

## CURRICULUM VITAE

*Dana P. Williams*

### PROFESSIONAL PREPARATION

Cornell University	Mathematics	A.B.	1974
University of California at Berkeley	Mathematics	M.A.	1977
University of California at Berkeley	Mathematics	Ph.D.	1979

### APPOINTMENTS

2013–2016	Department Chair	—	Dartmouth College
1998–2004	Department Chair	—	Dartmouth College
1993–	Professor	—	Dartmouth College
1991–1998	Vice Chair	—	Dartmouth College
1988–1993	Associate Professor	—	Dartmouth College
1985–1988	Assistant Professor	—	Dartmouth College
1980–1985	Assistant Professor	—	Texas A&M University
1979–1980	Visiting Assistant Professor	—	Texas A&M University

### GRANT SUPPORT

NSF Grant MCS8101676	1981–1985
NSF Grant DMS8501737	1985–1987
NSF Grant DMS9301176	1993–1995
NSF Grant INT9314372	1994–1995
NIST SURF70NANB1H0035	2001
NSF Grant INT0124216	2002–2005
NSF Grant DMS1000499	2010
Simons Foundation Grant 244864	2012–2017

### PERSONAL INFORMATION

ADDRESS:	Department of Mathematics	BORN:	June 19, 1952
	6188 Kemeny Hall	MARITAL:	Married
	Dartmouth College	PHONE:	(603)-646-2990 (office)
	Hanover, NH 03755-3551		603-717-2739 (cell)

## VISITING SCHOLAR POSITIONS

University of New South Wales, Australia	August	1982
	June – July	1986
	August – September	1988
	October – November	1989
	September	2008
	November	2009
University of Copenhagen, Denmark	December	1989
	March – May	1990
University of Newcastle, Australia	October – December	1991
	January – March	1993
	June – August	1994
	September – October	1995
	September – December	1996
	September – December	1997
	January – March	1998
	April – May	1999
	July	2000
August	2001	
University of Münster Germany	July	2008
	September	2011
University of Paderborn, Germany	May	1993
	November	1995
University of Wollongong, Australia	July	2007
	February	2011
	December	2012
	November	2016
	November	2018
Univeristy of Otago, New Zealand	February– March	2011

## PH.D. STUDENTS

Steven Kaliszewski	1994	Now a Professor at Arizona State University
Astrid an Huef	1999	Now the Professor of Maths at Victoria University of Wellington in New Zealand
Mark Tomforde	2002	Now an Associate Professor at the University of Houston
Lisa Orloff Clark	2004	Now an Associate Professor at Victoria University of Wellington in New Zealand
Jonathan Brown	2009	Now an Assistant Professor at Dayton University
Geoff Goehle	2009	Now an Associate Professor at Western Carolina Univeristy
Sarah Wright	2010	Now an Assistant Professor at Fitchburg State University
Danny Crytser	2014	Now a postdoc at Kansas State University
Scott LaLonde	2014	Now an Assistant Professor at the University of Texas at Tyler
Michael Firrisa	Current	

## JWY POSTDOCS SPONSORED

Marcelo Laca — now at the University of Victoria  
Douglas Drinen — now at Sewanne University  
Marius Ionescu — now at the United States Naval Academy

PUBLICATIONS: see attached list.

