CURRICULUM VITAE

JOHN QUIGG

Address.

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Education.

B.S.	1972	Drexel University	Mathematics
M.S.	1974	Drexel University	Mathematics
Ph.D.	1979	Drexel University	Mathematics
Doctoral Dissertation	On the irreducibility of an induced representation		
Thesis Advisor	Robert C. Busby		

Academic Experience.

Fall 2012	Visiting Professor, Norwegian University of Science and Technology
1998–present	Professor, Mathematics, Arizona State University
1986–1998	Associate Professor, Mathematics, Arizona State University
1985–1986	Visiting Assistant Professor, Iowa State University
1981–1986	Assistant Professor, Mathematics, Arizona State University
1980–1981	Assistant Professor, Mathematics, Villanova University
1979–1980	Post-Doc, Mathematics, Drexel University

Books.

1. S. Echterhoff, S. Kaliszewski, J. Quigg, and I. Raeburn, *A categorical approach to imprimitivity theorems for C*-dynamical systems*, Mem. Amer. Math. Soc. **180** (2006), no. 850, 169 pp.

Date: June 2017.

Papers in Refereed Journals.

1. J. Quigg, *On the irreducibility of an induced representation*, Pacific J. Math. **93** (1981), 163–179.
2. J. Quigg, *On the irreducibility of an induced representation. II*, Proc. Amer. Math. Soc. **86** (1982), 345–348.
3. J. Quigg, *Approximately periodic functionals on C*-algebras and von Neumann algebras*, Can. J. Math. **37** (1985), 769–784.
4. J. Quigg, *Duality for reduced twisted crossed products of C*-algebras*, Indiana Univ. Math. J. **35** (1986), 549–571.
5. J. Quigg, *On biduals of C*-tensor products*, Proc. Amer. Math. Soc. **100** (1987), 666–668.
6. J. Quigg, *Full C*-crossed product duality*, J. Austral. Math. Soc. (Ser. A) **50** (1991), 34–52.
7. J. Quigg, *Landstad duality for C*-coactions*, Math. Scand. **71** (1992), 277–294.
8. J. Quigg and J. Spielberg, *Regularity and hyporegularity in C*-dynamical systems*, Houston J. Math. **18** (1992), 139–152.
9. J. Quigg, *Full and reduced C*-coactions*, Math. Proc. Cambridge Philos. Soc. **116** (1994), 435–450.
10. J. Quigg and I. Raeburn, *Induced C*-algebras and Landstad duality for twisted C*-coactions*, Trans. Amer. Math. Soc. **347** (1995), 2885–2915.
11. J. Quigg, *Discrete C*-coactions and C*-algebraic bundles*, J. Austral. Math. Soc. (Ser. A) **60** (1996), 204–221.
12. J. Quigg and I. Raeburn, *Characterisations of crossed products by partial actions*, J. Operator Theory **37** (1997), 311–340.
13. S. Kaliszewski, J. Quigg, and I. Raeburn, *Duality of restriction and induction for C*-coactions*, Trans. Amer. Math. Soc. **349** (1997), 2085–2113.
14. S. Kaliszewski and J. Quigg, *Imprimitivity for C*-coactions of non-amenable groups*, Math. Proc. Cambridge Philos. Soc. **123** (1998), 101–118.
15. J. Quigg, *Crossed product duality for partial C*-automorphisms*, Rocky Mountain J. Math. **28** (1998), 1067–1088.
16. J. Quigg and N. Sieben, *C*-actions of r-discrete groupoids and inverse semigroups*, J. Austral. Math. Soc. (Series A) **66** (1999), 143–167.
17. S. Echterhoff and J. Quigg, *Induced coactions of discrete groups on C*-algebras*, Canad. J. Math. **51** (1999), 745–770.
18. S. Echterhoff, S. Kaliszewski, J. Quigg, and I. Raeburn, *Naturality and induced representations*, Bull. Austral. Math. Soc. **61** (2000), 415–438.
19. S. Kaliszewski and J. Quigg, *Equivariance and imprimitivity for discrete Hopf C*-coactions*, Bull. Austral. Math. Soc. **62** (2000), 253–272.
20. S. Kaliszewski and J. Quigg, *Three bimodules for Mansfield's imprimitivity theorem*, J. Austral. Math. Soc. **71** (2001), 397–419.

