# Curriculum Vitae

***Alexander Lubotzky***

**Birth** 28.6.56 in Israel

**Family** Married to Yardenna (Roston), 28.8.80

**Children:** Asael (21.1.83), Boaz (21.1.83), Shakked (6.8.84), Carmel (10.2.87), Oren (8.3.90), Meitar (19.8.94)

## Academic Background

B.Sc., Mathematics, Bar-Ilan University - 1975 (summa cum laude)

Ph.D., Mathematics, Bar-Ilan University - 1979

**Supervisor**: Professor H. Furstenberg

Title: Pro-finite groups and the congruence subgroup problem

## Current

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| 2021–current | Weizmann Institute - *Professor* |
| 1989–current | The Hebrew University - *Professor* (Emeritus since Oct. 2021) Holding the Maurice and Clara Weil Chair in Mathematics |
| 1999–current | Yale University - *Adjunct Professor* (part-time) |

## Previous Employment

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| 1976–1978 | Bar-Ilan University - *Assistant* |
| 1978–1979 | Bar-Ilan University - *Instructor* |
| 1979–1982 | Bar-Ilan University - *Lecturer* |
| 1977–1982 | Israel Defense Forces |
| 1982–1985 | The Hebrew University - *Senior Lecturer* |
| 1985–1988 | The Hebrew University - *Associate Professor* |
| 1994–1996 | Chairman of Einstein Institute of Mathematics |
| 1996–1999 | Israeli Knesset, Member |

## Visiting Positions

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|---|---|
| Winter 1977 | Yeshiva University - Visiting Fellowship |
| Fall 1979 | Yale University - Post Doctoral Associate |
| Fall semester 1981–82 | Columbia University - Visiting Assistant Professor |
| Summer 1983 | The Institute for Advanced Study - Princeton |
| 1984–85 | Stanford University - Visiting Assistant Professor |

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| Spring 1985 | The University of Chicago - Visiting Assistant Professor |
| 1988–89 | Yale University - Visiting Professor |
| Fall 1989 | Columbia University - Visiting Professor |
| 1992–93 | University of Chicago - Visiting Professor |
| Fall 2000 | Columbia University - Sam Eilenberg Visiting Professor |
| 2005–06 | Institute for Advanced Study - Princeton - (leading a year long program on "Groups, representations and discrete mathematics") |
| Fall 2012 | Microsoft Research Center, New England - Visiting Researcher |
| Fall 2014 | Courant Institute of NYU - Visiting Professor |
| Spring 2015-Spring 2016 | Institute for Theoretical Science, ETH, Zurich - Senior Fellow |
| Fall 2020 | Institute for Advanced Study - Princeton - Visiting Professor |

**Profession** Teaching and research in mathematics. Chief fields of interest: groups; Lie groups, algebraic groups; discrete subgroups of Lie groups, arithmetic groups; applications to combinatorics and computer science; combinatorial group theory; computational group theory; representation theory; connections with number theory and geometry; error correction codes

## Fellowships

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| 1980 | Fulbright Fellowship |
| 1981–83 | Bat-Sheva de Rothschild Fellowship |
| Sept.-Oct. 1983 | Fellowship of the British Royal Society |

## Prizes and Academic honors

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| 1977 | Sir Isaac Wolfson honours (for the outstanding student of Bar-Ilan University) |
| 1979 | Landau Award of "Mifal Hapayis" (the national lottery for education) |
| 1980–81 | Bergman Memorial Prize of the Bi-National Science Foundation – United States-Israel, (in cooperation with Professor Hyman Bass of Columbia University) |
| 1991 | "Erdős Prize" of the Israeli Mathematical Union. (A prize for the best Israeli mathematician/computer scientist under the age of 40) |
| 1993 | Ferran Sunyer i Balaguer Prize 1993- from the Institute dÈstudis Catalans, Barcelona, Spain. (For the book "Discrete groups, Expanding Graphs and Invariant Reassures") |
| 2002 | The Rothschild Prize |
| 2002 | Ferran Sunyer i Balaguer Prize 2002 - for the book "Subgroup growth" with Professor Dan Segal |
| 2003 | ISI list of Highly Cited Research |

