

Alex Eskin

Curriculum Vitae

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Personal

Date of Birth: May 19, 1965, Moscow USSR.

Citizenship: U.S.

Higher Education

6/86: B.S. in mathematics, summa cum laude, from UCLA.

9/86-6/89: Graduate student in physics, MIT.

9/89-6/91: Graduate student in mathematics, Stanford University.

6/93: Ph.D in mathematics, Princeton University.
Advisor: Peter Sarnak.
Title: "Counting Lattice Points on Homogeneous Varieties".

Academic Positions

9/93-6/94: Member, Institute of Advanced Study, Princeton.

9/94-6/96: Dickson Instructor, University of Chicago.

9/96-6/98: Associate Professor, University of Chicago.

9/98-6/12: Professor, University of Chicago.

9/12-Present: Arthur Holly Compton Distinguished Service Professor, University of Chicago.

Awards Recieved

1991-1992: DOE Scholarship.

1992-1993: Sloan Fellowship.

1994-1996: NSF Postdoctoral Research Fellowship.

1997-2002: Packard Fellowship.

- 1998: Invited Speaker, International Congress of Mathematicians, Berlin
- 2007: Clay Research Award.
- 2010: Invited Speaker, International Congress of Mathematicians, Hyderabad
- 2014: Simons Investigator Award.

Research Interests

Dynamics and geometry of Teichmüller space, billiards in rational polygons.

Geometric group theory.

Lie Groups, discrete groups, ergodic theory, applications to number theory.

Bibliography

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- Alex Eskin, David Fisher, and Kevin Whyte. Coarse differentiation of quasi-isometries I: Spaces not quasi-isometric to Cayley graphs. *Ann. of Math. (2)*, 176(1):221–260, 2012.
- Jayadev Athreya, Alexander Bufetov, Alex Eskin, and Maryam Mirzakhani. Lattice point asymptotics and volume growth on Teichmüller space. *Duke Math. J.*, 161(6):1055–1111, 2012.
- Alex Eskin, Maxim Kontsevich, and Anton Zorich. Lyapunov spectrum of square-tiled cyclic covers. *J. Mod. Dyn.*, 5(2):319–353, 2011.
- Alex Eskin and Maryam Mirzakhani. Counting closed geodesics in moduli space. *J. Mod. Dyn.*, 5(1):71–105, 2011.
- Alex Eskin and David Fisher. Quasi-isometric rigidity of solvable groups. In *Proceedings of the International Congress of Mathematicians. Volume III*, pages 1185–1208, New Delhi, 2010. Hindustan Book Agency.
- Alex Eskin. Unipotent flows and applications. In *Homogeneous flows, moduli spaces and arithmetic*, volume 10 of *Clay Math. Proc.*, pages 71–129. Amer. Math. Soc., Providence, RI, 2010.
- Alex Eskin, Andrei Okounkov, and Rahul Pandharipande. The theta characteristic of a branched covering. *Adv. Math.*, 217(3):873–888, 2008.
- Alex Eskin, David Fisher, and Kevin Whyte. Quasi-isometries and rigidity of solvable groups. *Pure Appl. Math. Q.*, 3(4, part 1):927–947, 2007.
- Yitwah Cheung and Alex Eskin. Unique ergodicity of translation flows. In *Partially hyperbolic dynamics, laminations, and Teichmüller flow*, volume 51 of *Fields Inst. Commun.*, pages 213–221. Amer. Math. Soc., Providence, RI, 2007.
- Alex Eskin and Hee Oh. Representations of integers by an invariant polynomial and unipotent flows. *Duke Math. J.*, 135(3):481–506, 2006.

Alex Eskin and Andrei Okounkov. Pillowcases and quasimodular forms. In *Algebraic geometry and number theory*, volume 253 of *Progr. Math.*, pages 1–25. Birkhäuser Boston, Boston, MA, 2006.

Alex Eskin and Hee Oh. Ergodic theoretic proof of equidistribution of Hecke points. *Ergodic Theory Dynam. Systems*, 26(1):163–167, 2006.

Alex Eskin, Jens Marklof, and Dave Witte Morris. Unipotent flows on the space of branched covers of Veech surfaces. *Ergodic Theory Dynam. Systems*, 26(1):129–162, 2006.

Alex Eskin. Counting problems in moduli space. In *Handbook of dynamical systems. Vol. 1B*, pages 581–595. Elsevier B. V., Amsterdam, 2006.

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Alex Eskin, Shahar Mozes, and Hee Oh. On uniform exponential growth for linear groups. *Invent. Math.*, 160(1):1–30, 2005.

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Alex Eskin and Andrei Okounkov. Asymptotics of numbers of branched coverings of a torus and volumes of moduli spaces of holomorphic differentials. *Invent. Math.*, 145(1):59–103, 2001.

Alex Eskin and Howard Masur. Asymptotic formulas on flat surfaces. *Ergodic Theory Dynam. Systems*, 21(2):443–478, 2001.

Alex Eskin and Benson Farb. Quasi-flats in $H^2 \times H^2$. In *Lie groups and ergodic theory (Mumbai, 1996)*, volume 14 of *Tata Inst. Fund. Res. Stud. Math.*, pages 75–103. Tata Inst. Fund. Res., Bombay, 1998.

Alex Eskin. Counting problems and semisimple groups. In *Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998)*, number Extra Vol. II, pages 539–552 (electronic), 1998.

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Alex Eskin. Quasi-isometric rigidity of nonuniform lattices in higher rank symmetric spaces. *J. Amer. Math. Soc.*, 11(2):321–361, 1998.

A. Eskin, S. Mozes, and N. Shah. Non-divergence of translates of certain algebraic measures. *Geom. Funct. Anal.*, 7(1):48–80, 1997.

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Alex Eskin, Shahar Mozes, and Nimish Shah. Unipotent flows and counting lattice points on homogeneous varieties. *Ann. of Math. (2)*, 143(2):253–299, 1996.

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Alex Eskin and Yonatan R. Katznelson. Singular symmetric matrices. *Duke Math. J.*, 79(2):515–547, 1995.

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Preprints

Alex Eskin and Carlos Matheus. Semisimplicity of the Lyapunov spectrum for irreducible cocycles, 2013, arXiv:1309.0160.

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Alex Eskin, Maryam Mirzakhani, and Kasra Rafi. Counting closed geodesics in strata, 2012, arXiv:1206.5574.

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