21. S. Kaliszewski, J. Quigg, and I. Raeburn, *Skew products and crossed products by coactions*, J. Operator Theory **46** (2001), 411–433.
22. S. Echterhoff and J. Quigg, *Full duality for coactions of discrete groups*, Math. Scand. **90** (2002), 267–288.
23. R. Exel, M. Laca, and J. Quigg, *Partial dynamical systems and C*-algebras generated by partial isometries*, J. Operator Theory **47** (2002), 169–186.
24. S. Echterhoff, S. Kaliszewski, and J. Quigg, *Maximal coactions*, Internat. J. Math. **15** (2004), 47–61.
25. D. Pask, J. Quigg, and I. Raeburn, *Fundamental groupoids of k-graphs*, New York J. Math. **10** (2004), 195-207.
26. S. Kaliszewski and J. Quigg, *Mansfield's imprimitivity theorem for full crossed products*, Trans. Amer. Math. Soc. **357** (2005), 2021-2042.
27. D. Pask, J. Quigg, and I. Raeburn, *Coverings of k-graphs*, J. Algebra **289** (2005), 161-191.
28. J. Quigg, *Bundles of C*-correspondences over directed graphs and a theorem of Ionescu*, Proc. Amer. Math. Soc. **134** (2006), 1677-1679.
29. S. Kaliszewski and J. Quigg, *Landstad's characterization for full crossed products*, New York J. Math. **13** (2007), 1-10.
30. S. Kaliszewski, M. B. Landstad, and J. Quigg, *Hecke C*-algebras, Schlichting completions, and Morita equivalence*, Proc. Edinburgh Math. Soc., **51** (2008), 657-695.
31. S. Kaliszewski, J. Quigg, and I. Raeburn, *Proper actions, fixed-point algebras and naturality in nonabelian duality*, J. Funct. Anal. **254** (2008), 2949-2968.
32. S. Kaliszewski, M. B. Landstad, and J. Quigg, *Hecke C*-algebras and semidirect products*, Proc. Edinburgh Math. Soc., **52** (2009), 127-153.
33. S. Kaliszewski and J. Quigg, *Categorical Landstad duality for actions*, Indiana Univ. Math. J., **58** (2009), 415–441.
34. D. Pask, J. Quigg, and A. Sims, *Coverings of skew products and crossed products by coactions*, J. Australian Math. Soc., **86** (2009), 379–398.
35. S. Kaliszewski, P. S. Muhly, J. Quigg, and D. P. Williams, *Coactions and Fell bundles*, New York J. Math., **16** (2010), 315–359.
36. A. an Huef, J. Quigg, I. Raeburn, and D. P. Williams, *Full and reduced coactions of locally compact groups on C*-algebras*, Expo. Math., **29** (2011), 3–23.
37. E. Bédos, S. Kaliszewski, and J. Quigg, *Reflective-coreflective equivalence*, Theory Appl. Categ., **25** (2011), 142–179.
38. E. Bédos, S. Kaliszewski, and J. Quigg, *On reflective-coreflective equivalence and associated pairs*, Theory Appl. Categ., **25** (2011), 533-536.
39. V. Deaconu, A. Kumjian, and J. Quigg, *Group actions on topological graphs*, Ergodic Theory Dynam. Systems **32** (2012), 1527–1566.
40. S. Kaliszewski, N. Patani, and J. Quigg, *Characterizing Graph C*-Correspondences*, Houston J. Math., **38** (2012), 751–759.