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|---|---|
| 2005 | Elected as Foreign Honorary Member of the American Academy of Arts and Sciences |
| 2006 | Honorary doctoral degree from the University of Chicago |
| 2007 | The Rector's Prize of the Hebrew University (for excellency in research, teaching and service to the university) |
| 2009-2014 | ERC advanced grant ("Expander graphs in Pure and Applied Mathematics") |
| 2011 | Keynote speaker at the annual joint meeting of the American Mathematical Society and the Mathematical Association of America (3 Colloquium lectures) |
| 2014 | Elected to the Israel Academy of Sciences and Humanities |
| 2015-2020 | ERC advanced grant ("High dimensional expanders") |
| 2018 | Israel Prize in Mathematics and Computer Science |
| 2018 | Plenary speaker at the ICM 2018 (Brazil) |
| 2021-2026 | ERC advanced grant ("Stability and testability") |

## Editor of

1. Israel Journal of Mathematics - (editor-in-chief 1990–1995, editor 1995-present)
2. Journal of Algebra (1990-2005)
3. GAFA - Geometric and Functional Analysis (1990–2000)
4. European Journal of Combinatorics
5. Geometrica Dedicata
6. Journal of the Glasgow Mathematical Society
7. American Mathematical Society - Electronic Research Announcements (ERW-AMS)
8. Duke Journal of Mathematics
9. Journal of the European Mathematical Society (JEMS)
10. Experimental Mathematics

## Lectures

Numerous lectures at many universities and conferences around the globe.

**Most distinguished ones**

1) The annual meeting of the Canadian Mathematical Society, 1985
2) CBMS-NSF Conference - main lecturer (10 lectures), Norman, Oklahoma, 1989
3) The annual meeting of the Swiss Mathematical Society, 1991
4) The joint meeting of the American Mathematical Society and the London Mathematical Society, Oxford, 1991
5) Groups-St. Andrews - main lecturer (5 lectures) Galway, Ireland, 1993
6) International Congress of Mathematicians, Invited speaker, Zürich, 1994
7) The British Combinatorical Colloquium, 1995
8) The British Mathematical Colloquium, 1997
9) The Leonardo de Vinci talk, Milano, 1997
10) The Woodward Lectures, Yale University, 1998
11) Joseph Ritt Lectures, Columbia University, 1999
12) Eilenberg Lectures, Columbia University, 2000
13) M. B. Porter Lectures, Rice University, 2001
14) Israeli Mathematics Union Annual Meeting, 2001 - Plenary
15) Rencontres Matematiques, ENS - Lyon (3 Lectures), 2002
16) First meeting of the Japan Association of Mathematics, 2003

17) Distinguished Professor Lectures (3 lectures) - UCLA, 2004
18) Scola de Algebra, Brazil (3 lectures), 2004
19) Geometry - New Zealand (3 lectures), 2005
20) Frontier Lectures, Texas A& M (3 lectures), 2005
21) AMS Meeting, Plenary, Delaware, 2005
22) Shanks Lecture, Vanderbilt University, 2006
23) Whitman Lectures, University of Southern California (USC), 2008
24) Abel Prize lecture, Oslo, 2008
25) Lectures at the Leading Edge, CRM, Montreal, 2010
26) Colloquium lectures, AMS-MAA Annual meeting (3 lectures), New-Orleans, USA, 2011
27) The Mordell Lecture, Cambridge University, 2011
28) The Sophus Lie Lectures, Cornell University, 2012
29) The Alfred Brauer Lectures, University of North Carolina, 2012
30) The Simon Lectures, MIT, 2012
31) Clay Scholar Lecture, Park City, 2012
32) The Takagi Lectures of the Mathematical Society of Japan, 2012
33) The Plancherel Lecture, Swiss Mathematical Society, 2013
34) The Zassenhaus Lectures, University of Ohio, 2014
35) The Magnus Lectures, Colorado State University, 2014
36) de Rham Lecture, Geneva, 2014
37) Virginia Mathematics Lectures - Inaugural Speaker 2014
38) ETH-ITS Science Colloquium 2015
39) Netanyahu lecture, Technion, Haifa, 2015
40) Grunewald Memorial lecture, Muenster, 2015
41) Erwin Schrödinger lecture, Vienna, 2016
42) British Mathematics Colloquium 2016
43) Seminario Matematico e Fisico di Milano, 2016
44) Distinguished Lectures, Madison, 2018
45) Phillips Lectures, Michigan, 2018
46) ICM18 - Plenary, Rio de Janeiro, 2018
47) Ramanujan centennial, the Royal Society, 2018
48) Ramanujan lectures, Florida, 2019
49) Clay Lecture, Oxford, 2019
50) Simons public lecture, NY, 2019
51) Michael Erceg lecture, Auckland, New Zealand, 2020
52) Distinguished Lecture Series of the Indian Mathematics Consortium, 2021

