

Publications: Dan Segal

books

"Polycyclic groups" (*Adams Prize*)

Cambridge Tracts in Math. **82**, CUP, Cambridge, 1983;

Reprinted in paperback 2005.

"Analytic pro- p groups" (with J.D. Dixon, M.P.F. du Sautoy and A. Mann)

London Math. Soc. lect. notes **157**, CUP, 1991.

"Analytic pro- p groups, 2nd edition" (with M. P. F. du Sautoy)

Cambridge Studies in Advanced Mathematics **61**, CUP, Cambridge 1999.

Reprinted in paperback Sept. 2003.

"New horizons in pro- p groups" (editor, joint with M. P. F. du Sautoy and A. Shalev)

Progress in Math. **184**, Birkhauser, Boston 2000.

"Subgroup growth" (with A. Lubotzky) (*Ferran Sunyer i Balaguer Prize*)

Progress in Math. **212**, Birkhauser, Basel, 2003.

"Words: notes on verbal width in groups".

London Math. Soc. Lect. notes **361**, CUP, Cambridge, 2009.

"Lectures on Profinite Topics in Group Theory" (editor)

London Mathematical Society Student Texts **77**, CUP, Cambridge, 2011.

papers

1. *A note on module automorphism groups over Noetherian rings*

Arch. Math. **23** (1972), 594-597

2. *Groups of automorphisms of infinite soluble groups*

Proc. London Math. Soc. (3) **26** (1973), 630-652

3. *A note on finitary permutation groups*

Arch. Math. **25** (1974), 470-471

4. *Normal subgroups of finitary permutation groups*

Math. Zeitschrift **140** (1974), 81-85

5. (with C. H. Houghton) *Some sufficient conditions for groups to have one end*

J. London Math. Soc. (2) **10** (1975), 89-96

6. *A residual property of finitely generated abelian-by-nilpotent groups*

J. Algebra **32** (1974), 389-399

7. *Groups whose finite quotients are supersoluble*

J. Algebra **35** (1975), 56-71

8. (with F. J. Grunewald) *Residual nilpotence in polycyclic groups*

Math. Zeitschrift **142** (1975), 229-241

9. *On abelian-by-polycyclic groups*
J. London Math. Soc. **11** (1975), 445-452
10. *Unipotent groups of module automorphisms over polycyclic group rings*
Bull. London Math. Soc. **8** (1976), 174-178.
11. (with J. C. Lennox and S. E. Stonehewer) *The lower central series of a join of subnormal subgroups*
Math. Zeitschrift **154** (1977), 86-89
12. *Irreducible representations of finitely generated nilpotent groups*
Math. Proc. Cambridge Phil. Soc. **81** (1977), 201-208
13. *On the residual simplicity of certain modules*
Proc. London Math. Soc. (3) **34** (1977), 327-353.
14. (with F. J. Grunewald) *Conjugacy in polycyclic groups*
Commun. in Algebra **6** (1978), 775-798.
15. *Two theorems on polycyclic groups*
Math. Zeitschrift **164** (1978), 185-187
16. (with F. J. Grunewald) *A note on arithmetic groups*
Bull London Math. Soc. **10** (1978), 297-302.
17. (with F. J. Grunewald) *On polycyclic groups with isomorphic finite quotients*
Math. Proc. Camb. Phil. Soc. **84** (1978), 235-246.
18. *Congruence topologies in commutative rings*
Bull. London Math. Soc. **11** (1979), 186-190.
19. (with F. J. Grunewald) *On congruence topologies in number fields*
J. reine angew. Math. **311** (1979), 389-396.
20. (with F. J. Grunewald) *Remarks on injective specializations*
J. Algebra **61** (1979), 538-547.
21. (with F. J. Grunewald and P.F. Pickel) *Finiteness theorems for polycyclic groups*
Bull. (N.S.) Amer. Math. Soc. **1** (1979), 575-578.
22. (with F. J. Grunewald) *The solubility of certain decision problems in arithmetic and algebra*
Bull. (N.S.) Amer. Math. Soc. **1** (1979), 915-918.
23. (with F. J. Grunewald and P.F. Pickel) *Polycyclic groups with isomorphic finite quotients*
Annals of Math. **111** (1980), 155-195.
24. (with F. J. Grunewald) *Some general algorithms. I: Arithmetic groups*
Annals of Math. **112** (1980), 531-583.
25. (with F. J. Grunewald) *Some general algorithms. II: Nilpotent groups*
Annals of Math. **112** (1980), 585-617.
26. (with F. J. Grunewald) *Conjugacy of subgroups in arithmetic groups*
Proc. London Math. Soc. (3) **44** (1982), 47-70.
27. (with F. J. Grunewald) *How to solve a quadratic equation in integers*
Math. Proc. Cambridge Philos. Soc. **89** (1981), 1-5.

