

Publications of Nicholas J. Kuhn

Books edited

1. (with J.P.C.Greenlees and R.R.Bruner) Homotopy Methods in Algebraic Topology, Proceedings of the 1999 Conference in Boulder, A. M. S. Cont. Math. Series **271**, 2001.

Research Papers

All papers since 2002 are available in preprint form at arxiv.org. Many older papers are also available on one or more of the following archives: the Hopf archive at hopf.math.purdue.edu, the K-theory archive at www.math.uiuc.edu/K-theory, or the group cohomology archive at homepages.abdn.ac.uk/mth192/pages/html/archive.html.

1. The geometry of the James-Hopf Maps, *Pac. J. Math.* **102**(1982), 397–412.
2. (with S.A.Mitchell and S.B.Priddy) The Whitehead conjecture and splitting $B(\mathbf{Z}/2)^k$, *Bull. A. M. S.* **7**(1982), 255–258.
3. A Kahn-Priddy sequence and a conjecture of G.W.Whitehead, *Math. Proc. Camb. Phil. Soc.* **92**(1982), 467–483. (Corrigenda, **95**(1984), 189–190.)
4. (with F.R.Cohen, R.L.Cohen, and J.L.Neisendorfer) Bundles over configuration spaces, *Pac. J. Math.* **104**(1983), 47–54.
5. The homology of the James-Hopf maps, *Ill. J. Math.* **27**(1983), 315–333.
6. Spacelike resolutions of spectra, *Northwestern Homotopy Theory Conference, Proc. Evanston, 1982*, A. M. S. Cont. Math. Series **19**(1983), 153–165.
7. Suspension spectra and homology equivalences, *Trans. A. M. S.* **283**(1984), 303–313.
8. (with an appendix by P.Landrock) The modular Hecke algebra and Steinberg representation of finite Chevalley groups, *J. Algebra* **91**(1984), 125–141.
9. Extended powers of spectra and a generalized Kahn-Priddy Theorem, *Topology* **23**(1985), 473–480.
10. Chevalley group theory and the transfer in the homology of symmetric groups, *Topology* **24**(1985), 247–264.
11. (with S.B.Priddy) The transfer and Whitehead’s conjecture, *Math. Proc. Camb. Phil. Soc.* **98**(1985), 459–480.
12. (with S.A.Mitchell) The multiplicity of the Steinberg representation of $GL_n(\mathbf{F}_q)$ in the symmetric algebra, *Proc. A. M. S.* **96**(1986), 1–6.

13. Exact sequences of spectra and duality, *Proc. A. M. S.* **97**(1986), 347–351.
14. The mod p K-theory of classifying spaces of finite groups, *J. Pure Appl. Alg.* **44**(1987), 269–271.
15. The rigidity of $L(n)$, *Algebraic Topology – Seattle 1985, Springer Lect. Notes Math.* **1286**(1987), 286–292.
16. The Morava K-theories of some classifying spaces, *Trans. A. M. S.* **304**(1987), 193–205.
17. The transfer and James-Hopf invariants, *Math. Zeit.* **196**(1987), 391–405.
18. (with J.C.Harris) Stable decompositions of classifying spaces of finite abelian p -groups, *Math. Proc. Camb. Phil. Soc.* **103**(1988), 427–449.
19. Morava K-theories and infinite loop spaces, *Algebraic Topology, Proc. Arcata, 1986, Springer Lect. Notes Math.* **1370**(1989), 243–257.
20. (with D.Carlisle) Subalgebras of the Steenrod algebra and the action of matrices on truncated polynomial algebras, *J. Algebra* **121**(1989), 370–387.
21. (with D.Carlisle) Smash products of summands of $B(\mathbf{Z}/\mathbf{p})_+^n$, *Northwestern Topology Conference, Proc. Evanston, 1988, A. M. S. Cont. Math. Series* **96**(1989), 87–102.
22. Character rings in algebraic topology, *Advances in Homotopy Theory, Proc. Cortona 1988, L. M. S. Lectures Notes* **139**(1989), 111–126.
23. (with J. F. Adams) Atomic spaces and spectra, *Proc. Edin. Math. Soc.* **32**(1989), 473–481.
24. (with M.J.Hopkins and D.C.Ravenel) Morava K-theories of classifying spaces and generalized characters for finite groups, *Topology Conference, Proc. Barcelona, 1990, Springer Lecture Notes in Math.* **1509** (1992), 186–209.
25. Generic representation theory and Lannes’ T-functor, *Adams Memorial Symp., Proc. Manchester, 1990, L. M. S. Lecture Notes* **176** vol.2(1992), 235–262.
26. (with Jeanne Duflot and Mark Winstead) A classification of polynomial algebras as modules over the Steenrod algebra, *Comm. Math. Helv.* **68**(1993), 622–632.
27. (with Piotr Krason) On embedding polynomial functors in symmetric powers, *J.Algebra* **163**(1994), 281–294.
28. Constructions of families of elements in the stable homotopy groups of spheres, *Topology and Representation Theory, Proc. Evanston, 1992, A.M.S. Cont. Math.* **158**(1994), 135–155.

