Curriculum vitae of Andrew Ranicki

Born: London, 30th December, 1948   Dual UK / German citizen

Cambridge University, B. A. 1969
                  Ph. D. 1973
                  (supervised by Prof. J. F. Adams and Mr. A. J. Casson)

Trinity College Yeats Prize, 1970

Cambridge University Smith Prize, 1972

Research Fellow of Trinity College, Cambridge, 1972–1977

Visiting Member, Institut des Hautes Etudes Scientifiques,
                  Bures-sur-Yvette, France, 1973–1974

Princeton University : Instructor, 1977–1978
                  Assistant Professor, 1978–1982

Visiting Member, Institute for Advanced Studies, Princeton, 1981–1982

Edinburgh University : Lecturer, 1982–1987
                  Reader, 1987–1995
                  Professor of Algebraic Surgery, 1995–2016
                  Honorary Professorial Fellow, 2017–

Junior Whitehead Prize of London Mathematical Society, 1983

Visiting Professor, University of Kentucky, Lexington, 1985–1986

Visiting Member, SFB 170, Göttingen University, 1987–1988

Fellow, Royal Society of Edinburgh, 1992

Senior Berwick Prize of London Mathematical Society, 1994

Leverhulme Trust Fellowship, 2001

Co-Organizer, Oberwolfach Conference on Topology, 1984–1991
         British Topology Meeting, Edinburgh, 1985, 2001, 2011
         Oberwolfach Conference on Surgery and L-theory, 1985, 1990
         Oberwolfach Conference on the Novikov conjecture, 1993
         Conference on Geometric Topology and Surgery, Josai, Japan, 1996
         Special Session at AMS Regional Meeting, Memphis, Tennessee, 1997
         Conference on Quadratic Forms and Their Applications, Dublin, 1999
         Conference on Noncommutative Localization, ICMS, Edinburgh, 2002
         Special Session at AMS Regional Meeting, Bloomington, Indiana, 2003
         Miniworkshop on homology manifolds, Oberwolfach, 2003
         Algebraic K- and L-theory of Infinite Groups, ICMS, Edinburgh, 2005
         C.T.C.Wall 70th birthday conference, ICMS, Edinburgh, 2006
         Miniworkshop on the Hauptvermutung, Oberwolfach, 2006
         Atiyah 80th birthday conference, Edinburgh, 2009
                 http://www.maths.ed.ac.uk/~aar/atiyah80.htm

Oberwolfach Conference on Manifold Perspectives, 2009

ICMS Workshop on The Kervaire Invariant
and Stable Homotopy Theory, 2011

Oberwolfach Conference on New Directions in Algebraic K-theory, 2011

Oberwolfach Seminar on Surgery Theory, 2012

(with D.Crowley, R.Hepworth, B.Owens, L.Watson)
Scottish Topology Seminar, 2013–

(with Y.Eliashberg and E.Ghys) Aspects of the Maslov index,
American Institute of Mathematics, 2014

(with M.Borodzik, A.Pichon and W.Neumann) Singularity Theory and Topology,
ICMS, Edinburgh, 2015

(with J.Kedra and F.Schlenk) Symplectic Geometry and Topology,
ICMS, Edinburgh, 2016

(with B.Farb and U.Hämenstadt) Surface Bundles,
Oberwolfach, 2016

(with T.Brendle, J.Ellenberg and A.Putnam)
Braids in Algebra, Geometry and Topology,
ICMS, Edinburgh, 2017

Research students

Adam Hughes (M.Phil 2000)

Des Sheiham (Ph.D. 2001)

Joerg Sixt (Ph.D. 2003)

Jeremy Brookman (Ph.D. 2004)

Andrew Korzeniewski (Ph.D. 2005)

Julia Collins (Ph.D. 2011)

Mark Powell (Ph.D. 2011)

Spiros Adams-Florou (Ph.D. 2012)

Patrick Orson (Ph.D. 2015)

Chris Palmer (Ph.D. 2015)

Carmen Rovi (Ph.D. 2015)

Supreedee Dangskul (Ph.D. 2016)