## Other activities

1) Member of the team assigned by NSF to write a report on Group Theory for the American Congress, 1994
2) Member of the panel to select speakers for the algebra section of the International Congress of Mathematicians in Berlin, 1998
3) Member of the panel to select speakers for the Lie Groups section of the International Congress of Mathematicians in Berlin, 1998
4) Member of the board of "Beit Morasha", 1987–2005
5) Member of the academic committee of Magnes Press, 1990–2005
6) Member of the board of the Minerva Center, Mathematics Department of Tel Aviv University, 2001–2008
7) Member of academic board of Ariel College, 2001–2008
8) Member of the academic board of Emunah College, 2006–2010
9) Chairman of the panel to select speakers for the algebra section of the International Congress of

Mathematicians in Madrid, 2006
10) Member of the executive board of the Hebrew University, 2005–2009
11) Member of the public board of governors of the National Library, 2005–2012
12) Member of the academic board of Herzog College, 2007–present
13) Chairman of general editorial board of Magnes Press 2004–2011
14) Visiting committee for the Department of Mathematics of the Technion, 2007
15) Member of the public board of Yad Ben Zvi, 2011–2015
16) Member of the Program Committee, International Congress of Mathematics, Seoul, 2014
17) Member of the Committee of the Ramanujan SASTRA prize 2018–2022
18) Visiting Committee for the Faculty of Basic Science EPEL, Lausanne, Switzerland, 2019
19) Visiting Committee for the School of Mathematics TIFR, Mumbai, India, 2019
20) Member of the Mentor Group of the Infosys-Chandrasekharan Random Geometry Centre, India
21) President of the Israel Mathematical Union (2019–2020)
22) Member of the board of Yozma-Center of Knowledge and Research in Education (Israeli Academy of Sciences)
23) Member of the Abel Prize committee, 2021-22
24) Member of various committees of the Hebrew University and of the Israeli Academy of Sciences
25) Member of the Academic Board of the planned University of the Galilee

## List of Publications

**Thesis**

A. Lubotzky, *Pro-finite groups and the congruence subgroup problem*, Thesis, Bar-Ilan University, 1979 (in Hebrew).

**Books**

1. A. Lubotzky and A. Magid, Varieties of Representations of Finitely Generated Groups, American Math. Soc. Memoirs, number 336, Providence, R.I., 1985.
2. A. Lubotzky, Discrete Groups, Expanding Graphs and Invariant Measures, Progress in Mathematics 125, Birkhäuser, 1994.
   New edition appears as part of the series "Modern Birkhäuser Classics", Birkhäuser Verlag 2010.
3. H. Bass and A. Lubotzky, Tree Lattices, Progress in Mathematics 176, Birkhäuser 2000.
4. A. Lubotzky and Dan Segal, Subgroup Growth, Progress in Mathematics 212, Birkhäuser, Basel, 2003.
5. E. de Shalit, A. Lubotzky, D. Puder, Mivniim Algebriim (Algebraic Structure), in Hebrew, textbook, Magnes Press, 2018.

**Papers**:

1. A. Lubotzky, On a problem of Grothendieck, Proceedings of the Algebraic Geometry Summer Meeting, Copenhagen 1978, *Lecture Notes in Mathematics* 732, 374-383.
2. A. Lubotzky, Normal automorphisms of free groups, *Journal of Algebra* 63, (1980), 494-497.
3. A. Lubotzky, Tannaka duality for discrete groups, *American Journal of Mathematics* 102, (1980), 663-689.
4. A. Lubotzky, L. van den Dries, Subgroups of free pro-finite groups and large subfields of $\tilde{Q}$, *Israel Journal of Mathematics*, 39 (1981), 25-45.
5. A. Lubotzky and A. Magid, Cohomology of unipotent and pro-unipotent groups, *Journal of Algebra*, 74 (1982), 76-95.
6. A. Lubotzky, Free quotients and the congruence kernel of SL (2) *Journal of Algebra*, 77 (1982), 411-418.
7. D. Haran and A. Lubotzky, Embedding covers and the theory of Frobenius fields, *Israel Journal of Mathematics*, 41 (1982), 181-202.
8. A. Lubotzky, Combinatorial group theory of pro-p groups, *Journal of Pure and Applied Algebra*, 25 (1982), 311-325.