PUBLICATIONS — DANA P. WILLIAMS

PAPERS PUBLISHED OR ACCEPTED FOR PUBLICATION

1. Dana P. Williams, *The topology on the primitive ideal space of transformation group  $C^*$ -algebras and C.C.R. transformation group  $C^*$ -algebras*, Trans. Amer. Math. Soc. **266** (1981), no. 2, 335–359.
2. Dana P. Williams, *Transformation group  $C^*$ -algebras with continuous trace*, J. Funct. Anal. **41** (1981), 40–76.
3. Dana P. Williams, *Transformation group  $C^*$ -algebras with Hausdorff spectrum*, Illinois J. Math. **26** (1982), no. 2, 317–321.
4. Paul S. Muhly and Dana P. Williams, *Transformation group  $C^*$ -algebras with continuous trace. II*, J. Operator Theory **11** (1984), 109–124.
5. Raúl E. Curto, Paul S. Muhly, and Dana P. Williams, *Cross products of strongly Morita equivalent  $C^*$ -algebras*, Proc. Amer. Math. Soc. **90** (1984), no. 4, 528–530.
6. Iain Raeburn and Dana P. Williams, *Pull-backs of  $C^*$ -algebras and crossed products by certain diagonal actions*, Trans. Amer. Math. Soc. **287** (1985), no. 2, 755–777.
7. Roger R. Smith and Dana P. Williams, *The decomposition property for  $C^*$ -algebras*, J. Operator Theory **16** (1986), 41–74.
8. Paul S. Muhly, Jean N. Renault, and Dana P. Williams, *Equivalence and isomorphism for groupoid  $C^*$ -algebras*, J. Operator Theory **17** (1987), no. 1, 3–22.
9. Roger R. Smith and Dana P. Williams, *Separable injectivity for  $C^*$ -algebras*, Indiana U. Math. J. **37** (1988), 111–133.
10. Iain Raeburn and Dana P. Williams, *Crossed products by actions which are locally unitary on the stabilisers*, J. Funct. Anal. **81** (1988), no. 2, 385–431.
11. Dana P. Williams, *The structure of crossed products by smooth actions*, J. Austral. Math. Soc. (Series A) **47** (1989), 226–235.

12. Dana P. Williams, Review of “*Representations of  $*$ -algebras, locally compact groups, and Banach  $*$ -algebraic bundles*” by J. M. G. Fell and R. G. Doran, Bull. Amer. Math. Soc., vol. 21, 1989, pp. 311–314.
13. Iain Raeburn, Allan M. Sinclair, and Dana P. Williams, *Equivariant completely bounded operators*, Pacific J. Math. **139** (1989), 155–194.
14. Paul S. Muhly and Dana P. Williams, *Continuous trace groupoid  $C^*$ -algebras*, Math. Scand. **66** (1990), 231–241.
15. Paul S. Muhly and Dana P. Williams, *Continuous trace groupoid  $C^*$ -algebras. II*, Math. Scand. **70** (1992), 127–145.
16. Iain Raeburn and Dana P. Williams, *Moore cohomology, principal bundles, and actions of groups on  $C^*$ -algebras*, Indiana Univ. Math. J. **40** (1991), no. 2, 707–740.
17. Iain Raeburn and Dana P. Williams, *Topological invariants associated to the spectrum of crossed product  $C^*$ -algebras*, J. Funct. Anal. **116** (1993), 245–276.
18. Iain Raeburn and Dana P. Williams, *Dixmier-Douady classes of dynamical systems and crossed products*, Canad. J. Math. **45** (1993), no. 5, 1032–1066.
19. Paul S. Muhly and Dana P. Williams, *Groupoid cohomology and the Dixmier-Douady class*, Proc. London Math. Soc. (3) (1995), 109–134.
20. Siegfried Echterhoff and Dana P. Williams, *Crossed products whose primitive ideal spaces are generalized trivial  $\widehat{G}$ -bundles*, Math. Ann. **302** (1995), 269–294.
21. Alexander Kumjian, Iain Raeburn, and Dana P. Williams, *The equivariant Brauer groups of commuting free and proper actions are isomorphic*, Proc. Amer. Math. Soc. **124** (1996), no. 3, 809–817.
22. Paul S. Muhly, Jean N. Renault, and Dana P. Williams, *Continuous-trace groupoid  $C^*$ -algebras. III*, Trans. Amer. Math. Soc. **348** (1996), no. 9, 3621–3641. .

