

Alex Furman

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Mathematics, Statistics and Computer Science (MC 249)
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Professional Preparation

Hebrew University	B.Sc. in Mathematics, CS (<i>magna cum laude</i>)	1983-86
Hebrew University	M.Sc. in Mathematics (<i>magna cum laude</i>)	1987-89
Hebrew University	Ph.D. in Mathematics	1991-96

Appointments

University of Illinois at Chicago, Chicago, IL
Professor, 2007 – present.

University of Illinois at Chicago, Chicago, IL
Associate Professor, 2002 – 2007.

University of Illinois at Chicago, Chicago, IL
Assistant Professor, 1999 – 2002.

University of Chicago, Chicago, IL
L. E. Dickson Instructor of Mathematics, 1998 – 1999.

Penn State University, State College, PA
Post Doctoral Fellow, Dynamical Systems Center, 1997 – 1998.

University of Chicago, Chicago, IL
L. E. Dickson Instructor of Mathematics, 1996 – 1997.

Grants and Awards

NSF Grant DMS-0604611 for 2006–2009.
BSF USA-Israel Grant 2004345 for 2006–2009.
NSF Career Award DMS-0094542 for 2001–2006.
NSF Grants DMS-9803607, DMS-9996433 for 1998–2001.

Publications

- (with N. Monod), Actions of product groups on manifolds
submitted, 30 pages, arXiv/math:0710.3119
- Rigidity of group actions on infinite volume homogeneous spaces II,
J. Amer. Math. Soc. **21** (2008) 479–512, arXiv/math.DS/0605273.
- On Popa’s Cocycle Superrigidity Theorem
Inter. Math. Res. Notices **2007** (2007), 1–46, arXiv/math.DS/0608364.
- (with J. Bourgain, E. Lindenstrauss, S. Mozes)
Invariant measures and stiffness for non Abelian groups of toral automorphisms
C. R. Acad. Sci. Paris, Ser. I **344** (2007), 737–742.
- (with U. Bader, T. Gelander, N. Monod)
Property (T) and rigidity for actions on Banach spaces,
Acta Mathematica, **198** (2007), 57–105, arXiv/math.GR/0506361.
- Outer automorphism groups of some ergodic equivalence relations,
Comment. Math. Helv. **80** (2005), no. 1, 157–196, arXiv/math.DS/0312346.
- On minimal strongly proximal actions of locally compact groups,
Israel J. Math. **136** (2003), 173–187.
- Random walks on groups and random transformations,
Handbook of dynamical systems, Vol. 1A, 931–1014, North-Holland, Amsterdam, 2002.
- Coarse-geometric perspective on negatively curved manifolds and groups,
Rigidity in dynamics and geometry (Cambridge, 2000),
149–166, Springer, Berlin, 2002.
- Mostow-Margulis rigidity with locally compact targets
Geom. Funct. Anal. (GAFA) **11** (2001), no. 1, 30–59.
- Smooth dynamical systems with discrete spectrum
Appendix to R. Gunesch and A. Katok: Construction of weakly mixing diffeomorphisms preserving measurable Riemannian metric and smooth measure
Discrete Cont. Dynam. Syst. **6** No 1, (2000), 61–88.
- Orbit equivalence rigidity,
Annals of Mathematics (2) **150** (1999), no. 3, 1083–1108.
- Gromov’s measure equivalence and rigidity of higher rank lattices,
Annals of Mathematics (2) **150** (1999), no. 3, 1059–1081.
- (with Y. Shalom), Sharp ergodic theorems for group actions and strong ergodicity,
Ergod. Th. Dynam. Systems **19** (1999), no. 4, 1037–1061.
- (with B. Weiss), On the ergodic properties of Cartan flows in ergodic actions of $SL(2, \mathbb{R})$ and $SO(n, 1)$,
Ergod. Th. Dynam. Systems **17** (1997), no. 6, 1371–1382.
- On the multiplicative ergodic theorem for uniquely ergodic systems,
Ann. Inst. H. Poincaré Probab. Statist. **33** (1997), no. 6, 797–815.

Preprints and Work in Progress

- (with U. Bader, A. Shaker)
Superrigidity via Weyl groups: actions on the circle
preprint, ArXiv/math.DS/0605276.
- (with U. Bader)
Superrigidity via Weyl groups: hyperbolic-like targets
in preparation.
- (with U. Bader, A. Gorodnik, B. Weiss)
Rigidity of group actions on homogeneous spaces, III
in preparation.
- Cohomology of measurable cocycles
in preparation.