# Alexey Pokrovskiy | C.V.

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#### **Education**

London School of Economics	London
PhD in mathematics	2009–2013
Supervisors: Prof Jan van den Heuvel and Prof Jozef Skokan	
Thesis title: "Graph partitions, powers and other extremal problems"	
University of Cambridge	Cambridge
MMath, with distinction	2008–2009
University of Cambridge	Cambridge
BA in mathematics, first class honours	2005–2008

### **Employment**

Birkbeck, University of London Lecturer	<b>London</b> 2018–present
ETH Zürich  Postdoctoral researcher  Adviser: Prof Benjamin Sudakov	<b>Z</b> ürich 2015–2018
Free University of Berlin Postdoctoral researcher Adviser: Prof Tibor Szabó	<b>Berlin</b> 2013–2015

#### **Prizes**

#### 2019 European Combinatorics Prize

Awarded jointly with Richard Montgomery

#### **Invited conference talks**

Workshop on Probabilistic and Extremal Combinatorics	Harvard
"Latin Squares and Rainbow Subgraphs"	07/02/2018
British Mathematical Colloquium "Ramsey goodness of paths"	<b>Bristol</b> 22/03/2016
2015 London Colloquia in Combinatorics "Connectedness in tournaments"	<b>London</b> 14/05/2015
Annual Berlin-Poznań Seminar "Calculating Ramsey numbers by partitioning coloured graphs"	<b>Hamburg</b> 23/05/2014

# **Accepted papers**

M. Bucić, M. Kwan, A. Pokrovskiy, B. Sudakov, T. Tran, A. W "Nearly-linear monotone paths in edge-ordered graphs"	agner Israel. J. Math.  Accepted
M. Bucić, M. Kwan, A. Pokrovskiy, B. Sudakov  "Halfway to Rota's basis conjecture"	Int. Math. Res. Notices Accepted
R. Montgomery, A. Pokrovskiy, B. Sudakov  "Embedding rainbow trees with applications to graph labelling and decomposition"	J. Europ. Math. Soc.  Accepted
F. Benzing, A. Pokrovskiy, B. Sudakov  "Long directed rainbow cycles and rainbow spanning trees"	Europ. J. Combin.  Accepted
J. Corsten, A. Mond, A. Pokrovskiy, C. Spiegel, T. Szabó  "On the Odd Cycle Game and Connected Rules"	Europ. J. Combin.  Accepted
M. Bucić, E. Jahn, A. Pokrovskiy, B. Sudakov "2-factors with $k$ cycles in Hamiltonian graphs"	J. Comb. Theory Ser. B.  Accepted
Published papers	
2019	
R. Montgomery, A. Pokrovskiy, B. Sudakov  "Decompositions into spanning rainbow structures"	<b>Proc. Lond. Math. Soc.</b> 119 (2019) 899–959
A. Pokrovskiy, B. Sudakov  "A counterexample to Stein's Equi-n-square Conjecture"	<b>Proc. Amer. Math. Soc.</b> <i>147 (2019), 2281–2287</i>
R. Javadi, F. Khoeini, G. R. Omidi, A. Pokrovskiy  "On the size-Ramsey number of cycles"	<b>Combin. Probab. Comput.</b> <i>28 (2019) 871–880</i>
A. Abu-Khazneh, J. Barát, A. Pokrovskiy, T. Szabó  "A family of extremal hypergraphs for Ryser's conjecture"	J. Combin. Theory Ser. B 161 (2019) 164–177
2018	
<b>A. Pokrovskiy</b> "An approximate version of a conjecture of Aharoni and Berger"	<b>Advances in Mathematics</b> 333 (2018) 1197–1241
A. Pokrovskiy, B. Sudakov  "Linearly many rainbow trees in properly edge-coloured complete graphs"	J. Combin. Theory. Ser. B 132, (2018) 134–156
I. Balla, A. Pokrovskiy, B. Sudakov  "Ramsey goodness of bounded degree trees"	<b>Combin. Probab. Comput.</b> 27 (2018) 289–309
2017	
N. Alon, A. Pokrovskiy, B. Sudakov  * "Random subgraphs of properly edge-coloured complete graphs and long rainbow cycles"	Israel J. Math. 222, (2017) 317–331.
A. Pokrovskiy	Int. Math. Res. Notices
"Edge disjoint Hamiltonian cycles in highly connected tournaments"	
A. Pokrovskiy  "Rainbow matchings and rainbow connectedness"	<b>Electron. J. Combin.</b> <i>24 (2017)</i>
L. Narins, A. Pokrovskiy, T. Szabó	Combinatorica
"Graphs without proper subgraphs of minimum degree 3 and short	

