

# HOLLY J. ROSSON

## A Short CV

Mathematics Department  
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### EDUCATION

**Ph.D. in Mathematics**, Dartmouth College, Hanover, NH June, 2000  
**M.S. in Mathematics**, University of Vermont, Burlington, VT May, 1994  
**B.S. in Mathematics**, Saint Michael's College, Colchester, VT May, 1992

### TEACHING EXPERIENCE

#### **Professor of Mathematics**

**Warren Wilson College**, Asheville, NC 2005-Present  
Taught courses in Data Science, Statistics, Calculus, Abstract Algebra, Mathematical Modeling, Linear Algebra, Complex Analysis, and Number Theory. Pedagogical strategies chosen from interactive lectures, group activities and Maple and JMP (mathematical and statistical software) labs.

**Saint Mary's College of Maryland**, Saint Mary's City, MD 2002-2005  
Instructed courses in Mathematics for the Liberal Arts, Math for Elementary and High School Teachers, Calculus, Differential Equations, Linear Algebra, and Number Theory.

**Trinity University**, San Antonio, TX 2000-2002  
Directed courses in Calculus, Abstract Algebra, and Number Theory.

#### **Graduate Teaching Instructor**

**Dartmouth College**, Department of Mathematics 1998-2000  
Taught courses in Differential Equations, Calculus, and Finite Mathematics.

**The University of Vermont**, Department of Mathematics and Statistics 1992-1994  
Instructed non-science majors in Precalculus and Calculus.

### RESEARCH INTERESTS

My interests include number theory, algebra, and graph theory. More specifically, the relation of these to modular forms, quadratic forms, and L-series.

Recently, my other interest is mathematical modeling and data science, with interest in applications to the environment and human health.

### RESEARCH PUBLICATIONS

**Modeling the Microbiome**, a work in progress, with Jeff Lawson and Thomas Robacker.

**Central Values of Quadratic Twists for a Modular Form of Weight 4**, Ranks of Elliptic Curves and Random Matrix Theory, J. B. Conrey et al., eds, Cambridge University Press, February, 2007

**Theta Series of Quaternion Algebras over Function Fields**, J. Number Theory, 94 (2002), 49-79.

## SELECT AWARDS

**Research Experiences for Undergraduate Faculty (REUF) on the Mathematics of Big Data**, funded by the American Institute of Mathematics to participate in a week long conference on data at Duke University. Summer, 2016

**MAA travel grant**, Knoxville, TN Spring 2014  
Partially funded to attend the Undergraduate Research Conference in Mathematics at the University of TN.

**Matrix Ensembles and L-functions**, Cambridge, England Summer, 2004  
Funded participant at the Newton Institute workshop attended by number theorists, physicists, and statisticians.

**Elliptic Curves and Random Matrix Theory**, Cambridge, England Winter, 2004  
Funded participant at the Newton Institute workshop co-sponsored by the Clay Mathematics Institute.

**IAS/Park City Mathematics Summer Institute** Summer, 2002  
Funded to participate with the research and education groups in the 3-week long summer institute.  
Research theme: automorphic forms. Education theme: research with undergraduates.

## A FEW CONFERENCES

**Research Experiences for Undergraduate Faculty (REUF) on the Mathematics of Data**, funded participant. Duke University, Durham, NC. July 18-22, 2016

**MAA Spring Sectional Meeting**, participant, Birmingham, AL. Chaired undergraduate research sessions. Spring, 2016

**MAA Spring Sectional Meeting**, participant, various locations. Judge for undergraduate presentations and posters. Spring 2008, 2012, 2014, 2015

**Undergraduate Mathematics Conference**, participant, with some thesis students presenting. Knoxville, TN Spring 2007, 2012, 2014

**Smoky Mountain Undergraduate Research Conference on the History of Mathematics**, participant, with some thesis students presenting. Western Carolina University, Springs 2007, 2008, 2010, 2012

**Southeastern Regional Meeting on Numbers**, participant, Western Carolina University. Spring, 2012

**Harvey Mudd Mathematics Conference on the Mathematics of Environmental Sustainability and Green Technology**, participant, Claremont, CA Spring, 2010

**AMS Sectional Meeting**, participant, Raleigh, NC Spring, 2009

## COMPUTING

**Programming Languages:** C++, C, R and Python

**Mark up Languages:** LaTeX, PHP, HTML

**Operating Systems:** Linux, Macintosh, and Windows

**Software:** Mathematica, Maple, JMP