CURRICULUM VITAE - MARTIN W. LIEBECK

Appointment Professor of Pure Mathematics, Imperial College London
(appointed Professor 1991, Reader 1988, Lecturer 1986)
Head of Pure Mathematics Section, 1/4/97 - present

Higher Education

First Class B.A. in Mathematics, Oxford University, 1976
M.Sc. in Mathematics, Oxford University, 1977
D.Phil. in Mathematics, Oxford University, 1979

Distinctions

ISI Highly Cited Researcher
Simons Research Professor, MSRI 2018
Maclaurin Fellowship, awarded by New Zealand Institute of Mathematics and Applications (NZIMA), held in Auckland, 2005 and 2008
Rector's Medal, Imperial College 2010 – awarded for excellence in teaching

Previous appointments

Postdoctoral Research Fellow, University College Cardiff, 1979-82
SERC Advanced Fellow, Cambridge University, 1982-86
Fellow of Downing College, Cambridge, 1982-86

Research Students Ph.D. students supervised:

C. King, awarded PhD 2018 (now Research Fellow, Univ of W Australia, Perth)
A. Sheikh, awarded PhD 2018
A. Malcolm, awarded PhD 2017 (now Heilbronn Research Fellow, Bristol)
M. Abiteboul, awarded PhD 2015
A. Thomas, awarded PhD 2014 (now Heilbronn Research Fellow, Bristol)
A. Litterick, awarded PhD 2013 (now Research Fellow, Univ of Bochum)
J. Häsä, awarded PhD 2013 (now Research Associate, Helsinki)
D. Stewart, awarded PhD 2010 (now lecturer, Univ of Newcastle)
C. Marion, awarded PhD 2009 (now lecturer, University of Fribourg)
R. Nanayakarra, awarded PhD 2008
T. Burness, awarded PhD 2005 (now lecturer, Univ of Bristol)
E. O'Reilly-Regueiro, awarded PhD 2003 (now lecturer, National University of Mexico)
M. Stavrides, awarded PhD 2003
D. Goodwin, awarded PhD 1998
M. Schaffer, awarded Ph.D. 1998
J. Brundan, awarded Ph.D. 1996 (now professor, University of Oregon)
C. Purvis, awarded Ph.D. 1995
A. Vauhkonen, awarded Ph.D. 1993
P. Kleidman, awarded Ph.D. 1987
D. Sercombe, 2015-
M. Lee, 2016-
A. Rizzoli, 2017-

Editorships, External Committees, External Examiner

Editor for Bulletin, Journal and Proceedings of the London Mathematical Society, 1988 - 1998

Editor, Journal of Algebra, 2006 -

Guest editor of special issue of the Journal of Algebra for 60th birthday of Gordon James, December 2006

Guest editor of special issue of the Journal of Algebra in memory of Karl Gruenberg, 2009

Guest editor of special issue of the Journal of Australian Mathematical Society for 60th birthday of Cheryl Praeger, 2009

External examiner for London School of Economics, 1990 - 92

External examiner Bristol University, 2003 - 2006

External examiner King's College London, 2006 - 2010

LMS Research Meetings Committee, 1995 - 2000

Editorial Adviser LMS Student Texts, 2004 - 2018

LMS Nominating Committee, 2010 - 2013

LMS Prize Committee, 2016 -

Conferences organised

Durham Symposium on Groups and Combinatorics, 1990

Oberwolfach meeting on "Groups and Geometry", 1997

Milan meeting on "Algebraic Groups", May 2000

Durham Symposium on "Groups, geometry and combinatorics", July 2001

Conference on "Function Theory" in honour of 75^{th} birthday of Walter Hayman, London, June 2001

Conference on "Groups and representations", Oregon, 2004

Oberwolfach meeting on "Groups and geometries", 2005

Oberwolfach meeting on "Groups and geometries", 2008

Banff meeting on "Groups and geometries", 2012

Banff meeting on "Groups and geometries", 2015

"Groups, geometry and representations", Oxford, 2018

"Groups and geometries", Banff 2019

Isaac Newton Institute programme "Groups, representations and applications: new perspectives", January - June 2020.

