Personal Data

Name:	Marcin Kotowski
Date of Birth:	18 December 1987
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Employment history

2022 – 2023	postdoctoral researcher, Centre for Theoretical Physics PAS, Warsaw
	worked in Michał Oszmaniec's group on theoretical aspects of quantum computing and quantum software development
2020 – 2022	quantitative researcher in algorithmic trading, Tradelink LLC, Warsaw
2019 – 2020	assistant professor (part-time), Faculty of Mathematics, Informatics and Mechanics, University of Warsaw
2017 – 2019	research assistant, Faculty of Mathematics, Informatics and Mechanics, University of Warsaw
2016 – 2017	postdoctoral researcher, Institute of Mathematics, Polish Academy of Sciences

Research summary

– academic interests: **quantum information theory and quantum computing, probability, stochastic processes**

– internships and long research visits: Centre for Theoretical Physics PAS (Warsaw), Weizmann Institute of Science (Israel), ICFO Institute for Photonic Sciences (Spain), Alfred Renyi Institute for Mathematics (Budapest), Institute Henri Poincare (Paris)

Education

2013 – 2016	PhD program in mathematics, University of Toronto
	advisor: Bálint Virág
	thesis: Random Schroedinger operators with connections to spectral properties of groups and directed polymers
2006 – 2011	M. Sc. in Mathematics at University of Warsaw, cum laude
	Faculty of Mathematics, Informatics and Mechanics
	studied mathematics, physics and computer science in an interdisciplinary program at College Of Inter-Faculty Individual Studies In Mathematics and Natural Sciences
	advisor: Piotr Przytycki
	thesis: Random groups and property (T)

PUBLICATIONS

2023	*Saturation and recurrence of quantum complexity in random quantum circuits* , M. Oszmaniec, M. Horodecki, N. Hunter-Jones, M. Kotowski arxiv:2205.09734, submitted to PRX
2023	*Extremal jumps of circuit complexity of unitary evolutions generated by random Hamiltonians* , M. Kotowski, M. Oszmaniec, M. Horodecki, arxiv:2303.17538, submitted to Quantum
2019	*2D random Schroedinger operators and directed polymers*, M. Kotowski, B. Virág, arxiv:1803.11208, Communications in Mathematical Physics volume 370, pages 873–893(2019)
2016	*Dyson's spike for random Schroedinger operators and Novikov-Shubin invariants of groups*, M. Kotowski, B. Virág, arxiv:1602:06626, Communications in Mathematical Physics, June 2017, Volume 352, Issue 3, pp 905–933
2013	*Random groups and Property (T): Żuk's theorem revisited*, M. Kotowski, M. Kotowski, arXiv:1106.2242, Journal of the London Mathematical Society; doi: 10.1112/jlms/jdt024 (2013)
2012	*Tight Bell inequalities with no quantum violation from qubit unextendible product bases*, Remigiusz Augusiak, Tobias Fritz, Marcin Kotowski, Michał Kotowski, Marcin Pawłowski, Maciej Lewenstein, Antonio Acín, arXiv:1112.3238, Phys. Rev. A 85, 042113
2010	*Universal nonlinear entanglement witnesses*, M. Kotowski, M. Kotowski, M. Kuś, arXiv:1003.0210, Phys. Rev. A 81, 062318

SELECTED TALKS

September 2023	*Extremal jumps of circuit complexity of unitary evolutions generated by random Hamiltonians*, Yukawa Institute for Theoretical Physics, Kyoto
May 2023	*Extremal jumps of circuit complexity of unitary evolutions generated by random Hamiltonians*, Freie Universitat, Berlin
December 2018	*2D random Schroedinger operators and directed polymers*, Institute Henri Poincare, Paris
January 2016	*Dyson's spike for random Schroedinger operators*, CIRM, Luminy
November 2014	*Random Schroedinger operators with applications to Novikov-Shubin invariants*, Montreal

SELECTED AWARDS

2018	FNP Start award for outstanding young scientists under 30
2013-2016	Connaught International Scholarship for Doctoral Students, University of Toronto
2011	2nd prize, Polish Mathematical Society Józef Marcinkiewicz Memorial Prize for Best Student Paper in Mathematics

SKILLS

– languages: Polish (native), English (fluent)

– programming: Python data science and machine learning stack (Numpy, Pandas, scikit, PyTorch etc.), Mathematica