29. Morita equivalence, $GL(n, q)$ modules, and the Steenrod algebra, *Algebraic Topology and its Applications, Proc. Berkeley, 1989, M.S.R.I. Pub.* **27**(1994), 125–137.
30. Generic representations of the finite general linear groups and the Steenrod algebra:I, *Amer. J. Math.* **116**(1994), 327–360.
31. Generic representations of the finite general linear groups and the Steenrod algebra:II, *K-theory J.* **8**(1994), 395–428.
32. Generic representations of the finite general linear groups and the Steenrod algebra:III, *K-theory J.* **9**(1995), 273–303.
33. On topologically realizing modules over the Steenrod algebra, *Annals of Math.* **141**(1995), 321–347.
34. (with M. Slack and F. Williams) Hopf constructions and higher projective planes for iterated loop spaces, *Trans. A.M.S.* **347**(1995), 1201–1238.
35. (with M. Winstead) On torsion in the cohomology of certain mapping spaces, *Topology* **35**(1996), 875–881.
36. Invariant subspaces of the ring of functions on a vector space over a finite field, *J. Algebra* **191**(1997), 212–227.
37. Computations in generic representation theory: maps from symmetric powers to composite functors, *Trans. A.M.S.* **350**(1998), 4221–4233.
38. Rational cohomology and cohomological stability in generic representation theory, *Amer. J. Math.* **120**(1998), 1317–1341.
39. (with D. J. Hunter) Mahowaldian families of elements in stable homotopy groups revisited, *Math. Proc. Camb. Phil. Soc.* **127** (1999), 237–251.
40. (with D. J. Hunter) Characterizations of spectra with U-injective cohomology which satisfy the Brown–Gitler property, *Trans. A.M.S.* **352** (2000), 1171–1190.
41. (with M.J. Hopkins and D.C. Ravenel) Generalized group characters and complex oriented cohomology theories, *Journal A.M.S.* **13**(2000), 553–594.
42. The generic representation theory of finite fields: a survey of basic structure, *Infinite Length Modules, Proc. Bielefeld, 1998, Trends in Mathematics*, Birkhauser (2000), 193–212.
43. New relationships among loopspaces, symmetric products, and Eilenberg MacLane spaces, *Cohomological Methods in Homotopy Theory, Proc. Barcelona, 1998*, Birkhauser Verlag Progress in Math **196**(2001), 185–216.

