Boaz Slomka

Curriculum Vitae

Department of Mathematics and Computer Science
The Open University of Israel, One University road
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Education

2009-2014 **Ph.D. in Mathematics**, *Tel Aviv University*, Israel.
Thesis *Geometric properties of convex bodies and their functional extension*.
Supervisor Prof. Shiri Artstein-Avidan.

2007-2009 **M.Sc. in Mathematics**, *Tel Aviv University*, Israel.
(Summa Cum Laude)
Thesis *Characterizing isomorphisms associated with different convex structures*.
Supervisor Prof. Shiri Artstein-Avidan.

2003-2007 **B.Sc. in Physics & Mathematics**, *Tel Aviv University*, Israel.
(Combined program, Magna Cum Laude)

Academic Positions

2019 - **Senior Lecturer**, *Open University of Israel*, Ra'anana, Israel.
2018-2019 **Postdoctoral Research Fellow**, *Weizmann Institute of Science*, Rehovot, Israel.
2015-2018 **Postdoctoral Assistant Professor**, *University of Michigan*, Ann Arbor, USA.
2014-2015 **CRM-ISM Postdoctoral Research Fellow**, *Centre de Recherches Mathématiques*, Montreal, Canada.

Additional Professional Experience

2007-2009 **Software Engineer R&D**, *Paradigm Geophysical LTD*.
2000-2003 **Military Service**, *Israel Defense Forces*.

Academic And Professional Awards & Grants

2020 **ISF personal research grant**, *Israel Science Foundation, Title: "Polarity, covering, transportation and concentration" (jointly with S. Artstein-Avidan and A. Segal)*.
2016 **AMS-Simons travel grant**, *The AMS-Simons foundation*.
2014 **Postdoctoral top-up award**, *Research and Graduate Studies, Concordia University*.
2013 **Marejn Scholarship**, *The Don and Sara Marejn Scholarship Fund*.
2013 **Excellent teacher prize**, *School of Mathematical Sciences, Tel Aviv University*.
2012 **Excellent PhD student scholarship**, *Faculty of Exact Sciences, Tel Aviv University*.

2011 **Excellent PhD student prize**, *School of Mathematical Sciences, Tel Aviv University*.

2009 **Excellent M.Sc student prize**, *School of Mathematical Sciences, Tel Aviv University*.

Teaching Experience

2015-2018 **Lecturer**, *University of Michigan*.
Winter 2018, Fall & Winter 2016-17: Math 425, Introduction to probability, Fall 2015: Math 115, Calculus

2015 **Lecturer**, *McGill University*, Montreal.
Winter 2015: Math 111, Mathematics for Education Students

2008-2014 **Instructor**, *Tel Aviv University*.
I have instructed the courses: Calculus 1,2,3 for math majors, Probability for mathematicians, and Calculus for physicists

2004-2007 **Grader**, *Tel Aviv University*.
I have graded various courses in physics

Mentoring

2016 **REU Summer project**, *University of Michigan*.
Together with B. Vritsiou, we ran an undergraduate summer project. Students: Heather Weaver (Case Western Reserve University) and Daniel Barg (Columbia University). Subject: The Levi-Hadwiger covering problem

2015 **ISM Summer project**, *Concordia University*, Montreal.
Together with A. Stancu, we ran an undergraduate summer project. Student: Brahim Abdenbi (Concordia University). Subject: Convexity theory in models of the hyperbolic space

Active Participation In Scientific Meetings

Jan' 2020 **Mathematical Physics seminar talk**, *Holon Institute of Technology*, Holon, Israel.

Dec' 2019 **Asymptotic Geometric Analysis seminar talk**, *Tel Aviv University*, Tel Aviv, Israel.

Dec' 2019 **Probability seminar talk**, *Technion* , Haifa, Israel.

Dec' 2019 **Combinatorics seminar talk**, *Hebrew University*, Jerusalem, Israel.

July 2019 **Conference on Asymptotic Geometric Analysis**, *Tel Aviv University*, Tel Aviv, Israel.

June 2019 **IMU meeting, Analysis session talk**, *Hebrew University*, Jerusalem, Israel.

June 2019 **CMS summer meeting, Probabilistic Methods in Geometric Functional Analysis session talk**, *University of Regina*, Regina, Canada.

May 2019 **Convex and Discrete Geometry seminar talks**, *Technische Universität Berlin*, Berlin, Germany.

March 2019 **Asymptotic Geometric Analysis seminar talk**, *Tel Aviv University*, Tel Aviv, Israel.

March 2019 **Workshop on polytopes**, *Ruhr University Bochum*, Bochum, Germany.

Dec' 2018 **Workshop on Convex Geometry and its Applications**, Oberwolfach, Germany.

Dec' 2018 **Geometric Functional Analysis & Probability Seminar**, *Weizmann Institute of Science*, Rehovot, Israel.

Oct' 2018 **Probability seminar talk**, *Bar-Ilan University*, Ramat Gan, Israel.

Oct' 2018 **Analysis seminar talk**, *Hebrew University*, Jerusalem, Israel.

