Uri Bader: CV

Academic appointments:

2017-	Full Professor	Mathematics, the Weizmann Institute.
2015- 2017	Associate Professor	Mathematics, the Weizmann Institute.
2011- 2015	Associate Professor	Mathematics, the Technion.
2007-2011	Senior Lecturer	Mathematics, the Technion.
2004-2007	L.E Dickson Instructor	Mathematics, University of Chicago.
1997-2004	Teaching Assistant	Mathematics, the Technion.

Academic degrees:

1999, The Technion, Israel, Mathematics, B.Sc. (summa cum laude).
2004, The Technion, Israel, Mathematics, Ph.D, supervised by Prof. Amos Nevo.

Academic services:

2018- 2023	Department head, Department of Mathematics, the Weizmann Institute.
2018- 2021	Member of the hiring committee of the Weizmann Institute.
2009-2010	Technion Math. department colloquium organizer.
2010-2014	Technion Math. department Scouting committee.
2011-2014	Technion Math. department graduate studies committee.
2014	Technion Center of Mathematical Science committee.

Education services:

- Chair of the Advisory Board for Mathematics of the Israeli Ministry of Education (2018-22).
- Member of the Education committee of the Israeli Mathematical Union (2019-).
- Teaching in highschools and middle schools, giving numerous lectures to Israeli math teachers.

Honors and grants:

- CRM-Simons Professor, Montreal June 2023.
- 2023-2026, BSF grant: Rigidity and randomness in discrete groups, 53,100 USD.
- 2020-2024, ISF Moked Mehkar grant: Action Now, 240,000 Shekels.
- 2020-2022, Minerva grant: 75,000 Euros.
- 2020-2022, BSF grant: Deformation and Stability for Group Actions, 136,000 USD.
- Invited as a Clay professor to the MSRI semester "Random and Arithmetic Structures in Topology" 2020 (declined due to covid).
- Adjunct Professor, Tata Institute of Fundamental Research, Mumbai 2019-2022.
- 2019 the Moshe Porath Professorial Chair of Mathematics.

- 2016-2019, ISF Moked Mehkar grant: Action Now, 240,000 Shekels.
- 2012-2017, ERC starting grant: Ergodic group theory, 1,150,000 Euros.
- 2012, Minerva grant "Flows on homogeneous spaces", 25,000 Euros.
- 2010-2014, BSF grant: Topics in Measured Group Theory (with A. Furman), 68,000 USD.
- 2009-2012, European union grant: FP7-People-IRG 223820- UB07, 100,000 Euros.
- 2009-2012, ISF grant: Boundary Theory for Groups, 572,000 Shekels.
- 2009, GIF Young Scientists granted project: Equivalence relations on groups, 33,000 Euros.
- 2005 the Technion Math. faculty prize for excellence Ph.D. thesis.

Ph.D students:
- Michael Galsner
- Aviv Taller
- Alon dogon
- Itamar Vigdorovich (expected graduation: 2024).
- Elyasheev Leibtag (expected graduation: 2024).
- Omer Lavy (graduated: 2015).
- Izhar Oppenheim (graduated: 2012).

Master students:
- Yuval Gorfine.
- Anna Rohova (graduated: 2023).
- Yeari Vigder (graduated: 2022).
- Aviv Teller (graduated: 2021).
- Yaniv Shahar (graduated: 2021).
- Itamar Vigdorovich (graduated: 2019).
- Elyasheev Leibtag (graduated: 2019).
- Miel Sharf (graduated: 2015).
- Ido Nachum (graduated: 2015).
- Alon Lessel (graduated: 2014).
- Vladimir Finkelshtein (graduated: 2012).

Supervised postdocs:
- Daniele D'Angeli.
- Tobias Hartnick.
- Jean Lecureux.
- Baptiste Olivier.
- Adrien Boyer.
- Lukasz Garncarek.
- Federico Vigolo.
- Kevin Boucher.
- Arielle Leitner.
- Kyle Austin.

- Carlos De la Cruz Mengual.
- Guy Salomon.
- Corentin Le-bars.

Publications:

Thesis: *Conformal actions of simple Lie-groups on Pseudo-Riemannian manifolds.* Supervisor: Amos Nevo, 2004.

Refereed articles:

(1) U. Bader and A. Nevo *Conformal actions of simple Lie-groups on compact pseudo-Riemannian manifolds.* Journal of Differential Geometry 60 (2002), 355-387.

(2) U. Bader and Y. Shalom *Factor and normal subgroup theorems for lattices in products of groups.* Invent. Math. 163 (2006), no. 2, 415–454.

