

Stephanie A. Blanda

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Department of Mathematics and Information Technology
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Academic Employment

- **Mercyhurst University**, Department of Mathematics and Information Technology
Position: Assistant Professor (Tenure Track)
August 2015 – Present

Education

- **The Pennsylvania State University**, University Park, PA
Ph.D. Candidate in Mathematics with a minor in Computational Science
Thesis Adviser: Diane Henderson
Anticipated Graduate Date: August 2017
August 2009 – Present
 - Earned the Certificate for Online Teaching (October 2013)
 - Earned the Teaching with Technology Certificate (Fall 2014)
- **Lebanon Valley College**, Annville, PA
B.S., Computer Science, May 2009
B.S., Mathematics, May 2009
Graduated summa cum laude with honors in mathematics
 - Honors Project: “Connections to Compactness and the Axiom of Choice”
 - Phi Alpha Epsilon Scholarship Society Member
 - Computer Programming Team 2005 – 2009; Team Captain 2007 – 2009
 - Math Club Webpage Designer
 - Putnam Team Member 2006 – 2008
 - Mathematical Physics Reading Group

Research Interests

Wind generated ocean waves, applied mathematics, numerical methods, boundary layer theory, partial differential equations with an emphasis on the theory of surface water waves and the interface of two fluids under a shear flow.

Teaching Experience

Mercyhurst University, August 2015 – Present

- MIS 226 *Programming II* Spring 2016 – Present
A continuation of MIS 126/Math 146 (Programming I) with an emphasis on object-oriented programming and data structures. This course focuses on design and programming using data structures such as array based lists, linked lists, stacks, queues, trees, and graphs implemented as abstract data types.
- MIS 126/Math 146 *Programming I* Fall 2015 – Present
An introduction to computer programming, with an emphasis on the development of good programming habits and skills utilizing a modern object-oriented language (Python). Topics include programming basics such as loops, decision structures, functions, arrays, objects, classes, and inheritance.
- Math 170 *Calculus I* Fall 2015
This first semester of calculus concentrates on the fundamentals of the derivative and its applications; tangent lines to curves; optimization problems; velocity, and acceleration. There is also an introduction to integration with applications to geometry and physics.

Penn State University, August 2009– August 2015

As sole instructor with full instructional responsibility:

- Math 036 WEB *Insights into Mathematics (Online)* Spring 2013 – Summer 2015
This is an online course offered by the Penn State University World Campus. This course focuses on historical issues related to contemporary problems in voting theory, fair division, and graph theory while also discussing the merits of various problem-solving techniques.
- Math 251 *Ordinary and Partial Differential Equations* Fall 2012
This 4-credit course introduces the foundations of first- and second-order ordinary differential equations, Laplace transform solutions, higher-order equations, and Fourier series. It ends with an overview of solution techniques for partial differential equations.
- Math 141 *Calculus with Analytic Geometry II* Summer 2012
This 4-credit course is the second in the Calculus sequence for students in science, engineering, and related fields. It covers advanced techniques of integration, improper integrals, sequences, and series.
- Math 034 WEB *Mathematics of Money (Online)* Fall 2011, Spring 2012
This is an online course offered by the Penn State University World Campus. This course is designed to provide a sound introduction to the uses of college level mathematics in personal finance applications. Topics include: simple interest, simple discount, compound interest, annuities, investments, retirement plans, taxes, credit cards, and mortgages.

- Math 034 *Mathematics of Money* Fall 2011
This course is designed to provide a sound introduction to the uses of college level mathematics in personal finance applications. Topics include: simple interest, simple discount, compound interest, annuities, investments, retirement plans, taxes, credit cards, and mortgages.
- Math 220 *Matrices* Spring 2011
This course serves as a general introduction to Linear Algebra for students majoring in engineering, mathematics, and the physical sciences. Topics include: systems of linear equations, matrix algebra, eigenvalues and eigenvectors, and linear systems of differential equations.
- Math 017 *Finite Mathematics* Fall 2010, Spring 2013
This course introduces the foundations of modern mathematics through formal logic and set theory, and then discusses applications of these concepts in elementary probability theory.
- Math 021 *College Algebra I* Summer 2010
This course introduces the algebraic methods of solving linear and quadratic equations; factoring polynomials; rational, exponential, and radical expressions; basic functions; and complex numbers.