Conferences attended as invited speaker

Galway, 1983

Oberwolfach, 1984

Oberwolfach, Sydney, Canberra, 1985

Oberwolfach, Amsterdam, Arcata (California), 1986

Oberwolfach, 1987, 88, 89

Novosibirsk (Siberia), Oberwolfach, 1989

Durham, 1990

Oberwolfach, 1991

Como (Italy), Oberwolfach, 1993

Istanbul, Oberwolfach, 1994

Trento, Birmingham, 1995

Siena, 1996

Newton Institute, Oberwolfach, 1997

Jerusalem, Oberwolfach, 1998

MSRI, 1999

Milan, 2000

Brescia (Italy), 2001

Oberwolfach, 2002

Budapest, Perth, 2003

Bressanone, 2004

Napier (NZ), Auckland, Oberwolfach, 2005

Jerusalem, 2006

Oberwolfach, 2007

Kaikura (NZ), Oberwolfach, 2008

Perth, Banff, Berlin, 2009

Venice, 2010

Galway, Gregynog, 2011

Sydney, Queenstown (NZ), Jerusalem, Banff, 2012

Istanbul, Banff, Groups St Andrews, 2013

Banff, 2014

Princeton, Oberwolfach, Banff, Auckland, Warwick, Cambridge,
Bristol (Heilbronn conference), Birmingham (LMS-EMS 150), 2015

Bochum, Mittag-Leffler, Herstmonceux, Oberwolfach, Lausanne, Jerusalem, 2016

Bielefeld, Perth, Manchester, 2017

MSRI Berkeley, Hausdorff Institute Bonn, Bristol, 2018

Research Grants

EPSRC Grants:

'Factorizations and maximal subgroups', 1985
'Local maximal subgroups of simple groups', 1985
'Distance-transitive graphs', 1987
'Reduction theorems for maximal subgroups', 1989
'Subgroups generated by root groups', 1991
'Maximal subgroups of exceptional algebraic groups', 1997–2001
'Character values and Fuchsian groups', 2004–2007
'Unipotent elements of algebraic groups', 2007–2010

'Unipotent classes in bad characteristic', 2010-2013
'Character theory and growth in finite simple groups', 2011–2014

Marie Curie postdoctoral fellows:
Jeroen Schillewaert, 2013-15
Joanna Fawcett, 2017-19

NATO Collaborative Research Grant (1994 - 99)

Visiting research positions held at:

University of Western Australia, 1983, 85, 90, 94, 96, 2000, 2001, 2003, 2006, 2010, 2012, 2014, 2017
California Institute of Technology, 1988
University of Amsterdam, 1988
Rutgers University, 1992
University of Oregon, 1999
Hebrew University, Jerusalem, 2000
Auckland University (Maclaurin Fellow), 2005, 2008, 2010, 2012, 2014, 2017
MSRI Berkeley, 2018

PUBLICATIONS

Articles

1. "Transitive permutation groups of some special prime degrees", *Math. Zeit.* **168** (1979), 35-52

2. "Lie algebras, 2-graphs and permutation groups", *Bull. London Math. Soc.* **12** (1980), 29-33

3. "Transitive permutation groups of some special prime degrees, II: towards 4-transitivity", *Math. Zeit.* **175** (1980), 53-66

4. "Bounds for the orders of some transitive permutation groups", *Bull. London Math. Soc.* **14** (1982), 337-344

5. "Graphs with nilpotent adjacency matrices", *J. Graph Theory* **6** (1982), 215-218

6. "Groups fixing graphs in switching classes", *J. Austral. Math. Soc.* **33** (1982), 76-85

7. "Extensions of a theorem of Jordan on primitive permutation groups", *J. Austral. Math. Soc.* **34** (1983), 155-171

8. "On graphs whose full automorphism group is an alternating or a finite classical group", *Proc. London Math. Soc.* **47** (1983), 337-362

9. "Some applications of the classification of finite simple groups", *Irish Math. Soc.*, 1983

10. "Permutation modules for rank three unitary groups", *J. Algebra* **88** (1984), 317-329

11. "On the orders of transitive permutation groups", *Bull. London Math. Soc.* **16** (1984), 523-524

12. "On minimal degrees and base sizes of primitive permutation groups", *Arch. Math.* **43** (1984), 11-15

13. "Some recent results on finite permutation groups", in *The Rutgers Group Theory Year* $1983-4$, (eds. D. Gorenstein et al.), Cambridge Univ. Press, 1984, pp.53-66 (with J. Saxl)

14. "On the orders of maximal subgroups of the finite classical groups", *Proc. London Math. Soc.* **50** (1985), 426-446

