

# CURRICULUM VITAE

EREZ NESHARIM

## Personal details.

- Date of birth: 11th August 1987.
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## Employment.

- 2021– : Assistant professor, Technion – Israel institute of technology, Israel.
- 2019–2021: Postdoc, Hebrew University of Jerusalem, Israel. Host: Professor Elon Lindenstrauss.
- 2019 (Jan–Jun): Postdoc, Technion, Israel. Host: Professor Uri Shapira.
- 2016–2018: Postdoc, University of York, UK. Hosts: Professor Sanju Velani and Professor Victor Beresnevich.
- 2013–2016: Teaching assistant, Tel Aviv University, Israel.
- 2008: Teaching assistant, Hebrew University, Israel.

## Education.

- 2013–2016: PhD, Mathematics, Tel Aviv University. Adviser: Professor Barak Weiss.
- 2009: MSc (cum laude), Mathematics, Hebrew University. Adviser: Professor Genadi Levin.
- 2006: BA (cum laude), Mathematics, Technion.

## Publications.

- *Bad(w) is hyperplane absolute winning* (joint with Victor Beresnevich and Lei Yang), Geometric and Functional Analysis 2020, accepted for publication, preprint is available at arXiv 2005.11947, 2020, 1–28.
- *On the t-adic Littlewood conjecture* (joint with Faustin Adiceam and Fred Lunnon), Duke Mathematical Journal 2020, accepted for publication, preprint is available at arXiv 1806.04478, 1–36.
- *Schmidt's game on Hausdorff metric and function spaces: generic dimension of sets and images* (joint with Ábel Farkas, Jonathan M. Fraser and David Simmons), Mathematika 2020, accepted for publication, preprint is available at arXiv 1907.07394, 1–20.
- *Metric Diophantine approximation with congruence conditions* (joint with Rene Rühr and Ronggang Shi), International Journal of Number Theory 2020, Volume 16, Issue 9, 1923–1933.
- *Solution of Cassels' problem on a Diophantine constant over function fields* (joint with Efrat Bank and Steffen Højris Pedersen), International Mathematics Research Notices, Volume 2017, Issue 18, 5451–5474.
- *Bad(s, t) is hyperplane absolute winning* (joint with David Simmons), Acta Arithmetica 2014, Issue 164, 145–152.
- *Badly approximable vectors on a vertical Cantor set (Appendix joint with Barak Weiss: Bad(i, j) is absolutely winning on C)*, Moscow Journal of Combinatorics and Number Theory 2013, Volume 3, Issue 2, 88–116.

## Preprints.

- *Winning property of badly approximable points on curves* (joint with Victor Beresnevich and Lei Yang), arXiv 2005.02128, 2020, 1–27.
- *Schmidt games and Cantor winning sets* (joint with Dzmitry Badziahin, Stephen Harrap and David Simmons), arXiv 1804.06499, 2018, 1–36.

## Awards.

- February 2019: Invited researcher, IHES.
- February–March 2016: Graduate student researcher, ICERM: Institute for Computational and Experimental Research in Mathematics.
- 2014: Certificate of excellence for my PhD, Tel Aviv University.
- 2004: Technion program for excellence (undergraduate honors program).

