





Nathan Burns


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 <http://nathan-p-burns.github.io/>

Education



- 2021 – Present  **Ph.D. Mathematics**
University of Tennessee
Advisor: Theodora Bourni
- 2016 – 2020  **M.Math. Mathematics:** First Class with Honours
University of Edinburgh
Thesis title: *Artin-Schelter Regular Algebras*
Advisor: Sue Sierra

Research

Publications

- 1 T. Bourni, N. Burns, and S. Catron, “Classification of convex ancient solutions to free boundary curve shortening flow in convex domains,” *The Journal of Geometric Analysis*, vol. 35, no. 7, p. 210, Jun. 2025, ISSN: 1559-002X.  DOI: 10.1007/s12220-025-02036-x.



Academic Activity

- Spr. 2025  **Academic Visitor:** Mar. 2 2025 - Mar. 8 2025
Australian National University
- Fall 2024  **Program Associate:** Oct. 21 2024 - Nov. 22 2024
SLMath (Formerly the MSRI)
New Frontiers in Curvature: Flows, General Relativity, Minimal Submanifolds, and Symmetry.

Talks

- May 2025  **Rutgers Gauge Theory, Low-Dimensional Topology, and Geometric Analysis**
Rutgers University
- Mar. 2025  **Geometric Analysis Seminar**
Australian National University
- Feb. 2025  **MATRIX - MFO Tandem Workshop: Nonlinear Geometric Diffusion Equations**
MATRIX Institute (Creswick, Australia)
- Nov. 2024  **Graduate Student Seminar**
SLMath (Formerly the MSRI)
- Mar. 2024  **Geometric Flows and Relativity Workshop**
Punta Del Este (Uruguay)

Conference Attendance

- Jun. 2025  **Topics in Differential Geometry**
Brown University
- May 2025  **Rutgers Gauge Theory, Low-Dimensional Topology, and Geometric Analysis**
Rutgers University

Conference Attendance (continued)

Feb. 2025	■ MATRIX - MFO Tandem Workshop: Nonlinear Geometric Diffusion Equations MATRIX Insistute (Creswick, Australia)
	■ The 30th Southern California Geometric Analysis Seminar University of California, Irvine
Nov. 2024	■ Geometry and Analysis of Special Structures on Manifolds SLMath (Formerly the MSRI)
Oct. 2024	■ Recent Progress on Geometric Analysis and Riemannian Geometry SLMath (Formerly the MSRI)
Jul. 2024	■ Bridging PDE and Geometric Flows Cardiff University
Apr. 2024	■ Kansas Geometric Analysis Conference Wichita State University
Mar. 2024	■ Geometric Flows and Relativity Workshop Punta Del Este (Uruguay)
	■ Geometric Flows and Relativity Summer School Universidad de La República

Teaching

Grad. School	■ Instructor of Record Math 152 - Calculus for the Life Sciences (2 Sections) Math 113 - Mathematical Reasoning (3 Sections)
	■ Teaching Assistant Math 241 - Calculus III (1 Section) Math 231 - Differential Equations I (1 Section) Math 125 - Basic Calculus (1 Section) Math 119 - College Algebra (1 Section)

Fellowships/Awards

Sum. 2025	■ Summer Departmental Research Fellowship
Spr. 2025	■ Spike Tickle STEM Endowed Fellowship
Spr. 2024	■ Graduate Student Fellowship: Passing Oral Exam Early
	■ Graduate Student Academic Achievement Award
Spr. 2023	■ Graduate Student Fellowship: Passing Preliminary Exams Early
Fall 2021	■ F.M Dryzer Memorial Fellowship
Grad. School	■ Graduate School Fellowship: Previous Outstanding Record