

CURRICULUM VITAE of J. TOBIAS STAFFORD

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Positions Held:

NATO Postdoctoral Research Fellow, Brandeis University, 1976-8.
Davey Research Fellow, Gonville and Caius College, Cambridge, England, 1978-82.
University of Leeds, England:
Lecturer 1982-85;
Reader in Algebra 1985-8;
Personal Chair 1988-9.
Professor, University of Michigan, Ann Arbor, 1989–2007.
Professor, University of Manchester, 2007–present

Visiting Positions:

Jan-May 2013 MSRI;
Jan-Feb 2011 Hausdorff Institute, Bonn;
Nov-Dec 2006 Newton Institute, Cambridge;
Nov-Dec 2003 Mittag-Leffler Institute;
Jan-May 2000 MSRI;
June 1998 Universite de Brest;
June 1996 Universite de Poitiers;
Jan-April 1996 MIT;
April-June 1988 University of Chicago;
1980 & 1986 UCSD;
April-Dec, 1985 University of Washington;
Sept 1983 & July-Aug 1982 Wietzmann Institute;
May 1981 Universite de Paris VI.

Education and Degrees:

BA University of Cambridge, England, 1972
MA University of Cambridge, England, 1976
PhD University of Leeds, England, 1976 (advisor J. C. Robson)

Honours:

1980 Whitehead Prize, London Mathematical Society.
1996 Excellence in Research Award, University of Michigan.
2002 Invited Speaker, ICM (Bejing, August 2002).
2007-2013 Royal Society-Wolfson Research Merit Award.
2012-2013 Clay Senior Scholar and Simons Visiting Professor, MSRI, Berkeley.
2013 Fellow of the American Mathematical Society.

Citations: **h-index** 21 (21 papers with at least 21 citations on the Web of Science.)
Over 1,100 Web of Science citations
Over 800 citations on MathSciNet (since 1997)

Editorial Boards:

1987–98	London Mathematical Society.
1988–present	Journal of Algebra.
1993-6	Contemporary Mathematics.
2001-8	AMS Surveys and Monographs (Chair 2005-08).
2007-9	AMS University Lecture Notes Series.
2007–present	Algebra and Number Theory.
2009–present	LMS Lecture Note Series.

External Activities:

1995-2001	NSA Mathematical Sciences Advisory Panel.
1999-2000	Organising Committee, MSRI year in Noncommutative Algebra.
2002 & 2006	Organising Committee, Oberwolfach conference in noncom. algebra.
2001-3	AMS Von Neumann Symposium Committee.
2001-2	AMS Cole Prize Committee.
2003-4	Scientific Committee, Warwick Symposium on Noncommutative Algebra.
2004	NSF Algebra, Number Theory and Combinatorics Review Panel.
2005-9	Member of the AMS Council.
2008	External Committee for Mathematics, Universities of Paris 6 and 7.
2008-10	LMS Prizes Committee.
2008 & 2011	Organised ARTIN Conferences at Manchester.
2010	Organising Committee, Oberwolfach conference in noncom. algebra.
2011	UCSB Distinguished Lecturer in the Mathematical Sciences.
2011	Scientific Committee for Conference at Seattle, Washington.
2011	Scientific Committee for Conference at Fudan University Shanghai.
2011	External Committee for Mathematics, University of Antwerp.
2013	Chair of MSRI programme in NC Algebraic Geometry and Rep. Theory.
2014	Organising Committee, Oberwolfach conference in noncom. algebra.

Research Students:

Martin P Gilchrist (1982-85) PhD 1985	S. Collier Coutinho (1982-86) PhD 1986
Tim Jarrold (1986-90) PhD 1990	David Kausch (1990-93) PhD 1993
Darin Stephenson (1990-94) PhD 1994	Kok-Ming Teo (1991-94) PhD 1994
Paul Check (1994-97) PhD 1997	Dennis Keeler (1997–2000) PhD 2000
Kimberley Retert (1997–2001) PhD 2001	Dan R. Rogalski (1998–2002) PhD 2002
Susan Sierra (2005–08) PhD 2008	Chelsea Walton (2006–11) PhD 2011
Sian Fryer (2010–2014)	Andrew Davies (2010–2014)
Dominic Bush-Hipwood (2015–present)	

As first positions, Keeler, Rogalski and Walton all obtained NSF Postdocs and Moore Instructorships at MIT, while Sierra obtained an NSF Postdoc and Instructorship at Princeton.