15. "Centralizers of semisimple elements in finite twisted groups of Lie type", *J. London Math. Soc.* **31** (1985), 48-54 (with D. Deriziotis)

16. "Permutation modules for rank three symplectic and orthogonal groups", *J. Algebra* **92** (1985), 9-15

17. "Primitive permutation groups containing an element of large prime order", *J. London Math. Soc.* **31** (1985), 237-249 (with J. Saxl)

18. "The primitive permutation groups of odd degree", *J. London Math. Soc.* **31** (1985), 250-264 (with J. Saxl)

19. "The finite primitive permutation groups of rank three", *Bull. London Math. Soc.* **18** (1986), 165-172 (with J. Saxl)

20. "Multiplicity free permutation representations of finite linear groups", *Math. Zeit.* **192** (1986), 329-337 (with N. Inglis and J. Saxl)

21. "The affine permutation groups of rank three", *Proc. London Math. Soc.* **54** (1987), 477-516

22. "The factorizations of the finite exceptional groups of Lie type", *J. Algebra* **106** (1987), 517-527 (with C. Hering and J. Saxl)

23. "Distance transitive graphs with symmetric or alternating automorphism group", *Bull. Austral. Math. Soc.* **35** (1987), 1-25 (with C. Praeger and J. Saxl)

24. "The classification of finite simple Moufang loops", *Math. Proc. Camb. Phil. Soc.* **102** (1987), 33-47

25. "On the orders of maximal subgroups of the finite exceptional groups of Lie type", *Proc. London Math. Soc.* **55** (1987), 299-330 (with J. Saxl)

26. "Permanents and immanants of Hermitian matrices", *Proc. London Math. Soc.* **55** (1987), 243-265 (with G. James)

27. "On the overgroups of irreducible subgroups of the finite classical groups", *Proc. London Math. Soc.* **55** (1987), 507-537 (with J. Saxl and G. Seitz)

28. "A classification of the maximal subgroups of the finite alternating and symmetric groups", *J. Algebra* **111** (1987), 365-383 (with C. Praeger and J. Saxl)

29. "The local maximal subgroups of the finite simple groups", *Proc. Symp. Pure Math.* **47** (1987), 455-461

30. "On maximal subgroups and maximal factorizations", *Proc. Symp. Pure Math.* **47** (1987), 449-454 (with C. Praeger and J. Saxl)

31. "A survey of the maximal subgroups of the finite simple groups", *Geom. Dedicata* **25** (1988), 375-389 (with P. Kleidman)

32. "On the O'Nan-Scott theorem for primitive permutation groups", *J. Austral. Math. Soc.* **44** (1988), 389-396 (with C. Praeger and J. Saxl)

33. "Graphs whose full automorphism group is a symmetric group", *J. Austral. Math. Soc.* **44** (1988), 46-63

34. "On the 2-closures of primitive permutation groups", *J. London Math. Soc.* **37** (1988), 241-252 (with C. Praeger and J. Saxl)

35. "Smoothly approximated ω-categorical structures", *Proc. London Math. Soc.* **59** (1989), 439-463 (with W. Kantor and H. Macpherson)

36. "On a theorem of Feit and Tits", *Proc. Amer. Math. Soc.* **107** (1989), 315-322 (with P. Kleidman)

37. "Maximal subgroups of exceptional groups of Lie type, finite and algebraic", *Geom. Dedicata* **36** (1990), 353-387 (with G. Seitz)

38. "Finite linear spaces with flag-transitive automorphism groups", *Geom. Dedicata* **36** (1990), 89-94 (with F. Buekenhout, A. Delandtsheer, J. Doyen, J. Saxl and P. Kleidman)

39. "Minimal degrees of primitive permutation groups, with an application to monodromy groups of Riemann surfaces", *Proc. London Math. Soc.* **63** (1991), 266-314 (with J. Saxl)

40. "On point stabilizers in primitive permutation groups", *Commun. in Alg.* **19** (1991), 2777-2786 (with J. Saxl)

41. "On exponents of almost simple groups and an application to the restricted Burnside problem", *Math. Zeit.* **208** (1991), 401-409 (with M. Aschbacher and P. Kleidman)

42. "Maximal subgroups of finite simple groups and their automorphism groups", *Contemp. Math.* **131** (1992), 243-259 (with J. Saxl)

43. "The local maximal subgroups of exceptional groups of Lie type, finite and algebraic", *Proc. London Math. Soc.* **64** (1992), 21-48 (with A. Cohen, J. Saxl and G. Seitz)

