

CURRICULUM VITAE

COLIN ROURKE : DOB 1-1-43

Outline CV

1963	BA (Cantab) First Class, Star in Part III
1964-7	Assistant lecturer and lecturer at Queen Mary College, London
1966	PhD (Cantab)
1966	Elected fellow Trinity College, Cambridge
1967-8	Member of the Institute for Advanced Studies, Princeton
1968-present	Lecturer and reader at University of Warwick
1970	Invited speaker at the International Congress of Mathematicians at Nice
1976-8	Acting Professor of Pure Mathematics at the Open University
1977-81	Chairman of M203 (the Open University 2nd level pure mathematics course)
1992-1995	Chairman of Mathematics Department, University of Warwick
1996-present	Founding editor of <i>Geometry & Topology</i>
Publications	About 50 papers in Topology and adjoining areas of mathematics 2 books Approximately $12\frac{1}{2}$ Open University course units and 20 TV programmes
Citations	542 citations in the period 1981-1998 (source BIDS)

Successful Ph.D. Students

David Stone : Stratified polyhedra

Tim Moon : Block bundles with boundary

Sandro Buoncrisiano : Sheaves of coefficients for homology theories

Jenny Harrison : Solution to Denjoy problem

Hamish Short : Freiheitsatz for locally indicable groups

Daryl Cooper : Topics in knot cobordism
 Eugenia César de Sá : Determination of the homotopy type of diffeomorphism groups of 3-manifolds
 Eduardo Rêgo : Heegaard diagrams and homotopy 3-spheres
 Andrew Kelly : Invariant groups associated to links in S^3
 Sofia Lambropoulou : Braids in 3-manifolds
 Hayley Ryder : Structure of racks
 Bert Weist : Homotopy of rack spaces and natural framings of knots

Current Ph.D. Students

Nigel Evans : Racks and Vassiliev invariants
 Andrew Fish : Braids and cubical sets
 Douglas Patterson : The meaning of small racks
 Nicholas Jackson (part-time) thesis topic not yet decided

Bibliography

Research publications

1. (With B.J.Sanderson) *Block Bundles*, Bull. Amer. Math. Soc., **72** (1966) 1036–1039
2. *A note on complementary spines*, Proc. Cambridge Philos. Soc., **63** (1967) 1–3
3. *Improper embeddings of PL spheres and balls*, Topology, **6** (1967) 297–330
4. *Covering the track of an isotopy*, Proc. Amer. Math. Soc., **18** (1967) 320–324
5. (With B.J.Sanderson) *An embedding without a normal microbundle*, Invent. Math., **3** (1967) 293–299
6. (With B.J.Sanderson) *Block Bundles, I*, Annals of Math., **87** (1968) 1–28
7. (With B.J.Sanderson) *Block Bundles, II: transversality*, op. cit., 255–277
8. (With B.J.Sanderson) *Block Bundles, III: homotopy theory*, op. cit., 431–483
9. (With W.B.R.Lickorish) *A counterexample to the three balls problem*, Proc. Cambridge Philos. Soc., **66** (1968) 13–16
10. (With P.Orlik) *Free involutions on homotopy $(4k + 3)$ -spheres*, Bull. Amer. Math. Soc., **74** (1968) 949–953

