דורון פודר Doron Puder

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| A PhD student at the Einstein Institute of Mathematics, The Hebrew University in Jerusalem  Adviser: Nati Linial | |  | Phones: | Cellular: | +972-50-7914007 |
|  |  | Home: | +972-77-4407161 |
|  | E-mail: | [doronpuder@gmail.com](mailto:doronpuder@gmail.com) | |
|  | Address for delivering mail: | 51 Shoshanat Ha-Carmel St. Haifa, 34323, Israel | |
| Languages: | Hebrew (mother tongue), English (fluent), French (good), Spanish & Arabic (basic) | | | | |

Publications

* *Word Maps and Spectra of Random Lifts of Graphs*, joint with Nati Linial, Random Structures and Algorithms, 2010(37), 100-135
* *Primitive Words, Free Factors and Measure Preservation*, Israel Journal of Math. To appear. arXiv preprint: 1104.3991

Preprints and Forthcoming Papers

* *Measure Preserving Words are Primitive*, joint with Ori Parzanchevski, submitted for publication. arXiv Preprint: 1202.3269
* *Stalling Graphs, Algebraic Extensions and Primitive Elements in F2*, joint with Ori Parzanchevski, submitted for publication. arXiv Preprint: 1210.6574
* *Expansion of Random Graphs: New Proofs, New Results*, submitted for publication. arXiv Preprint: 1212.5216
* *Growth of Primitives Elements in Free Group*s, joint with Conan Wu, submitted for publication. arXiv Preprint: 1304*.*7979
* *An Extension of the Cogrowth Formula*, preprint

Education

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| 02.2010 – | *Phd Studies, Department of Mathematics,*  *HU, Jerusalem* |
|  | Adviser: Nati Linial   * Research interests: The combinatorial, topological and algebraic aspects of word maps, Graph theory, Combinatorial and Geometric Group Theory * TA-position |
| 2005 – 2007 | *M.Sc., Department of Mathematics and the Center for the Study of Rationality, HU, Jerusalem* |
|  | Adviser: Nati Linial   * Thesis: “Word Maps and Spectra of Random Lifts of Graphs” * Graduated summa cum laude, final grade: 99.60 |
| 2002 – 2005 | *B.Sc., Departments of Mathematics and of Humanities, Hebrew University, Jerusalem* |
|  | * Graduated summa cum laude, final grade: 97.60 * B.Sc. in Mathematics. Final grade: 99. * BA, Amirim program for outstanding students (humanities). Final grade: 94 |

Awards and Scholarships

1. 2011-2014: The Adams Fellowship of the Israel Academy of Sciences and Humanities to outstanding doctoral students in the exact sciences, mathematics and the life sciences
2. Merit scholarship throughout the years of the B.Sc., M.Sc. and PhD
3. 2012: Zochovitzky Prize for excellence in research
4. 2010: Klein Prize for outstanding graduate students in Mathematics and Chemistry
5. 2007: Rector Scholarship for outstanding M.Sc. students
6. 2007: Rudin scholarship for outstanding academic achievements.
7. 2006: Dean Award for outstanding M.Sc. students
8. 2005: Dean Award for outstanding B.Sc. students
9. 2004: Rector Scholarship for outstanding B.Sc. students
10. 2000: Excellence Award at the IDF unit
11. Represented the state of Israel as a member of the official delegation for the International Mathematical Olympiads, and won:
    1. 1998: Bronze medal at the 39th Olympiad, Taipei, Taiwan.
    2. 1997: Bronze medal at the 38th Olympiad, Mar Del-Plata, Argentina.

**Other Noteworthy Activities and Skills**

* **Instructing Elementary School Math Teachers**

Starting in fall 2010, I have been instructing math teachers from elementary schools throughout Jerusalem. It turns out that elementary school math is much deeper than commonly believed. Instructing the teachers seems like an efficient way to help improve the overall level of math education in Jerusalem. Aside for strengthening the mathematical foundations, we also aimed at stimulating enthusiasm and joy of math. This was part of an ongoing project operated by Prof. Raz Kuperman from my department.

* **A Book in the making:**

Algebraic Structures, with Ehud de-Shalit and Alex Lubotzky (undergraduate text, in Hebrew).

