

Logan Reed

Ph.D. Student in Mathematics, Temple University

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Education

Ph.D.	Temple University , Mathematics	Philadelphia, PA
	Research interests: numerical linear algebra, Krylov subspace methods, matrix equations, tensor equations, low-rank tensor computations.	2024 – present
M.S.	Rutgers University , Mathematical Sciences	Camden, NJ
		2023
B.S.	Texas State University , Applied Mathematics	San Marcos, TX
		2021

Publications

A pipeline for testing drug mechanism of action and combination therapies: From microarray data to simulations via linear-in-flux-expressions: Testing four-drug combinations for tuberculosis treatment	June 2023
Volume 360, 108983.	
Christopher Denaro, Nathaniel J. Merrill, Sean T. McQuade, Logan Reed, Karim Azer, Benedetto Piccoli	
10.1016/j.mbs.2023.108983 (Mathematical Biosciences)	

Talks and Presentations

Oct. 24, 2026: Near-Optimal Convergence of Widlund’s Method and Numerical Exploration of Different Implementations. Annual Conference of the New York–New Jersey–Pennsylvania section of SIAM, Rutgers University (New Brunswick, NJ).

Attended Workshops

May 4–8, 2026: Asynchronous Methods for Numerical Linear Algebra, ICERM, Brown University (Providence, RI).
Feb. 2–6, 2026: Randomized Numerical Linear Algebra, ICERM, Brown University (Providence, RI).

Experience

Temple University , Graduate Researcher	Philadelphia, PA
Advisor: Daniel Szyld	2025 – present
- Established a near-optimal bound for the convergence of Widlund’s method. - Developed and analyzed different implementations of Widlund’s method in the exact and inexact setting.	1 year
Computational Mathematics and Modeling Research Lab, Temple University , Graduate Researcher	Philadelphia, PA
Supervisors: Benjamin Seibold, Gillian Queisser	2024
Compared different time-stepping schemes for a highly stiff PDE in an asynchronous setting.	
Rutgers University , Master’s Thesis	Camden, NJ
Advisor: Siqi Fu	2023
Developed numerical methods for a constrained shape optimization problem related to the Pólya–Szegő conjecture on polygonal domains.	

Applied Mathematics Lab, Rutgers University, Graduate Researcher

Supervisor: Benedetto Piccoli

Camden, NJ

2022 – 2023

1 year

- Contributed to the discretization and implementation of a metabolic pathway model.
- Developed a PDE solver on a large hypergraph representing the metabolic pathway.

Teaching Experience

Spring 2026: Instructor, Precalculus, Temple University.

Fall 2022: Lecturer, College Algebra, Rutgers University.

Fall 2021: Lecturer, College Algebra, Rutgers University.

Fall 2026: Teaching Assistant, Numerical Analysis, Temple University.

Fall 2025: Teaching Assistant, Numerical Analysis, Temple University.

Spring 2022: Teaching Assistant, Calculus I, Rutgers University.

Spring 2022: Mathematics Tutor, Math and Statistics Lab, Rutgers University.

Fall 2021: Mathematics Tutor, Math and Statistics Lab, Rutgers University.

2017–2020: Mathematics Tutor, Math CATs, Texas State University.

Service and Outreach

2025–Present: President, Temple University SIAM Student Chapter.

2025–Present: Graduate Seminar Organizer, Department of Mathematics, Temple University.

Honors and Awards

Distinguished Thesis Award

Rutgers University
May 2023

Mathematical Sciences Scholarship Award

Rutgers University
May 2022

Technical Skills

Languages: MATLAB, Python, C, C++, Fortran

Frameworks: NumPy, SciPy, BLAS, LAPACK

Tools: Linux, Git, Bash, LaTeX