11. (With B.J.Sanderson) *Decompositions and the relative tubular neighbourhood conjecture*, *Topology*, **9** (1970) 225–229
12. *Embedded handle theory, concordance and isotopy*, *Topology of manifolds*, Ed. Cantrell and Edwards, Markham (1970) 431–438
13. (With B.J.Sanderson) *Some results on topological neighbourhoods*, *Bull. Amer. Math. Soc.*, **76** (1970) 1070–1072
14. (With B.J.Sanderson) *On topological neighbourhoods*, *Compositio Math.*, **22** (1970) 387–414
15. (With M.A.Armstrong) *Topological immersions*, *op. cit.*, 414–424 (appendix to previous paper)
16. *Block structures in geometric and algebraic topology*, *Proc. I.C.M. Nice* (1970)
17. (With B.J.Sanderson) Δ -sets, *I: homotopy theory*, *Quart. Jour. Math. (Oxford)*, **22** (1971) 321–328
18. (With B.J.Sanderson) Δ -sets, *II: block bundles and block fibrations*, *op. cit.*, 465–485
19. (With D.P.Sullivan) *On the Kervaire obstruction*, *Annals of Math.*, **94** (1971), 393–413
20. (With N.W.Alcock and G.S.Pawley) *An improvement in the algorithm for absorption correction by the analytic method*, *Acta Crystallographia*, **28** (1972) 440–444
21. *Representing homology classes*, *Bull. London Math. Soc.*, **5** (1973) 257–262
22. (With B.J.Sanderson and S.Buonchristiano) *A geometric approach to homology theory, I: homotopy functors*, *London Math. Soc. Lecture Note Series*, no. 18 C.U.P. (1976) 4–18
23. (With B.J.Sanderson and S.Buonchristiano) *A geometric approach to homology theory, II: mock bundles*, *op. cit.*, 19–40
24. (With B.J.Sanderson and S.Buonchristiano) *A geometric approach to homology theory, III: coefficients*, *op. cit.*, 41–80
25. (With B.J.Sanderson and S.Buonchristiano) *A geometric approach to homology theory, IV: geometric theories*, *op. cit.*, 81–97
26. (With B.J.Sanderson and S.Buonchristiano) *A geometric approach to homology theory, V: equivariant theories and operations*, *op. cit.*, 98–112
27. (With B.J.Sanderson and S.Buonchristiano) *A geometric approach to homology theory, VI: sheaves*, *op. cit.*, 113–130
28. (With B.J.Sanderson and S.Buonchristiano) *A geometric approach to homology theory, VII: the geometry of CW complexes*, *op. cit.*, 131–149
29. (With R.A.Fenn) *Nice spines of 3-manifolds*, *Proceedings of the 1977 Sussex Topology Conference*, Springer lecture notes, **722**, 31–36

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30. *Presentations and the trivial group*, op. cit., 134–143
 31. (With N.Levitt) *The existence of combinatorial formulae for characteristic classes*, Trans. Amer. Math. Soc., **239** (1978) 391–397
 32. (With R.A.Fenn) *On Kirby’s calculus of links*, Topology, **18** (1979) 1–15
 33. (With E.César de Sá) *The homotopy type of homeomorphism groups of 3–manifolds*, Bull. Amer. Math. Soc., (new series) **1** (1979) 251–254
 34. *A new proof that Ω_3 is zero*, J. London Math. Soc., (2) **31** (1985) 373–376
 35. *Convex ruled surfaces*, Analytical and Geometric Aspects of Hyperbolic Space, Ed. D.B.A.Epstein, London Math. Soc. Lecture notes, **111** (1987) 255–272
 36. (With E.Rêgo) *Heegaard diagrams and homotopy 3–spheres*, Topology, **27** (1988) 137–143
 37. *On dunce hats and the Kervaire conjecture*, Papers presented to Christopher Zeeman, University of Warwick (1988) 221–230
 38. (With R.A.Fenn) *Racks and links in codimension two*, Journal of Knot theory and its Ramifications, **1** (1992) 343–406
 39. (With R.A.Fenn and B.J.Sanderson) *An Introduction to species and the rack space*, Topics in Knot Theory, Ed. M.E.Bozhüyük, Kluwer Academic Publishers, (1993) 33–55
 40. (With R.A.Fenn and R.Rimányi) *Some remarks on the braid–permutation group*, op. cit., 57–68
 41. *Characterisation of the 3–sphere following Haken*, Turkish Journal of Mathematics, **18** (1994) 60–69
 42. (With G.Masbaum) *Model categories and topological quantum field theories*, op. cit., 70–80
 43. (With R.A.Fenn and B.J.Sanderson) *Trunks and classifying spaces*, Applied Categorical Structures, **3**, (1995) 321–356
 44. (With R.A.Fenn) *Klyachko’s methods and the solution of equations over torsion-free groups*, L’Enseignement Mathématique, **42**, (1996) 49–74
 45. *The Hauptvermutung according to Casson and Sullivan*, The Hauptvermutung book, Ed. A.Ranicki, *K–theory Journal book series*, Kluwer (1996) 167–215
 46. *Coda : Connection with results of Kirby and Siebenmann*, op. cit., 249–251
 47. (With R.A.Fenn and R.Rimányi) *The braid–permutation group*, Topology, **36**, (1997) 123–135
 48. (With S.Lambropoulou) *Markov’s theorem in 3–manifolds*, Topology and its Applications, **78**, (1997) 95–112
 49. *Algorithms to disprove the Poincaré Conjecture*, Turkish Journal of Mathematics, **21** (1997) 99–110

