

Kyriakos Katsamaktsis

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Research Interests

Extremal and Probabilistic Combinatorics, Graph Theory.

Education

University College London

PhD in Mathematics

2021–2025

Supervisor: Dr Shoham Letzter

Topics in Extremal and Probabilistic Combinatorics.

University of Oxford

MSc in Mathematics and Foundations of Computer Science, Distinction (81%)

2019–2020

Thesis: *The d -regular r -in- k -SAT Problem* (79%), supervised by Dr Andreas Galanis.

The University of Edinburgh

MMath (Honours), First Class Honours (81%)

2014–2019

4th Year Thesis: *L'Hospital's Theorems and Euler's Notions of Orders of Infinity in Isabelle/HOL* (90%), supervised by Professor Jacques Fleuriot.

5th Year Dissertation: *Solutions to the Yang-Baxter and the Reflection Equations with the Theory of Braces* (99%), supervised by Professor Agata Smoktunowicz.

Awards

Mayer de Rothschild Scholarship

University College London

2025

For outstanding work in graduate studies.

UCL EPSRC DTP Research Studentship

University College London

2021–2025

Trinity Studentship in Mathematics (declined)

Trinity College, University of Cambridge

2021

William and Isabella Dick Prize

The University of Edinburgh

2019

For best 5th year dissertation in Mathematics

William and Isabella Dick Prize

The University of Edinburgh

2018

For best 4th year thesis in Mathematics

Publications

- [1] F. Di Braccio, K. Katsamaktsis and A. Malekshahian, *Leaf-to-leaf paths of many lengths*, arXiv:2501.18540 (2025).

- [2] K. Katsamaktis and S. Letzter, *Building graphs with high minimum degree on a budget*, arXiv:2401.15812 (2024), **European Journal of Combinatorics**, to appear.
- [3] K. Katsamaktis, S. Letzter and A. Sgueglia, *Rainbow subgraphs of uniformly coloured randomly perturbed graphs*, arXiv:2310.18284.
- [4] K. Katsamaktis, S. Letzter, A. Pokrovskiy, and B. Sudakov, *Ascending subgraph decomposition*, arXiv:2308.11613 (2023), **Journal of Combinatorial Theory, Series B**, to appear.
- [5] K. Katsamaktis, *New Solutions to the Reflection Equation with Braces*, arXiv:1905.12711 (2019).
- [6] K. Katsamaktis, S. Letzter and A. Sgueglia, *Rainbow Hamiltonicity in uniformly coloured perturbed digraphs*, **Combinatorics, Probability and Computing** 33 (2024), 624–642.

Talks

30th British Combinatorial Conference <i>Queen Mary University of London, UK</i>	2024
Combinatorics Study Group <i>Queen Mary University of London, UK</i>	2024
Combinatorics Seminar <i>University of Warwick, Coventry, UK</i>	2023
21st International Conference on Random Structures & Algorithms <i>Carnegie Mellon University, Pittsburgh, PA, USA</i>	2023
27th Postgraduate Combinatorial Conference <i>University of Birmingham, UK</i>	2023
European Conference on Combinatorics, Graph Theory and Applications <i>Charles University Prague, Czechia</i>	2023
Constructive and Probabilistic Methods in Combinatorics <i>University of Zagreb, Croatia</i>	2023
PhD Seminar on Combinatorics, Games and Optimization <i>London School of Economics, UK</i>	2023
Combinatorics Seminar <i>University College London, UK</i>	2023

Tutorials

University College London <i>Intermediate Mathematics for Computer Science</i>	2023–2024
University College London <i>Probabilistic Methods in Combinatorics</i>	2022–2023
The University of Edinburgh <i>Algorithms and Data Structures (Honours)</i>	2018–2019
The University of Edinburgh <i>Algorithms, Data Structures and Learning</i>	2016–2019

The University of Edinburgh <i>Processing Formal and Natural Languages</i>	2016–2019
The University of Edinburgh <i>Discrete Mathematics and Mathematical Reasoning</i>	2017–2019

Other Experience

28th Postgraduate Combinatorial Conference <i>Organiser</i>	2024
Actelligent Capital <i>Data Scientist</i> Full time 2020–2021, part-time 2021–today.	2020–today
The University of Edinburgh <i>Research intern in interactive theorem proving</i> Mentor: Professor Jacques Fleuriot	2019
National University of Singapore <i>Research intern in quantum algorithms</i> Mentors: Dr Miklos Santha and Dr Ansis Rosmanis	2018
The University of Edinburgh <i>Research intern in spectral graph theory</i> Mentor: Dr Mary Cryan	2017
The University of Edinburgh <i>Research intern in computer architecture</i> Mentors: Professor Vijaynand Nagarajan and Dr Marco Elver	2016
The University of Edinburgh <i>MATHPals Leader</i> Homework support for first year Mathematics students.	2015–2016

Skills

Programming languages and frameworks: Python (good working knowledge), AWS (elementary working knowledge), Isabelle/HOL (thesis), Java, Haskell, C, \LaTeX .

Languages: Greek (native), English (fluent), French (elementary), German (elementary).

Scuba Diving: Certified PADI Open Water Diver