Editor, Forum Mathematicum, 1988–2015

K-theory, 1990–2007

Algebraic and Geometric Topology, 2000–2010

deGruyter Studies Series, 2001–2015

EMS Lecture Notes Series and Tracts Series, 2006 - 2015

Royal Society of Edinburgh Proceedings A, Mathematics, 2008–2017

Bulletin of the American Mathematical Society, 2011 –

Monografie Matematyczne, 2011 –

Bibliography of Andrew Ranicki

The papers and introductions to the books are available from the WWW Home Page
http://www.maths.ed.ac.uk/~aar

Books

[1] **Exact sequences in the algebraic theory of surgery**
Mathematical Notes 26, 863pp., Princeton (1981)

[2] **Algebraic L-theory and topological manifolds**
Cambridge Tracts in Mathematics 102, 358 pp., Cambridge (1992)

[3] **Lower K- and L-theory**
L. M. S. Lecture Notes 178, 174 pp., Cambridge (1992)

[4] (with B.Hughes) **Ends of complexes**
Cambridge Tracts in Mathematics 123, 375 pp., Cambridge (1996)

[5] **High-dimensional knot theory**
Springer Monograph in Mathematics, 670 pp., Springer (1998)

[6] **Algebraic and geometric surgery**
Oxford Mathematical Monograph, 373 pp., Oxford (2002)

Papers

[1] **Algebraic L-theory I. Foundations**
Proc. Lond. Math. Soc. (3) 27, 101–125 (1973)

[2] **Algebraic L-theory II. Laurent extensions**
Proc. Lond. Math. Soc. (3) 27, 126–158 (1973)

[3] **Algebraic L-theory III. Twisted Laurent extensions**
Proc. 1972 Battelle Seattle Algebraic K-theory Conference, Springer Lecture Notes 343, 412–463 (1974)

[4] **Algebraic L-theory IV. Polynomial extensions**
Comm. Math. Helv. 49, 137–167 (1974)

[5] (with D.Sullivan) **A semi-local combinatorial formula for the signature of a $4k$-manifold**
J. of Differential Geometry 11, 23–29 (1976)

[6] **On the algebraic L-theory of semi-simple rings**
J. of Algebra 50, 242–243 (1978)

[7] **The surgery obstruction of a disjoint union**
J. of Lond. Math. Soc. 20, 559–566 (1979)

[8] **Localization in algebraic L-theory**
Proc. 1978 Waterloo Topology Conference, Springer Lecture Notes 741, 102–157 (1979)

[9] **The total surgery obstruction**
Proc. 1978 Arhus topology conference, Springer Lecture Notes 763, 275–316 (1979)

[10] **The algebraic theory of surgery I. Foundations**

Proc. Lond. Math. Soc. (3) 40, 87–192 (1980)

[11] **The algebraic theory of surgery II. Applications to topology**
Proc. Lond. Math. Soc. (3) 40, 193–283 (1980)

[12] (with E.K.Pedersen) **Projective surgery theory**
Topology 19, 239–254 (1980)

[13] (with H.J.Munkholm) **The projective class group transfer induced by an S^1-bundle**
Proc. 1981 London, Ontario Topology Conf., 461–484 (1982)

[14] **The algebraic theory of finiteness obstruction**
Math. Scand. 57, 105–126 (1985)

[15] **The algebraic theory of torsion I. Foundations**
Proc. 1983 Rutgers Topology Conf., Springer Lecture Notes 1126, 199–237 (1985)

[16] **Algebraic and geometric splittings of the K- and L-groups of polynomial extensions**
Proc. 1985 Poznañ Topology Conf., Springer Lecture Notes 1217, 321–363 (1986)

[17] (with J.Milgram) **Some product formulae in non–simply–connected surgery**
Trans. A.M.S. 297, 383–413 (1986)

[18] (with J.F.Davis) **Semi-invariants in surgery**
K-theory 1, 83–109 (1987)

[19] (with N.Levitt) **Intrinsic transversality structures**
Pac. J. Math. 129, 85–144 (1987)

[20] **The algebraic theory of torsion II. Products**
K-theory 1, 115–170 (1987)

[21] **The L-theory of twisted quadratic extensions**
Can. J. Math. 39, 345–364 (1987)

[22] (with I.Hambleton and L.Taylor) **Round L-theory**
J. Pure and App. Alg. 47, 131–154 (1987)

[23] (with K.Y.Lam and L.Smith) **Jordan normal form projections**
Arch. der Math. 50, 113–117 (1988)