9. A. Lubotzky and A. Magid, Unipotent and pro-unipotent groups; cohomology and presentations, *Bulletin American Mathematical Society*, 7 (1982), 251-254.
10. A. Lubotzky and A. Magid, Free pro-unipotent groups, *Journal of Algebra*, 80 (1983), 323-349.
11. H. Bass and A. Lubotzky, Automorphisms of schemes and of groups of finite type, *Israel Journal of Mathematics*, 44 (1983), 1-22.
12. A. Lubotzky, Group presentations, p-adic analytic groups and lattices in SL (2,C), *Annals of Mathematics*, 118 (1983), 115-130.
13. J. Birman, A. Lubotzky and J. McCarthy, Abelian and solvable subgroups of the mapping class groups, *Duke Journal of Mathematics*, 50 (1983), 1107-1120.
14. A. Lubotzky and J. Wilson, An embedding theorem for pro-finite groups, *Archiv der Mathematik*, 42 (1984), 397-399.
15. A. Lubotzky and A. Magid, Cohomology, Poincare series and group algebras of unipotent groups, *American Journal of Mathematics*, 107 (1985), 531-553.
16. D. Haran and A. Lubotzky, Maximal abelian subgroups of free profinite groups, *Proc. Cambridge Phil. Soc.* 97 (1985), 51-55.
17. A. Lubotzky, On a problem of Magnus, *Proceeding of the Amer. Math. Soc.*, 98 (1986), 583-585.
18. A. Lubotzky, R. Phillips and P. Sarnak, Explicit expanders and the Ramanujan Conjectures, *Proceeding of the 18th annual ACM symposium on Theory of Computing (STOC)*, (1986) pp. 240-246.
19. A. Lubotzky, R. Phillips and P. Sarnak, Hecke operators and distributing points on the sphere I, *Communication on Pure and Applied Mathematics*, 39 (1986) 149-186.
20. A. Lubotzky, Dimension function for discrete groups, in *Groups - St. Andrews 1985*, Ed: E. Campbell, E. Robertson, pp. 254-262, Cambridge University Press, 1986.
21. A. Lubotzky and A. Mann, Powerful p-groups I. Finite groups, *Journal of Algebra*, 105 (1987), 484-505.
22. A. Lubotzky and A. Mann, Powerful p-groups II. p-adic analytic groups, *Journal of Algebra*, 105 (1987), 506-515.
23. A. Lubotzky, R. Phillips and R. Sarnak, Hecke operators and distributing points on the sphere II, *Communication on Pure and Applied Mathematics*, 40 (1987) 401-420.
24. A. Lubotzky, On finite index subgroups of linear groups, *Bull. London Math. Soc.*, 19 (1987) 325-328.
25. A. Lubotzky and A. Magid, Local structure of representation varieties; examples, *Proc. of "Geometry of Group Representation"*, Contemporary Mathematics, Vol. 74, pp. 215-235, American Mathematical Society, 1987.
26. A. Lubotzky, R. Phillips and P. Sarnak, Ramanujan Graphs, *Combinatorica*, 8 (1988) 261-277.
27. A. Lubotzky, Group theoretic characterization of linear groups, *Journal of Algebra*, 113 (1988) 207-214.
28. L. Babai, W.M. Kantor and A. Lubotzky, Small diameter Cayley graphs for finite simple groups, *European Journal of Combinatorics*, 10 (1989) 507-522.
29. A. Lubotzky, Trees and discrete subgroups of Lie groups over local fields, *Bull. Amer. Math. Soc.* 20 (1989) 27-30.
30. A. Lubotzky and R.J. Zimmer, Variants of Kazhdan's property for discrete subgroups of semi-simple groups, *Israel J. of Math.*, 66 (1989) pp. 289-299.
31. A. Lubotzky and A. Mann, Residually finite groups of finite rank, *Math. Proc. of the Cambridge Phil. Soc.*, 106 (1989) pp. 385-388.
32. A. Lubotzky, Locally symmetric graphs of prescribed girth and Coxeter groups, *SIAM J. on Discrete Math.*, 3 (1990) 277-180.
33. W. M. Kantor and A. Lubotzky, The probability of generating a finite simple group, *Geom. Dedicata*, 36 (1990) 67-87.
34. A. Lubotzky, Lattices of minimal covolume in $SL_2$: A nonarchimedean analogue of Siegel's theorem $\mu \geq \frac{\pi}{21}$, *Journal of the American Math. Soc.* 3 (1990) 961-975.
35. L. Babai, G. Hetyei, W. M. Kantor, A. Lubotzky and A. Seress, On the diameter of finite groups,

