

SUVIR RATHORE

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DoB: 07/05/2002

Research Interests: Arithmetic Geometry and Algebraic Number Theory

Education

University of Cambridge, DPMMS

PhD - Supervised by Dr Rong Zhou 2024 – Present

King's College, Cambridge

Part III – Distinction, Essay on “The Local Langlands Correspondence for GL_n ” 2023 – 2024

BA, Mathematics - First Class in all three parts, ranked in top ten (out of 235) 2020 – 2023

- Four Undergraduate Scholarships (King's College) £1400

- Undergraduate Essay on “Three-dimensional Geometry and Knots”

Supervised by Dr Gareth Wilkes, DPMMS (2023)

- Undergraduate Essay on “Belyi Correspondence: Graph Theory and Riemann Surfaces” with Ferris Travel Grant £500

Supervised by Professor Rajesh Gopakumar, ICTS (2023)

Talks and Seminars

Young Researchers in Algebraic Number Theory (Bristol) Talk on “Phenomenon of l -independence” (2026)

Cambridge Number Theory Study Group Talk on “Symmetric Monoidal Infinity Categories” (2026)

Oxford Junior Number Theory Seminar Talk on “Phenomenon of l -independence” (2026)

Conference (Funded) at CIRM, Marseille, attendance on “Geometric Representation Theory around the Langlands Program” (2026)

Cambridge Number Theory Study Group Talk on “Unlikely Intersections on Shimura Varieties” (2025)

Cambridge Junior Geometry Theory Seminar Talk on “The Langlands Program, Motives, and l -independence” (2025)

Cambridge Number Theory Study Group Talk on “Stack of Local Langlands Parameters” (2025)

Preprint Seminar Cambridge Talk on “Spin 7 is Unacceptable” (2025)

Cambridge Number Theory Study Group Talk on “The Classical Chabauty method” (2024)

Student Talks (Cambridge) on “The p-adic Numbers” (2023), “Compactness in Graph Theory and the Back-and-Forth Method” (2022), “The Moduli Space of Metrics on a Torus” (2022)

Teaching

Part III Number Theory Preparatory Workshop for Incoming Students (2026)

Undergraduate Supervisions for Part IB Linear Algebra (Sidney Sussex College, 2024-26), Part II Number Fields (2025-26), Part III Commutative Algebra (2025-26)

Organised Study Group for “Unlikely Intersections on Shimura Varieties” for Number Theory Group giving the Introductory Talk (Michaelmas 2025-26)

Co-organised Study Group on “Foundations of Algebraic Geometry” (2024-25)

Private Tutoring for STEP Examinations and Interview Practice (2022-26)

Volunteering and Service

King’s Outreach for Open Days, Access for Students from Underrepresented Backgrounds (2020-2026), Organised and Led an Interactive Academic Activity for “Calculating Women Residential Program” (2025)

CMS Volunteer for Open Days and Interview Practice Sessions (2022-26)

Interview Training to Conduct Undergraduate Admissions Interviews at King’s College, Reserve (2025-26)

Competitions, Skills and Interests

Languages; English (Native), Hindi (Fluent), Punjabi and German (GCSE Level)

Coding in Python (NumPy, PyTorch, Git, CI) via Machine Learning Specialisation (Stanford Online, 2026), Tensor Automatic-Differentiation Engines (github.com/SuvirRathore/micrograd-from-scratch, 2026), Character-Level Language Models (github.com/SuvirRathore/makemore-from-scratch, 2026), and **MATLAB**; CATAM Projects (2020-23)

Formalisation in Lean 4 of l-adic Companions and Statement-Level Existence (2026)

UKMT Senior Maths Challenge Perfect Score (2018-19), **British Mathematical Olympiad** Distinction (2018-19), **UKMT Team Maths Challenge** Regional Finalists (2019), **UK British Physics Olympiad** gold (AS, 2019) with Invitational Training at St. John’s College Oxford

Mathematical Gazette Prize Winner for Selected Problems (2019-20)

League of Legends, Wildrift Rank Challenger (S15) Top 0.5% EU (2022-25)

Club Treasurer and Member of King’s College Cricket Team, **Co-organiser** of King’s College Boardgames Society, **Member** of King’s College Rowing Boat, **Volunteer** of Cambridge University Caving Club