Postdoctoral Advisees:

Martin Holland (1987-89),	James Zhang (1990-93),	Tony Giaquinto (1991-95),
Joanna Stanizskis (1994-97),	Ioannis Emmanouil (1995-98),	Daniel Chan (2000-02),
Jason Bell (2002-05),	Tatyana Chmutova (2006–07),	Gwyn Bellamy (2011-13).

NSF Grants	Award Amount
1990–1993	\$166,200.00
1993–1998	\$416,400.00
1998–2003	\$329,185.00
2003–2006	\$230,049.00
2006–2011	\$460,000.00

Publications.

- 1) Completely faithful modules and ideals of simple Noetherian rings. *Bull. London Math. Soc.* 8 (1976), no. 2, 168–173.
- 2) (with Rosenberg, A.) Global dimension of Ore extensions. *Algebra, topology, and category theory* (a collection of papers in honor of Samuel Eilenberg), pp. 181–188. Academic Press, New York, 1976.
- 3) Stable structure of noncommutative Noetherian rings. *J. Algebra* 47 (1977), no. 2, 244–267.
- 4) Weyl algebras are stably free. *J. Algebra* 48 (1977), no. 2, 297–304.
- 5) A simple Noetherian ring not Morita equivalent to a domain. *Proc. Amer. Math. Soc.* 68 (1978), no. 2, 159–160.
- 6) Stable structure of noncommutative Noetherian rings. II. *J. Algebra* 52 (1978), no. 1, 218–235.
- 7) (with Krause, G. and Lenagan, T.) Ideal invariance and Artinian quotient rings. *J. Algebra* 55 (1978), no. 1, 145–154.
- 8) Morita equivalence of simple Noetherian rings. *Proc. Amer. Math. Soc.* 74 (1979), no. 2, 212–214.
- 9) Module structure of Weyl algebras. *J. London Math. Soc.* (2) 18 (1978), no. 3, 429–442.
- 10) K -theory of Noetherian group rings. *Ring theory* (Proc. Conf., Univ. Waterloo, Waterloo, 1978), pp. 302–322, *Lecture Notes in Math.*, 734, Springer, Berlin, 1979.
- 11) (with Brown, K. A. and Lenagan, T. H.) Weak ideal invariance and localisation. *J. London Math. Soc.* (2) 21 (1980), no. 1, 53–61.
- 12) (with Brown, K. A. and Lenagan, T. H.) K -theory and stable structure of some Noetherian group rings. *Proc. London Math. Soc.* (3) 42 (1981), no. 2, 193–230.
- 13) On the regular elements of Noetherian rings. *Ring theory* (Proc. Antwerp Conf. (NATO Adv. Study Inst.), Univ. Antwerp, Antwerp, 1978), pp. 257–277, *Lecture Notes in Pure and Appl. Math.*, 51, Dekker, New York, 1979.
- 14) Projective modules over polynomial extensions of division rings. *Invent. Math.* 59 (1980), no. 2, 105–117.
- 15) Bounded number of generations of right ideals in polynomial rings. *Comm. Algebra* 8 (1980), no. 16, 1513–1518.
- 16) On the stable range of right Noetherian rings. *Bull. London Math. Soc.* 13 (1981), no. 1, 39–41.
- 17) (with Cortzen, B. and Small, L. W.) Decomposing overrings. *Proc. Amer. Math. Soc.* 82 (1981), no. 1, 28–30.
- 18) (with Small, L. W.) Localisation and completions of Noetherian PI algebras. *J. Algebra* 70 (1981), no. 1, 156–161.
- 19) Generating modules efficiently: algebraic K -theory for noncommutative Noetherian rings. *J. Algebra* 69 (1981), no. 2, 312–346; *Corrig.*, *J. Algebra* 82 (1983), no. 1, 294–296.
- 20) Cancellation for nonprojective modules. *Module theory* (Proc. Special Session, Amer. Math. Soc., Univ. Washington, Seattle, Wash., 1977), pp. 3–15, *Lecture Notes in Math.*, 700, Springer, Berlin, 1979.
- 21) (with Farkas, D. R., Schofield, A. H. and Snider, R. L.) The isomorphic question for division rings of group rings. *Proc. Amer. Math. Soc.* 85 (1982), no. 3, 327–330.
- 22) Generating modules efficiently over noncommutative rings. *Paul Dubreil and Marie-Paule Malliavin Algebra Seminar, 34th Year* (Paris, 1981), pp. 72–88, *Lecture Notes in Math.*, 924, Springer, Berlin-New York, 1982.
- 23) (with Wallach, N. R.) The restriction of admissible modules to parabolic subalgebras. *Trans. Amer. Math. Soc.* 272 (1982), no. 1, 333–350.
- 24) Homological properties of the enveloping algebra $U(\mathrm{Sl}_2)$. *Math. Proc. Cambridge Philos. Soc.* 91 (1982), no. 1, 29–37.
- 25) (with Small, L. W.) Regularity of zero divisors. *Proc. London Math. Soc.* (3) 44 (1982), no. 3, 405–419.