23. David Crocker, Alexander Kumjian, Iain Raeburn, and Dana P. Williams, *An equivariant Brauer group and actions of groups on  $C^*$ -algebras*, J. Funct. Anal. **146** (1997), no. 1, 151–184.
24. Judith A. Packer, Iain Raeburn, and Dana P. Williams, *The equivariant Brauer group of principal bundles*, J. Operator Theory **36** (1996), no. 1, 73–105.
25. Alexander Kumjian, Paul S. Muhly, Jean N. Renault, and Dana P. Williams, *The Brauer group of a locally compact groupoid*, Amer. J. Math. **120** (1998), no. 5, 901–954.
26. Siegfried Echterhoff and Dana P. Williams, *Crossed products by  $C_0(X)$ -actions*, J. Funct. Anal. **158** (1998), no. 1, 113–151.
27. Astrid an Huef, Iain Raeburn, and Dana P. Williams, *An equivariant Brauer semigroup and the symmetric imprimitivity theorem*, Trans. Amer. Math. Soc. **352** (2000), no. 10, 4759–4787.
28. Siegfried Echterhoff and Dana P. Williams, *Locally inner actions on  $C_0(X)$ -algebras*, J. Operator Theory **45** (2001), no. 1, 131–160.
29. Iain Raeburn, Aidan Sims, and Dana P. Williams, *Twisted actions and obstructions in group cohomology*,  $C^*$ -algebras (Münster, 1999), Springer, Berlin, 2000, pp. 161–181.
30. Dana P. Williams, *A primer for the Brauer group of a groupoid*, Groupoids in analysis, geometry, and physics (Boulder, CO, 1999), Contemp. Math., vol. 282, Amer. Math. Soc., Providence, RI, 2001, pp. 21–34.
31. Astrid an Huef and Dana P. Williams, *Ideals in transformation-group  $C^*$ -algebras*, J. Operator Theory **48** (2002), no. 3, suppl., 535–548.
32. Astrid an Huef, Iain Raeburn, and Dana P. Williams, *Proper actions on imprimitivity bimodules and decompositions of Morita equivalences*, J. Funct. Anal. **200** (2003), no. 2, 401–428.
33. Siegfried Echterhoff and Dana P. Williams, *Central twisted transformation groups and group  $C^*$ -algebras of central group extensions*, Indiana Univ. Math. J. **51** (2002), no. 6, 1277–1304.

34. Igor Fulman, Paul S. Muhly, and Dana P. Williams, *Continuous-trace groupoid crossed products*, Proc. Amer. Math. Soc. **132** (2004), no. 3, 707–717 (electronic).
35. Paul S. Muhly and Dana P. Williams, *The Dixmier-Douady class of groupoid crossed products*, J. Aust. Math. Soc. **76** (2004), no. 2, 223–234.
36. Iain Raeburn, Mark Tomforde, and Dana P. Williams, *Classification theorems for the  $C^*$ -algebras of graphs with sinks*, Bull. Austral. Math. Soc. **70** (2004), no. 1, 143–161.
37. Dana P. Williams, *Tensor products with bounded continuous functions*, New York J. Math. **9** (2003), 69–77 (electronic).
38. Astrid an Huef, Iain Raeburn, and Dana P. Williams, *A symmetric imprimitivity theorem for commuting proper actions*, Canad. J. Math. **57** (2005), no. 5, 983–1011.
39. Dana P. Williams, *From the Stone-von Neumann theorem to the equivariant Brauer group and beyond*, Operator algebras, quantization, and noncommutative geometry, Contemp. Math., vol. 365, Amer. Math. Soc., Providence, RI, 2004, pp. 401–422.
40. Astrid an Huef, Iain Raeburn, and Dana P. Williams, *Properties preserved under Morita equivalence of  $C^*$ -algebras*, Proc. Amer. Math. Soc. **135** (2007), no. 5, 1495–1503.
41. David Crocker, Iain Raeburn, and Dana P. Williams, *Equivariant Brauer and Picard groups and a Chase-Harrison-Rosenberg exact sequence*, J. Algebra **307** (2007), no. 1, 397–408.
42. Siegfried Echterhoff and Dana P. Williams, *Inducing primitive ideals*, Trans. Amer. Math. Soc. **360** (2008), 6113–6129.
43. Astrid an Huef, Steven Kaliszewski, Iain Raeburn, and Dana P. Williams, *Extension problems for representations of crossed product  $C^*$ -algebras*, J. Operator Theory **62** (2009), 171–198.
44. Astrid an Huef, Steven Kaliszewski, Iain Raeburn, and Dana P. Williams, *Induction in stages for crossed products of  $C^*$ -algebras by maximal coactions*, J. Funct. Anal. **252** (2007), no. 1, 356–398.

