Curriculum Vitae
Barak Weiss

April 30, 2012

PERSONAL DETAILS

Date and place of birth:	28.7.65 Stanford, CA, USA
Date of immigration:	9.1968
Regular military service:	IDF 1983-1986.
Address and telephone numbers:	
work: Dept. of Mathematics	*home:* 246 Hayarkon St.
Ben Gurion University	Tel Aviv 63324
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EDUCATION

1988– 1991	Interdisciplinary program for fostering excellence B.Sc. in Mathematics, Tel Aviv University, Israel
1991–1993	M.Sc. in Mathematics, UC Berkeley, Berkeley, CA
1994– 1998	Ph.D. in Mathematics, Hebrew University, Jerusalem *Advisor:* Prof. Hillel Furstenberg *Thesis title:* Rational orbits in actions on arithmetic homogeneous spaces

EMPLOYMENT HISTORY

(a) Employment

1.10.2008 – present	Associate professor, Dept. of Mathematics, Ben Gurion University
2004 – 2008	Senior lecturer, Dept. of Mathematics, Ben Gurion University
2000 – 2004	Lecturer, Dept. of Mathematics, Ben Gurion University
1998 – 2000	Postdoctoral research associate, SUNY Stony Brook

(b) Positions in academic administration (selected):

2009–present	Appointments committee, BGU math. dept.
2007–2009	Secretary of Israel Math Union.
2005	Head of joint math and computer science B.Sc. program
2000–2003	Colloquium organizer
2006 - present	Organizing committee of international scientific meetings: Orsay 2011, Eilat 2011, Ein Gedi 2011, Luminy 2010, Be'er Sheva 2007, Sde Boker 2007, Banff 2006.

MEMBERSHIP IN PROFESSIONAL / SCIENTIFIC ASSOCIATIONS

Israel Mathematical Union

SCIENTIFIC PUBLICATIONS

(a) Books:

(b) Chapters in collective volumes:

1. Barak Weiss, *Dynamics on parameter spaces: submanifold and fractal subset questions*, in "Rigidity in Dynamics and Geometry", M. Burger and A. Iozzi, eds, 425–440. Springer (2002).

2. John Smillie and Barak Weiss, *Finiteness results for flat surfaces: a survey and problem list*, (2006) to appear in **Partially hyperbolic dynamics, laminations, and Teichmüller flow** (Proceedings of a conference, Fields Institute, Toronto Jan 2006), G. Forni (ed.)

(c) Refereed articles in scientific journals:
Published

1. Alexander Barabasch, Aviezri Fraenkel, Barak Weiss, *Iterated Beatty sequences,* Random and Computational Dynamics **6** (1993).

2. Barak Weiss, *Finite dimensional representations and subgroup actions on homogeneous spaces,* Israel Journal of Mathematics, **106** (1998), 189–207 [IF 0.754, JR=88/255, C=8].

3. Shahar Mozes and Barak Weiss, *Minimality and unique ergodicity for subgroup actions*, Annales de l'Institut Fourier **48**, 5 (1998) 1533–1541 [IF 0.904, JR=60/255, C=1].

4. Nimish A. Shah and Barak Weiss, *On actions of epimorphic subgroups on homogeneous spaces*, Ergodic Theory and Dynamical Systems **20**, 2 (2000) 567–592 [IF 0.822, JR=71/255, C=1].

5. Barak Weiss, *Unique ergodicity on compact homogeneous spaces,* Proc. AMS **129**, 2 (2001) 585–592 [IF 0.640, JR=125/255, C=0].

6. Elon Lindenstrauss and Barak Weiss, *On sets invariant under the action of the diagonal group*, Ergodic Theory Dynam. Systems **21** (2001), no. 5, 1481–1500 [IF 0.822, JR=71/255, C=10].

7. Barak Weiss, *Almost no points on a Cantor set are very well approximable*, Proc. R. Soc. Lond. A (2001) **457** 949–952 [IF 1.702, JR=10/50, C=8].

8. Yair N. Minsky and Barak Weiss, *Non-divergence of horocyclic flows on moduli spaces*, J. Reine Angew. Math. **552** (2002) 131-177 [IF=1.079, JR=40/255, C=12].