- 26) Noetherian full quotient rings. *Proc. London Math. Soc.* (3) 44 (1982), no. 3, 385–404.
- 27) Rings with a bounded number of generators for right ideals. *Quart. J. Math. Oxford Ser.* (2) 34 (1983), no. 133, 107–114.
- 28) (with Resco, R. and Small, L. W.) Krull and global dimensions of semiprime Noetherian PI-rings. *Amer. Math. Soc.* 274 (1982), no. 1, 285–295.
- 29) Dimensions of division rings. *Israel J. Math.* 45 (1983), no. 1, 33–40.
- 30) (with Warfield, R. B., Jr.) Hereditary orders with infinitely many idempotent ideals. *J. Pure Appl. Algebra* 31 (1984), no. 1-3, 217–225.
- 31) (with Joseph, A.) Modules of \mathfrak{k} -finite vectors over semisimple Lie algebras. *Proc. London Math. Soc.* (3) 49 (1984), no. 2, 361–384.
- 32) On the ideals of a Noetherian ring. *Trans. Amer. Math. Soc.* 289 (1985), no. 1, 381–392.
- 33) (with Small, L. W. and Warfield, R. B., Jr.) Affine algebras of Gelfand-Kirillov dimension one are PI. *Math. Proc. Cambridge Philos. Soc.* 97 (1985), no. 3, 407–414.
- 34) The Weyl algebra and finite-dimensional filtering. *Stochastics* 14 (1984), no. 1, 29–31.
- 35) Nonholonomic modules over Weyl algebras and enveloping algebras. *Invent. Math.* 79 (1985), no. 3, 619–638.
- 36) Stably free, projective right ideals. *Compositio Math.* 54 (1985), no. 1, 63–78.
- 37) (with Warfield, R. B., Jr.) Constructions of hereditary Noetherian rings and simple rings. *Proc. London Math. Soc.* (3) 51 (1985), no. 1, 1–20.
- 38) (with Small, L. W.) Homological properties of generic matrix rings. *Israel J. Math.* 51 (1985), no. 1-2, 27–32.
- 39) Modules over prime Krull rings. *J. Algebra* 95 (1985), no. 2, 332–342.
- 40) (with Resco, R. and Warfield, R. B., Jr.) Fully bounded G -rings. *Pacific J. Math.* 124 (1986), no. 2, 403–415.
- 41) Endomorphisms of right ideals of the Weyl algebra. *Trans. Amer. Math. Soc.* 299 (1987), no. 2, 623–639.
- 42) The Goldie rank of a module. *Noetherian rings and their applications* (Oberwolfach, 1983), 1–20, *Math. Surveys Monographs*, 24, Amer. Math. Soc., Providence, RI, 1987.
- 43) Global dimension of semiprime Noetherian rings. *Seminaire d'algèbre Paul Dubreil et Marie-Paule Malliavin* (Paris, 1986), 247–260, *Lecture Notes in Math.*, 1296, Springer, Berlin-New York, 1987.
- 44) (with Smith, S. P.) Differential operators on an affine curve. *Proc. London Math. Soc.* (3) 56 (1988), no. 2, 229–259.
- 45) (with Chamarie, M.) When rings of differential operators are maximal orders. *Math. Proc. Cambridge Philos. Soc.* 102 (1987), no. 3, 399–410.
- 46) (with Dean, C.) A nonembeddable Noetherian ring. *J. Algebra* 115 (1988), no. 1, 175–181.
- 47) (with Levasseur, T. and Smith, S. P.) The minimal nilpotent orbit, the Joseph ideal, and differential operators. *J. Algebra* 116 (1988), no. 2, 480–501.
- 48) (with Hodges, T. J.) Noetherian rings with big indecomposable projective modules. *Bull. London Math. Soc.* 21 (1989), no. 3, 249–254.
- 49) (with McConnell, J. C.) Gelfand-Kirillov dimension and associated graded modules. *J. Algebra* 125 (1989), no. 1, 197–214.
- 50) (with Levasseur, T.) Rings of differential operators on classical rings of invariants. *Mem. Amer. Math. Soc.* 81 (1989), no. 412, vi+117 pp.
- 51) Yet more indecomposable projectives over PI rings. *Ring theory 1989* (Ramat Gan and Jerusalem, 1988/1989), 48–52, *Israel Math. Conf. Proc.*, 1, Weizmann, Jerusalem, 1989.
- 52) A nil implies nilpotent theorem for left ideals. *J. Algebra* 133 (1990), no. 2, 545–549.
- 53) Absolute stable rank and quadratic forms over noncommutative rings. *K -Theory* 4 (1990), no. 2, 121–130.
- 54) (with Holland, M. P.) Differential operators on rational projective curves. *J. Algebra* 147 (1992), no. 1, 176–244.