44. "Subgroups of maximal rank in finite exceptional groups of Lie type", *Proc. London Math. Soc.* **65** (1992), 297-325 (with J. Saxl and G. Seitz)

45. "Relation algebras and permutation groups", *J. London Math. Soc.* **45** (1992), 433-445 (with C. Praeger)

46. "Generators for finite simple groups, with applications to linear groups", *Quarterly J. Math.* **43** (1992), 441-458 (with J. Hall and G. Seitz)

47. "Affine distance transitive groups with symmetric or alternating point stabilizer", *Europ. J. Comb.* **13** (1992), 489-501 (with C. Praeger)

48. "Subgroups generated by root elements in groups of Lie type", *Annals of Math.* **139** (1994), 293-361 (with G. Seitz)

49. "The probability of generating a finite simple group", *Geom. Dedicata* **56** (1995), 103-113 (with A. Shalev)

50. "Subgroups of exceptional groups", in *Groups of Lie type and their geometries* (eds. W. Kantor and L. di Martino), London Math. Soc. Lecture Note Series **207**, Cambridge Univ. Press , 1995, pp.151-156 (with G. Seitz)

51. "Subgroups of simple algebraic groups and of related finite and locally finite groups of Lie type", *Finite and locally finite groups* (eds. B. Hartley et al.), NATO ASI Series C, Vol 471, Kluwer, 1995, pp. 71-96.

52. "Subgroups of large rank in groups of Lie type", *Proc. London Math. Soc.* **72** (1996), 425-457 (with J. Saxl and D. Testerman)

53. "Factorizations of simple algebraic groups", *Trans. Amer. Math. Soc.* **348** (1996), 799-822 (with J. Saxl and G. Seitz)

54. "Characterization of classical groups by orbit sizes on the natural module", *Proc. Amer. Math. Soc.* **124** (1996), 2961-2966

55. "Simple groups, probabilistic methods, and a conjecture of Kantor and Lubotzky", *J. Algebra* **184** (1996), 31-57 (with A. Shalev)

56. "Classical groups, probabilistic methods and the $(2,3)$-generation problem", *Annals of Math.* **144** (1996), 77-125 (with A. Shalev)

57. "Maximal subgroups of symmetric groups", *J. Comb. Theory, Series A* **75** (1996), 341-352 (with A. Shalev)

58. "Regular orbits of linear groups", *J. Algebra* **184** (1996), 1136-1142.

59. "On factorizations of almost simple groups", *J. Algebra* **185** (1996), 409-419 (with C. Praeger and J. Saxl)

60. "On the genus of a finite classical group", *Bull. London Math. Soc.* **29** (1997), 159-164 (with C. Purvis)

61. "Modules for algebraic groups with finitely many orbits on subspaces", *J. Algebra* **196** (1997), 211-250 (with R. Guralnick, H. Macpherson and G. Seitz)

62. "Upper bounds for the number of conjugacy classes of a finite group", *J. Algebra* **198** (1997), 538-562 (with L. Pyber)

63. "On the subgroup structure of exceptional groups of Lie type", *Trans. Amer. Math. Soc.* **350** (1998), 3409-3482 (with G. Seitz)

64. "Regular orbits and the $k(GV)$-problem", in *Groups and Geometries* (ed. L. di Martino et al.), Trends in Mathematics, Birkhäuser, 1998, pp.145-148

65. "Probabilistic methods in the generation of finite simple groups", in *The Atlas ten years on* (eds. R. Curtis and R. Wilson), London Math. Soc. Lecture Note Series **249**, Cambridge Univ. Press, 1998, pp. 163-173 (with A. Shalev)

66. "Introduction to the subgroup structure of algebraic groups", in *Representations of reductive groups* (eds. R.W. Carter and M. Geck), Cambridge. Univ. Press, 1998, pp.129-149.

67. "Subgroups of exceptional groups", in *Algebraic groups and their representations* (eds. R. Carter and J. Saxl), NATO ASI Series C, Vol 471, Kluwer, 1998, pp.275-290.