(3) U. Bader, A. Furman, T. Gelander and N. Monod *Property (T) and rigidity for actions on Banach spaces. Acta Math. 198 (2007), no. 1, 57–105.*

(4) U. Bader and U. Onn *Geometric representations of* GL(n, R)*, cellular Hecke algebras and the embedding problem.* J. Pure Appl. Algebra 208 (2007), no. 3, 905–922.

(5) U. Bader, Ch. Frances and K. Melnick *An embedding theorem for automorphism groups of Cartan geometries.* GAFA 19-2 (2009), 333-355.

(6) U. Bader *Conformal Actions on Homogeneous Lorentzian Manifolds.* Journal of Lie-Theory 20 (2010), 469–481.

(7) U. Bader and R. Muchnik *Boundary Unitary Representations - irreducibility and rigidity.* Journal of Modern Dynamics 5 (2011), no. 1, 49-69.

(8) U. Bader, P.E Caprace, T. Gelander and S. Mozes *Simple groups without lattices.* Bulletin of the London Mathematical Society (2011), 1-13.

(9) U. Bader and U. Onn *On some geometric representations of* GL$_n(\mathcal{O})$*.* Communications in Algebra Volume 40, Issue 9, 2012, 3169-3191.

(10) U. Bader, A. Furman and R. Sauer *Efficient subdivision in hyperbolic groups and applications.* Groups Geom. Dyn. 7 (2013), no. 2, 263-292.

(11) U. Bader, T. Gelander and N. Monod *A fixed point theorem for* L^1*.* Inventiones Math. 189 No. 1 (2012), 143-148.

(12) U. Bader, A. Furman and R. Sauer, *Integrable measure equivalence and rigidity of hyperbolic lattices.* Invent. Math. 194 (2013), no. 2, 313-379.

(13) U. Bader, A. Furman, *Boundaries, Weyl groups, and Superrigidity.* Electronic Research Announcements in Mathematical Sciences, 19 (2012) 41-48.

(14) U. Bader, A. Furman and R. Sauer, *Weak notions of normality and vanishing up to rank in L^2-cohomology.* Int. Math. Res. Not. IMRN 2014, no. 12, 3177–3189.

(15) U. Bader, A. Furman, A. Gorodnik and B. Weiss, *Rigidity of group actions on homogeneous spaces III*, Duke Math. J. 164 (2015), no. 1, 115–155.

(16) U. Bader, C. Rosendal and R. Sauer, *On the cohomology of weakly almost periodic group representations*, J. Topol. Anal. 6 (2014), no. 2, 153–165.

(17) U. Bader and A. Furman, *Boundaries, rigidity of representations, and Lyapunov exponents.* Proceedings of the ICM 2014, 27 pages.

(18) U. Bader, B. Duchesne and J. Lécureux *Furstenberg Maps For CAT(0) Targets Of Finite Telescopic Dimension.* to appear in Ergodic Theory and Dynamical Systems.

(19) U. Bader and P. Nowak *Cohomology of deformations*, J. Topol. Anal. 7 (2015), no. 1, 81–104.

(20) U. Bader, A. Furman and R. Sauer, *On the structure and arithmeticity of lattice envelopes*, Math. Acad. Sci. Paris 353 (2015), no. 5, 409–413.

(21) U. Bader, T. Gelander, *Equicontinuous actions of semisimple groups* Groups Geom. Dyn. 11 (2017), no. 3, 1003–1039.

(22) U. Bader, B. Duchesne, J. Lecureux, *Amenable Invariant Random Subgroups*, Israel J. Math. 213 (2016), no. 1, 399–422.

(23) U. Bader, B. Duchesne, J. Lecureux, *Almost algebraic actions of algebraic groups and applications to algebraic representations*, Groups Geom. Dyn. 11 (2017), no. 2, 705–738.

(24) U. Bader, J. Dymara, *Boundary unitary representations - right-angled hyperbolic buildings*, J. Mod. Dyn. 10 (2016), 413–437.

(25) U. Bader, C. Rosendal, *Coarse equivalence and topological couplings of locally compact groups*, Geom. Dedicata 196 (2018), 1–9.

(26) U. Bader, P-E. Caprace, J. Lecureux *On the linearity of lattices in affine buildings and ergodicity of the singular Cartan flow*, J. Amer. Math. Soc. 32 (2019), no. 2, 491–562.

(27) U. Bader, T. Gelander, R. Sauer *Homology and homotopy complexity in negative curvature*, J. Eur. Math. Soc. (JEMS) 22 (2020), no. 8, 2537–2571.

(28) U. Bader, P-E. Caprace, T. Gelander, Sh. Mozes *Lattices in amenable groups*, Fundamenta Mathematicae 246 (2019), no. 3, 217–255.

(29) U. Bader, A. Furman, R. Sauer *An adelic arithmeticity theorem for lattices in products*, Mathematische Zeitschrift 293(2019), no.3-4, 1181–1199.