- 55) (edited with Fuchs L., Goodearl K. R., and Vinsonhaler C.) Abelian groups and noncommutative rings. A collection of papers in memory of Robert B. Warfield, Jr. Contemporary Mathematics, 130. American Mathematical Society, Providence, RI, 1992. x+394 pp.
- 56) (with Goodearl, K. R.) Warfield in ring theory. Abelian groups and noncommutative rings, 11–15, Contemp. Math., 130, Amer. Math. Soc., Providence, RI, 1992.
- 57) (with Smith, S. P.) Regularity of the four-dimensional Sklyanin algebra. *Compositio Math.* 83 (1992), no. 3, 259–289.
- 58) (with Levasseur, T.) The quantum coordinate ring of the special linear group. *J. Pure Appl. Algebra* 86 (1993), no. 2, 181–186.
- 59) Regularity of algebras related to the Sklyanin algebra. *Trans. Amer. Math. Soc.* 341 (1994), no. 2, 895–916.
- 60) (with Levy, L. S. and Robson, J. C.) Hidden matrices. *Proc. London Math. Soc.* (3) 69 (1994), no. 2, 277–308.
- 61) (with Levasseur, T.) Invariant differential operators and an homomorphism of Harish-Chandra. *J. Amer. Math. Soc.* 8 (1995), no. 2, 365–372.
- 62) (with Zhang, J. J.) Examples in non-commutative projective geometry. *Math. Proc. Cambridge Philos. Soc.* 116 (1994), no. 3, 415–433.
- 63) (with Zhang, J. J.) Homological properties of (graded) Noetherian PI rings. *J. Algebra* 168 (1994), no. 3, 988–1026.
- 64) Auslander-regular algebras and maximal orders. *J. London Math. Soc.* (2) 50 (1994), no. 2, 276–292.
- 65) (with Artin, M.) Noncommutative graded domains with quadratic growth. *Invent. Math.* 122 (1995), no. 2, 231–276.
- 66) (with Levasseur, T.) The kernel of an homomorphism of Harish-Chandra. *Ann. Sci. Ecole Norm. Sup.* (4) 29 (1996), no. 3, 385–397.
- 67) (with Levasseur, T.) Differential operators commuting with invariant functions. *Comment. Math. Helv.* 72 (1997), no. 3, 426–433.
- 68) (with Levasseur, T.) Semi-simplicity of invariant holonomic systems on a reductive Lie algebra. *Amer. J. Math.* 119 (1997), no. 5, 1095–1117.
- 69) (with Levasseur, T.) Invariant differential operators on the tangent space of some symmetric spaces, *Annales de l'Institut Fourier (Grenoble)* 49 (1999), 1711–1741.
- 70) (with Levasseur, T.) Differential operators on some nilpotent orbits, *Represent. Theory* 3 (1999), 457–473.
- 71) (with Artin, M.) Semiprime graded algebras of dimension two, *J. Algebra* 227 (2000), 68–123.
- 72) (with Goodearl, K. R.) The graded version of Goldie's theorem, *Contemp. Math.*, 259 (2000), 237–240.
- 73) (with Van den Bergh, M.) Noncommutative projective curves and surfaces, *Bull. Amer. Math. Soc.*, 38 (2001), 171–216.
- 74) Noncommutative projective geometry. *Proceedings of the International Congress of Mathematicians, Vol. II (Beijing, 2002)*, 93–103, Higher Ed. Press, Beijing, 2002.
- 75) (with Zhang, J. J.) Algebras without noetherian filtrations, *Proc. Amer. Math. Soc.* 131 (2003), 1329–1338.
- 76) (with Goodearl, K. R.) Simplicity of noncommutative Dedekind domains, *Proc. Amer. Math. Soc.*, 133 (2005), 681–686.
- 77) (with Keeler D. and Rogalski D.) Naïve noncommutative blowing up, *Duke Math. J.*, 126 (2005), 491–546.
- 78) (with Gordon I.) Cherednik algebras and Hilbert schemes of points, *Advances in Math.*, 198 (2005), 222–274.
- 79) (with Gordon I.) Cherednik algebras and Hilbert schemes of points II: representations and sheaves, *Duke Math. J.*, **132** (2006), 73–135.