[24] (with W.Lück) **Surgery transfer**
Proc. 1987 Göttingen Topology Conf., Springer Lecture Notes 1361, 167–246 (1988)

[25] (with W.Lück) **Chain homotopy projections**
J. of Algebra 120, 361–391 (1989)

[26] **Additive L-theory**
K-theory 3, 163–194 (1989)

[27] (with M.Weiss) **Chain complexes and assembly**
Math. Z. 204, 157–186 (1990)

[28] (with J.Milgram) **The L-theory of Laurent polynomial extensions and genus 0 function fields**
J. f. reine und angew. Math. 406, 121–166 (1990)

[29] (with W.Lück) **Surgery obstructions of fibre bundles**

Journal of Pure and Applied Algebra 81, 139–189 (1992)

[30] (with M.Yamasaki) **Symmetric and quadratic complexes with geometric control**
Proc. 1992 Topology Conf., Kyungpook, Korea, TGRC–KOSEF vol. 3, 139–152 (1993)

[31] (with M.Yamasaki) **Controlled K-theory**
Topology and its Applications 61, 1–59 (1995)
(Japanese translation: Theory of transformation groups and algebraic topological geometry, Proceedings of R. I. M. S. Symposium, Kyoto University, Kyoto, December 9–13, 1991, 1–74 (1992))

[32] **Finite domination and Novikov rings**
Topology 34, 619–632 (1995)

[33] (with S.Ferry and J.Rosenberg) **A history and survey of the Novikov conjecture**
Proceedings 1993 Oberwolfach Conference on the Novikov Conjectures, Rigidity and Index Theorems, Vol. 1, L. M. S. Lecture Notes 226, 7–66, Cambridge (1995)

[34] **On the Novikov Conjecture**
Proceedings 1993 Oberwolfach Conference on the Novikov Conjectures, Rigidity and Index Theorems, Vol. 1, L. M. S. Lecture Notes 226, 272–337, Cambridge (1995)

[35] **On the Hauptvermutung**
The Hauptvermutung Book, K-Monograph in Mathematics 1, 3–31, Kluwer (1996)

[36] **The bordism of automorphisms of manifolds from the algebraic L-theory point of view**
Prospects in Topology; proceedings of a conference in honor of William Browder, Annals of Mathematics Studies 138, 314–327, Princeton (1996)

[37] **45 slides on chain duality**
Surgery and Geometric Topology, Proc. 1996 Conference, Josai University, Japan, 105–118 (1997)

[38] (with M.Yamasaki) **Controlled L-theory (Preliminary announcement)**
Surgery and Geometric Topology, Proc. 1996 Conference, Josai University, Japan, 119–136 (1997)

[39] **Singularities, double points, controlled topology and chain duality**
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[40] (with M.Farber) **The Morse-Novikov theory of circle-valued functions and noncommutative localization**
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e-print http://arXiv.org/abs/math.AT/9909130, Trans. A.M.S. 352, 5093–5137 (2000)

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[45] **An introduction to algebraic surgery**
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e-print http://arXiv.org/abs/math.RA/0109118
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[50] (with E.K.Pedersen and F.Quinn) **Controlled surgery with trivial local fundamental groups**
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Exotic Homology Manifolds, Oberwolfach 2003, Geometry and Topology Monograph 9, 33–66 (2006)

[62] (with D. Sheiham) **Blanchfield and Seifert algebra in high-dimensional boundary link theory I. Algebraic** K-**theory**,

e-print http://arXiv.org/abs/math.AT/0508405

Geometry and Topology 10, 1761–1853 (2006)

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[64] **A composition formula for manifold structures**,

e-print http://arXiv.org/abs/math.AT/0608705

Pure and Applied Mathematics Quarterly 5 (Hirzebruch 80th birthday issue), 701–727 (2009).

[65] **Noncommutative localization in algebraic L-theory.**

e-print http://arXiv.org/abs/math.AT/08102761

Advances in Mathematics 220 (2009) 894–912.

