## 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,  $Proc.\ A.\ M.\ S.\ \mathbf{96}(1986),\ 1-6.$

- 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) Mahowaldean 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 loopspace 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, preprint, 2020.
- 66. (with Chris J.R.Lloyd) Computing the Morava K-theory of real Grassmanians using chromatic fixed point theory, *Algebraic and Geometric Topology*, to appear. preprint, 2021.
- 67. A short proof of the chromatic Smith Fixed Point Theorem, preprint, 2021.

## Reports and other miscellaneous publications

- 1. Cohomology primitives associated to central extensions, *Oberwolfach Reports*  $\bf 2$  (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.