41. S. Kaliszewski, M. Landstad, and J. Quigg, *A crossed-product approach to the Cuntz-Li algebras*, Proc. Edinburgh Math. Soc., **55** (2012), 429–459.
42. S. Kaliszewski, N. S. Larsen, and J. Quigg, *Inner coactions, Fell bundles, and abstract uniqueness theorems*, Münster J. Math., **5** (2012), 209–232.
43. S. Kaliszewski, J. Quigg, and D. Robertson, *Functoriality of Cuntz-Pimsner correspondence maps*, J. Math. Anal. Appl., **405** (2013), 1–11.
44. S. Kaliszewski and J. Quigg, *Coactions and skew products for topological graphs*, Integral Equations Operator Theory, **75** (2013), 187–196.
45. S. Kaliszewski, P. S. Muhly, J. Quigg, and D. P. Williams, *Fell bundles and imprimitivity theorems*, Münster J. Math., **6** (2013), 53–83.
46. S. Kaliszewski, N. Patani, and J. Quigg, *Obstructions to a general characterization of graph correspondences*, J. Austral. Math. Soc., **95** (2013), 169–188.
47. S. Kaliszewski, M. B. Landstad, and J. Quigg, *Exotic group C^*-algebras in noncommutative duality*, New York J. Math., **19** (2013), 1–23.
48. S. Kaliszewski, P. S. Muhly, J. Quigg, and D. P. Williams, *Fell bundles and imprimitivity theorems: Mansfield's and Fell's theorems*, J. Austral. Math. Soc., **95** (2013), 68–75.
49. S. Kaliszewski, P. S. Muhly, J. Quigg, and D. P. Williams, *Fell bundles and imprimitivity theorems: towards a universal generalized fixed point algebra*, Indiana Univ. Math. J., **62** (2013), 1691–1716
50. S. Kaliszewski, T. Omland, and J. Quigg, *Cuntz-Li algebras from a-adic numbers*, Rev. Roumaine Math. Pures Appl., **59** (2014), 331–370.
51. S. Kaliszewski, J. Quigg, and D. Robertson, *Coactions on Cuntz-Pimsner algebras*, Math. Scand., **116** (2015), no. 2, 222–249.
52. S. Kaliszewski, A. Morgan, and J. Quigg, *Ionescu's theorem for higher rank graphs*, Indiana Univ. Math. J., **64**, No. 6, (2015), 1879–1901.
53. E. Bédos, S. Kaliszewski, J. Quigg, and D. Robertson, *A new look at crossed product correspondences and associated C^*-algebras*, J. Math. Anal. Appl. **426** (2015), no. 2, 1080–1098.
54. S. Kaliszewski, A. Kumjian, J. Quigg and A. Sims, *Topological realizations and fundamental groups of higher-rank graphs*, Proc. Edinburgh Math. Soc., **59** (2016), no. 1, 143–168.
55. S. Kaliszewski, T. Omland, and J. Quigg, *Destabilization*, Expo. Math. **34** (2016), 62–81.
56. S. Kaliszewski, T. Omland, and J. Quigg, *Three versions of categorical crossed-product duality*, New York J. Math. **22** (2016), 293–339.
57. S. Kaliszewski, M. B. Landstad, and J. Quigg, *Exotic coactions*, Proc. Edinburgh Math. Soc. **59** (2016), 411–434.
58. S. Kaliszewski, M. B. Landstad, and J. Quigg, *Coaction functors*, Pacific J. Math. **284** (2016), no. 1, 147–190.

59. S. Kaliszewski, M. B. Landstad, and J. Quigg, *Exact large ideals of $B(G)$ are downward directed*, Proc. Amer. Math. Soc. **144** (2016), no. 10, 4401–4412.
60. S. Kaliszewski and J. Quigg, *Erratum to "Full and reduced C^*-coactions". Math. Proc. Camb. Phil. Soc. **116** (1994), 435–450.*, Math. Proc. Camb. Phil. Soc. **161** (2016), no. 2, 379–380.
61. S. Kaliszewski, T. Omland, and J. Quigg, *Dualities for maximal coactions*, J. Austral. Math. Soc. **102** (2016), no. 2, 224–254.
62. E. Bédos, S. Kaliszewski, and J. Quigg, *On Exel-Pardo algebras*, accepted in J. Operator Theory, 2016, arXiv:1512.07302 [math.OA].
63. S. Kaliszewski, M. B. Landstad, and J. Quigg, *Coaction functors, II*, accepted in Pacific J. Math., arXiv:1701.02007 [math.OA].
64. S. Kaliszewski, M. B. Landstad, and J. Quigg, *Ordered invariant ideals of Fourier-Stieltjes algebras*, submitted to New York J. Math., 2016, arXiv:1606.06685 [math.OA].
65. S. Kaliszewski, N. S. Larsen, and John Quigg, *Subgroup correspondences*, submitted to Proc. Edinburgh Math. Soc., arXiv:1612.04243 [math.OA].
66. S. Kaliszewski, T. Omland, and J. Quigg, *Rigidity theory for C^*-dynamical systems and the "Pedersen Rigidity Problem"*, in progress, arXiv:1612.04088v2 [math.OA].

Papers in Refereed Conference Proceedings.

1. S. Kaliszewski, M. B. Landstad, and J. Quigg, *Properness conditions for actions and coactions*, A Tribute to Richard V. Kadison (San Antonio, TX, 2015), Contemp. Math., vol. **671**, Amer. Math. Soc., Providence, RI, 2016, pp. 145–173.

Papers in Nonrefereed Conference Proceedings.

1. J. Quigg, *Landstad duality for coactions on C^*-algebras*, in Algebraic methods in operator theory, 291–295, Birkhäuser, Boston 1994.

Funding Support.

