

HOLLY J. ROSSON

A Short Vita

Mathematics and Data Science Department
<https://www.warren-wilson.edu/people/holly-rosson/>

Warren Wilson College
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EDUCATION

Ph.D. in Mathematics, Dartmouth College, Hanover, NH, June, 2000.

TEACHING

Professor of Mathematics and Data Science, Warren Wilson College, 2005-Present. **Chair:** 2019-2024

Taught courses including Data Science, Machine Learning, Statistics, Single and Multivariable Calculus, Linear Algebra, Mathematical Modeling and Number Theory.

RESEARCH INTERESTS

Historically, my research interests were in Number Theory. My current interests include mathematical modeling and data science, with applications to environmental sustainability and social justice.

SELECT AWARDS

- **South Big Data Partnership Forum**, Alexandria, Virginia. Fully funded by the **South Big Data Innovation Hub** to participate in the “**Smart Cities and the Environment**” session with big data influencers from industry, academia, nonprofits, and government. April, 2024.
- **South Big Data S.E.E.D.S. Grant**, funded by the **South Big Data Innovation Hub** (\$10,000) to support data science students working on a project with the community partner Bounty and Soul. Fall, 2022-Spring 2024. With David Abernathy.
- **Open Education North Carolina Faculty Grant**, funded by NC Live (\$1000) to convert textbooks in the Calculus sequence to open resources only. Fall, 2018.
- **Research Experiences for Undergraduate Faculty on the Mathematics of Big Data**, Duke University. Funded by the American Institute of Mathematics to participate in a week-long data science workshop. Summer, 2016.
- **Matrix Ensembles and L-functions**, Cambridge, England. Funded participant at the Newton Institute workshop attended by number theorists, physicists, and statisticians. Summer, 2004.
- **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.

PUBLICATIONS

- **Environmental and Social Advocacy Through Data, some Case Studies**, currently in process.
- **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 CONFERENCES & PRESENTATIONS

- **South Big Data Partnership Forum**, Alexandria, Virginia. Funded by the **South Big Data Innovation Hub** to participate in the “**Smart Cities and the Environment**” session and present “**An Application of Machine Learning to Health and Social Vulnerability Data**”, poster presentation.
- **MAA Spring Sectional Meeting**, Knoxville, TN. Funded by the South Big Data Innovation Hub to bring two student researchers to present their work: “**An Application of Clustering: Addressing Food Insecurity in Western North Carolina**”, poster presentation.
- **Data Matters**, NC State University, Raleigh, NC. Participated in a week-long workshops on data science for researchers, business and government professionals. Summers 2017, 2018, 2022, and 2023. Topics of study included R-Shiny (interactive dashboards), Machine Learning, Text Analysis, and Data Science with R.
- **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.
- **Harvey Mudd Mathematics Conference on the Mathematics of Environmental Sustainability and Green Technology**, participant, Claremont, CA. Spring, 2010.

RECENT SERVICE

To Profession

- Referee to **the American Mathematical Monthly**, 2007-present, various times
- Chair at the MAA Undergraduate Research Sessions, **MAA sectional Meetings**, various times and places.
- Judge in the MAA Undergraduate Poster Sessions, **MAA Sectional Meetings**, various times and places

To Warren Wilson College

- Chair of the Mathematics and Data Science Department, 2019- Present
- Member of the Committee on Extended Contracts, 2023-2024, 2019-2022 (chair, 2021-2022)
- Member of the SpaceForce Committee, present
- Proposed and implemented the Data Science Major (2023)
- Math/Data Science Search Committee chair (2022-2023)
- Faculty Body Secretary, 2019-2020
- Member of the Faculty Advocacy committee, 2013-2019
- Faculty Representative of the Benefits Committee, 2016-2018
- CFO Search Committee member, Fall, 2018
- Proposed and implemented the Data Science minor, 2017
- Faculty body co-convener, 2013-2015