9. George Tomanov and Barak Weiss, *Closed orbits for actions of maximal tori on homogeneous spaces*, Duke Math. J. **199** no. 2 (2003) 367–392 [IF 1.758, JR=10/255, C=11].

10. Dmitry Kleinbock, Elon Lindenstrauss and Barak Weiss, *On fractal measures and diophantine approximation*, Selecta Math. **10** no. 4 (2004) 479–523 [IF 0.828, JR=70/255].

11. Barak Weiss, *Divergent trajectories on noncompact parameter spaces*, Geom. Funct. Anal. **14** no. 1 (2004) 94–149 [IF 1.313, JR=23/255, C=7].

12. Dmitry Kleinbock and Barak Weiss, *Bounded geodesics in moduli space,* Int. Math. Res. Not. 2004, no. 30, 1551–1560 [IF=0.680, JR=109/255, C=3].

13. John Smillie and Barak Weiss, *Minimal sets for flows on moduli space,* Israel J. of Math. **142** (2004) 249–260 [IF=0.754, JR=88/255,C=3].

14. Dmitry Kleinbock and Barak Weiss, *Badly approximable vectors on fractals*, Israel J. Math. **149** (2005) 137–170 (special volume in honor of H. Furstenberg) [IF 0.754, JR=88/255,C=11].

15. Dmitry Kleinbock and Barak Weiss, *Friendly measures, homogeneous flows, and singular vectors*, Cont. Math. **385** (2005) 281–292, (special volume on **Algebraic and Topological Dynamics**).

16. Barak Weiss, *Divergent trajectories and* $\mathbf{Q}$*-rank,* Israel J. of Math. **152** (2006) 221–227 [IF=0.754, JR=88/255, C=3].

17. Boaz Rafaely, Barak Weiss and Eitan Bachmat, *Spatial aliasing in spherical microphone arrays* IEEE Transactions on Signal Processing, **55(3)**, 1003-1010 [IF=1.782, JR=35/246].

18. Alex Gorodnik and Barak Weiss, *Distribution of lattice orbits on homogeneous varieties,* Geom. Funct. Anal. **17** (2007) 58–115 [IF=1.313, JR=23/255, C=5].

19. Dmitry Kleinbock and Barak Weiss, *Dirichlet's theorem on diophantine approximation and homogeneous flows*, J. Mod. Dyn. **2** (2008) 43–62 [IF=1.019, JR=50/255, C=9].

20. * John Smillie and Barak Weiss, *Veech's dichotomy and the lattice property*, Erg. Th. Dyn. Sys. **28** 1959–1972 (2008) [IF=0.822, JR=71/255, C=0].

21. * John Smillie and Barak Weiss, *Finiteness results for flat surfaces: large cusps and short geodesics*, Comm. Math. Helv. **85** (2010) 313–335 [IF=0.938, JR=52/255, C=0].

22. * John Smillie and Barak Weiss, *Characterizations of lattice surfaces,* Inv. Math. **180** (2010), no. 3, 535–557 [IF=2.794, JR=4/255, C=0].

23. * Dmitry Kleinbock and Barak Weiss, *Modified Schmidt games and diophantine approximation with weights*, Adv. Math. **223** 1276–1298 (2010) [IF=1.403, JR=21/255, C=1].

24. * Eitan Bachmat, Maor Kleider, Boaz Rafaely, and Barak Weiss, *Golden-ratio sampling for scanning circular microphone arrays*, accepted for publication in IEEE Trans. Audio Speech and Lang. Proc. [IF=2.212, JR=59/246, C=0]

25. * Ryan Broderick, Yann Bugeaud, Lior Fishman, Dmitry Kleinbock and Barak Weiss, *Schmidt's game, fractals, and numbers normal to no base* , Math. Res. Lett. **17** (2010), no. 2, 307–321 [IF=0.677, JR=110/255, C=0].

Accepted for publication

1. * W. Patrick Hooper and Barak Weiss, *Generalized staircases: recurrence and symmetry*, (2009) accepted for publication in Annales de L'Institut Fourier [IF=0.904, JR=60/255].