68. "On the subgroup structure of classical groups", *Invent. Math.* **134** (1998), 427-453 (with G.M. Seitz)

69. "On the diameter of a Cayley graph of a simple group of Lie type based on a conjugacy class", *J. Comb. Theory, Series A* **83** (1998), 118-137 (with R. Lawther)

70. "The classification of finite linear spaces with flag-transitive automorphism group of affine type", *J. Comb. Theory, Series A* **84** (1998), 196-235

71. "Subgroups of simple algebraic groups containing elements of fundamental subgroups", *Math. Proc. Camb. Phil. Soc.* **126** (1999), 461-479 (with G. Seitz)

72. "Simple groups, permutation groups, and probability", *J. Amer. Math. Soc.* **12** (1999), 497-520 (with A. Shalev)

73. "Random generation of finite simple groups", *J. Algebra* **219** (1999), 345-355 (with R. Guralnick, J. Saxl and A. Shalev)

74. "On finite subgroups of exceptional algebraic groups", *J. reine angew. Math.* **515** (1999), 25-72 (with G.M. Seitz)

75. "Transitive subgroups of primitive permutation groups", *J. Algebra* **234** (2000), 291-361 (with C.E. Praeger and J. Saxl)

76. "Finite linear groups and bounded generation", *Duke Math. J.* **107** (2001), 159-171 (with L. Pyber)

77. "Diameters of finite simple groups: sharp bounds and applications", *Annals of Math.* **154** (2001), 383-406 (with A. Shalev)

78. "Random (r, s)-generation of finite classical groups", *Bull. London Math. Soc.* **34** (2002), 185-188 (with A. Shalev)

79. "Primitive permutation groups with a common suborbit, and edge-transitive graphs", *Proc. London Math. Soc.* **84** (2002), 405-438 (with C.E. Praeger and J. Saxl)

80. "Fixed point ratios in actions of finite exceptional groups of Lie type", *Pacific J. Math.* **205** (2002), 393-464 (with R. Lawther and G. Seitz)

81. "Fixed point spaces in actions of exceptional algebraic groups", *Pacific J. Math.* **205** (2002), 339-391 (with R. Lawther and G. Seitz)

82. "Bases of primitive linear groups", *J. Algebra* **252** (2002), 95-113 (with A. Shalev)

83. "Variations on a theme of Steinberg", *J. Algebra* **260** (2003), 261-297 (with G. Seitz)

84. "A survey of maximal subgroups of exceptional groups of Lie type", in *Groups, Combinatorics and Geometry: Durham, 2001*, World Scientific, 2003 (with G. Seitz)

85. "Bases of primitive permutation groups", in *Groups, Combinatorics and Geometry: Durham, 2001*, World Scientific, 2003 (with A. Shalev)

86. "Residual properties of the modular group and other free products", *J. Algebra* **268** (2003), 264-285 (with A. Shalev)

87. "Residual properties of free products of finite groups", *J. Algebra* **268** (2003), 286-289 (with A. Shalev)

88. "The number of homomorphisms from a finite group to a general linear group", *Communications in Algebra* **32** (2004), 657-661 (with A. Shalev)

89. "Fuchsian groups, coverings of Riemann surfaces, subgroup growth, random quotients and random walks", *J. Algebra* **276** (2004), 552-601 (with A. Shalev)

90. "Subgroups of exceptional algebraic groups which are irreducible on an adjoint or minimal module", *J. Group Theory* **7** (2004), no. 3, 347-372 (with G.M. Seitz)

91. "Irreducible subgroups of algebraic groups", *Quarterly J. Math* **55** (2004), 47-55 (with D.M. Testerman)

92. "Character degrees and random walks in finite groups of Lie type", *Proc. London Math. Soc.* **90** (2005), 61-86 (with A. Shalev)

93. "Fuchsian groups, finite simple groups and representation varieties", *Invent. Math.* **159** (2005), 317-367 (with A. Shalev)

94. "Maximal subgroups of large rank in exceptional groups of Lie type", *J. London Math. Soc.* **71** (2005), 345–361 (with G. Seitz)

95. "On conjugacy classes of maximal subgroups of finite simple groups, and a related zeta function", *Duke Math. J.* **128** (2005), 541–557 (with B. Martin and A. Shalev)

96. Three articles: "The insolubility of the quintic"; "The classification of finite simple groups"; "Permutation groups", in the *Princeton Companion to Mathematics* (ed. W.T. Gowers), Princeton University Press, 2008.