This book will cover the material in the second year undergraduate classes on Group Theory, Ring Theory and Galois Theory, and will hopefully serve as a common reference for these classes in the years to come (in the Hebrew University and elsewhere in Israel).

* **Talks at International Conferences and Seminars**
* April 2013, Group Theory Seminar, Rényi Ins. Budapest
* April 2013, Word maps and stability of representations conf., Vienna
* Jan 2013, Graph Theory workshop in Oberwolfach, Germany
* Nov 2012, Ergodic and Geometric Group Theory, EPFL, Lausanne
* Nov 2012, Groups and Geometry Seminar, Geneva U.
* Nov 2012, Conference on Automorphisms of Free Groups, CRM, Barcelona
* Sep 2012, Group Theory International Webinar, Stevens institute, NY
* Aug 2012, Geometric and Asymptotic Group Theory conf., Düsseldorf, Germany
* July 2012, Geometric Group Theory conference, Park City, Utah
* June 2012: Midrasha Mathematica, Words and Growth, Hebrew U
* Jul 2011, Geometric and Asymptotic Group Theory conference, UPC-Manresa, Barcelona
* Jun 2011, Geometric Group Theory conference, Technion
* May 2008, Geometry Seminar, New York University
* **Additional Seminar Talks throughout Israel**
* Mar 2013, Geometric Functional Analysis & Probability Seminar, Weizmann Ins.
* Mar 2013, Combinatorics Seminar, Tel Aviv U
* Feb 2013, Theory of Computation Seminar, Tel Aviv U
* Dec 2012, Combinatorics Seminar, Bar Ilan U
* Oct 2012, Combinatorics seminar, Hebrew U
* May 2012: Discrete Math session, the Annual meeting of the Israeli Math Union, Bar-Ilan U
* Mar 2012, Combinatorics Seminar, Tel-Aviv U
* Jan 2012, Discrete Mathematics Workshop, Eilat, Israel
* Dec 2011, Amitsur Algebra Seminar, Hebrew U (a series of 2 talks)
* Dec 2011, Mathematical Colloquium talk, Hebrew U
* Nov 2011, Horowitz Probability Seminar, Tel-Aviv U
* Nov 2011, “Trends in Mathematics” conference, Young Researchers Session, Tel-Aviv U
* Aug 2011, Computer Science Colloquium, Ben-Gurion U
* Jun 2011, Probability Seminar, Weizmann Institute
* Jun 2011, Students Combinatorics Day, Hebrew U
* May 2011, Students Probability Day, Weizmann Institute
* Mar 2011, Ergodic Theory and Probability Seminar. Ben-Gurion U.
* Mar 2011, Algebra Seminar. Technion
* Dec 2010, Combinatorics Seminar. Hebrew U
* Oct 2010, Amitsur Algebra Seminar, Hebrew U.
* Jun 2010, Combinatorics session, the Annual meeting of the Israeli Math Union, Weizmann Institute
* Jan 2008, Combinatorics Seminar, Hebrew U (2 talks)

Teaching Assistant

* Algebraic Structures I (Group Theory and Ring Theory), Fall 2010, 2011, 2012
* Algebraic Structures II (Galois Theory), Spring 2012
* Basic Notions in Commutative Algebra (graduate course), Spring 2011
* Mathematical Methods II, Spring 2010

Work Experience

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| 2.2008-2.2010 | *Tower Research Capital, NY* |
|  | Quantitative Analyst in a hedge-fund based in New York city |
| 2005 – 2007 | *A Research Center in Israeli Intelligence Force* |
|  | Part-time job in a mathematical research center in the intelligence force, which involves the study of varied advanced Mathemtical areas, as well as algorithmic research, statistics and self-aimed programming |
| 2002 – 2007 | *National Institute for Testing & Evaluation* |
|  | Part-time job: composing and proofreading Psychometric exams (SATs) |
| January – June 2002 | *Department of Statistics& Operations Research,*  *Tel-Aviv University* |
|  | Full-time job within framework of research headed by Prof. Yoav Benjamini. The research was aimed at controlling false discoveries in statistical analysis, mainly in quantitative trait loci mapping of mice. |
| 8.1997 – 1.2002 | *Technological Unit in Israeli Intelligence Force* |
|  | A unique intelligential profession combining advanced Mathematical research (mainly Algebra and Statistics) and Mathematical-Algorithmic programming with special attention to efficiency. |