1. Faculty Grant in Aid, Arizona State University, 1982
2. Faculty Grant in Aid, Arizona State University, 1983
3. "C*-Dynamical Systems", $76,956, 1994–1997, NSF (PI)
4. ASU Investigator Incentive Award, $430, June 1994
5. ASU Investigator Incentive Award, $431, April 1995
6. ASU Investigator Incentive Award, $430, May 1996
7. Collaborative Visit, $1500 from Math. Dept. (with S. Kaliszewski)
8. $1500 from CLAS, and $3000 from VP for Research, December 1998, purpose: invite 2 collaborators to visit ASU
9. CLAS Travel Grant, $250, May 1999

10. West Coast Operator Algebra Seminar, $13,800, Aug 2001–Jul 2002, NSF (PI); also received local funds for this conference: OVPR $3600, CLAS $1800, Math. Dept. $1800 (with S. Kaliszewski)
11. Great Plains Operator Theory Symposium, $25,000, April 2011–October 2012, NSF (PI); also received local funds for this conference: SoMSS $15,000 (with S. Kaliszewski and J. Spielberg)

Invited Talks.

1. Averaging techniques in C*-coactions, special session of the Annual Meeting of the American Mathematical Society, Cincinnati, OH, January 1994
2. C*-actions of groupoids and inverse semigroups, Groupoid Fest, Reno, NV, November 1996
3. C*-actions of groupoids and inverse semigroups, Special Session on Groupoids and their Applications, Regional AMS Meeting, College Park, MD, April 1997
4. Group labellings, skew product groupoids, and coaction crossed products, Groupoid Fest, Berkeley, CA, November 1997
5. A groupoid approach to imprimitivity theorems, Groupoid Fest, Boulder, CO, November 2000
6. Maximal coactions, Special Session on C*-algebras and crossed products, Regional AMS Meeting, Lawrence, KS, March 2001
7. Maximal coactions, Centre for Advanced Study, Oslo, Norway, December 2001
8. The full Mansfield, Special Session on operator algebras and noncommutative geometry, Annual Meeting of the Australian Mathematical Society, Newcastle, Australia, October 2002
9. k-Graphs, Coverings, and Coactions, Special Session on Groupoids in Analysis and Geometry, Regional AMS Meeting, Boulder, CO, October 2003
10. Fundamental Groupoids of Categories, Groupoid Fest, Reno, NV, November 2004
11. Groupoid bundles and imprimitivity, Groupoid Fest, Ames, IA, November 2005
12. "Using groupoids to restrict coactions to homogeneous spaces", Groupoid Fest, Iowa City, November 2007
13. "Proper actions, fixed-point algebras and naturality in nonabelian duality", C*-Algebras Associated to Discrete and Dynamical Systems, BIRS, Banff (Canada), January 2008
14. "Application of coactions to direct integrals", Groupoid Fest, Riverside, CA, November 2008
15. "Skew Products of Topological Graphs and Noncommutative Duality", Special Session on Operator Algebras, Regional AMS Meeting, Riverside, CA, November 2009
16. "Categorical Perspectives in noncommutative duality" (series of talks given jointly with Steve Kaliszewski), Summer school on C*-algebras and their interplay with dynamical systems, Sophus Lie Conference Center in Nordfjordeid, Norway, 31 May – 4 June 2010

17. "Topological graphs and principal bundles", Oslo-Trondheim operator algebra seminar (1-day conference), Oslo, Norway, December 2010
18. "Fell bundles over groupoids, and imprimitivity", Groupoid Fest, Reno, January 2012
19. "Exotic coactions", Workshop on groups, dynamical systems, and C*-algebas, Münster, Germany, August 2013
20. "Not quite proper, but good enough", RMMC Summer School: The Structure of C*-Algebras, U Wyoming, June 2015
21. "Generalized fixed-point algebras and a theorem of Pedersen", AMS Special Session on Dynamics, Inverse Semigroups, and Operator Algebras, Fargo, ND, April 2016
22. "The Pedersen Rigidity Problem", XXII Latin Algebra Colloquium, Quito, Ecuador, August 2017

Contributed Talks.