97. "On a conjecture of G.E. Wall", *J. Algebra* **317** (2007), 184–197 (with L. Pyber and A. Shalev)

98. "Finding the characteristic of a group of Lie type", *J. London Math. Soc.* **75** (2007), 741–754 (with E. O'Brien)

99. "The sparsity of dimensions of irreducible representations of finite simple groups", *Bull. London Math. Soc.* **39** (2007), 467–472 (with A. Shalev)

100. "Short Two-Variable Identities for Finite Groups", *J. Group Theory* **11** (2008), 675–690 (with D. Cargo. W. de Launey and R. Stafford)

101. "Base sizes for simple groups and a conjecture of Cameron", *Proc. London Math. Soc.* **98** (2009), 116–162 (with T. Burness and A. Shalev)

102. "Primitive permutation groups of bounded orbital diameter", *Proc. London Math. Soc.* **100** (2010), 216–248 (with H.D. Macpherson and K. Tent)

103. "The Ore Conjecture", *J. European Math. Soc.*, **12** (2010), 939–1008 (with E. O'Brien, A. Shalev, P. Tiep)

104. "A conjecture on product decompositions in simple groups", *Groups, Geometry and Dynamics* **4** (2010), 799-812 (with N. Nikolov and A. Shalev)

105. "Groups of Lie type as products of SL_2 subgroups", *J. Algebra* **326** (2011), 201–207 (with N. Nikolov and A. Shalev)

106. "A rigid triple of conjugacy classes in G_2", *J. Group Theory* **14** (2011), 31–36 (with A. Litterick and C. Marion)

107. "Fixed points of elements of linear groups", *Bulletin London Math. Soc.* **43** (2011), 897-900 (with A. Shalev)

108. "Commutators in finite quasisimple groups", *Bull. London Math. Soc.* **43** (2011), 1079-1092 (with E. O'Brien, A. Shalev, P. Tiep)

109. "Products of squares in finite simple groups", *Proc. Amer. Math. Soc.* **140** (2012), 21–33 (with E. O'Brien, A. Shalev, P. Tiep)

110. "The density of representation degrees", *J. European Math. Soc.* **14** (2012), 1519-1537 (with D. Segal and A.Shalev)

111. "Product decompositions in finite simple groups", *Bulletin London Math. Soc.* **44** (2012), 469–472 (with N. Nikolov and A. Shalev)

112. "The classification of almost simple $\frac{3}{2}$-transitive groups", *Trans. Amer. Math. Soc.* **365** (2013), 4257–4311 (with J.Bamberg, M. Giudici, C. Praeger and J. Saxl)

113. "Powers in finite groups and a criterion for solubility", *Proc. Amer. Math. Soc.*, **141** (2013), 4179–4189 (with A. Shalev)

114. "Some word maps that are non-surjective on infinitely many finite simple groups", *Bulletin London Math. Soc.* **45** (2013), 907–910. (with S. Jambor and E. O'Brien)

115. "Probabilistic and asymptotic aspects of finite simple groups", in *Probabilistic group theory, combinatorics and computing*, Springer Lecture Notes in Math. **2070** (eds. A. Detinko et al), 2013, pp. 1-34.

116. "Generation and random generation: from simple groups to maximal subgroups", *Advances Math.* **248** (2013), 59–95 (with T. Burness and A. Shalev)

117. "Power sets and soluble subgroups", *Proc. Amer. Math. Soc.* **142** (2014), 3757–3760 (with A. Shalev)

118. "Bases of primitive linear groups II", *J. Algebra* **403** (2014), 223–228 (with A. Shalev)

119. "Outer unipotent classes in automorphism groups of simple algebraic groups", *Proc. London Math. Soc.* **109** (2014), 553–595 (with R. Lawther and G. Seitz)

120. "Width questions for finite simple groups", Groups St. Andrews 2013, London Math. Soc. Lecture Note Series Vol. 422, Cambridge Univ. Press, pp.51-73, 2015.

121. "On fixed points of elements in primitive permutation groups", *J. Algebra* **421** (2015), 438–459 (with A. Shalev)

122. "On products of involutions in finite groups of Lie type in even characteristic", *J. Algebra* **421** (2015), 431437

123. "Distinguished unipotent elements and multiplicity-free subgroups of simple algebraic groups", *Pacific. J. Math.* **279** (2015), 357–382 (with G.M. Seitz and D.M. Testerman)

124. "Arithmetic results on orbits of linear groups", *Trans. Amer. Math. Soc.* **368** (2016), 2415–2467 (with M. Giudici, C.E. Praeger, J. Saxl and P.H. Tiep)

125. "Recognition of finite exceptional groups of Lie type", *Trans. Amer. Math. Soc.* **368** (2016), 6189–6226 (with E. O'Brien)