[65] (with M. Weiss) **On the construction and topological invariance of the Pontryagin classes**,

e-print http://arxiv.org/abs/0901.0819

Geometriae Dedicata (issue dedicated to Bruce Williams) 148, 309–343 (2010)

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[67] (with M. Crabb) **The geometric Hopf invariant and double points**,
e-print http://arxiv.org/abs/1002.2907
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e-print http://arxiv.org/abs/math.AT/08031639
Algebraic and Geometric Topology 11, 2391–2436 (2011)

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[70] (with M. Weiss) **On the algebraic L-theory of Δ-sets**,
e-print http://arXiv.org/abs/math.AT/0701833
Pure and Applied Maths. Quart, (issue dedicated to F.T. Farrell and L.E. Jones) Vol. 8 (1), 423–449 (2012)

[71] (with M. Borodzik and A.Nemethi) **Codimension 2 embeddings, algebraic surgery and Seifert forms** (with Maciej Borodzik and Andras Nemethi),
e-print http://arxiv.org/abs/1211.5964 (2012)
Journal of Algebraic Geometry 24, 379–398 (2015)

[72] (with C.Weber) **Commentary on the Kervaire-Milnor correspondence 1958-1961**, Bull. A.M.S. 52, 603–609 (2015)

[73] (with E.Ghys) **Signatures in algebra, topology and dynamics**
e-print http://arxiv.org/abs/1512.092582 (2015)
Ensaios Matematicos 30, 1–173 (2016)

[74] (with M. Borodzik and A.Nemethi) **Morse theory for manifolds with boundary**,
e-print http://arxiv.org/abs/1207.3066
Algebraic and Geometric Topology 16, 971-1023 (2016)

Preprints

[1] (with M. Borodzik and A.Nemethi) **On the semicontinuity of the mod 2 spectrum of hypersurface singularities**
e-print http://arxiv.org/abs/1207.0798 (2012)

[2] (with M.Crabb) **The geometric Hopf invariant and surgery theory**, submitted for publication
e-print https://arxiv.org/abs/1602.08832 (2016)

Editor

[1] (with N.Levitt and F.Quinn)
Algebraic and geometric topology, Rutgers 1983
Springer Lecture Notes 1126 (1985)

[2] (with S.Ferry and J.Rosenberg)
Novikov Conjectures, Rigidity and Index Theorems, Oberwolfach 1993
Vols. 1,2, L. M. S. Lecture Notes 226, 227, Cambridge (1995)

[3] **The Hauptvermutung Book**
A collection of papers on the topology of manifolds by A.J.Casson, D.P.Sullivan, M.A.Armstrong, C.P.Rourke and G.E.Cooke, and A.R., K-Monograph in Mathematics 1, Kluwer (1996)

[4] (with M. Yamasaki)
Surgery and Geometric Topology, Josai 1996
Josai University, Japan (1997)

[5] (by C.T.C. Wall) **Surgery on compact manifolds**, 2nd Edition, Mathematical Surveys and Monographs 69, A.M.S. (1999)

[6] (with E. Bayer-Fluckiger and D.W. Lewis)
Quadratic Forms and Their Applications: Proceedings of Conference at University College Dublin, July 5–9, 1999
Contemporary Mathematics 272, A.M.S. (2000)

[7] (with S. Cappell and J. Rosenberg)
Surveys on Surgery Theory: Volume 1; Papers dedicated to C.T.C. Wall
Annals of Mathematics Study 145, Princeton University Press (2000)

[8] (with S. Cappell and J. Rosenberg)
Surveys on Surgery Theory: Volume 2; Papers dedicated to C.T.C. Wall
Annals of Mathematics Study 149, Princeton University Press (2001)

[9] (by D. Sullivan) **Geometric Topology; Localization, Periodicity, and Galois Symmetry (The 1970 MIT notes)**
K-Monographs in Mathematics 8, Springer (2005)

[10] **Noncommutative localization in algebra and topology; Proceedings of ICMS Conference, Edinburgh, 2002**
LMS Lecture Notes 330, Cambridge University Press (2006)

[11] (with F.Quinn) **Exotic Homology Manifolds, Oberwolfach 2003**
Geometry and Topology Monograph 9 (2006)

[12] (with E.Ghys) **Signatures, braids and Seifert surfaces**
Ensaios Matematicos 30 (2016)
A collection of papers by E.Ghys and A.Ranicki, J.-M.Gambaudo and E.Ghys, A.Cohen and J. van Wijk, J. Collins, M.Bourrigan, C.Palmer.