28. (with F.J. Grunewald and L. S. Sterling) *Nilpotent groups of Hirsch length six*
Math. Zeitschrift **179** (1982), 219-235
29. (with F.J. Grunewald) *Résolution effective de quelques problèmes diophantiens sur les groupes algébriques linéaires*
C. R. Acad. Sci. Paris **295** (1982), 479-481.
30. (with F.J. Grunewald) *Reflections on the classification of torsion-free nilpotent groups*
in "Group Theory: Essays for Philip Hall", ed. K.W. Gruenberg and J. E. Roseblade, Academic Press, 1984, pp. 121-158.
31. (with F.J. Grunewald) *Decision problems concerning S-arithmetic groups*
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- 32, 33. *Subgroups of finite index in soluble groups, I and II*
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34. *Local and global equivalence of binary forms. I: quartics*
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35. *Local and global equivalence of binary forms. II: Odd degree forms*
Quarterly J. Math. Oxford **38** (1987), 103-125.
36. *The general polycyclic group*
Bull. London Math. Soc. **19** (1987), 49-56.
37. (with F.J. Grunewald and G.C. Smith) *Subgroups of finite index in nilpotent groups*
Inventiones Math. **93** (1988), 185-223.
38. *On the automorphism groups of certain Lie algebras*
Math. Proc. Cambridge Philos. Soc. **106** (1989), 67-76.
39. *Decidable properties of polycyclic groups*
Proc. London Math. Soc. (3) **61** (1990), 497-528
40. (with A. Mann) *Uniform finiteness conditions in residually finite groups*
Proc. London Math. Soc. (3) **61** (1990), 529-545.
41. *On the outer automorphism group of a polycyclic group*
Suppl. ai Rendiconti del Circolo Matematico di Palermo II **23** (1990), 265-277.
42. *Residually finite groups*
in "Groups, Canberra 1989", Springer lect. notes **1456**, (1990), 85-95.
43. (with G. Baumslag, F. Cannonito and D.J.S. Robinson) *The algorithmic theory of polycyclic-by-finite groups*
J. Algebra **142** (1991), 118-149
44. *Affine crystallographic groups and arithmetic groups* (in Russian)
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45. *The structure of complete left-symmetric algebras*
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46. (with A. Lubotzky and A. Mann) *Finitely generated groups of polynomial subgroup growth*
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47. (with A. Shalev) *Groups with fractionally exponential subgroup growth*
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48. (with F. J. Grunewald) *On affine crystallographic groups*
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49. *Free left-symmetric algebras and an analogue of the Poincare-Birkhoff-Witt theorem*
J. Algebra **164** (1994), 750-772.
50. (with A. Mann) *Subgroup growth: some current developments.*
in "Infinite groups 1994", de Gruyter, Berlin 1996, pp. 179-197.
51. *Variations on polynomial subgroup growth.*
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52. *A footnote on residually finite groups.*
Israel J.Math. **94**(1996), 1-5.
53. *Ideals of finite index in a polynomial ring.*
Quarterly J. Math. (2) **48** (1997), 83-92.
54. *On the growth of ideals and submodules.*
J. London Math. Soc.(2) **56** (1997), 245-263.
55. (with L. Ribes and P. A. Zalesskii) *Conjugacy separability and free products with cyclic amalgamation.*
J. London Math. Soc. (2) **57** (1998), 609-628.
56. (with A. Shalev) *Profinite groups with polynomial subgroup growth.*
J. London Math. Soc. (2) **55** (1997), 320-334.
57. (with A. Shalev) *On groups with bounded conjugacy classes*
Quarterly J. Math. Oxford (2) **50** (1999), 1-12.
58. *On the finite images of infinite groups,*
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Lect.Notes Ser. **311**, CUP, Cambridge, 2004, pp. 542-563.
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60. *Closed subgroups of profinite groups*
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61. *On the group rings of abelian minimax groups*
J. Algebra **237** (2001), 64-94.
62. *On modules of finite upper rank*
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63. (with M. P. F. du Sautoy) *Zeta functions of groups,*
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64. *The finite images of finitely generated groups*
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66. (with N. Nikolov) *Finite index subgroups in profinite groups*
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67. (with N. Nikolov) *On finitely generated profinite groups, I: strong completeness and uniform bounds;*
Annals of Math. **165** (2007), 171 - 238.
68. (with N. Nikolov) *On finitely generated profinite groups, II: products in quasisimple groups*
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69. (with N. Nikolov) *A characterization of finite soluble groups*
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70. *Some aspects of profinite group theory,*
in: 'Essays in Geometric Group Theory', Ramanujan Math. Soc., 2009, pp. 27-60.
71. *On the group rings of abelian minimax groups, II: the singular case*
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72. (with L. Pyber) *Finitely generated groups with polynomial index growth*
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73. (with A. Mann) *Breadth in polycyclic groups*
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74. (with N. Nikolov) *Direct products and profinite completions*
J. Group Theory **10** (2007), 789-793.
75. *Variations on a theme of Burns and Medvedev*
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76. *On verbal subgroups of adelic groups*
J. Algebra **326** (2011), 227-237.
77. (with N. Nikolov) *Powers in finite groups*
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80. (with N. Nikolov) *Generators and commutators in finite groups; abstract quotients of compact groups,*
Invent. Math. **190** (2012), 513-602.
81. (with M. Liebeck and A. Shalev) *The density of representation degrees,* J. Eur. Math. Soc. **14** (2012), 1519–1537

