

# PELEG MICHAELI

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## CONTACT INFORMATION

Department of Mathematical Sciences  
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## ACADEMIC POSITIONS

**Carnegie Mellon University**, Pittsburgh PA, USA (2021–present)  
Postdoctoral Associate

## EDUCATION

**Tel Aviv University**, Israel (2021) PhD, Pure Mathematics

- Title of thesis: *Random Graphs, Spanning Trees and Related Topics*
- Supervisors: Prof. Michael Krivelevich and Prof. Asaf Nachmias

**Tel Aviv University**, Israel (2016) MSc, Pure Mathematics, *magna cum laude*

- Title of thesis: *The Trace of Random Walks on Random Graphs*
- Supervisor: Prof. Michael Krivelevich

**Tel Aviv University**, Israel (2011) BSc, Pure Mathematics, *magna cum laude*

- Three semesters were studied at **The Open University of Israel**

## PROFESSIONAL EXPERIENCE

**Palgo Alpha Technology LTD** (2011–2014) Financial Mathematician

- Modelling and predicting financial markets
- Developing trading algorithms

## PUBLICATIONS

- [1] Alan Frieze, Michael Krivelevich, Peleg Michaeli and Ron Peled, *On the trace of random walks on random graphs*, Proceedings of the London Mathematical Society (3) **116** (2018), no. 4, 847–877. Zbl [1386.05181](#), MR[3789834](#)
- [2] Michael Krivelevich and Peleg Michaeli, *Small subgraphs in the trace of a random walk*, Electronic Journal of Combinatorics **24** (2017), no. 1, Paper 1.28, 22. Zbl [1355.05232](#), MR[3625905](#)
- [3] Michael Krivelevich, Tamás Mészáros, Peleg Michaeli and Clara Shikhelman, *Greedy maximal independent sets via local limits*, 31th International Conference on Probabilistic, Combinatorial and Asymptotic Methods for the Analysis of Algorithms (AofA 2020), pp. 20:1–20:19. MR[4116413](#)
- [4] Michael Anastos, Peleg Michaeli and Samantha Petti, *Thresholds in Random Motif Graphs*, Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques (APPROX/RANDOM 2019), 2019, pp. 66:1–66:19. MR[4012716](#)
- [5] Peleg Michaeli, Asaf Nachmias and Matan Shalev, *The diameter of uniform spanning trees in high dimensions*, Probability Theory and Related Fields **179** (2021), no. 1-2, 261–294. Zbl [1460.05057](#), MR[4221658](#)
- [6] Lior Gishboliner, Michael Krivelevich and Peleg Michaeli, *Color-biased Hamilton cycles in random graphs*, Random Structures & Algorithms **60** (2022), no. 3, 289–307. MR[4388697](#)

- [7] Yahav Alon, Michael Krivelevich and Peleg Michaeli, *Spanning trees at the connectivity threshold*, arXiv e-prints (October 2020). To appear in “SIAM Journal on Discrete Mathematics”. [arXiv:2007.15519](https://arxiv.org/abs/2007.15519)
- [8] Lior Gishboliner, Michael Krivelevich and Peleg Michaeli, *Discrepancies of spanning trees and Hamilton cycles*, Journal of Combinatorial Theory. Series B **154** (2022), 262–291. Zbl [1483.05088](https://zbmath.org/journals/jctb/154/262.html), MR[4374842](https://mathscinet.org/mr/4374842)
- [9] Lior Gishboliner, Michael Krivelevich and Peleg Michaeli, *Oriented discrepancy of Hamilton cycles*, arXiv e-prints (March 2022). [arXiv:2203.07148](https://arxiv.org/abs/2203.07148)
- [10] Alan Frieze, Michael Krivelevich and Peleg Michaeli, *Fast construction on a restricted budget*, arXiv e-prints (July 2022). [arXiv:2207.07251](https://arxiv.org/abs/2207.07251)

#### AWARDS

**Rector’s List for excellence in teaching** (twice) Tel Aviv University  
**School of mathematics award for excellence** (2016) Tel Aviv University  
**Eljoseph Award for excellence in teaching** (2011) Tel Aviv University  
**School of mathematics award for excellence** (2010) Tel Aviv University  
**President Award** (2008) The Open University of Israel  
**Dean’s List, Faculty of Exact Sciences** (2007) Tel Aviv University

#### TALKS

**August 2022** *Oriented discrepancy of Hamilton cycles*, The 20th International Conference on Random Structures and Algorithms (RSA 2021-22), Instytut Kultury Europejskiej, Gniezno, Poland

**June 2022** *Oriented discrepancy of Hamilton cycles*, SIAM Conference on Discrete Mathematics (DM22), Carnegie Mellon University, Pittsburgh PA, USA

**March 2022** *Greedy maximal independent sets via local limit*, Combinatorics, Physics and Probability Seminar, Center of Mathematical Sciences and Applications, Harvard University, Cambridge MA, USA

**December 2021** *Greedy maximal independent sets via local limits*, UBC Probability Seminar, University of British Columbia, Vancouver, Canada

**November 2021** *Greedy maximal independent sets via local limits*, ACO Seminar, Carnegie Mellon University, Pittsburgh PA, USA