Oct' 2018 **Asymptotic Geometric Analysis seminar talk**, *Tel Aviv University*, Tel Aviv, Israel.

Mar' 2018 **Workshop on Emerging Trends in Geometric Functional Analysis**, Banff, Canada.

Dec' 2017 **Analysis seminar talk**, *Bar-Ilan University*, Ramat Gan, Israel.

Dec' 2017 **Colloquium talk**, *Ben-Gurion University*, Beer-Sheva, Israel.

May 2017 **Workshop on Recent Advances in Discrete and Analytic Aspects of Convexity**, Banff, Canada.

April 2017 **Banach Spaces seminar talk**, *Texas A&M University*, College Station, USA.

April 2017 **Analysis seminar talk**, *Kent State University*, Kent, USA.

Feb' 2016 **Workshop on Asymptotic Geometric Analysis**, Oberwolfach, Germany.

Nov' 2014 **Analysis seminar talk**, *Concordia University*, Montreal, Canada.

Oct' 2014 **Analysis seminar talk**, *McGill University*, Montreal, Canada.

Oct' 2014 **Analysis seminar talk**, *Laval University*, Quebec, Canada.

June 2014 **Second joint international meeting of the AMS and the IMU**, Tel Aviv, Israel.

Oct' 2013 **Discrete Mathematics seminar talk**, *Institute for Advance Studies*, Princeton, USA.

Oct' 2013 **Colloquium talk**, *Polytechnic Institute*, New York, USA.

Oct' 2013 **Geometry seminar talk**, *Courant institute*, New York, USA.

Oct' 2013 **Analysis seminar talk**, *Kent State University*, Kent, USA.

Oct' 2013 **Analysis seminar talk**, *Case Western Reserve University*, Cleveland, USA.

Oct' 2013 **Analysis/Probability seminar talk**, *University of Michigan*, Ann Arbor, USA.

Oct' 2013 **Geometric Analysis seminar talk**, *University of Alberta*, Edmonton, Canada.

Sep' 2013 **Conference on Convex Geometry**, Castro Urdiales, Spain.

Mar' 2013 **Combinatorics day**, *Tel Aviv University*, Tel Aviv, Israel.

June 2011 **Fifth International Workshop on Convex Geometry Analytic Aspects**, Cortona, Italy.

April 2011 **Workshop on Geometry and the Distribution of Volume in Convex Bodies**, Kibbutz Hagoshrim, Israel.

Fall 2010 **Thematic program on Asymptotic Geometric Analysis** , *Fields Institute*, Toronto, Canada.

April 2010 **Workshop on Volume Inequalities** , Banff, Canada.

Publications

- **On duality and endomorphisms of lattices of closed convex sets**, Adv. Geom. (2011) Vol. 11, Issue 2, pp. 225–239.
- **Order-isomorphisms in cones and a characterization of duality for ellipsoids**, Selecta Math. (N.S.) 18 (2011), no. 2, 391–415.
  With S. Artstein-Avidan

- **A characterization of duality through section/projection correspondence in the finite dimensional setting**, J. Funct. Anal. 261 (2011), no. 11, 3366–3389.
  With V. Milman and A. Segal
- **Projections of log-concave functions**, Commun. Contemp. Math. 14 (2012), no. 05, 1250036.
  With A. Segal
- **Duality on convex sets in generalized regions**, Asymptotic Geometric Analysis, Fields Institute Communications, vol. 68, Springer New York, 2013, pp. 289–298.
  With A. Segal
- **On polygons and injective mappings of the plane**, Asymptotic Geometric Analysis, Fields Institute Communications, vol. 68, Springer New York, 2013, pp. 299–312.
- **A note on Santaló inequality for the polarity transform and its reverse**, Proc. Amer. Math. Soc. 143 (2015), no. 4, 1693–1704.
  With S. Artstein-Avidan
- **On weighted covering numbers and the Levi-Hadwiger conjecture**, Isr. J. Math. (2015) 209: 125.
  With S. Artstein-Avidan
- **The fundamental theorems of affine and projective geometry revisited**, Commun. Contemp. Math. 19 (2017), no. 05, 1650059.
  With S. Artstein-Avidan
- **Approximations of convex bodies by measure-generated sets**, Geom Dedicata (2018),doi:10.1007/s10711-018-0366-x .
  With H. Huang
- **Ulam floating bodies**, J. London Math. Soc. (2019) 100: 425-446, doi:10.1112/jlms.12226.
  With H. Huang and E. Werner
- **Functional covering numbers**, J Geom Anal (2019). https://doi.org/10.1007/s12220-019-00310-3.
  With S. Artstein-Avidan

Preprints

- **Improved bounds for Hadwiger's covering problem via thin-shell estimates**, submitted, arXiv:1811.12548.
  With H. Huang, T. Tkocz, and B. Vritsiou
- **Discrete variants of Brunn-Minkowski type inequalities**, submitted, arXiv:1911.04392.
  With D. Halikias, and B. Klartag
- **A remark on discrete Brunn-Minkowski type inequalities via transportation of measure**, preprint, arXiv:2008.00738.