

# 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.

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.

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*Date:* March 2010.

## 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, N. Patani, and J. Quigg, *Characterizing Graph  $C^*$ -Correspondences*, Houston J. Math., to appear.
36. S. Kaliszewski, P. S. Muhly, J. Quigg, and D. P. Williams, *Coactions and Fell bundles*, New York J. Math., to appear.
37. A. an Huef, J. Quigg, I. Raeburn, and D. P. Williams, *Full and reduced coactions of locally compact groups on  $C^*$ -algebras*, Expo. Math., to appear.
38. V. Deaconu, A. Kumjian, and J. Quigg, *Group actions on topological graphs*, submitted, 2010.
39. S. Kaliszewski, N. Patani, and J. Quigg, *Obstructions to a general characterization of graph correspondences*, submitted, 2010.
40. E. Bédos, S. Kaliszewski, and J. Quigg, *Reflective-coreflective equivalence*, submitted, 2010.

41. S. Kaliszewski, M. Landstad, and J. Quigg, *A crossed-product approach to the Cuntz-Li algebras*, submitted, 2010.

### Papers in Nonrefereed Conference Proceedings.

1. *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)

### 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

### 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

**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. "The spectral theorem, and Fell bundles over groupoids, I-III", ASU  $C^*$ -Seminar, 3 talks Fall 2008
35. " $C^*$ -Coactions and Fell Bundles - the Discrete Case ", Dartmouth College, February 2009
36. "Skew products of topological graphs and noncommutative duality", Fields Institute (Toronto, Canada), July 2009
37. "Topological graphs and principal bundles", Dartmouth College, April 2009
38. "Topological graphs and principal bundles", Technical University of Norway, Trondheim, Norway, May 2009

### **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. "Topological graphs", ASU  $C^*$ -Seminar, April 2009
4. "Skew products of topological graphs and noncommutative duality", ASU  $C^*$ -Seminar, November 2009
5. "Categorical perspectives in noncommutative duality", ASU  $C^*$ -Seminar, February 26, 2009

6. “Adjoint functors can be profitably used in noncommutative duality for  $C^*$ -dynamical systems”, ASU  $C^*$ -Seminar, March 26, 2009
7. “Adjoint functors can be profitably used in noncommutative duality for  $C^*$ -dynamical systems, continued”, ASU  $C^*$ -Seminar, April 2, 2009
8. “Introduction to Hilbert modules” ASU  $C^*$ -Seminar, September 10, 2010
9. “Introduction to Hilbert modules, continued” ASU  $C^*$ -Seminar, September 24, 2010
10. “Introduction to Hilbert modules, continued” ASU  $C^*$ -Seminar, October 8, 2010
11. “Introduction to graph algebras and Cuntz-Pimsner algebras” ASU  $C^*$ -Seminar, November 19, 2010

### **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: 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

Refereed grant proposals for: US-Israel Binational Science Foundation, National Science Foundation, National Security Agency

External examiner for numerous Ph.D. theses

**Graduate Students 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

**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)

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. Associate Chair for Undergraduate Studies 1992–1995
2. Personnel and Budget Committee (elected) 1986–1988, 1991–1995, 1996–1997, 2003–2005, 2006–2008, 2008–2009
3. Undergraduate Committee 1989–1992, 1992–1995 (chair)
4. Graduate Committee 1997–2002, 2005–2006
5. Lower Division Committee 1992–1995 (chair)
6. Mathematics Course Equivalency Guide Evaluator 1992–1995
7. CLAS Mathematical Sciences Planning Committee 1994
8. Calculus Committee 1994–1995
9. Program Review Committee 1993–1994, 1999–2000
10. 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)
11. Chair Search Committee 1991–1992
12. Ad hoc committee to revise requirements for undergraduate math majors, Spring 1998
13. Lecturer Teaching Evaluation Committee 1998–1999
14. Promotion Committees, Fall 1994 (2), 1997, 1999, 2000, 2003, 2004, 2005, 2007
15. Dean’s Faculty Advisory Council 2001–2002, 2003–2006 (chair 2005–2006)
16. Affirmative Action Committee 2003–2004 (chair)
17. Graduate Mentoring Committee 2003–2004
18. Faculty Mentor (Susanna Fischel) 2007–2010
19. Director Search Committee 2007–2008
20. In charge of revising Math PhD program May–August 2008
21. Ad hoc committee to revise analysis qualifier sequence October 2008–present

**Awards.**

Charles Wexler Teaching Award, 1985

Student Affairs Award for “significant contributions to the quality of life for students at ASU” 1993