(30) U. Bader, A. Furman, R. Sauer *Lattice envelopes*, Duke Math. J. 169 (2020), no. 2, 213–278.
(31) U. Bader, A. Furman, *Super-Rigidity and non-linearity for lattices in products*, Compositio Mathematica 156(2020), no.1, 158–178.
(32) U. Bader, P. Nowak, *Group algebra criteria for vanishing of cohomology*, J. Funct. Anal. 279 (2020), no. 11, 108730, 18 pp.
(33) U. Bader, V. Finkelshtein, *On the horofunction boundary of discrete Heisenberg group*, Geom. Dedicata 208 (2020), 113–127.
(34) U. Bader, D. Fisher, N. Miller, M. Stover, *Arithmeticity, superrigidity, and totally geodesic submanifolds*, Ann. of Math. (2) 193 (2021), no. 3, 837–861.
(35) U. Bader, A. Furman, *An extension of Margulis's superrigidity theorem*, University of Chicago Press, Chicago, IL, 2022, 47–65 (special issue in honor of Grigory Margulis).
(36) U. Bader, R. Boutonnet, C. Houdayer, J. Peterson, *Charmenability of arithmetic groups of product type*, Invent. Math. 229 (2022), no. 3, 929–985.
(37) U. Bader, A. Taller, *Balanced measures on compact median algebras*, Geom. Dedicata 217 (2023), no. 3, Paper No. 43, 11 pp.
(38) U. Bader, D. Fisher, N. Miller, M. Stover, *Arithmeticity, superrigidity and totally geodesic submanifolds of complex hyperbolic manifolds*, Invent. Math. 233 (2023), no. 1, 169–222.
(39) U. Bader, R. Boutonnet, C. Houdayer, *Charmenability of higher rank arithmetic groups*, to appear in Annales Henri Lebesgue.
(40) U. Bader, E. Leibtag, *Homomorphic images of algebraic groups*, to appear in Journal of Algebra (special issue in honor of Jacques Tits).
(41) U. Bader, A. Lubotzky, R. Sauer, Sh. Weinberger, *Stability and instability of lattices in semisimple groups*, to appear in Israel J. of Math (special issue in honor of Peter Sarnak).

Preprints:

(42) U. Bader, P.E Caprace, A. Furman, A. Sisto, *Hyperbolic actions of higher-rank lattices come from rank-one factors*, in revision for Ergodic Theory and Dynamical Systems (ETDS).
(43) U. Bader, A. Sisto, *Characterising acylindrical hyperbolicity via permutation actions*, in revision for Proceedings of the American Mathematical Society.
(44) U. Bader, I. Vigdorovich, *Charmenability and Stiffness of Arithmetic Groups*, in revision for JEMS.
(45) U. Bader, A. Furman, *Some ergodic properties of metrics on hyperbolic groups.*
(46) U. Bader, A. Furman, *Margulis' Super-Rigidity Theorem for non-lattices.*
(47) A. Aizenbud, U. Bader, *Geometric representations of group actions.*

(48) U. Bader, R. Sauer, *Higher Kazhdan property and unitary cohomology of arithmetic groups.*

(49) U. Bader, A. Taller, *Compact Median Algebras are Boundaries.*

(50) U. Bader, A. Furman, J. Lecureux, *Normal Subgroup Theorem for groups acting on $\tilde{A}_2$-buildings.*

In preparation (advanced state draft available on demand):

(51) U. Bader, A. Furman, *Boundary maps and simplicity of the Lyapunov spectrum* (71pp).

Plenary talks

- Main speaker, Israeli Mathematical Union, 2023.
- Main speaker, lecture series at "Joram seminar", Jerusalem 2021.
- Lecture series at IHES, Paris 2021.
- Lecture series at "Analytic Group Theory", Warsaw 2019.
- Lecture series at the Tata Institute, Mumbai 2019.
- Main speaker, Edinburgh Mathematical Society, 2018.
- Lecture series, Utah 2017.
- Lecture series at Northwestern University, 2017.
- Lecture series at the Tata Institute, Mumbai 2017.
- Main speaker at the conference "Geometric Analysis", Kyoto Japan, June 2016.
- Main speaker at the school "Rigidity", Tokyo Japan, November 2014.
- Special lecture series at Wroclaw Poland, September 2014.
- Talk series at the Fields institute, Toronto Canada, February 2014.
- Main lecturer (talk series) at "Lectures on Furstenberg-Poisson boundaries", Luminy France, January 2014.
- Main lecturer (talk series) at "Geometric and Analytic Group Theory", Ventotene Italy, September 2013.
- Main lecturer (talk series) at "Geometric and Dynamical Aspects of Discrete Groups", Lille France, September 2013.
- Main lecturer (talk series) at "Locally compact groups beyond Lie theory", Spa Belgium, April 2013.
- Main lecturer: Group Boundary theory and its applications, Orleans, May 2012.
- Trends and Perspectives in Mathematics, Beit Hatfutsot Tel-Aviv, November 211.
- Plenary talk at the Israeli Mathematical Union meeting, Rehovot, June 2010.
- Main lecturer at the school "Geometry and Rigidity of Groups", Munster Germany, August 2009.
- Main lecturer at the school Geometry and Probability on Groups, Orsay France, January 2009.
- A main lecturer at the "Geometric group theory" conference, Luminy France, February 2007.