Proc. of "Foundations of Computer Science 1990" (FOCS).
36. A. Lubotzky and A. Mann, Groups of polynomial subgroup growth, *Inventiones Math.* 104 (1991) 521-533
37. A. Lubotzky, Lattices in rank one Lie groups over local fields, *Geometric and Functional Analysis* 1 (1991) 405-431.
38. M. Jarden and A. Lubotzky, Hilbertian fields and free pro-finite groups, *Journal of the London Math. Soc.* 46 (1992) 205-227.
39. A. Lubotzky and S. Mozes, Asymptotic properties of unitary representations of tree automorphisms, in: Harmonic Analysis and Discrete Potential Theory, (Ed: M.A. Picardello) 289-298, Plenum Press, New York 1992.
40. A. Lubotzky, Random elements of free profinite group generate a free subgroup, *Illinois J. of Math.* 37 (1993) 78-84.
41. A. Lubotzky, Torsion in the profinite completion of torsion free groups, *Oxford Quar. J. of Math.*, 44 (1993) 327-332.
42. A. Lubotzky, A. Mann and D. Segal, Finitely generated groups of polynomial subgroup growth, *Israel J. of Math.* 82 (1993) 363-371.
43. A. Lubotzky and B. Weiss, Groups and expanders, in: "Expanding Graphs", DIMACS Series in Discrete Mathematics and Theoretical Computer Science **10** (1993) 95-109.
44. A. Lubotzky, S. Mozes and M.S. Raghunathan, Cyclic subgroups of exponential growth and metrics on discrete groups, *C.R. Acad. Sci. Paris Se. 1 Math.* **317** (1993) 735–740.
45. A. Lubotzky and A. Shalev, On some analytic pro-$p$ groups, *Israel J. of Math.*, 85 (1994) 307-337.
46. H. Bass, A. Lubotzky, Rigidity of groups actions on locally finite trees, *Proc. Lond. Math. Soc.*, 69 (1994) 541-575.
47. A. Lubotzky, S. Mozes and R. J. Zimmer, Super rigidity for the commensurability group of tree lattices, *Comment. Math. Helv.* 69 (1994) 523-548.
48. H. Bass and A. Lubotzky, Linear - central filtrations on groups, in "The Mathematical Legacy of Wilhelm Magnus", (ed: W. Abikoff, J.S. Birman and K. Kuiken), Contemporary Mathematics 169, American Mathematical Society, 1994.
49. A. Lubotzky, Subgroup growth and congruence subgroups, Invent. Math. 119 (1995) 267-295.
50. A. Lubotzky, Subgroup Growth, *Proc. of the International Congress of Mathematicians*, (Zürich 1994), Vol. 1, pp. 309–317, Birkhäuser Verlag, 1995.
51. A. Lubotzky, Cayley graphs: eigenvalues, expanders and random walks, in "Surveys in Combinatorics 1995", (ed: P. Rowlinson), London Math. Soc. Lecture Notes Series 218, 155-189, Cambridge University Press, 1995.
52. A. Lubotzky, Tree-lattices and lattices in Lie groups, *Combinatorical and Geometric Group Theory*, (ed: A.J. Duncan, N.D. Gilbert and J. Howie), London Math. Soc. Lecture Notes 204, pp. 217-232, Cambridge University Press 1995.
53. A. Lubotzky, Counting finite index subgroups, in Proc. of St. Andrews/Galway Group Theory Conference, 1993, Lecture Notes LMS 212, 368–404, Cambridge Univ. Press 1995.
54. E. Hrushovski, P.H. Kropholler, A. Lubotzky and A. Shalev, Powers in finitely generated groups, *Trans. of the AMS* 348 (1996) 291-304.
55. M.P.F. du Sautoy and A. Lubotzky, Functional equations and uniformity for local zeta functions of nilpotent groups, *Amer. J. of Math.*, 118 (1996) 39-90.
56. A. Lubotzky, L. Pyber and A. Shalev, Discrete groups of slow subgroup growth, *Israel J. of Math.*, 96 (1996) 399-418.
57. A. Lubotzky, Free quotients and the first Betti number of some hyperbolic manifolds, *Transformation Groups* 1 (1996) 71-82.
58. A. Lubotzky and R.J. Zimmer, A canonical arithmetic quotient for simple Lie group actions, Proc. of the conference "Ergodic Theory and Lie Groups" Bombay, 1996.
59. A. Lubotzky, Eigenvalues of the Laplacian, the first Betti number and the congruence subgroup problem, *Ann. of Math.* 145 (1997) 441-452.