82. (with N. Nikolov) *On normal subgroups of compact groups*, J. Eur. Math. Soc. **16** (2014), 597–618.
83. *Remarks on profinite groups having few open subgroups*, J. Comb. Algebra **2** (2018), 87-101.
84. (with M. R. Bridson, D. M. Evans, and M. W. Liebeck) *Algorithms determining finite simple images of finitely presented groups*.
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85. (with A. Nies and K. Tent) *Finite axiomatizability for profinite groups*,
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86. (with K. Tent) *Defining R and $G(R)$*
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87. *On groups of finite upper rank*. arXiv:2104.12281 [math.Gr]
88. (with N. Nikolov) *Constructing uncountably many groups with the same profinite completion*. New Zealand J. Math. **52** (2021), 765-771.
89. *Commensurability and bi-interpretability of groups*, arXiv:2301.12506 [math.Gr]
90. *On the finite axiomatizability of some metabelian profinite groups*, arXiv: 2303.14776 [math.Gr]
91. *A profinite analogue of Lasserre's theorem*, J. Algebra **629** (2023), 109-123.

Unpublished conference talks etc:

Problems that stumped me. (2007)

<http://science.unitn.it/~caranti/Conferences/PAGT2007/Talks/problemsp.pdf>

Some algebraic properties of compact topological groups (2011)

<http://www.ehu.es/emswweekend/speakers.html>

Groups, rings, logic (2021)

https://www.mat.unb.br/upload/repositorio/2021_02_27/talkslides-DanSegal.pdf