126. "Rapid growth in finite simple groups", *Trans. Amer. Math. Soc.* **369** (2017), 8765–8779. (with G. Schul and A. Shalev)

127. "$\frac{3}{2}$-transitive permutation groups and $\frac{1}{2}$-transitive linear groups", *Proc Amer. Math. Soc.*, to appear (with C.E. Praeger and J. Saxl)

128. "Unipotent class representatives for finite classical groups", *J Group Theory* **20** (2017), 505–525. (with S. Gonshaw and E. O'Brien)

129. "Character ratios for finite groups of Lie type, and applications", *Contemp. Math.* **694** (2017), 193–208.

130. "Finite subgroups of simple algebraic groups with irreducible centralizers", *J. Group Theory* **20** (2017), 841–870. (with A. Thomas)

131. "Chiral polyhedra and finite simple groups", *Bulletin London Math. Soc.* **49** (2017), 581–592 (with D. Leemans)

132. "Generation of second maximal subgroups and the existence of special primes", *Forum Math. Sigma* **5** (2017), e25, 41 pp. (with T. Burness and A. Shalev)

133. "The depth of a finite simple group", *Proc. Amer. Math. Soc.* **146** (2018), 2343–2358, (with T. Burness and A. Shalev)

134. "Applications of character theory of finite simple groups", in *Local representation theory and simple groups* (eds. R. Kessar, G. Malle, D. Testerman), pp. 323-352, EMS Lecture Series, EMS Publishing House, Zürich, 2018.

135. "Permutation representations of nonsplit extensions involving alternating groups, *Israel J. Math.*, to appear (with R. Guralnick)

136. "The length and depth of algebraic groups", *Math. Zeit.*, to appear (with T. Burness and A. Shalev)

137. "Surjective word maps and Burnside's p^aq^b theorem", *Inventiones Math.*, to appear (with R. Guralnick, E. O'Brien, A. Shalev and P. Tiep)

138. "Bases for quasisimple linear groups", *Algebra and Number Theory*, to appear (with M. Lee)

139. "Character bounds for finite groups of Lie type", *Acta Math.*, to appear (with R. Bezrukavnikov, A. Shalev and P. Tiep)

Memoirs

140. "The maximal factorizations of the finite simple groups and their automorphism groups", *Memoirs Amer. Math. Soc.* **86** (1990), pp.1-151 (with C. Praeger and J. Saxl)

141. "Reductive subgroups of exceptional algebraic groups", *Memoirs Amer. Math. Soc.* **121** (1996), No. 580, pp.1-111 (with G. Seitz)

142. "The maximal subgroups of positive dimension in exceptional algebraic groups", *Memoirs Amer. Math. Soc.* **169** (2004), no. 802, pp.1-227 (with G.M. Seitz)

143. "Regular subgroups of primitive permutation groups", *Memoirs Amer. Math. Soc.* **203** (2010), pp. 1-88. (with C. Praeger and J. Saxl)

Books

144. *The subgroup structure of the finite classical groups*, London Math. Soc. Lecture Note Series No. 129, Cambridge Univ. Press, 1990, 303pp. (with P. Kleidman)

145. *Groups, geometry and combinatorics*, London Math. Soc. Lecture Note Series No. 169, Cambridge Univ. Press, 1992, 540pp. (editor, with J. Saxl)

146. *Representations and characters of groups*, Cambridge Univ. Press, 1993, 419pp. (with G. James); Second Edition, 2001

147. *A concise introduction to Pure Mathematics*, Chapman and Hall/CRC Press, 2000; Second Edition, 2005; Third Edition, 2010; Fourth Edition, 2015

148. *Groups, Combinatorics and Geometry: Durham, 2001*, World Scientific, 2003 (editor, with A. Ivanov and J. Saxl)

149. *Unipotent and nilpotent classes in simple algebraic groups and Lie algebras*, Math. Surveys and Monographs Series, Vol. 180, American Math. Soc., 2012 (with G.M. Seitz)

Lecture Notes

150. *Some aspects of the representation theory of finite groups of Lie type*, Lecture Notes, Math. Institute, Oxford 1978 (notes based on lectures by R. Carter)

Theses

151. *Primitive permutation groups: a problem of Wielandt*, Oxford M.Sc. Thesis, 1977

152. *Finite permutation groups*, Oxford D. Phil. Thesis, 1979