45. Siegfried Echterhoff and Dana P. Williams, *The Mackey machine for crossed products: Inducing primitive ideals*, Group Representations, Ergodic Theory, and Mathematical Physics: A Tribute to George W. Mackey (Robert S. Doran, Calvin C. Moore, and Robert J. Zimmer, eds.), Contemp. Math., vol. 449, Amer. Math. Soc., Providence, RI, 2008, pp. 129–136.
46. Marius Ionescu and Dana P. Williams, *Irreducible representations of groupoid  $C^*$ -algebras*, Proc. Amer. Math. Soc. **137** (2009), no. 4, 1323–1332.
47. Paul S. Muhly and Dana P. Williams, *Equivalence and disintegration theorems for Fell bundles and their  $C^*$ -algebras*, Dissertationes Math. (Rozprawy Mat.) **456** (2008), 1–57.
48. Astrid an Huef, S. Kaliszewski, Iain Raeburn, and Dana P. Williams, *Naturality of Rieffel’s Morita equivalence for proper actions*, Algebr. Represent. Theory **14** (2011), no. 3, 515–543.
49. Marius Ionescu and Dana P. Williams, *The generalized Effros-Hahn conjecture for groupoids*, Indiana Univ. Math. J. (2009), 2489–2508.
50. Astrid an Huef, Iain Raeburn, and Dana P. Williams, *Functoriality of Rieffel’s generalised fixed-point algebras for proper actions*, Proc. Symp. in Pure Math. **81** (2010), 9–25.
51. S. Kaliszewski, Paul S. Muhly, John Quigg, and Dana P. Williams, *Coactions and Fell bundles*, New York J. Math. **16** (2010), 315–359.
52. Marius Ionescu and Dana P. Williams, *A classic Morita equivalence result for Fell bundle  $C^*$ -algebras*, Math. Scand. **108** (2011), no. 2, 251–263.
53. Marius Ionescu and Dana P. Williams, *Remarks on the ideal structure of Fell bundle  $C^*$ -algebras*, Houston J. Math. **38** (2012), 1241–1260.
54. Aidan Sims and Dana P. Williams, *Renault’s equivalence theorem for reduced groupoid  $C^*$ -algebras*, J. Operator Theory **68** (2012), no. 1, 223–239.



55. Astrid an Huef, S. Kaliszewski, Iain Raeburn, and Dana P. Williams, *Fixed-point algebras for proper actions and crossed products by homogeneous spaces*, Illinois J. Math. **55** (2011), no. 1, 205–236 (2012). .
56. Astrid an Huef, John Quigg, Iain Raeburn, and Dana P. Williams, *Full and reduced coactions of locally compact groups on  $C^*$ -algebras*, Expo. Math. **29** (2011), no. 1, 3–23.
57. Astrid an Huef, Steven Kaliszewski, Iain Raeburn, and Dana P. Williams, *Naturality of symmetric imprimitivity theorems*, Proc. Amer. Math. Soc. **141** (2013), no. 7, 2319–2327.
58. S. Kaliszewski, Paul S. Muhly, John Quigg, and Dana P. Williams, *Fell bundles and imprimitivity theorems*, Münster J. Math. **6** (2013), 53–83.
59. Aidan Sims and Dana P. Williams, *Amenability for Fell bundles over groupoids*, Illinois J. Math. **57** (2013), no. 2, 429–444.
- 60.\* Jonathan H. Brown, Geoff Goehle, and Dana P. Williams, *Groupoid equivalence and the associated iterated crossed product*, Houston J. Math. **41** (2015), no. 1, 153–175.
61. S. Kaliszewski, Paul S. Muhly, John Quigg, and Dana P. Williams, *Fell bundles and imprimitivity theorems: Mansfield’s and Fell’s theorems*, J. Aust. Math. Soc. **95** (2013), no. 1, 68–75.
62. Aidan Sims and Dana P. Williams, *An equivalence theorem for reduced Fell bundle  $C^*$ -algebras*, New York J. Math. **19** (2013), 159–178.
63. Siegfried Echterhoff and Dana P. Williams, *Structure of crossed products by strictly proper actions on continuous-trace algebras*, Trans. Amer. Math. Soc. **366** (2014), no. 7, 3649–3673.
64. S. Kaliszewski, Paul S. Muhly, John Quigg, and Dana P. Williams, *Fell bundles and imprimitivity theorems: towards a universal generalized fixed point algebra*, Indiana Univ. Math. J. **62** (2013), no. 6, 1691–1716.
65. Erik van Erp and Dana P. Williams, *Groupoid crossed products of continuous-trace  $C^*$ -algebras*, J. Operator Theory **72** (2014), no. 2, 557–576.