I. Balla, A. Pokrovskiy, B. Sudakov  "A remark on Hamilton cycles with few colors"	Mosc. J. Comb. Number Theory. 7 (2017) 73–77.
D. Hefetz, C. Kusch, L. Narins, A. Pokrovskiy, - C. Requilé, A. Sarid	J. Combin. Theory Ser. A
"Strong Ramsey Games: Drawing on an infinite board"	150 (2017), 248–266
<b>A. Pokrovskiy</b> * "Calculating Ramsey numbers by partitioning coloured graphs"	J. Graph Theory 84 (2017) 477–500
A. Abu-Khazneh, A. Pokrovskiy J. C "Intersecting extremal constructions in Ryser's Conjecture for $r$ -partite hypergraphs"	ombin. Math. Combin. Comput. 103 (2017) 81–104
D. Clemens, J. Ehrenmüller, A. Pokrovskiy  "On sets not belonging to algebras and rainbow matchings in	<b>J. Combin. Theory Ser. B</b> graphs" 122 (2017) 109–120
A. Pokrovskiy, B. Sudakov  "Ramsey goodness of paths"	J. Combin. Theory Ser. B 122 (2017) 384-390
2015	
Y. Kim, M. Kumbhat, Z. Nagy, B. Patkós, A. Pokrovskiy, "Identifying codes and searching with balls in graphs"	M. Vizer Discrete Appl. Math. 193 (2015) 39–47
A. Pokrovskiy  "Highly linked tournaments"	J. Combin. Theory Ser. B 115 (2015) 339-347
A. Pokrovskiy  "A linear bound on the Manickam-Miklós-Singhi Conjecture"	J. Combin. Theory Ser. A 133 (2015) 280-306
2014	
D. Gerbner, V. Mészáros, D. Pálvölgyi, A. Pokrovskiy, G. F "Advantage in the discrete Voronoi game"	Rote J. Graph Algorithms Appl. 18 (2014) 439–457
<b>A. Pokrovskiy</b> "Partitioning edge-coloured complete graphs into monochromaticycles and paths"	<b>J. Combin. Theory Ser. B</b> <i>106 (2014), 70–97</i>
A. Pokrovskiy  "Edge growth in graph powers"	<b>Australas. J. Combin.</b> 58 (2014), 347–357
2011	
A. Pokrovskiy  "Growth of graph powers"	<b>Electron. J. Combin.</b> <i>18 (2011)</i>
2008	
A. Amann, S. Osborne, S. O'Brien, A. Pokrovskiy  "Complex networks based on discrete-mode lasers"	J. Phys.: Conf. Ser. 138 (2008), 3283-3294

## **Submitted papers**

+	R. Montgomery, A. Pokrovskiy. B. Sudakov "A proof of Ringel's Conjecture"	arXiv:2001.02665
+	J. Balogh, G. Kronenberg, A. Pokrovskiy, T. Szabó "The maximum length of $K_r$ -Bootstrap Percolation"	arXiv:1907.04559
+	S. Bustamante, J. Corsten, N. Frankl, A. Pokrovskiy, J. Skokan "Partitioning edge-coloured hypergraphs into few monochromatic tight cycles"	arXiv:1903.04471
+	D. Korándi, R. Lang, S. Letzter, A. Pokrovskiy "Minimum degree conditions for monochromatic cycle partitioning"	arXiv:1902.05882
+	A. Pokrovskiy, B. Sudakov  "Ramsey goodness of cycles"	arXiv:1807.02313
+	A. Pokrovskiy "Partitioning a graph into a cycle and a sparse graph"	arXiv:1607.03348

### **Teaching experience**

**Probabilistic Methods** Birkbeck Lecturer 2020-2020 **Proof and Structure in Mathematics Birkbeck** 2019-2020 Lecturer **Number Theory and Geometry Birkbeck** 2018-2019 Lecturer **Graph Theory** ETH, Zürich Class teacher 2018-2018 Algebra I ETH, Zürich Class teacher 2017-2017 Analysis III ETH. Zürich Organizer 2016-2017 ETH, Zürich **Topology** Class teacher 2016-2016 **Complex Function Theory** ETH, Zürich Class teacher 2015-2016 **Discrete Mathematics III** Free University, Berlin Seminar organizer 2013-2015 **Discrete Mathematics** LSE, London Class teacher 2011-2013 Mathematical Methods LSE, London Class teacher 2009-2011