- 80) (with Levasseur T.) Differential operators and cohomology groups on the basic affine space, pp. 377-405, in *Studies in Lie Theory*, Eds. J. Bernstein et al, Progress in Math., Birkhäuser, Boston, 2006. (see also <http://xxx.lanl.gov/math.RT/0402416>).
- 81) (with Nevins T.) Sklyanin algebras and Hilbert schemes of points, *Adv. in Math.* **210** No.1 (2007) 405-478.
- 82) (with Rogalski, D.) Naïve noncommutative blowups at zero dimensional schemes, *J. Algebra*, **318** (2007), 794-833.
- 83) (with Van den Bergh M.) Noncommutative resolutions and rational singularities, *Michigan Math. J.*, **57** (2008), 659-674.
- 84) (with Rogalski D.) A class of noncommutative projective surfaces, *Proc. London Math. Soc.*, **99** (2009), 100-144.
- 85) (with Ginzburg V. and Gordon I.) Differential operators and Cherednik algebras, *Selecta Math.*, **14** (2009), 629-666.
- 86) (with Ara P., Brown K., ; Lenagan T., Letzter E., and Zhang J.), *New trends in noncommutative algebra*, Contemp. Math., **562**, Amer. Math. Soc., Providence, RI, 2012.
- 87) Generating regular elements, *C. R. Acad. Sci. Paris* **351** (2013), 429-432.
- 88) (with Rogalski D. and Sierra S. J.) Algebras in which every subalgebra is noetherian, *Proc. Amer. Math. Soc.*, **142** (2014), 2983-2990.
- 89) (with Gordon I.) The Auslander property for Z-algebras, *J. Algebra* **399** (2014), 102-130.
- 90) (with Rogalski D. and Sierra S. J.) Classifying orders in the Sklyanin algebra, *Algebra and Number Theory*, **9** (2015), 2056-2119.
- 91) (with Rogalski D. and Sierra S. J.) Noncommutative blowups of elliptic algebras, *Algebras and Rep. Theory*, **18** (2015), 491-529.
- 92) (with Eisenbud D., Iyengar S. B., Singh A. K. and M. Van den Bergh) *Commutative Algebra and Noncommutative Geometry; Vol. 1. Expository Articles*, (MSRI Publications), CUP, Cambridge, England, 2015.
- 93) (with Eisenbud D., Iyengar S. B., Singh A. K. and M. Van den Bergh) *Commutative Algebra and Noncommutative Geometry; Vol. 2. Research Articles*, (MSRI Publications), CUP, Cambridge, England, 2015.
- 94) (with Levasseur T.) Higher symmetries of powers of the Laplacian and rings of differential operators, to appear; see arXiv:1508.01664.