**November 2021** *Discrepancies of spanning trees*, PhD Seminar on Combinatorics, Games and Optimisation, London School of Economics, UK

**September 2021** *Discrepancies of spanning trees*, ALADDIN lunch, Carnegie Mellon University, Pittsburgh PA, USA

**July 2021** *Discrepancies of spanning trees*, 28th British Combinatorial Conference (BCC 2021), Durham University, UK

**May 2021** *Discrepancies of spanning trees*, Research Seminar in Combinatorics, Tel Aviv University, Israel

**April 2021** *Discrepancies of spanning trees*, Research Seminar in Combinatorics, Freie Universität Berlin, Germany

**September 2020** *Greedy maximal independent sets via local limits*, The 31th International Conference on Probabilistic, Combinatorial and Asymptotic Methods for the Analysis of Algorithms (AofA 2020)

**September 2020** *Greedy maximal independent sets via local limits*, Probabilistic Combinatorics Online 2020, Moscow Institute of Physics and Technology (MIPT), Russia

**May 2020** *Greedy maximal independent sets via local limits*, Warwick Combinatorics Seminar, The University of Warwick, UK

- March 2020** *Greedy maximal independent sets via local limits*, FUB–TAU Workshop on Ramsey Theory, Tel Aviv University, Israel
- December 2019** *Greedy maximal independent sets via local limits*, Bar-Ilan Combinatorics Seminar, Bar-Ilan University, Ramat Gan, Israel
- July 2019** *Greedy maximal independent sets via local limits*, Workshop on Local Algorithms (WOLA 2019), ETH Zürich, Switzerland
- July 2019** *The diameter of uniform spanning trees*, The 19th International Conference on Random Structures and Algorithms (RSA 2019), ETH Zürich, Switzerland
- June 2018** *Symbolic discrete random variables*, Sage Days 94, Universidad de Zaragoza, Spain
- June 2018** *On the trace of random walks on random graphs*, The 40th Conference on Stochastic Processes and their Applications (SPA 2018), Chalmers University, Göteborg, Sweden
- August 2017** *On the trace of random walks on random graphs*, The 18th International Conference on Random Structures and Algorithms (RSA 2017), Instytut Kultury Europejskiej, Gniezno, Poland
- May 2017** *On the trace of random walks on random graphs*, Probability seminar, Technion, Israel
- May 2017** *Small subgraphs in the trace of a random walk*, Students Probability Day VI, Weizmann Institute of Science, Israel
- May 2016** *On the trace of random walks on random graphs*, Research Seminar in Combinatorics, Tel Aviv University, Israel
- February 2016** *The trace of random walks on random graphs*, TAU–FUB Workshop on Positional Games, Freie Universität Berlin, Germany
- May 2015** *The trace of random walks on random graphs*, Students Probability Day V, Weizmann Institute of Science, Israel

#### RESEARCH INTERESTS

- Random trees
- Random graphs
- Random walks on graphs
- Extremal graph theory

#### TEACHING EXPERIENCE

- Lecturer, *Linear Algebra*, 1 semester
- Lecturer, *Combinatorics*, 4 semesters
- Lecturer, *Calculus*, 13 semesters
- Instructor, *Probability*, 1 semester
- Lecturer, *Math Refresher Workshop*, 2 semesters
- Tutor, *Gifted Young Students Program*, 2 years
- Instructor, *Set Theory*, 4 semesters

#### PROFESSIONAL SERVICE

- Referee for *Annales de l'Institut Henri Poincaré*, *European Journal of Combinatorics*, *Random Structures & Algorithms* and *The Electronic Journal of Combinatorics*
- Chairman of the Junior Staff Association at Tel Aviv University

OTHER ACTIVITIES

- August 2018** TAU–FUB Research Workshop on Graph and Hypergraph Coloring, Freie Universität Berlin, Germany
- September 2017** Elegance in Probability, Tel Aviv University, Israel
- July 2017** Spectral properties of large random objects, Institut des Hautes Études Scientifiques, France
- March 2017** FUB–TAU Research Workshop on Graph and Hypergraph Coloring, Tel Aviv University, Israel
- February 2017** Recent trends in the study of expanders and high dimensional expanders, Weizmann Institute of Science, Israel
- November 2016** Sage Days 79, The Hebrew University of Jerusalem, Israel
- August 2016** Hungarian–Israeli combinatorial days, Technion, Israel
- July 2016** High dimensional expanders, inverse theorems and PCPs, Weizmann Institute of Science, Israel
- June 2016** Annual Meeting of the Israel Mathematical Union
- January 2016** Combinatorics: Challenges and Applications, Tel Aviv University, Israel
- August 2015** Mostly Markov Mixing (Summer Workshop), Technion, Israel
- May 2015** Annual Meeting of the Israel Mathematical Union
- March 2015** FUB–TAU Workshop on Positional Games and Extremal Combinatorics, Tel Aviv University, Israel
- January 2015** The 18th Midrasa Mathematicae – In and Around Combinatorics, The Israel Institute for Advanced Studies, The Hebrew University of Jerusalem, Israel