In a supporting role as a Recitation Leader/Teaching Assistant:

- Math 220R *Matrices* Spring 2010
- Math 471R *Geometry for Teachers* Spring 2010
- Grader Fall 2009

Other Activities Related to Teaching

- **Academic Adviser to Mathematics and Information Technology Majors/Minors**
Mercyhurst University, Erie, PA
February 2016 – Present
- **Member of the MAA Allegheny Mountain Section NExT (New Experiences in Teaching)**
September 2015 – Present
- **Mentor to New Graduate TAs**
Penn State University, University Park, PA
August 2012 – May 2013
- **Mathematics Department Graduate Teaching Assistant Training Program Team Leader**
Penn State University, University Park, PA
August 2012 – December 2012
- **Peer Tutor in Mathematics and Computer Science**
Lebanon Valley College, Annville, PA
September 2006 – May 2009

Computer and Technology Skills

- **Course Management Systems:** Blackboard, ANGEL
- **Programs:** Microsoft Office, Mathematica, Matlab
- **Programming Languages:** Python, C++, Java, Visual Basic, HTML, SQL, GAP
- **Other:** LaTeX, Piazza, GoToMeeting, Blackboard Collaborate, WebAdvisor, LionPATH

Professional Development

- Member of the Teaching Action Group
August 2015 – Present, Mercyhurst University
- Participated in the workshop “Supporting Students with Autism in the College Classroom”
December 2016, Mercyhurst University's Center for Teaching Excellence
- Participated in two online teaching workshops
“Lunch & Learn” – a conversation about all things online teaching and learning
“GoToMeeting” – an introduction to the virtual meeting software
October 2016, Mercyhurst University's Center for Teaching Excellence
- Participated in the workshop “How Can I Transform My Tests into Learning Tools?”
April 2016, Magna 20 Minute Mentor, Mercyhurst University's Center for Teaching Excellence
- Participated in the REACH Curriculum Workshop
April 2016, Mercyhurst University
- Attended the Mathematical Association of America Allegheny Mountain Section Meeting
April 2016, Gannon University
- Participated in the workshop “How can I create meaningful assignments for my students?”
March 2016, Magna 20 Minute Mentor, Mercyhurst University's Center for Teaching Excellence
- Participated in the Conflict in the Classroom: An Interactive Theatre Workshop
November 2015, Mercyhurst University
- Participated in the Translingual Writing in Assessments: Understanding Second Language Learning Issues in Short Answer and Essay Assessments Workshop
November 2015, Mercyhurst University's Center for Teaching Excellence
- Member of the Teaching Mathematics Discussion Group
August 2014 – May 2015, Penn State University
- Participated in the Secrets to Successful NSF Broader Impacts Workshop
November 2014, Penn State University
- Participated in the Physical Sciences Grant Writing Workshop
October 2014, Penn State University
- Participated in the Introductory Workshop on Grant Writing
September 2014, Penn State University
- Participated in the Creating an ePortfolio Workshop
April 2014, Penn State University
- Participated in the Motivating Student Learning Workshop
March 2014, Penn State University

Service

- Member of the Gender and Diversity Committee
August 2016 – Present, Mercyhurst University
- Member of the Election Committee
August 2016 – Present, Mercyhurst University
- Member of the Judicial Board of Mercyhurst University
August 2016 – Present, Mercyhurst University
- Academic Adviser to Mathematics and Information Technology Majors/Minors
February 2016 – Present, Mercyhurst University
- Delegate for Lebanon Valley College for the Presidential Inaugural Procession of Michael Victor
September 10, 2016, Mercyhurst University
- Volunteer for Summer Orientation and Advising Days
June 24, June 27, and August 18, 2016, Mercyhurst University
- Participant and contributor for the Assessment Institute
May 16, 2016, Mercyhurst University
- Volunteer for “Pie Your Professor” – part of the Mercyhurst Relay for Life event
April 30, 2016, Mercyhurst University
- Volunteer for the Accepted Student Major Day
April 9, 2016, Mercyhurst University
- Volunteer for the ESO (Expanding Sociability Opportunities) Dance
February 5, 2016, Mercyhurst University
- Member of the hiring committee for the Mathematics and Information Technology Department
November 2015 – February 2016, Mercyhurst University
- Volunteer for the Open House Academic Department Fair
October 24, 2015, Mercyhurst University
- Contributing Editor of the American Mathematical Society's [Graduate Student Blog](#)
Wrote a monthly article on a topic of interest to the mathematical community
October 2013 – May 2015

An excerpt from the article “Online Recommender Systems—How Does a Website Know What I Want?” was published as part of the Graduate Student Section in the January 2016 edition of *Notices of the American Mathematical Society*.