Invited talks (partial list)

- Ventotene, 2023.
- Ascona, 2023.
- Montreal 2023.
- CIRM, Luminy, 2022.
- CIRM, Luminy, 2020.
- Invited speaker to The Asian Mathematical Conference, AMC 2020 (event canceled due to covid).
- The legacy of Hillel Furstenberg, Sanya China, December 2019.
- L^2-invariants, Madrid Spain, June 2018.
- Polish Groups, Lausanne Switzerland, April 2018.
- On the Zimmer Conjecture, LA USA, January 2018.
- Toulouse, July 2017.
- Isaac Newton Institute, Cambridge UK, May 2017.
- Northwestern, Evanston USA, April 2017.
- MSRI, Berkeley USA, December 2016.
- Measured Group Theory, Vienna Austria, Feb 2016.
- Dynamics of Geometric Group Actions, Bonn Germany, Jan 2016
- Manifolds and groups, Ventotene Italy, Sept 2015.
- Geometric Group Theory, Wroclaw Poland, July 2015.
- Workshop on Generalizations of Symmetric Spaces, Nahsholim Israel, June 2015.
- Geometry, Groups and Topology, Karlsruhe Germany, October 2013.
- Group Theory, Measure, and Asymptotic Invariants, Oberwolfach Germany, August 2013.
- Action Now conference, Berlin, Oct 2012.
- Course geometry of infinite groups, Lille, June 2012.
- Measured group theory, IHP Paris, July 2011.
- ERGODIC GEOMETRY, Orsay France, May 2011.
- Trends in Dynamics, Northwestern University, April 2011.
- Geometric Group Theory, Bedlewo Poland, June 2010.
- CAT(0) Spaces and Affine Buildings , Sde-Boker Israel, February 2010.
- Geometric Group Theory, Bedlewo Poland, June 2009.
- 13th Jerusalem Midrasha Mathematicae AMENABILITY GROUPS AND DYNAMICS, Dec 2008.
- 14th Amitsur Symposium, Technion Israel, July 2008.
- "Harmonic Analysis and Group Actions in Analysis Geometry and Probability", Zakopane Poland, April 2008.
- "Totally Disconnected Groups, Graphs and Geometry", Blaubeuren Germany, May 2007.
- "Dynamics of Lie group actions on parameter spaces" workshop, Sde Boker Israel, January 2007.
- "von Neumann Algebras and Ergodic Theory", UCLA, March 2007.

- "Rigidity, Dynamics, and Group Actions" conference, Banff, July 2005.
- "Wasatch Topology conference", May 05, Utah.
- "MIDRASHA: discrete sub-groups of semisimple Lie-groups", the Hebrew university, Israel, March, 2002.
- "The European conference in Ergodic theory, Geometric rigidity and Number theory, the Isaac Newton institute, Cambridge, July, 2000.
- "The international conference of Geometric and Combinatorial Group Theory", The Technion, June, 2000.

Organizing events and seminars:

- Founder and co-organizer of the "action now seminar", the Israeli wandering seminar on group actions, active since 2008.
- Founder and co-organizer of the "Midrasha on Groups" seminar, Weizmann, active since 2014.
- Co-organizer of the school "Group Actions, Geometry and Dynamics", Ohalo 2022.
- Co-organizer of the semester "Analytic Group Theory", Warsaw 2019.
- Co-organizer of the school "Generalized cohomologies", 2015.
- Co-organizer of the school "Polish Groups", 2016.
- Founder and Co-organizer of the seminar "Groups Dynamics and Related Topics", Technion 2014.
- Co-organizer of the Technion Topology seminar, 2010-2013.
- Co-organizer of the conference "Mapping Class Groups and Teichmuller Theory", 2014.
- Co-organizer of the conference "Young Geometric Group Theory", 2013.
- Co-organizer of the Minerva summer school "Flows on homogeneous spaces", 2012.
- Co-organizer of the conference "Geometric Group Theory", 2011.
- Co-organizer of the workshop "Property (T) and around", 2011.
- Co-organizer of the summer school "Growth", Summer 2010.
- Co-organizer of the summer school "things you can do with SL(2), Summer 2008.
- Co-organizer of the parallel session "Group Actions" at the IMU meeting, May 2007.