60. A. Lubotzky and T. Nagnibeda, Not every uniform tree covers Ramanujan graphs, *J. Comb.* Th. B **74**(1998), 202–212.
61. A. Lubotzky, One for almost all: Generation of $SL(n,p)$ by subsets of $SL(n,\mathbf{Z})$, in: *Algebra, $K$-Theory, Groups and Education*, (ed: T.Y. Lam and A.R. Magid), *Contemporary Math*. **243**(1999), 125–128, AMS, Providence, R.I.
62. A. Lubotzky and T. Weigel, Lattices of minimal covolume in $SL_2$ over non Archimedean fields, *Proc. London Math. Soc.*, **78**(1999), 283–333.
63. M. Jarden and A. Lubotzky, Random normal subgroups of free pro-finite groups, *J. of Group Theory*, **2**(1999), 213–224.
64. H. Bass and A. Lubotzky, Non-arithmetic super-rigid groups: counterexamples to Platonov's conjecture, *Ann. of Math*, **151**(2000), 1151–1173.
65. A. Lubotzky, S. Mozes and M.S. Raghunathan, The word and Riemannian metrics on lattices of semi-simple groups, *Publ. Math. IHES*, **91** (2000), 5-53.
66. A. Lubotzky and R.J. Zimmer, Arithmetic Structure of fundamental groups and actions of semisimple Lie groups, *Topology*, **40** (2001), 851-869.
67. A. Lubotzky and T.N. Venkataramana, A characterization of $S$-arithmetic groups in higher rank semi-simple groups, *Geom. Dedicata*, **90** (2002), 1-28.
68. B. Farb, A. Lubotzky and Y. Minsky, Rank one phenomena for mapping class groups, *Duke J. of Math.*, **106** (2001), 581-597.
69. A. Lubotzky, Enumerating boundedly generated finite groups, *Journal of Algebra*, **238** (2001), 194-1999.
70. A. Lubotzky and I. Pak, Product replacement algorithm and Kazhdan property $(T)$, *J. of the American Math. Society*, **14** (2001), 347-363.
71. A. Lubotzky, Profinite Presentations, *Journal of Algebra*, **242** (2001), 672-690.
72. H. Bass, A. Lubotzky, A. Magid and S. Mozes, The pro-algebraic completion of rigid groups, *Geometrie Dedicata*, **95**(2002), 19–58.
73. N. Alon, A. Lubotzky and A. Wigderson, Semi-direct product in groups and zig-zag product in graphs: connections and applications, *Proc. 42 IEEE FOCS* (Foundation of Computer Science) (2001), pp. 630–637.
74. M. Larsen and A. Lubotzky, On linear groups of polynomial normal subgroup growth; the $(G_2, F_4, E_8)$-theorem, in: *Algebraic Groups and Arithmetic* (Mumbai 2001), Ed. S. G. Dani and G. Prasad, Tata Inst. Fund. Res. Stud. Math., pp. 441–468, TIFR, Mumbai.
75. M. Burger, T. Gelander, A. Lubotzky and S. Mozes, Counting hyperbolic manifolds, Geometric and Functional Analysis (GAFA), **12**(2002), 1161–1173.
76. M. Abert, A. Lubotzky and L. Pyber, Bounded generation and linear groups, *International Journal of Algebra and Computation*, **13** (2003), 401–413.
77. A. Lubotzky, The expected number of random elements to generate a finite group, *Journal of Algebra*, **257**(2002), 452–459.
78. D. Goldfeld, A. Lubotzky and L. Pyber, Counting congruence subgroups, *Acta Math.*, 193 (2004), 73-104.
79. A. Lubotzky and Y. Shalom, Finite representations in the unitary dual and Ramanujan groups, *AMS Contemporary Math*. **347** (2004), 173–189.
80. A. Lubotzky and B .Martin, Polynomial representation growth and the congruence subgroup problem, *Israel J. of Math*. **144** (2004), 293–316.
81. A. Borovik, A. Lubotzky and A. Myasmikov, The finitary Andrews-Curtis Conjecture, in "Infinite groups: geometric, combinatorial and dynamical aspects", *Progress in Mathematics* **248**, Birkhauser, Basel 2005.
82. A. Lubotzky, B. Samuels and V. Vishne, Ramanujan complexes, *Israel J. of Math*, **149** (2005), 241–256.
83. A. Lubotzky, B. Samuels and V. Vishne, Explicit construction of Ramanujan complexes of type $\hat{A}_d$, *European J. of Combinatorics* **26** (2005), 965–993.

