

# 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

## Previous Employment

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*  
1989–current The Hebrew University - *Professor*  
Holding the Maurice and Clara Weil Chair in Mathematics  
1994–1996 Chairman of Einstein Institute of Mathematics  
1996–1999 Israeli Knesset

## Visiting Positions

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  
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 1999, Spring 2002	Yale University - Visiting Professor
Fall 2000	Columbia University - Sam Eilenberg Visiting Professor
2003–11	Yale University - Adjunct Professor
2005–06	Institute for Advanced Study - Princeton - (leading a year long program on “Groups, representations and discrete mathematics”)

## Profession

Teaching and research in mathematics. Chief fields of interest: groups; Lie groups, algebraic groups; discrete subgroups of Lie groups, arithmetic groups; applications to graph theory and computer science; combinatorial group theory; computational group theory; representations of discrete groups; connections with number theory and geometry

## Fellowships

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

## Prizes and Academic honors

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 d'Estudis 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
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	ERC grant (1.2 m. Euro)

## Editor of

1. Israel Journal of Mathematics - (editor-in-chief 1990–1995, editor 1995-current)
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

## 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 Combinatorial 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, 2000
- 13) M. B. Porter Lectures, Rice University, 2001
- 14) Israeli Mathematics Union Annual Meeting, 2001 - Plenary
- 15) Rencontres Matématiques, 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) Lectures at the Leading Edge, CRM, Montreal, 2010
- 25) Colloquium lectures, AMS Annual meeting (3 lectures), New-Orleans, USA, 2011
- 26) The Mordell lecture (Cambridge University), 2011

### 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) Chairman of the panel to select speakers for the algebra section of the International Congress of Mathematicians in Madrid, 2006
- 5) Member of the board of the Minerva Center, Mathematics Department of Tel Aviv University, 2001
- 6) Member of the academic committee of Magnes Press, 1990–2005
- 7) Member of the board of "Beit Morasha", 1987–2005
- 8) Member of academic board of Ariel College, 2001–present
- 9) Member of the academic board of Emunah College, 2006–present

- 10) Member of the academic board of Herzog College, 2007–present
- 11) Member of the executive board of the Hebrew University
- 12) Member of the public board of governors of the National Library, 2005
- 13) Visiting committee for the Department of Mathematics of the Technion, 2007
- 14) Chairman of general editorial board of Magnes Press 2004-2011

## 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. A. Lubotzky and A. Zuk, On property  $(\tau)$ , in preparation.

### 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  $SL(2, \mathbb{C})$ , *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, *Combinatorial 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 semisim-

- ple 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. Myasnikov, 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. F. Grunewald and A. Lubotzky, Linear representations of the automorphism groups of free groups, *Geometric and Functional Analysis (GAFA)*, **18** (2009), 1564–1608.
101. 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.*, to appear.
102. A. Lubotzky, The dynamic of  $Aut(F_n)$ -actions on group presentations and representation, in a special volume dedicated to R.J. Zimmer, to appear.
103. M. Belolipetsky, T. Gelander, A. Lubotzky and A. Shalev, Counting arithmetic lattices and surfaces, *Annals of Mathematics*, to appear.
104. A. Lubotzky , Finite simple groups of Lie type as expanders, *J. of the European Math. Soc.*, to appear.
105. R. M. Guralnick, W. M. Kantor, M. Kassabov and A. Lubotzky, Remarks on Proefficient groups, *Journal of Algebra*, to appear.
106. S. Garion, M. Larsen and A. Lubotzky, Beauville surfaces and finite simple groups, to appear.
107. B. Bekka and A. Lubotzky, Lattices with and lattices without spectral gap, to appear.
108. W. M. Kantor, A. Lubotzky and A. Shalev, Invariable generation and the Chebotarev invariant of a finite group, preprint.
109. E. Breuillard, Y. de Cornulier, A. Lubotzky and C. Meiri, Conjugacy growth of linear groups, in preperation.
110. A. Lubotzky and C. Meiri, Sieve method in group theory I. Powers in linear groups, in preperation.
111. A. Lubotzky, Expander graphs in pure and applied mathematics (notes for the colloquium lectures, AMS annual meeting 2001), preprint.
112. A. Lubotzky and C. Meiri, Sieve methods in group theory II. The Torelli group, in preperation.
113. M. Belolipetsky and A. Lubotzky, Class towers and manifold counting, preprint.

November 29, 2010