

# Dominic Wynter

---

Department of Mathematics, University of Texas at Austin  
2515 Speedway, PMA 9.138, Austin, TX 78712  
dominic.wynter@austin.utexas.edu | +1 (737) 298-1744  
US/UK citizen

## APPOINTMENTS

**Dec 2025-Aug 2027 — University of Texas at Austin, R.H. Bing Instructorship**  
**Aug 2025-Dec 2025 — Simons Laufer Mathematical Sciences Institute, Postdoctoral Fellow**  
**Oct 2024-Aug 2025 — University of Texas at Austin, R.H. Bing Instructorship**

## EDUCATION

**2019-2024 — University of Cambridge, PhD in Pure Mathematics**

Thesis title: *Shock Phenomena for the One-Dimensional Boltzmann Equation and Related Kinetic Problems*, available at: <https://www.repository.cam.ac.uk/handle/1810/373767>  
Supervised by Clément Mouhot

**2018-2019 — University of Cambridge, MAST in Pure Mathematics**

Pass with distinction, specializing in geometry, PDEs, and probability, essay on mean field limits of point vortex systems

**2015-2018 — New York University, B.A. in Mathematics with Honors**

Magna cum Laude, GPA 3.87/4.0, thesis on the Plateau Problem, supervised by Antonio de Rosa

## RESEARCH INTERESTS

Partial Differential Equations, Kinetic Theory, Mean Field Limits, Mathematical Physics

## PUBLICATIONS AND PREPRINTS

- M. Gualdani, N. Pavlović, J. Toyota, D. Wynter, From the quantum Boltzmann operator to the quantum Landau operator, Preprint available at: <https://arxiv.org/abs/2511.19823>
- D. Wynter, Shock Profiles for the Non-Cutoff Boltzmann Equation with Hard Potentials, Preprint available at: <https://arxiv.org/abs/2411.00971>
- D. Wynter, Global Well-Posedness and Large Data Estimates for the 1D Boltzmann Equation, Preprint available at: <https://arxiv.org/abs/2305.07626>
- D. Wynter, Quantitative Propagation of Chaos for the Mixed-sign Viscous Vortex Model on the Torus, *Kinetic and Related Models* 16 (2023), no. 2. Journal link: <https://www.aims sciences.org/article/doi/10.3934/krm.2022030>

## INVITED AND CONTRIBUTED TALKS

- 8 November, 2025 — Prairie Analysis Seminar, Kansas State University
- 26 September, 2025 — Kinetic Theory: Novel Statistical, Stochastic and Analytical Methods, SLMath
- 14-18 April 2025 — Integro-differential equations in many-particle interacting systems, AIM Pasadena, California
- 30 March 2025 — Workshop on Kinetic Theory and Fluids, UW Madison
- 17 December 2024 — The 14th AIMS Conference, NYU Abu Dhabi
- 18 September, 2024 — Analysis Seminar, UT Austin
- 1 April 2024 — PDE and Geometric Analysis Seminar, UW Madison

- 12 December 2023 — KineticNet December Workshop, University of Warwick
- 14 November 2023 — Analysis and PDE Seminar, Durham University
- 27 February 2023 — MAFRAN Days 2023, University of Cambridge
- 30 November 2022 — Student PDE seminar, University of Cambridge
- 15 December 2021 — MAFRAN Days 2021, Université Paris Dauphine
- 30 November 2021 — Student PDE seminar, University of Cambridge
- 11 November 2021 — Student PDE seminar, University of Cambridge
- 24 November, 2020 — Mathematical Foundations of Optimization in Data Science, Newton Institute, Cambridge UK

## **AWARDS AND SCHOLARSHIPS**

- 2025 — 5-month postdoctoral fellowship at SLMath
- 2024 — R.H. Bing Instructorship: 3-year postdoctoral fellowship at the Department of Mathematics at UT Austin
- 2019 — EPSRC Grant: 4-year PhD grant from the Cantab Capital Institute for Mathematics of Information (CCIMI)
- 2018 – 3 month internship at IST Austria working with Jan Maas on optimal transport
- 2018 — Hollis Cooley Memorial Award at NYU

## **TEACHING EXPERIENCE**

### **University of Texas at Austin**

- Spring 2026 — Instructor for PDE II - Topics in Kinetic Theory (M393C)
- Spring 2025 — Instructor for Linear Algebra for Math Majors (M341)

### **University of Cambridge**

- Lent Term 2022 — Supervisor for Analysis of Functions, 3rd year undergraduate course (Part II)
- Michaelmas Term 2021 — Supervisor for Analysis and Topology, 2nd year undergraduate course (Part IB)
- Lent Term 2020 — Supervisor for Topics in Analysis, 3rd year undergraduate course (Part II)

## **PROGRAMMING EXPERIENCE**

- Ranked 12<sup>th</sup> place in the regional section of the International Intercollegiate Programming Competition, 2016
- Proficient in C, C++, Python