84. A. Lubotzky and N. Nikolov, Subgroup growth of lattices in semisimple groups, *Acta Math.* **193** (2004), 105–139.
85. D. Goldfeld, A. Lubotzky, N. Nikolov and L. Pyber, Counting primes, groups and manifolds, *Proc. of the National Acad. of Sci. USA*, **101** (2004), 13428–13430.
86. A. Lubotzky, Some more super-rigid groups, in "Geometry, Graphs and Dynamics: Proceedings in Memory of Robert Brooks", Israel Mathematical Conference Proceeding (IMCP), *Contemporary Mathematics* **387**, (2005), 237–244, AMS, Providence, RI.
87. M. Belolipetsky and A. Lubotzky, Finite groups and hyperbolic manifolds, *Inventiones Math.* **162** (2005), 459–472.
88. A. Lubotzky, Finite presentations of adelic groups, the congruence kernel and cohomology of finite simple groups, *Quarterly Journal of Pure and Applied Mathematics*, (Borel Volume) **1** (2005), 241–256.
89. A. Lubotzky, B. Samuels and U. Vishne, Division algebras and isospectrality, *Duke Journal of Math.* **135** (2006), 361–379.
90. A. Lubotzky, B. Samuels and U. Vishne, Isospectral Cayley graphs of some finite simple groups, *Duke Journal of Math.* **135** (2006), 381–393.
91. I. Korchagina and A. Lubotzky, On presentations and second cohomology of some finite simple groups, *Publ. Math. Debrecen* **69** (2006), 341–352. .
92. M. Kassabov, A. Lubotzky and N. Nikolov, Finite simple groups as expanders, *Proc. Natl. Acad. Sci. USA* **103** (2006), 6116–6119.
93. A. Lubotzky and R. Meshulam, A Moore bound for complexes, *Bull. London Math. Soc.* **39** (2007), 353–358.
94. R. M. Guralnick, W. M. Kantor, M. Kassabov and A. Lubotzky, Presentations of finite simple groups: cohomological and profinite approach, *Groups, Geometry and Dynamics* **1** (2007), 469–523.
95. R. M. Guralnick, W. M. Kantor, M. Kassabov and A. Lubotzky, Presentations of finite simple groups: a quantitative approach, *Journal of the American Math. Soc.* **21** (2008), 711–774.
96. A. Lubotzky and E. Zelmanov, Dimension expanders, *J. Algebra* **319** (2008), 730–738.
97. M. Jarden and A. Lubotzky, Elementary equivalence of profinite groups, *Bull. London Math. Soc.* **40** (2008), 887–896.
98. D. D. Long, A. Lubotzky and A. W. Reid, Heegard genus and Property $\tau$ for hyperbolic 3-manifolds, *J. of Topology* **1** (2008), 152–158.
99. M. Larsen and A. Lubotzky, Representation growth for linear groups, *J. of the European Math. Soc.* **10** (2008), 351–390.
100. M. Belolipetsky, T. Gelander, A. Lubotzky and A. Shalev, Counting arithmetic lattices and surfaces, *Annals of Mathematics*, **172** (2010), 2197–2221.
101. F. Grunewald and A. Lubotzky, Linear representations of the automorphism groups of free groups, *Geometric and Functional Analysis (GAFA)*,**18** (2009), 1564–1608.
102. R. M. Guralnick, W. M. Kantor, M. Kassabov and A. Lubotzky, Presentations of finite simple groups: a computational approach, *J. of the European Math. Soc. (JEMS)*, **13** (2011), 391–458.
103. A. Lubotzky, The dynamic of $Aut(F_n)$-actions on group presentations and representations, in *Geometry, Rigidity and Group Actions (Benson Farb and David Fisher, eds.)*, pp. 609–643, a special volume dedicated to R.J. Zimmer, University of Chicago Press, 2011.
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