

# Curriculum Vitae

## Gideon Amir

Department of Mathematics and Computer Science,  
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**E-mail:** gidi.amir@gmail.com

**Date of birth:** July 24, 1975  
**Place of birth:** Tel-Aviv, Israel  
**Citizenship:** Israeli

**Research interests:** Probability theory, with an emphasis on problems in discrete probability with a geometric flavor. Including, but not limited to: self interacting random walks, interacting particle systems and exclusion processes, stochastic growth models, probability on groups, percolation and random graphs.

### Education and Academic employment:

**Post Doctorate** Postdoctoral Fellow at the department of mathematics at the Weizmann institute of Science (July 2010- Sep. 2010)

**Post Doctorate** Postdoctoral Fellow at the department of mathematics at the University of Toronto (July 2007 - June 2010)

**Doctorate:** PhD in Probability from the Weizmann Institute of Science, Israel, (June 2007). PhD thesis title "Random walks, random graphs and stochastic growth models". PhD advisor: Prof. Itai Benjamini.

**Masters:** M.Sc. in Mathematics from Tel-Aviv University (2003, summa cum laude). M.Sc. Thesis title "Three topics in invariant subspace theory". M.Sc. Advisor: Prof. Aharon Atzmon.

**Undergraduate studies:** B.Sc. in Mathematics from Tel-Aviv University (1993, summa cum laude).

**Visiting positions:** One month at MSRI and Berkeley University at a special semester on probability. (April 2005).

### Work Experience:

**1994-1999:** IDF Intelligence Corps - Research and Development.

**2000-2001:** RichFx Ltd.- Algorithm development and programming.

**2001-2003:** Majorem Ltd. - Co-Founder and Lead Engine Developer.

### Teaching Experience:

Fall 2005 - Planned and presented a graduate course on Random Walks and Percolation Theory, Weizmann Institute of Science

2007-2008 - Lecturer, Mat 137 - Calculus! (First year calculus for science students), University of Toronto.

2008-2009 - Lecturer, Mat 135 - Calculus for life sciences, University of Toronto.

2009-2010 - Lecturer, Mat 135 - Calculus for life sciences, University of Toronto.

### Publications and Preprints:

1. G. Amir, I. Corwin and J. Quastel:  
*Probability Distribution of the Free Energy of the Continuum Directed Random Polymer in 1+1 dimensions*  
(Accepted for publication in **Communications in Pure and Applied Math (CPAM)**)
  2. G. Amir, I. Benjamini and G. Kozma: *Excited random walk against a wall* (**Probability Theory and Related Fields, Volume 140 1-2, January 2008, p83-102**).
  3. G. Amir, O. Angel and B. Valko: *The TASEP speed process* (**Accepted for publication in the Annals of Probability**)
  4. G. Amir, O. Gurel-Gurevich, E. Lubetzky and A. Singer: *Giant components in biased graph processes* (**To appear in Indiana Journal of Math**).
  5. G. Amir and C. Hoffmann: *A special set of exceptional times for dynamical random walk on  $\mathbb{Z}^2$*  (**Electronic Journal of Probability; Vol. 13 (2008) paper 63, pages 1927-1951**).
  6. G. Amir and O. Gurel-Gurevich: *The diameter of random cayley graphs on  $Z_q$*  (**To Appear in Groups – Complexity – Cryptology**).
  7. G. Amir and O. Gurel Gurevich: *On Fixation of Activated Random Walks*(**Accepted for publication in the Electronic Communications in Probability**)
  8. G. Amir: *One-dimensional long-range diffusion-limited aggregation III - The limit aggregate* (**Submitted**).
  9. G. Amir, O. Angel and B. Virag: *Amenability of linear-activity automaton groups* (**submitted**)
  10. G. Amir, O. Angel, I. Benjamini and G. Kozma: *One-dimensional long-range diffusion-limited aggregation I* (**Submitted**).
  11. G. Amir, O. Angel and G. Kozma: *One-dimensional long-range diffusion-limited aggregation II - the transient case* (**In preparation**).
  12. G. Amir and B. Virag: *A phase transition for automaton groups* (**In preparation**)
  13. G. Amir and E. Lubetzky: *On two biased graph processes* (**Submitted**).
  14. G. Amir, O. Angel and A. Holroyd: *Multi-coloured matchings*(**In preparation**)
  15. G. Amir, I. Benjamini, O. Gurel-Gurevich and G. Kozma: *Random walk in changing environment* (**In preparation**).
- Non - mathematical paper:*
16. G. Amir and R. Axelrod: *Architecture and Techniques for an MMORTS*.  
**In: Massively Multiplayer Game Development 2 (Charles River Media, 2005)**

## Selected Talks:

1. Israeli Mathematical Union annual meeting, Rehovot, June 2010
2. Math Colloquium - University of Oregon, Eugene, February 2010
3. Math Colloquium - Tel-Aviv University, Tel-Aviv, January 2010
4. Horowitz seminar - Tel-Aviv University, Tel-Aviv, January 2010

5. Math Colloquium - Technion, Haifa, December 2009
6. Dynamical systems seminar - Hebrew University, Jerusalem, December 2009
7. Probability seminar - Bar-Ilan University, Ramat-Gan, December 2009,
8. Statistics seminar - Hebrew University, Jerusalem, December 2009,
9. CRM workshop on Interacting Stochastic Particle Systems , Montreal, May 2009
10. Probability seminar - Massachusetts Institute of Technology, Boston, April 2009
11. Workshop on Self-Similarity and Branching in Group Theory, Banff, October 2008.
12. UBC Summer School in Probability, Vancouver , June 2008.
13. Probability seminar - Weizmann Institute, Rehovot, April 2008.
14. Math Physics and Probability seminar - Rochester University, Rochester, March 2008.
15. Probability seminar - University of Toronto, October 2007.
16. Probability seminar - Institut Henri Poincare , Paris , April 2006.
17. RDESE/ESI Workshop on Discrete Probability , Vienna, 2006.
18. YEP workshop on Self Similar Random Structures Hausdorff dimension and branching, Eindhoven , March 2005.
19. IAS Combinatorics seminar, Princeton, March 2005.
20. U.C. Berkeley Probability seminar, March 2004.
21. Horowitz seminar on Probability, Ergodic Theory and Dynamical Systems, Tel-Aviv , January 2004.
22. Technion Seminar in Probability and Stochastic Processes, Haifa , December 2003.

### **Additional Information:**

**Languages:** Hebrew (native), English (fluent).

**Programming Languages:** C, Pascal, some C++.