1. On the irreducibility of an induced representation, Regional Meeting of the American Mathematical Society, Philadelphia, PA, April 1980
2. On the irreducibility of an induced representation, Annual Meeting of the American Mathematical Society, San Antonio, TX, January 1981
3. *Almost periodic functionals on C*-algebras and von Neumann algebras*, Annual Meeting of the American Mathematical Society, January 1983
4. Duality for twisted reduced crossed products of C*-algebras, Great Plains Operator Theory Symposium, Boulder, CO, June 1983
5. Duality for twisted reduced crossed products of C*-algebras, Annual Meeting of the American Mathematical Society, January 1984
6. On biduals of C*-tensor products, Annual Meeting of the American Mathematical Society, San Antonio, TX, January 1987
7. Imprimitivity and crossed product duality, Southeast Analysis Meeting, Athens, GA, April 1989
8. Full twisted C*-crossed product duality, Great Plains Operator Theory Symposium, Albuquerque, NM, April 1989
9. Landstad duality for C*-coactions, Great Plains Operator Theory Symposium, Houston, TX, May 1990
10. Landstad duality for C*-coactions, Annual Meeting of the American Mathematical Society, Baltimore, MD, January 1992
11. Landstad duality for coactions on C*-algebras, Great Plains Operator Theory Symposium, Iowa City, IA, May 1992
12. Recent results in C*-coactions, Canadian Operator Theory Symposium, Victoria, B. C., Canada, May 1993
13. Recent results on C*-coactions, Great Plains Operator Theory Symposium, Boulder, CO, May 1993
14. Landstad duality for partial actions, Great Plains Operator Theory Symposium, Lincoln, NB, May 1994

15. Landstad duality for partial actions, Annual Meeting of the American Mathematical Society, San Francisco, CA, January 1995
16. Crossed product duality for partial C*-automorphisms, Great Plains Operator Theory Symposium, Cincinnati, OH, May 1995
17. Imprimitivity theorems as natural equivalences, Joint Great Plains Operator Theory Symposium and Canadian Operator Theory Symposium, Kingston, Canada, May 1997
18. Induced coactions of discrete groups on C*-algebras, Great Plains Operator Theory Symposium, Manhattan, KS, May 1998
19. The Mackey Quotient Groupoid, Great Plains Operator Theory Symposium, Ames, IA, May 1999
20. The Mackey Quotient Groupoid, Groupoid Fest, Iowa City, IA, November 1999
21. Hecke algebras and Schlichting completions, Great Plains Operator Theory Symposium, Durham, NH, June 2001
22. The full Mansfield, Great Plains Operator Theory Symposium, Charlotte, NC, May 2002
23. k-graphs, coverings, and coactions, Great Plains Operator Theory Symposium, College Station, TX, May 2004
24. k-graphs, coverings, and coactions, NSF-CBMS Regional Research Conference on Graph Algebras, Iowa City, IA, June 2004
25. C*-Completions of Hecke Algebras, Operator Algebras and Applications, Cork, Ireland, June 2005
26. Landstad's characterization for full crossed products, Great Plains Operator Theory Symposium, Iowa City, IA, May 2006
27. "Categorical Landstad duality", Great Plains Operator Theory Symposium, Lincoln NE, May 2007
28. "Categorical Landstad duality", C*-Algebras and their Invariants, Barcelona (Spain), June 2007
29. "Coverings of skew-products and crossed products by coactions", Great Plains Operator Theory Symposium, Cincinnati, OH, June 2008
30. "Application of coactions to direct integrals", Great Plains Operator Theory Symposium, Boulder, CO, June 2009
31. "Multiplier bimodules and Cuntz-Pimsner algebras", Great Plains Operator Theory Symposium, Denver, CO, June 2010
32. "Functoriality of Cuntz-Pimsner algebras", Great Plains Operator Theory Symposium, Houston, TX, June 2012
33. "Exotic coactions", Great Plains Operator Theory Symposium, Berkeley, CA, May 2013
34. "Trouble in CP-Land", Great Plains Operator Theory Symposium, Manhattan, KS, May 2014
35. "Landstad duality and a theorem of Pedersen" Great Plains Operator Theory Symposium, Purdue, IN, May 2015

36. "Exotic crossed products and coaction functors" Great Plains Operator Theory Symposium, Urbana-Champaign, IL, May 2016
37. "Zappa-Szép with categories" Great Plains Operator Theory Symposium, Fort Worth, TX, May 2017

Invited Colloquium and Seminar Presentations.