50. (With B.J.Sanderson) *The compression theorem*, to appear in the Annals of Mathematics (41 pages)
51. (With R.A.Fenn and E.Keyman) *The singular braid group*, to appear in the Journal of Knot theory and its Ramifications (14 pages)
52. (With R.A.Fenn) *Characterisation of a class of equations with solutions over torsion-free groups*, to appear in "The Epstein Birthday Schrift", I.Rivin, C.Rourke and C.Series (editors), Geometry and Topology Monographs, Volume 1 (1998) 163–171
53. (With R.A.Fenn, Michael Greene, Dale Rolfsen and Bert Wiest), *Ordering the braid groups*, to appear in the Pacific Journal of Mathematics (24 pages)

Preprints

Note All the following preprints (and many recent papers) are available for collection from my WWW homepage: <http://www.maths.warwick.ac.uk/~cpr/>

54. (With R.A.Fenn and B.J.Sanderson) *James bundles and applications*, Warwick University preprint (1995) (63 pages)
55. (With B.J.Sanderson) *Equivariant configuration spaces*, Warwick University preprint (1997) (11 pages) submitted for publication
56. (With Bert Wiest), *Order automatic mapping class groups*, Warwick University preprint (1998) (20 pages) submitted for publication

In preparation

57. (With E.Rêgo) *A programme for a proof of the Poincaré Conjecture* (advanced draft)
58. (With R.A.Fenn and B.J.Sanderson) *Cubical sets and Vassiliev invariants*
59. (With Hamish Short) *Casson's obstruction to geometric proofs*
60. (With Michael Greene) *A program to search for homotopy 3-spheres*
61. (With R.A.Fenn and B.J.Sanderson) *Racks and the classification of links* (monograph)
62. (With Igor Rivin and Caroline Series, co-editors) *The Epstein Birthday Schrift*, Geometry and Topology Monographs, Volume 1 (1998)

Lecture notes

- *Lecture notes on topology*, Queen Mary College, London (1965)
- (With M.A.Armstrong and G.E.Cooke) *The Princeton notes on the Hauptvermutung*, Princeton (1968) and Warwick University (1975)

Books

- (With B.J.Sanderson) *Introduction to piecewise-linear topology*, Springer Ergebnisse series, no. 69, Springer-Verlag (1972), reprinted in paperback as a Springer study edition (1982)
- (With L.Bostock and S.Chandler) *Further Pure Mathematics*, Stanley Thornes (1982)

Other public output

- Open University Material comprising $12\frac{1}{2}$ course units, 20 TV programmes, exercise booklets etc., published by OU Publications and BBC OU Productions (1978–1983)
- *The Northamptonshire Complaint* (1981)
- (With Ian Stewart) *Poincaré's perplexing problem*, New Scientist no. 1524 (1986) 41–45
- (With Michael Greene) *The macro package rlepsz.tex*, (macros to relabel an EPS file with T_EX labels), CTAN tex archive, tex-archive/macros/generic/rlepsz/