2. * Francois Maucourant and Barak Weiss, *Lattice actions on the plane revisited*, (2009) accepted for publication in Geometriae Dedicata [IF=0.661, JR=117/255].

3. * Patrick Hooper, Pascal Hubert and Barak Weiss, *Dynamics on the infinite staircase surface*, (2009) accepted for publication in Disc. Cont. Dyn. Sys. [IF=1.205, JR=32/255]

4. * Meital Cohen and Barak Weiss, *Parking garages with optimal dynamics,* (2011) accepted for publication in Geometria Dedicata [IF=0.661, JR=117/255].

5. * Ryan Broderick, Lior Fishman, Dmitry Kleinbock, Asaf Reich and Barak Weiss, *The set of badly approximable vectors is strongly C^1 incompressible,* (2011) accepted for publication in Math. Proc. Cambridge Phil. Soc. [IF=1.205, JR=32/255]

* denotes papers accepted for publication since promotion to the position of associate professor.

In square brackets I have indicated impact factor (IF), journal ranking (JR), and number of citations (C), according to `http://admin-apps.isiknowledge.com/JCR`.

$h = 7$.

LECTURES AND PRESENTATIONS AT MEETINGS AND INVITED SEMINARS

(a) Invited plenary lectures at conferences / meetings:

June 2008	Dynamics in Teichmüller space, Roscoff, France

(b) Presentation of papers at conferences / meetings:

May 2010	Teichmüller dynamics, Hausdorff Institute, Bonn
Jan 2010	Rokhlin memorial conference, Euler Institute, St. Petersburg
June 2009	Dynamics on Teichmüller space, Luminy, France
April 2009	AMS sectional meeting, San Francisco
Dec 2007	Groups and ergodic theory, TATA Institute, Mumbai
Feb 2007	Teichmüller theory and outer space, Luminy, France
Jan 2007	Dynamics of Lie group actions on parameter spaces, Sde Boker
Jul 2006	Rigidity of centralizers, a dynamical approach, BIRS, Banff
July 2005	Rigidity, Dynamics, and Group Actions, BIRS, Banff
June 2005	Billiards and flows on moduli spaces, Univ. Illinois at Chicago
July 2004	Activity on algebraic and topological dynamics, MPI, Bonn
June 2004	Emerging applications of measure rigidity, AIM, Palo Alto, CA
Jan 2004	Workshop on Groups, Geometry and Dynamics, Technion, Haifa
Nov 2003	Geometry of the mapping class group and Teichmüller Theory, UIC, Chicago
July 2003	Rational billiards and Teichmüller Theory, Luminy, France
May 2003	Israel Mathematical Union Meeting, Zichron Ya'akov, Israel
March 2002	Discrete subgroups of Lie groups Midrasha Mathematicae, Hebrew University
March 2002	Mapping Class Groups and Geometric Theory of Teichmuller Spaces AMS sectional meeting, University of Michigan
May 2001	Israel Mathematical Union Meeting, Tel Aviv University
March 2000	Conference on Ergodic Theory, Rigidity and Number Theory Newton Institute, Cambridge
May 1999	Israel Mathematical Union Meeting, Haifa, Israel
June 1998	Workshop on Lie Groups and Dynamics University of Minnesota
June 1998	Conference on Rigidity, Representations and Ergodic Theory Paris

March 1997	Conference on Modern Ergodic Theorems The Technion, Haifa, Israel

(c) Seminars at universities and institutions:

July 2008	Colloquium, Hebrew University, Jerusalem
July 2007	Marseille dynamics seminar, France
Dec 2006	Sinai seminar on ergodic theory, Princeton
Dec 2006	Colloquium, Rice University
Dec 2006	Geometry seminar, University of Chicago
Dec 2006	Topology seminar, Yale
Nov 2006	Geometry and topology seminar, Brown
Nov 2006	Geometry seminar, Cornell
Oct 2006	Lie groups seminar, Yale
Oct 2006	Brandeis-Harvard-MIT-Northeastern Joint Mathematics Colloquium
Sep 2006	Colloquium, Caltech
June 2006	Geometry day, Marseilles
May 2006	Lie groups seminar, Hebrew University
Apr 2006	Colloquium, Technion
Feb 2006	Activity on Lie groups, Institute of advanced studies
July 2004	Geometry seminar, Bonn University
July 2003	Geometry seminar, Brandeis University
June 2003	3 survey lectures Dynamics Group, University of Rennes 1, France
May 2003	Ergodic Theory seminar Hebrew University
April 2003	Colloquium Tel-Aviv University
June 2001	4 survey lectures Dynamics Group, University of Rennes 1, France
May 2000	Ecole Normale Superieur, Lyon
May 2000	Algebra Seminar Institut Girard Desargues, Univ. Lyon 1
May 2000	Geometry / Topology Seminar, Rutgers University

March 2000	Lie Groups Seminar, Rutgers University
Feb 2000	Lie Groups Seminar, Yale University
Dec 1999	Courant Institute, New York joint dynamics seminar: Courant, IBM, Princeton, Stony Brook, Yale
June 1999	Ecole Normale Superieur, Lyon, France
June 1999	3 survey lectures Dynamics Group, University of Rennes 1, France
May 1999	Ergodic Theory Seminar Tel-Aviv University, Israel
May 1999	Colloquium, Ben Gurion University, Be'er Sheva, Israel
Jan 1999	Colloquium, Technion, Haifa, Israel
May 1999	Algebra Seminar Bar Ilan University, Israel
May 1999	Mathematical Analysis and Applications Seminar Weizmann Institute of Science, Rehovot, Israel
Apr 1999	Geometry Seminar University of Chicago
Jan 1999	Lie Groups Seminar Hebrew University, Jerusalem
Nov 1998	Group Actions Seminar, Yale University
October 1996	Mathematical Analysis and Applications Seminar Weizmann Institute of Science, Rehovot, Israel
October 1996	Geometry Seminar University of Chicago
October 1996	Lie Groups Seminar, Yale University
May 1996	Geometric Analysis Seminar Technion Institute, Haifa, Israel

(d) Participation in formal international seminars and workshops:

EDITORSHIP OF COLLECTIVE VOLUMES AND SCIENTIFIC JOURNALS

(a) Collective volumes:

(b) Scientific journals:

PATENTS

RESEARCH GRANTS

	Binational Science Foundation Grant 2000247
2001–2004	Dynamics on Parameter Spaces Annual budget: $26,000
2001–2004	Bergmann Memorial Research Award Amount: $5,000

2004–2007	Israel Science Foundation Annual budget: $19,000
2005–present	Binational Science Foundation Grant 2004149 Annual budget: $20,000
2006–2008	Israel-France Scientific cooperation Annual budget: $5000
2008–present	Israel Science Foundation Annual budget: $20,000
2009–present	Binational Science Foundation Annual budget: $20,000
starting Sept. 2011	ERC Annual budget: 170,000 euro

RESEARCH STUDENTS

1. Yoav Naveh (M.Sc. student, graduated 2005). Currently an algorithm developer at Paradigm Ltd.

2. Lior Fishman (PhD student, graduated 2008). Currently a postdoc at Brandeis, beginning tenure track position Univ. North Texas Sept. 2011.

3. Uri Shapira (PhD student at Hebrew University, joint thesis supervision with Prof. Hillel Furstenberg, graduated 2010). Currently a postdoc at ETH Zürich. His thesis appeared in five papers, parts were published in *Ann. Math.* and *GAFA*.

4. Ya'ar Solomon (M.Sc student, graduated 2009; currently PHD student).

5. Meital Cohen (M.Sc. student, graduated 2010). Currently a system analyst at Israel Air Force Industries.

RESEARCH INTERESTS Dynamics on parameter spaces such as homogeneous spaces of Lie groups and spaces of translation surfaces. Applications to diophantine approximations and rational billiards.

SYNOPSIS OF RESEARCH Over the past few years I have studied the research interests listed above, in collaboration with Alex Gorodnik, Pat Hooper, Pascal Hubert, Dmitry Kleinbock, Yair Minsky, John Smillie, and others.