1. Two applications of reduced twisted C*-crossed product duality, Catholic University of Leuven, Leuven, Belgium, July 1983
2. Landstad duality for reduced twisted C*-crossed products, Iowa State University, Ames, IA, October 1985
3. Landstad duality for reduced twisted C*-crossed products, University of Iowa-Iowa State University Joint Seminar, Grinnell, IA, March 1986
4. Crossed product duality, University of Georgia, Athens, GA, March 1989
5. Duality for C*-dynamical systems, University of Newcastle, Newcastle, Australia, August 1991
6. Partial actions, University of Newcastle, Newcastle, Australia, March 1994
7. Partial actions and inverse semigroups, University of Newcastle, Newcastle, Australia, November 1994
8. Crossed product duality for partial C*-automorphisms, University of Newcastle, Newcastle, Australia, August 1995
9. Partial automorphisms of C*-algebras, University of Sydney, Sydney, Australia, September 1995
10. Characterizing partial crossed products with coactions, University of Paderborn, Paderborn, Germany, June 1997
11. Crossed product duality (or lack thereof) for partial C*-automorphisms, University of Paderborn, Paderborn, Germany, June 1997
12. Discrete induced coactions, University of Newcastle, Newcastle, Australia, August 1997
13. A curious partition of unity argument related to actions of groupoids and inverse semigroups on C*-algebras, Dartmouth College, Hanover, NH, January 1998
14. A groupoid approach to crossed-product duality, University of Newcastle, Newcastle, Australia, July 1998
15. Skew product graphs and coaction crossed products, University of Trondheim, Trondheim, Norway, December 1998
16. Three bimodules for Mansfield's imprimitivity theorem, University of Newcastle, Newcastle, Australia, June 2000
17. Hecke algebras and Schlichting completions, University of Newcastle, Newcastle, Australia, May 2001
18. The full Mansfield, University of Newcastle, Newcastle, Australia, July 2002
19. k-graph covers, University of Newcastle, Newcastle, Australia, October–November 2002, January 2003 (series of lectures)

20. k-graphs, coverings, and coactions, University of Münster, Münster, Germany, May 2003
21. k-graphs, coverings, and coactions, University of Trondheim, Trondheim, Norway, June 2003
22. k-graphs, coverings, and coactions, University of Waterloo, Waterloo, Ontario, Canada, June 2004
23. C*-Completions of Hecke Algebras, Norwegian University of Science and Technology, Trondheim, Norway, June 2005
24. A groupoid approach to imprimitivity theorems, University of Oslo, Oslo, Norway, June 2006
25. A groupoid approach to imprimitivity theorems, Norwegian University of Science and Technology, Trondheim, Norway, June 2006
26. Landstad's characterization for full crossed products, University of Newcastle, Newcastle, Australia, August 2006
27. A groupoid approach to imprimitivity, University of New South Wales, Sydney, Australia, August 2006
28. "Coactions: a curious category", University of Wollongong (Australia), August 2007
29. "Categorical Landstad duality", Norwegian University of Science and Technology, Trondheim (Norway), June 2007
30. "Applications of non-abelian duality to higher-rank graph algebras", University of Guelph (Canada), July 2008
31. "Coverings of skew-products and crossed products by coactions", Fields Institute (Toronto, Canada), July 2008
32. "Applications of non-abelian duality to higher-rank graph C*-algebras", University of New South Wales (Sydney, Australia), August 2008
33. "Applications of non-abelian duality to higher-rank graph C*-algebras", University of Wollongong (Australia), August 2008
34. "C*-Coactions and Fell Bundles - the Discrete Case ", Dartmouth College, February 2009
35. "Skew products of topological graphs and noncommutative duality", Fields Institute (Toronto, Canada), July 2009
36. "Topological graphs and principal bundles", Dartmouth College, April 2010
37. "Topological graphs and principal bundles", Norwegian University of Science and Technology, Trondheim, Norway, May 2010
38. "A crossed-product approach to the Cuntz-Li algebras", University of Otago, July 2011
39. "Functoriality of Cuntz-Pimsner algebras", University of Wollongong, July 2011
40. "Exotic group C*-algebras", University of Oslo, Oslo Norway, August 2012
41. "Functoriality and Cuntz-Pimsner algebras", Norwegian University of Science and Technology, Trondheim, Norway, October 2012

42. "Fell bundles and imprimitivity theorems: towards a universal generalized fixed point algebra", Norwegian University of Science and Technology, Trondheim, Norway, November 2012
43. "Exotic coactions", Norwegian University of Science and Technology, Trondheim, Norway, August 2013
44. "Trouble in CP-Land", Dartmouth College, May 2014
45. "The nondegenerate, the enchilada, and the outer" (two talks), University of Wollongong, Australia, July 2014
46. "The nondegenerate, the enchilada, and the outer", University of Otago, New Zealand, August 2014
47. "Landstad duality and a theorem of Pedersen", NTNU, Trondheim, Norway, June 2015
48. "Landstad duality and a theorem of Pedersen", Univ. Oslo, Norway, June 2015
49. "The Cuntz-Pimsner algebra of a subgroup", NTNU, Trondheim, Norway, November 2016
50. "Pedersen rigidity problem", Univ. Oslo, Norway, December 2016

Local Colloquium and Seminar Presentations.