- 66.\*** Marius Ionescu and Dana P. Williams, *Irreducible induced representations of Fell bundle  $C^*$ -algebras*, Trans. Amer. Math. Soc. **367** (2015), no. 7, 5059–5079.
- 67.\*** Aidan Sims and Dana P. Williams, *The primitive ideals of some étale groupoid  $C^*$ -algebras*, Algebr. Represent. Theory **19** (2016), no. 2, 255–276. .
- 68.\*** Jean N. Renault and Dana P. Williams, *Amenability of groupoids arising from partial semigroup actions and topological higher rank graphs*, Trans. Amer. Math. Soc. **369** (2017), no. 4, 2255–2283.
- 69.\*** Dana P. Williams, *Haar systems on equivalent groupoids*, Proc. Amer. Math. Soc. Ser. B **3** (2016), 1–8.
- 70.\*** Jonathan H. Brown, Gabriel Nagy, Sarah Reznikoff, Aidan Sims, and Dana P. Williams, *Cartan subalgebras in  $C^*$ -algebras of Hausdorff étale groupoids*, Integral Equations Operator Theory **85** (2016), no. 1, 109–126.
- 71.\*** Marius Ionescu, Alex Kumjian, Aidan Sims, and Dana P. Williams, *A stabilization theorem for Fell bundles over groupoids*, Proc. Roy. Soc. Edinburgh Sect. A **148** (2018), no. 1, 79–100.
- 72.\*** Jean N. Renault, Aidan Sims, Dana P. Williams, and Trent Yeend, *Uniqueness theorems for topological higher-rank graph  $C^*$ -algebras*, Proc. Amer. Math. Soc. **146** (2018), no. 2, 669–684.
- 73.\*** Marius Ionescu, Alex Kumjian, Aidan Sims, and Dana P. Williams, *The Dixmier–Douady classes of certain groupoid  $C^*$ -algebras with continuous trace*, J. Operator Theory (2019), in press, (arXiv 1801.00832).

#### BOOKS AND MONOGRAPHS

- 74.** Iain Raeburn and Dana P. Williams, *Morita equivalence and continuous-trace  $C^*$ -algebras*, Mathematical Surveys and Monographs, vol. 60, American Mathematical Society, Providence, RI, 1998.
- 75.** Dana P. Williams, *Crossed products of  $C^*$ -algebras*, Mathematical Surveys and Monographs, vol. 134, American Mathematical Society, Providence, RI, 2007.

76. Paul S. Muhly and Dana P. Williams, *Renault's equivalence theorem for groupoid crossed products*, NYJM Monographs, vol. 3, State University of New York University at Albany, Albany, NY, 2008, Available at <http://nyjm.albany.edu:8000/m/2008/3.htm>.
- 77.\* Dana P. Williams, *A primer on crossed products*, Operator Algebras and Dynamics: Groupoids, Crossed Products, and Rokhlin Dimension, Advanced Courses in Mathematics—CRM Barcelona, Burkhäuser, 2018, in press, p. 64.