- Graduate Student Member of the Penn State Math Department Climate & Diversity Committee
August 2012 – May 2015
- Organizing Committee Member of the Math Department's 2014 Graduate Diversity Workshop
May 2014 – May 2015
- Adviser for Undergraduate Student Research
Project: Wind Waves with Variable Density
October 2014 – March 2015, Penn State University

- Mentor for a Rogue Waves Research Experience for Undergraduates (REU)
June 2014 – August 2014, Penn State University
- Mentor for the Summer Research Opportunities Program (SROP)
June 2014 – July 2014, Penn State University
- Volunteer for “Exploration-U: State College Science Night”
March 2014, Penn State University
- Contributing Member of the Penn State Math Department's Graduate Diversity Workshop
September 2013
- Volunteer for “Expanding Your Horizons” STEM Career Day for middle school girls
February 2013, Penn State University

Conference Presentations

- **Establishing an Effective Teaching Presence in an Online Classroom**
The 2016 KDP Teaching and Learning Expo - “iTeach: Take a Byte Out of Technology”
Mercyhurst University, November 2016
- **The Interface of Two Fluids Under a Shear Flow**
MAA General Contributed Paper Session on Research in Applied Mathematics
Joint Meetings of the AMS and the MAA
San Antonio, TX, January 2015
- **Invited Panelist – Women in Math, Computer Science, and Actuarial Science**
Women in the Sciences Day
Lebanon Valley College, October 2014
- **Classifying States with Near Maximum Entanglement**
Moravian College Student Mathematics Conference
Moravian College, February 2009
- **Multiparty Quantum States with Nearly Maximal Stabilizer**
AMS Session on Quantum Theory and Fluid Mechanics
Joint Meetings of the AMS and the MAA
Washington, DC, January 2009
- **Quantum Information and 4-Qubit States**
EPaDel Section of the Mathematical Association of America
Drexel University, November 2007

Poster Presentations

- **Spiking Neural Networks and Image Recognition**
ARL Summer Student Research Symposium
Aberdeen Proving Ground, Aberdeen, MD, August 2011
- **Multiparty Quantum States with Nearly Maximal Stabilizer**
Disappearing Boundaries Symposium Poster Session
Lebanon Valley College, Annville, PA, October 2008
- **Quantum Information and 4-Qubit States**
Disappearing Boundaries Symposium Poster Session
Lebanon Valley College, Annville, PA, October 2007

Awards and Honors

- Outstanding Senior in Computer Science Award Recipient, April 2009
- Outstanding Senior in Mathematics Award Recipient, April 2009
- Max F. Lehman Memorial Mathematics Award Recipient, April 2006. Given to the top freshman math student at Lebanon Valley College

Research Experience

- **Research Adviser for Undergraduate Student**
Wind Waves with Variable Density
Penn State University, University Park, PA
October 2014 – March 2015
- **Rogue Waves REU – Mentor**
Penn State University, University Park, PA
June 2014 – August 2014
- **Summer Research Opportunities Program (SROP) – Mentor**
Penn State University, University Park, PA
June 2014 – July 2014
- **Mathematics Research Communities Participant**
Regularity Problems for Nonlinear PDEs Modeling Fluids and Complex Fluids
June 25—July 1, 2013
- **Summer Student Contractor – Neural Networks Researcher**
Aberdeen Proving Ground, Aberdeen, MD
May 2011 – August 2011
- **REU Participant**
Knot Theory and Degree Theory
Penn State University, University Park, PA
June 2009 – August 2009

- **Research Assistant**

Quantum Computation, Quantum Communication, and Quantum Entanglement
Lebanon Valley College, Annville, PA
June 2007 – May 2009

Publications

- Blanda, Stephanie A. Spiking Neural Networks and Image Recognition [abstract]. In: *Volume II: Compendium of Abstracts by ARL Summer Student Research Symposium*, August 2011; Adelphi, MD. p 10, *ARL-TM-2011a*.
- David W. Lyons, Scott N. Walck, and Stephanie A. Blanda. Classification of nonproduct states with maximum stabilizer dimension. *Phys. Rev. A*, 77:022309, 2008. arXiv:0709.1105v3 [quant-ph].

Other Work Experience

- **Computer Network Assistant**
Lebanon Valley College, Annville, PA
January 2009 – May 2009
- **Private Clarinet Instructor**
June 2004 – May 2006