1. Weaver's proof of spectral multiplicity (two talks), ASU C*-Seminar, February 2006
2. Categorical Landstad duality (three talks), ASU C*-Seminar, September 2006
3. "The spectral theorem, and Fell bundles over groupoids, I–III", ASU C*-Seminar, 3 talks Fall 2008
4. "Topological graphs", ASU C*-Seminar, April 2009
5. "Skew products of topological graphs and noncommutative duality", ASU C*-Seminar, November 2009
6. "Categorical perspectives in noncommutative duality", ASU C*-Seminar, February 26, 2009
7. "Adjoint functors can be profitably used in noncommutative duality for C*-dynamical systems", ASU C*-Seminar, March 26, 2009
8. "Adjoint functors can be profitably used in noncommutative duality for C*-dynamical systems, continued", ASU C*-Seminar, April 2, 2009
9. "Introduction to Hilbert modules" ASU C*-Seminar, September 10, 2010
10. "Introduction to Hilbert modules, continued" ASU C*-Seminar, September 24, 2010
11. "Introduction to Hilbert modules, continued" ASU C*-Seminar, October 8, 2010
12. "Introduction to graph algebras and Cuntz-Pimsner algebras" ASU C*-Seminar, November 19, 2010
13. "Organizational meeting — C^*-bundles" ASU C*-Seminar, January 28, 2011
14. "Fields, bundles and Hilbert modules, wrap-up" ASU C*-Seminar, April 29, 2011
15. "Intro to Hilbert modules" ASU C*-Seminar, 7 talks, fall 2011
16. "K-theory for C^*-algebras" ASU C*-Seminar, 4 talks, January–February 2013

17. "Exact and exotic crossed products" ASU C*-Seminar, 3 talks, October–November 2013
18. "Destabilization" ASU C*-Seminar, 3 talks, February–March 2014
19. "Trouble in CP-land" ASU C*-Seminar, April 2014
20. "Proper actions and coactions", ASU C*-Seminar, 2 talks, October 2014
21. "Properness conditions for actions", ASU C*-Seminar, February 2015
22. "Weaker than proper, but still good enough", ASU C*-Seminar, March 2015
23. "C*-Dynamical Systems and Universal Properties" (3 talks), ASU C*-Seminar, February 2016
24. "Introduction to C*-Correspondences" (3 talks), ASU C*-Seminar, August-September 2016
25. "K-theory for subgroup CP-algebras", ASU C*-Seminar, October 2016
26. "How the Mackey subgroup theorem works", ASU C*-Seminar, October 2016
27. "Imprimitivity Bimodules and Morita Equivalence for C*-Algebras" ASU C*-Seminar, April 2017

Conference Organization.

1. Great Plains Operator Theory Symposium, May 1996 (with J. Spielberg)
2. Groupoid Fest, November 1998 (with S. Kaliszewski and J. Spielberg)
3. AMS Special Session on Operator Algebras, San Francisco, CA, October 21-22, 2000 (with S. Kaliszewski)
4. West Coast Operator Algebra Seminar, October 13-14, 2001 (with S. Kaliszewski and J. Spielberg)
5. Groupoid Fest, November 2006 (with S. Kaliszewski and J. Spielberg)
6. AMS Special Session on Operator Algebras, Tucson, AZ, April 2007 (with S. Kaliszewski and J. Spielberg)
7. Great Plains Operator Theory Symposium, ASU, May 2011 (with S. Kaliszewski and J. Spielberg)

Journal Editing.

Managing Editor, Rocky Mountain Journal of Mathematics

Refereeing and Reviewing.

Referee for numerous journals, including: Applied Category Structures, Indiana University Mathematics Journal, Journal of Operator Theory, Proceedings of the American Mathematical Society, Transactions of the American Mathematical Society, Rocky Mountain Journal of Mathematics, Journal of the Australian Mathematical Society (Series A), Mathematical Proceedings of the Cambridge Philosophical Society, Central European Journal of Mathematics, Expositiones Mathematicae, Proceedings of the London Mathematical Society, Bulletin of

the Brazilian Mathematical Society, Journal of Functional Analysis, Studia Mathematica, Communications in Mathematical Physics, International Mathematics Research Notices

Refereed grant proposals for: US-Israel Binational Science Foundation, National Science Foundation, National Security Agency, Applied Categorical Structures, International Centre for Mathematical Sciences in Edinburgh

External examiner for numerous Ph.D. theses

Graduate Students and Post-Docs Supervised.

