

Victoria Gershuny

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EDUCATION

University of Arizona

August 2014-Present

- **PhD Applied Math**
- GIDP Graduate College Fellowship, Department of Defense NDSEG Fellowship
- SIAM Student Chapter President

University of Colorado, Boulder

May 2010-May 2014

- **BS Chemical and Biological Engineering and Applied Math**
- **Certifications:** Six Sigma Practitioner Certification
- Engineering Donors Merit Scholarship (\$6000), Dean's List, Active Learning Award
- OXE Chemical Engineering Honor Society

RELEVANT RESEARCH EXPERIENCE

Graduate Researcher: Applied Math, University of Arizona

September 2014- Present

- Optimizing the combination of different treatments and the human immune response to tumors.
- Modeling the effects of the innate and adaptive immune system on cancer cells.

Undergraduate Researcher: Applied Math, University of Colorado

May 2011-August 2014

- Evaluated changes in the lateral diffusion of molecules using probability function fitting to detect changes in protein-lipid interactions.
- Worked on a team to model the fluctuations in the reaction kinematics of the human Complement Cascade varying inflow of pathogens and enzymes.
- Modeled bacteria population dynamics in biofilm with Leslie population dynamics.

Head Research Assistant: Human Behavior Project

February 2011-August 2014

- Extracted constructs and hypotheses and analyzed variables from research papers in Psychology, Education, Business, Marketing, Management, Health and Nursing fields.
- Contributing author to the National Institute of health report "Ten Grid-Enabled Measures (GEM) Proposals" commissioned by the National Cancer Institute.
- Hired, audited the work of, and trained new team members.

Research Experience for Undergraduates (REU): Indiana University-Purdue University at Indianapolis

May 2012-August 2012

- Modeled autoregulation of retinal blood flow in patients with glaucoma.
- Studied the effects of Carbon dioxide supply on the constriction and expansion of retinal blood vessels using steady-state differential equations.

TEACHING

Instructor for Trigonometry: Math, University of Arizona

August 2014- May 2015

- Plan lectures and present classroom material.
- Write and grade all assignments, including exams and homework materials.
- Hold office hours.

Teaching Assistant for Introduction to Applied Statistics: Applied Math, University of Colorado

August 2012-May 2014

- Held office hours for a variety of students and graded homework and exams.
- Presented lectures and wrote exams and individual assignments.
- Funded in part by the Earn-Learn Apprenticeship Program

Teaching Assistant for Methods in Applied Statistics: Applied Math, University of Colorado

January 2014-May 2014

- Held office hours for a variety of students and graded homework and exams.

PUBLICATIONS	<p>"Theoretical analysis of vascular regulatory mechanisms contributing to retinal blood flow autoregulation."</p> <p>Arciero, Julia, Harris, Alon, Siesky, Brent, Amireskandari, Annahita, Gershuny, Victoria, Pickrell, Aaron and Guidoboni. Giovanna. <i>Investigative Ophthalmology and Visual Science Journal</i></p>	July 2013
RELEVANT KNOWLEDGE	<ul style="list-style-type: none"> • Applied Math: Probability, Dynamical Systems, Computing, Differential Equations, Linear Algebra, Fourier Analysis, Partial Differential Equations, Applied Analysis, Numerical Analysis, Complex Analysis, and Modeling in Math Biology. • Statistics: Probability, Statistics, Data Mining and Experimental Design. • Sciences: Mechanisms of Human Disease, Genetics, Organic Chemistry, Physics, Physical Chemistry, Biochemistry, and Human Anatomy. • Engineering: Fluid Mechanics, Tissue Engineering, Heat Transfer, Thermodynamics, Biokinetics, Controls, Separations and Mass Transfers. • Software: Microsoft Word, PowerPoint, Excel, MatLab, Aspen HYSYS, Mathematica, SPSS, Visio. • Languages: Fluent in Russian, proficient knowledge of Spanish. 	
GRANTS	Undergraduate Research Opportunity Program Stipend Team Grant	August 2011-May 2012
	Undergraduate Research Opportunity Program Stipend Individual Grant	August 2013-May 2014
PRESENTATIONS	SIAM Front Range Student Conference at the University of Colorado, Denver	March 2014
	SIAM Front Range Student Conference at the University of Colorado, Denver	March 2013
	University of Colorado, Boulder Applied Math Department Student Mini-Conference	October 2012
	Undergraduate Research Program Capstone Conference hosted by the Math Biology Institute at Ohio State University	August 2012
INDUSTRY EXPERIENCE	<p>Quality Control Engineer Intern: Advance Tooling Concepts June 2013-January 2014</p> <ul style="list-style-type: none"> • Collected product data and analyzed the equipment and processes for consistency. • Designed a method of operator data collection, management, planning and control. <p>Senior Design Project: Merrick & Company January 2013-May 2013</p> <ul style="list-style-type: none"> • Designed a small-scale ethanol recovery process from an existing plant located at Coors Brewery Co., generating an annual 100,000 gallons of fuel grade ethanol from waste beer stream. • Proposed multiple output ranges for different scale breweries to maximize ethanol waste recovery. • Designed production plant utilizing SuperPro Designer and Aspen HYSYS. 	
PERSONAL ACTIVITIES	<p>VP Events: S.Y.STEM Coalition February 2015-Present</p> <ul style="list-style-type: none"> • Manage existing volunteers and work to recruit new ones. • Manage social media, relationships with other organizations, plan events. <p>Junior Captain: University of Colorado Buff Gold Dance Team August 2010-May 2013</p> <ul style="list-style-type: none"> • Performed at the half time show at club sports games. • Competed annually in collegiate nationals in Anaheim, California in the Hip Hop and Open Jazz category. • Head of Fundraising Committee. <p>Volunteer: Boulder Community Hospital September 2011-Dec. 2014</p> <ul style="list-style-type: none"> • Worked in Newborn Hearing Screening and aid training of new volunteers on the OAE and AABR screening procedures. 	