## Talks.

- *Badly approximable vectors on curves*, Diophantine analysis and related topics, Lomonosov Moscow State University, June 2021.
- *Approximation by algebraic numbers and homogeneous dynamics*, PET seminar, Ben Gurion University, December 2020.
- *Approximation by algebraic numbers and homogeneous dynamics*, Dynamics seminar, Hebrew University, December 2020.
- *Approximation by algebraic numbers and homogeneous dynamics*, Colloquium, Haifa University, November 2020.
- *Approximation by algebraic numbers and homogeneous dynamics*, Annual meeting of the Israel Mathematical Union, September 2020.
- *The set of weighted badly approximable vectors is hyperplane absolute winning*, Number Theory seminar, Lomonosov Moscow State University, June 2020.
- *Diophantine approximation over function fields and the  $t$ -adic Littlewood conjecture*, Algebra seminar, Haifa University, December 2019.
- *Diophantine approximation over function fields and the  $t$ -adic Littlewood conjecture*, Colloquium seminar, Bar Ilan University, December 2019.
- *Is there a most transcendental number?*, Horowitz seminar, Tel Aviv University, November 2019.
- *Diophantine approximation over function fields and the  $t$ -adic Littlewood conjecture*, Midrasha on group actions, Weizmann institute, July 2019.
- *Winning ways for your infinite plays – variants of the Banach-Mazur game*, Pizza seminar, Technion, May 2019.
- *The  $t$ -adic Littlewood is false*, Ergodic theory and probability seminar, Hebrew University, April 2019.
- *The  $t$ -adic Littlewood is false*, GDRT seminar, Technion, April 2019.
- *The  $t$ -adic Littlewood is false*, Probability and ergodic theory seminar, Ben Gurion University, May 2018.
- *The  $t$ -adic Littlewood is false*, Dynamics seminar, Warwick University, February 2018.
- *The  $t$ -adic Littlewood is false*, Algebra seminar, University of Durham, February 2018.
- *$t$ -adic Littlewood is false*, Analysis seminar, University of Cardiff, Wales, October 2017.
- *$t$ -adic Littlewood is false*, Colloquium seminar, University of Ireland, Maynooth, October 2017.
- *Badly approximable pairs in fractals*, Dynamical Systems seminar, University of Bristol, May 2017.
- *The Cantor game and Cantor winning sets*, Number Theory seminar, Lomonosov Moscow State University, April 2017.
- *Diophantine approximation in function fields*, Nikolay Moshchcevitin's 50th birthday conference, MFTI, Moscow, April 2017.
- *Diophantine approximation in function fields*, Dynamical Systems seminar, The University of Manchester, March 2017.
- *Badly approximable pairs in fractals*, Ergodic theory and Dynamical Systems seminar, Hebrew University, Jerusalem, March 2017.
- *Diophantine approximation in function fields*, Dynamical Systems seminar, Ben Gurion university, Be'er Sheva, February 2017.
- *Diophantine approximation in function fields*, Number theory seminar, University of York, November 2016.
- *Winning ways for your infinite plays*, BEER in math seminar, University of York, November 2016.
- *Existence of badly approximable pairs in fractals*, Horowitz seminar on Probability, Ergodic Theory and Dynamical Systems, Tel Aviv University, April 2016.

- *Diophantine approximation in Positive Characteristic*, Everytopic Seminar, Brandeis University, March 2016.
- *Existence of badly approximable pairs in fractals*, Dynamics learning seminar, Stony Brook University, March 2016.
- *Playing with Cantor, Schmidt and McMullen; Things my adviser never told me*, Graduate Students' seminar, ICERM, March 2016.
- *Diophantine approximation in function fields*, Group, Lie and Number Theory seminar, University of Michigan, February 2016.
- *Existence of badly approximable pairs in fractals*, Dynamical Systems seminar, Northwestern University, February 2016.
- *Badly approximable vectors on fractals along manifolds*, Diophantine approximation and related topics, Aarhus, July 2015.
- *Badly approximable numbers and absolute winning sets*, Youngtion Now! seminar, Tel Aviv University, June 2014.
- *Schmidt's game with regrets and Bad  $(i, j)$* , Special session on Diophantine Approximation on manifolds and fractals, AMS sectional meeting, University of Colorado, April 2013.
- *Badly approximable vectors on a vertical Cantor set*, University of York, April 2012.
- *Badly approximable vectors on a vertical Cantor set*, Ben Gurion University, March 2012.

#### Public events.

- *On games and proofs*, European researchers' night, Hebrew University, September 2019.

#### Professional Service.

- Co-organizer of the Diophantine approximation and homogeneous dynamics online seminar DAHD.
- Mentor at Math research week, Technion, September 2019.
- Co-organizer of the Number Theory Study Group, University of York, 2018-2019.
- Co-organizer of a reading group in Dynamical Systems and Number Theory, University of York, 2017-2018.
- Reporter of the Arbeitsgemeinschaft: Diophantine Approximation, Fractal Geometry and Dynamics, Mathematisches Forschungsinstitut Oberwolfach, October 2016.
- Organized Youngtion Now! seminars at Tel Aviv University and Technion, 2014-2016.
- Mentor at PERACH tutorial project, Hebrew University, 2008-2009.

#### Teaching.

*2017–2018: Lecturer, University of York.*

- Courses: Functional analysis, Metric number theory.
- Duties: Lecturing the course, running weekly seminar and problem sessions, writing and marking the exercise sheets and the final examination, update the course lecture notes.

*2013–2016: Teaching assistant, Tel Aviv University.*

- Courses: PDE, Calculus I, Introduction to Set Theory, Introduction to Topology.
- Duties: Preparing and conducting lectures, inventing exercise sheets, keeping office hours, writing parts of the final examination.

*2008: Teaching assistant, Hebrew University:*

- Courses: Discrete Math, Introduction to Set Theory.
- Duties: Grading homework, discussion sessions.

#### Military Service.

- 2008–2012: Service as an engineer at RAFAEL Ltd.
- 2009: Officers course.

#### Skills and Hobbies.

- Languages: Hebrew, English.
- Computer: MATLAB, Mathematica, C++, L<sup>A</sup>T<sub>E</sub>X, Sage.
- Hiking, running, chess.