1. Terri Miller, M.A., "Elementary theory of Julia sets", 1987
2. Gu Xiaonong, M.A., "A remark on simplexes of invariant states over C*-algebras", 1988
3. Xiaoming Wang, M.A., "C*-algebras generated by QA operators", 1991
4. Nándor Sieben, M.A., "C*-crossed products by partial actions and actions of inverse semigroups", 1994
5. Nándor Sieben, Ph.D., "Actions of inverse semigroups on C*-algebras", 1997
6. Doug Drinen, M.A., "Viewing approximately finite-dimensional algebras as graph algebras", 1997
7. Doug Drinen, Ph.D., "Flow equivalence and graph groupoid isomorphism", 1999
8. Rochus Boerner, MNS, 1999
9. Vu Pham, MA (non-thesis), 2006
10. Nura Patani (co-advised with S. Kaliszewski), PhD, "Generalizations of directed graphs and their C^*-algebras", 2011
11. Adam Morgan (co-advised with S. Kaliszewski), PhD, "Tensor Products of Correspondences and Other Constructions", May 2016
12. Tron Omland, Post-Doc, mentored August 2013 – May 2015
13. Wafa Alotaibi, current, expected PhD, August 2018
14. Keenan Eikenberry (co-chair with Steve Kaliszewski), MA "Functorial Results for C*-Algebras of Higher-Rank Graphs", December 2016
15. Hongren Yan, MA (non-thesis option), May 2016

Significant Teaching Activities.

Have taught at all levels in the Department of Mathematics, from College Algebra through graduate level Topology, Real Analysis, and Functional Analysis. Especially heavily involved in teaching the analysis courses, including (in addition to the above) Advanced Calculus and Intermediate Real Analysis.

Organize (with S. Kaliszewski and J. Spielberg) C*-Algebras Seminar every semester since Spring 1997, which grad students have taken for credit.

Significant involvement in curriculum development:

New courses:
MAT 114 College Mathematics
MAT 370 Intermediate Calculus
MAT 444 Intermediate Abstract Algebra
MAT 473 Intermediate Real Analysis II

Changed courses:
MAT 300 Mathematical Structures (formerly MAT 219)
MAT 170 Precalculus (formerly MAT 118)
MAT 570/571 Real Analysis (redesigned with Steve Kaliszewski, Hal Smith, Jack Spielberg, Horst Thieme

New degree option: Pure Math Option for undergraduate math majors

Also, have administered many graduate qualifying and comprehensive exams, primarily in analysis.

Significant Service.

1. Ombuds Committee (chair) 2015–2016
2. Theoretical Math Seminar Committee 2013–2016, 2017–present
3. Colloquium Committee 2017–present
4. Associate Chair for Undergraduate Studies 1992–1995
5. Personnel and Budget Committee (elected) 1986–1988, 1991–1995, 1996–1997, 2003–2005, 2006–2008, 2008–2009
6. Undergraduate Committee 1989–1992, 1992–1995 (chair)
7. Graduate Committee 1997–2002, 2005–2006, 2010–2012, 2013–2016, 2017–present
8. Lower Division Committee 1992–1995 (chair)
9. Mathematics Course Equivalency Guide Evaluator 1992–1995
10. CLAS Mathematical Sciences Planning Committee 1994
11. Calculus Committee 1994–1995
12. Program Review Committee 1993–1994, 1999–2000
13. Hiring Committees 1987–1988, 1989–1990, 1993–1994 (2), 1994–1995, 1997–1998, 1999–2000, 2000–2001 (chair), 2003–2004 (chair), 2004–2005 (chair), 2007–2008 (chair)
14. Chair Search Committee 1991–1992
15. Ad hoc committee to revise requirements for undergraduate math majors, Spring 1998
16. Lecturer Teaching Evaluation Committee 1998–1999
17. Promotion Committees, Fall 1994 (2), 1997, 1999, 2000, 2003, 2004, 2005, 2007, Fall 2015
18. Dean's Faculty Advisory Council 2001–2002, 2003–2006 (chair 2005–2006)
19. Affirmative Action Committee 2003–2004 (chair)
20. Graduate Mentoring Committee 2003–2004
21. Faculty Mentor (Susanna Fishel) 2007–present

22. Director Search Committee 2007–2008
23. In charge of revising Math PhD program May–August 2008
24. Ad hoc committee to revise analysis qualifier sequence Fall 2008

Awards.

Charles Wexler Teaching Award, 1985
Student Affairs Award for "significant contributions to the quality of life for students at ASU" 1993