Lawrence Hollom

Institute of Mathematics, EPFL SB MATH, 1015 Lausanne, Switzerland
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Current Position

Postdoctoral Researcher — *February 2026 – Present*
Supervisor: Marius Tiba — *EPFL*

Research Interests

- Extremal and probabilistic combinatorics
- High-dimensional geometry
- Random graphs and percolation
- Infinitary combinatorics
- Littlewood–Offord theory

Education

PhD in Pure Mathematics — *September 2022 – January 2026*
Supervisor: Béla Bollobás — *University of Cambridge*

Part III of the Mathematical Tripos — *September 2019 – July 2020*
Master's degree — *University of Cambridge*

Bachelor's degree in Mathematics — *September 2016 – July 2019*
First class, ranked 2nd in year — *University of Cambridge*

Awards

Smith–Knight and Raleigh–Knight First Prize — *University of Cambridge, 2024*

Previous roles

Jane Street Capital — *September 2020 – January 2022*
Quantitative Trader — *London, UK*

Publications and preprints

Uniformly balanced H-factors in multicoloured complete graphs — *2026*
arXiv preprint
with A. Banerjee

Counterexamples to conjectures on strong maximality and minimality — *2025*
arXiv preprint
with B. Randall Shaw

Reverse Littlewood–Offord problems with parity conditions — *2025*
arXiv preprint
with G. B. Sorkin

Connecting hypercube 1-factors — *2025*
arXiv preprint
with B. Randall Shaw

Approximate Itai-Zehavi conjecture for random graphs *2025*
arXiv preprint
with L. Lichev, A. Mond, J. Portier, and Y. Wang

Finding a long cycle in a percolated vertex expander *2025*
arXiv preprint

Monotonicity and decompositions of random regular graphs *2025*
arXiv preprint
with L. Lichev, A. Mond, J. Portier, and Y. Wang

Double-jump phase transition for the reverse Littlewood–Offord problem *2025*
arXiv preprint
with J. Portier and V. Souza

The Aharoni–Korman conjecture is false *2025*
arXiv preprint (Israel Journal of Mathematics, accepted)

A note on high-dimensional discrepancy of subtrees *2024*
arXiv preprint (Discrete & Computational Geometry, accepted)
with L. Lichev, A. Mond, and J. Portier

Discrepancies of spanning trees in dense graphs *2024*
arXiv preprint
with L. Lichev, A. Mond, and J. Portier

A uniform bound on almost colour-balanced perfect matchings in colour-balanced complete graphs *2025*
Electronic Journal of Combinatorics

Almost colour-balanced spanning forests in complete graphs *2024*
arXiv preprint
with A. Mond and J. Portier

The bunkbed conjecture is not robust to generalisation *2025*
European Journal of Combinatorics

On graphs with maximum difference between game chromatic number and chromatic number *2025*
Discrete Mathematics

On monotonicity in Maker-Breaker graph colouring games *2024*
Discrete Applied Mathematics

Tight lower bounds for anti-concentration of Rademacher sums and Tomaszewski's counterpart problem *2025*
Random Structures & Algorithms
with J. Portier

A note on interval colourings of graphs *2024*
European Journal of Combinatorics
with M. Axenovich, A. Girão, J. Portier, E. Powierski, M. Savery, Y. Tamitegama, and L. Versteegen

A new proof of the bunkbed conjecture in the $p \uparrow 1$ limit *2024*
Discrete Mathematics

Invited Talks

2024 May	*Combinatorics Seminar*, University of Cambridge
2025 January	*Combinatorics Seminar*, University College London
2025 February	*Discrete Mathematics Seminar*, London School of Economics

Teaching

Supervisions	Part II Logic and Set Theory, Lent term	*University of Cambridge, 2025*
Supervisions	Part IA Numbers and Sets, Michaelmas term	*University of Cambridge, 2024*
Supervisions	Part II Logic and Set Theory, Lent term	*University of Cambridge, 2024*
Supervisions	Part IA Numbers and Sets, Michaelmas term	*University of Cambridge, 2023*
Supervisions	Part IB Analysis and Topology, Michaelmas term	*University of Cambridge, 2022*

Technical skills

Programming Languages/Tools	Rust, Lean, OCaml, Java, Python, C#, LaTeX
Languages	English (native), French (intermediate)