

REBECCA STOCKBRIDGE

Program in Applied Mathematics
University of Arizona
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EDUCATION

University of Arizona, Tucson, AZ 2007 – present
Ph.D. Student, Interdisciplinary Program in Applied Mathematics
M.S., Applied Mathematics 2009

Queens' College, University of Cambridge, Cambridge, England 2004 – 2007
B.A., Mathematics

ANALYTICAL SKILLS

- Probability
- Statistics
- Stochastic Processes
- Optimization
- Stochastic Optimization
- Applied Analysis

COMPUTER SKILLS

Languages: MATLAB, GAMS, C, C++, shell scripting.

Applications: LaTeX, Microsoft Office, and other common programs for Windows, Mac, and Linux.

WORK EXPERIENCE

National Security Agency, Fort Meade, MD Summer 2010
Summer Program for Operations Research Technology (SPORT) Intern

- Implemented and tested a new approach to performing logistic regression for data classification.
- TS/SCI Security Clearance

RESEARCH EXPERIENCE

University of Arizona, Tucson, AZ 2009 – present
Solution validation techniques in stochastic optimization.
Advisor: Dr. Güzin Bayraksan, Systems & Industrial Engineering

Investigating a probabilistic metric of genetic charge. 2008
Advisor: Dr. Joanna Masel, Ecology & Evolutionary Biology

University of California, Los Angeles, CA Summer 2006
Research in Industrial Projects for Students
Early detection of super-massive black hole binaries.
Sponsor: NASA Goddard Space Flight Center

University of Wisconsin-Milwaukee, Milwaukee, WI Summer 2005
Research Experience for Undergraduates in Physics
Growth of single crystalline micro (or nano) tubules from a solution-phase.
Advisor: Dr. Prasenjit Guptasarma, Physics

TEACHING EXPERIENCE

Peter Howell Elementary School, Tucson, AZ

2011 – present

GK-12 Fellow

Work with teachers and students in two fourth-grade classrooms to encourage the understanding of mathematical concepts and applications and improve mathematical thinking via a variety of activities and projects.

University of Arizona, Tucson, AZ

Graduate Teaching Assistant

- Precalculus Fall 2010, Spring 2011
- College Algebra Spring 2009

Prepared all lecture notes, quizzes and exams; graded exams and homework; held office hours; and assisted in the departmental tutoring room.

S-STEM Teaching Assistant

Fall 2008

Assisted one section of College Algebra. Helped with grading homework, presenting lectures, and writing exam questions.

PUBLICATIONS

R. Stockbridge and G. Bayraksan. A probability metrics approach for reducing the bias of optimality gap estimators in stochastic programming. (Submitted for publication)

PRESENTATIONS

Invited

A probability metrics approach to bias reduction: application to MRP. INFORMS 2011 Annual Meeting, Charlotte, NC. November 15, 2011.

Contributed

Integrating the Common Core standards for mathematical practice in elementary classrooms. GK-12 Annual Meeting, Washington, DC. March 17, 2012.

Bias reduction in optimality gap estimation for stochastic programming. 25th IFIP TC7 Conference on Systems Modeling and Optimization, Berlin, Germany. September 15, 2011.

Additional

- Relating probability metrics to stochastic programming. Brown Bag Seminar, University of Arizona, Tucson, AZ. April 23, 2010.
- Interesting and fun problems from the Tucson Math Circle. Mathematics Educator Appreciation Day Conference, Tucson, AZ. January 30, 2010.
- Investigating a metric of genetic charge. Brown Bag Seminar, University of Arizona, Tucson, AZ. March 27, 2009.
- Investigating a metric of genetic charge. Second Year Research Conference, University of Arizona, Tucson, AZ. December 11, 2008.
- The discrete binomial model for option pricing. Term Paper Workshop, University of Arizona, Tucson, AZ. May 16, 2008.

- On the motion of a single bead of viscous fluid moving down a wire. First Year Research Conference, University of Arizona, Tucson, AZ. December 6, 2007.
- Early detection of super-massive black hole binaries. Research in Industrial Projects for Students, University of California, Los Angeles, CA. August 15, 2006.
- Growth of single crystalline micro (or nano) tubules from a solution-phase. Physics REU, University of Wisconsin-Milwaukee, Milwaukee, WI. September 15, 2005.

HONORS AND AWARDS

University of Arizona, Tucson, AZ

- GK-12 Fellowship, Institute for Mathematics & Education 2011 – present
- Galileo Circle Scholarship, College of Science 2011
- VIGRE Fellowship, Program in Applied Mathematics 2009 – 2010, 2007 – 2008
- S-STEM Fellowship, Program in Applied Mathematics 2008 – 2009

LEADERSHIP AND OUTREACH ACTIVITIES

University of Arizona, Tucson, AZ

- Graduate Student Representative 2011 – present
Address student concerns and assist with recruitment activities.
- SIAM Student Chapter
 - President: Organized and led all chapter activities. 2010 – 2011
 - Treasurer: Managed finances and assisted with chapter activities. 2008 – 2010
- Sonya Kovalevsky Day Workshop
 - Organizer: Led preparations for a workshop promoting mathematics to high school girls. 2011
 - Assistant: Aided with preparations. 2010
- Undergraduate Math Modeling Course Mentor 2010, 2011
Directed and supported an undergraduate research project.
- Women in Science and Engineering Mentor 2009 – 2010
Mentored undergraduate women majoring in the sciences.
- Tucson Math Circle 2009
Presented math problems to middle and high school students weekly.
- Tucson Kids Club Mathematics Day 2008, 2009, 2010
Assisted with mathematical activities for elementary school students.

University of Cambridge, Cambridge, England

- The STIMULUS Project Volunteer and Student Representative 2005 – 2007
Visited local schools weekly and contributed to lessons.