44. Splitting fields and twisted group rings for the finite general linear groups, *Modular Representation Theory of Finite Groups, Proc. Charlottesville, 1998*, de Gruyter (2001), 231–237.
45. Stable splittings and the diagonal, *Homotopy Methods in Algebraic Topology, Proc. Boulder, CO, 1999, A.M.S. Cont. Math.* **271** (2001), 169–181.
46. A stratification of generic representation theory and generalized Schur algebras, *K-theory J.* **26** (2002), 15–49.
47. (with S.T.Ahearn) Product and other fine structure in polynomial resolutions of mapping spaces, *Algebraic and Geometric Topology* **2** (2002), 591–647.
48. The McCord model for the tensor product of a space and a commutative ring spectrum, *Categorical Decomposition Techniques in Algebraic Topology, Proc. Isle of Skye, Scotland, 2001, Birkhauser Verlag Progress in Math* **215** (2003), 213–236.
49. Tate cohomology and periodic localization of polynomial functors, *Invent. Math.* **157** (2004), 345–370.
50. Localization of André–Quillen–Goodwillie towers, and the periodic homology of infinite loopspaces, *Advances in Math.* **201** (2006), 318–378.
51. Mapping Spaces and Homology Isomorphisms, *Proc. A.M.S.* **134** (2006), 1237–1248. With an appendix joint with G. Arone.
52. Goodwillie towers and chromatic homotopy: an overview, *Algebraic Topology, Proc. Kinosaki, Japan, 2003, Geometry and Topology Monographs* **10** (2007), 245–279.
53. Primitives and central detection numbers in group cohomology, *Advances in Math.* **216** (2007), 387–442.
54. The nilpotent filtration and the action of automorphisms on the cohomology of finite p -groups, *Math. Proc. Camb. Phil. Soc.* **144** (2008), 575–602.
55. A guide to telescopic functors, *Johns Hopkins Conference on Algebraic Topology, Proc. Baltimore, 2007, Homology, Homotopy, and Applications* **10** (2008), 291–319.
56. Topological nonrealization results via the Goodwillie tower approach to iterated loop space homology, *Algebraic and Geometric Topology* **8** (2008), 2109–2129. (Correction: **10** (2010), 531–533.)
57. Nilpotence in group cohomology, *Proc. Edin. Math. Soc.* **56** (2013), 151–175.
58. (with J. B. McCarty) The mod 2 homology of infinite loopspaces, *Algebraic and Geometric Topology* **13** (2013), 687–745.

59. The Krull filtration of the category of unstable modules over the Steenrod algebra, *Math. Zeit.* **277** (2014), 917–936.
60. The Whitehead Conjecture, the Tower of S^1 Conjecture, and Hecke algebras of type A, *J. Topology* **8** (2015), 118–146.
61. Generic representation theory of finite fields in nondescribing characteristic, *Advances in Math.* **272** (2015), 598–610.
62. (with Luis A. Pereira) Operad bimodules, and composition products on André–Quillen filtrations of algebras, *Algebraic and Geometric Topology* **17** (2017), 1105–1130.
63. Adams filtration and generalized Hurewicz maps for infinite loopspaces, *Invent. Math.* **214** (2018), 957–998.
64. Hopf algebras, quasi-shuffle algebras and the cohomology of $\Omega\Sigma X$, *Advances in Math.* **369** (2020), 107013, 30pp.
65. (with Chris J.R.Lloyd) Chromatic fixed point theory and the Balmer spectrum for extraspecial 2–groups, *Amer. J. Math.* **146** (2024), 769–812.
66. (with Chris J.R.Lloyd) Computing the Morava K–theory of real Grassmanians using chromatic fixed point theory, *Algebraic and Geometric Topology* **24** (2024), 919–950.
67. (with William Balderrama) An elementary proof of the chromatic Smith fixed point theorem, *Homology, Homotopy, and Applications* **26** (2024), 131–140.
68. Dyer–Lashof operations as extensions of Brown–Gitler modules, *Homology, Homotopy, and Applications*, to appear. arXiv:2306.14158
69. Applications of the circle product with a right Com–module to the theory of commutative ring spectra, *Philosophical Transactions of the Royal Society A*, to appear. arxiv:2410.05104
70. (with William Balderrama, Justin Barhite, and Donald Larson) Type 2 complexes constructed from Brown–Gitler spectra, 2024. arXiv:2409.16384
71. A short proof of the chromatic Smith Fixed Point Theorem, preprint, 2021. arXiv:2112.05001 (To be slightly revised and renamed.)

Reports and other miscellaneous publications

1. Cohomology primitives associated to central extensions, *Oberwolfach Reports* **2** (2005), 2383–2386.
2. (with Carles Broto, Nguyen H. V. Hung, John H. Palmieri, Stewart Priddy, and Nobuaki Yagita) The problem session. *Proc. School and Conference in Algebraic Topology, Hanoi, 2004, Geometry and Topology Monographs* **11** (2007), 435–441.

3. Adams filtration and infinite loopspaces, *Oberwolfach Reports* **4** (2007), 2703–2705.
4. Restriction to the center in group cohomology, *Oberwolfach Reports* **7** (2010), 1919–1922.
5. The mod 2 homology of infinite loopspaces, *Oberwolfach Reports* **8** (2011), 2660–2663.
6. Generic representations of finite fields in nondescribing characteristic, *Oberwolfach Reports* **12** (2015), 1377–1379.
7. New results about the equivariant stable homotopy Balmer spectrum, *Oberwolfach Reports* **16** (2019), 2220–2223.