduation date: 6/1/2008.
Bachelor of Arts in physics with minors in biology and mathematics. Research project: "Quantification of biomembrane fluidity by confocal microscopy". Overall GPA: 3.8; in major, 3.9.

University of Oxford. Oxford, UK. 1/2007 – 6/2007.
Two terms spent abroad at St. Edmund Hall studying physics; attended evolution lectures in zoology department. Independent research project: "Coevolution on tunable fitness landscapes". Predicted degree class: first.

Marine Biological Laboratory. Woods Hole, MA. 10/2008 and 1/2008.
One week trip to visit experimental plots at Woods Hole and Harvard Forest. Subsequent one-week externship studying climate modeling and biogeochemical cycling.

TEACHING AND MENTORING EXPERIENCE

Field instructor, McCall Outdoor Science School / Americorps. McCall, ID. 8/2008 – present.
Teach environmental science and community-building to Idaho sixth-grade students through residential and outreach programs.

Science associate, Swarthmore College. Swarthmore, PA. 1/2006 – 6/2008.
Led twice-weekly problem sessions and acted as a resource and liaison for introductory classes. Responsible for attending lectures, preparing solutions, and improving student confidence and comfort with physics. Previous work as grader for introductory and sophomore-level courses. Received excellent feedback from students.

Student teacher, Swarthmore College. Swarthmore, PA. 10/2007 – 6/2008.
Developed and taught student-run seminar on the physics of biological systems. Obtained approval and credit-granting ability from the department of physics and the provost of the college. Responsible for setting direction of class, choosing all readings and assignments, leading weekly discussion sessions.

Dare to Soar. Swarthmore, PA. 10/2007 – 6/2008.
Acted as a mentor for a Saturday enrichment program for low-income elementary school students. Provided companionship, acted as a role model, and helped with small research projects. Have participated in workshops on effective tutoring.

Expanding Your Horizons. Swarthmore, PA 3/2005 – 6/2008.

Have participated as a group leader and teaching assistant for yearly conference on encouraging middle school girls to continue in science.

The Pingry School. Martinsville, NJ. 5/2003 – 6/2004.
Initiated pilot program in computer science; taught AP class to four students. Responsible for planning, lectures, and grading. Three of four students received score of 5/5 on the exam.

VOLUNTEER EXPERIENCE
Outsiders Club. Swarthmore, PA. 9/2006 – 8/2008.
Coordinated local walks and attended day hikes. Participated in several local park conservation days.

Oxford Conservation Volunteers. Oxford, UK. 1/2007 – 6/2007.
Volunteered for weekly conservation tasks including brush clearing, fence building and footpath maintenance. Selected to participate in three-day trip to Wales co-organized by the National Trust.

Oxford University Walking Club. Oxford, UK. 1/2007 – 6/2007.
Frequently participated in day and weekend hiking trips. Received wilderness first aid certification and served as local walk leader for group.

OTHER WORK EXPERIENCE
Scott Arboretum. Swarthmore, PA. 1/2005 – 5/2005.
Mulched. Raked. Weeded. Cared for plants in greenhouse. Dug holes. Carried heavy objects.

Droplets, Inc. New York, NY. 6/2004 – 8/2004.
Software development intern responsible for production of API and integrated application for sales databases using Droplets proprietary technology. Also assisted with network administrative tasks.

(Self employed) 10/2003 – present.
Developer of several well-reviewed and popular Macintosh programs. Cavendish, a 3D gravitation simulator; Structure, a protein structure visualization screensaver, and SophoKeys, a polytonic Greek keyboard layout. More than 50,000 downloads in total.

RESEARCH EXPERIENCE
Swarthmore College. Swarthmore, PA. 6/2007 – 12/2007.
Built free space confocal microscope suitable for fluorescence cross-correlation spectroscopy. Wrote control software and data analysis codes. Investigated temperature-dependent fluidity of biological membranes. Advisor: Carl Grossman.

Mellon Institute, Carnegie Mellon University. Pittsburgh, PA. 5/2006 – 8/2006.
Cloned a dye-binding scFv gene from yeast into E. coli and optimized protein expression conditions for crystallization studies. Expanded library diversity prediction software to support position-dependent codon-based mutagenesis simulations. Advisors: William Brown, Christopher Szent-Gyorgi.

Rowland Institute, Harvard University. Cambridge, MA. 6/2005 – 8/2005.
Investigated surface plasmon resonance-based sensors with novel geometries and surface enhancements. Built prototype apparatus and analysis software. Advisors: Peer Fischer, Frank Vollmer.

Bell Labs, Lucent Technologies. Murray Hill, NJ. 6/2004 – 8/2004.
Created a prototype low-power, low-cost wireless sensor node using readily available components and network infrastructure. Solely responsible for successful demo of project. Advisors: Anatoli Olkhovets, Cristian Bolle.

OTHER SKILLS AND BACKGROUND

Languages: Spanish, Latin, Attic Greek.
Computer skills: Java, Obj-C, C, C++, Cocoa, OpenGL. Mathematica, Matlab, LabView, Excel. LaTeX, Photoshop, ImageJ. Also proficient with Mac OS, Windows, and UNIX.
Unexpected lab skills: analog and digital circuit design/board prototyping, wood and metal machining.
Scientific organizations: associate member, Sigma Xi. Student member, American Physical Society.