Curriculum Vitæ

Joan Lindsay Orr

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Current Position: Senior Software Engineer, Google UK Ltd.
Research Interests: Quantum Computing, Operator Algebras, Technology in Education

Employment

2017-23 Senior Software Engineer, Google UK Ltd., London, United Kingdom

2011-17 Senior Software Engineer, Google Inc., Mountain View, California

1991-13 Department of Mathematics, University of Nebraska–Lincoln.
Professor, 2001-13.
Vice Chair, 1999-00 and 2008-11.
Associate Professor, 1995-00.
Graduate College Faculty Fellow, University of Nebraska, 1993.
Graduate College Faculty Member, University of Nebraska, 1992.
Assistant Professor, 1991-95.

2001-05 Vice President for Web Development, Brownstone Learning, Atlanta, Georgia.

1990-91 NSERC (Canada) International Fellow, University of Waterloo, Canada.

1989-90 SERC (UK) Postdoctoral Research Assistant, University of Lancaster, England.

Education

- Ph.D., King's College, University of London, 1989. Advisor Dr. J. A. Erdos.
- Certificate of Advanced Study in Mathematics with Distinction, University of Cambridge, 1986.
- B.Sc., First Class Honours, Imperial College, University of London, 1985.

Distinctions

- Roger Wiegand Faculty Award, 2009. Awarded for contributions to graduate students in mathematics.
- UNL Parents' Association Recognition Award for Contributions to Students, 2007.
- UNL College of Arts and Sciences Distinguished Teaching Award, 1994.
- UNL Parents' Association Recognition Award for Contributions to Students, 1993.
- Governors' Prize in Mathematics, Imperial College, 1985. Awarded to top math major in graduating class at Imperial College.
- Sir John Lubbock Memorial Prize, London University, 1985. Awarded to top math major in graduating class of London University.

Publications

1. On the primitive ideals of nest algebras, *Proc. Edinburgh Math. Soc.*, **63**, (3), 2020, 737–760. https://arxiv.org/abs/1806.04638
2. A new class of maximal triangular algebras, *Proc. Edinburgh Math. Soc.*, **61** (4), 2018, 909–931. https://arxiv.org/abs/1611.09297
3. Course Builder Skill Maps. B. Roussev, P. Simakov, J. Orr, A. Deutsch, J. Cox, M. Lanaghan, M. Gainer. Learning at Scale, 2016. http://dx.doi.org/10.1145/2876034.2893374

4. The maximal two-sided ideals of nest algebras, *J. Operator Theory*, **73** (2), 2015, 407–416.
   `https://arxiv.org/abs/1401.1433`

5. The stable ideals of a continuous nest algebra, II, *J. Operator Theory*, **57** (1), 2007, 67–94.
   `https://arxiv.org/abs/math/0502455`

6. Randomized interval analysis checks for the equivalence of mathematical expressions (with Stephen D. Scott and Travis W. Fisher). Preprint. `http://joanorr.com/research/papers/RandomizedIntervalAnalysis.pdf`

7. The stable ideals of a continuous nest algebra, *J. Operator Theory*, **45**, 2001, 377–412.

8. eGrade Student Learning Guide (with Bradbury Franklin), John Wiley & Sons, New York, 2000.

9. On-line assessment using the Wiley Web Tests (with W. J. Lewis). *Focus on Calculus* **16**, 1999, 7–8.

10. On-line gateway exams in calculus (with W. J. Lewis). *Focus on Calculus* **14**, 1998, 6–7.

11. Principal bimodules of nest algebras (with K. R. Davidson). *J. Functional Analysis*, **157**, 1998, 488–533.

12. Factorization of triangular operators and ideals through the diagonal (with D. R. Pitts). *Proc. Edinburgh Math. Soc.* **40**, 1997, 227–241.

13. Connectedness of the invertibles in certain nest algebras (with K. R. Davidson and D. R. Pitts). *Canadian Math. Bulletin.* **38** (4), 1995, 412–420.

14. Shuffling of linear orders. *Canadian Math. Bulletin* **38** (2), 1995, 223–229.

15. Some representations of TAF algebras (with J. R. Peters). *Pacific J. Math.* **167** (1), 1995, 129–161.

16. The invertibles are connected in infinite multiplicity nest algebras (with K. R. Davidson). *Bull. London Math. Soc.* 27, 1995, 155–161

17. Triangular algebras and ideals of nest algebras. *Memoirs of the Amer. Math. Soc.*, 562 (117), 1995.

18. Epimorphisms of nest algebras (with K. R. Davidson and K. Harrison). *International J. Math* **6** (5), 1995, 657–687.

19. The Jacobson radical of a CSL algebra (with K. R. Davidson). *Transactions of the Amer. Math. Soc.* **334**, (2), 1994, 925–947.

20. The maximal ideals of a nest algebra. *J. Functional Analysis* **124**, (1), 1994, 119–134.

21. An estimate on the norm of the product of infinite block operator matrices. *J. Combinatorial Theory* (*Series A*) **63**, (2), 1993, 195–209.

22. Representation and refinement for reflexive operator algebras with completely distributive commutative subspace lattice (with S. C. Power). *Indiana U. Math. J.* **40**, (2), 1991, 617–638.

23. On the closure of triangular algebras. *Amer. J. Math.* **112**, 1990, 481–497.

24. Triangular algebras and ideals of nest algebras. *Bull. Amer. Math. Soc.* **23**, (2), 1990, 461–467.

25. On generators of the radical of a nest algebra. *J. London Math. Soc.* **40**, (2), 1989, 547–562.

26. A note on quasicentral approximate units in $\mathcal{B}(\mathcal{H})$. *Proc. Amer. Math. Soc.* **105**, (1), 1989, 149–150.

27. Diagonal-disjoint ideals of nest algebras. Ph.D Thesis, *University of London,* 1989.

Patents and Published Software

1. US Patent D744001, Display screen or portion thereof with transitional icon, 2015
2. *eGrade*, CD-ROM, John Wiley & Sons, New York, 2000.
3. *Wiley Web Tests for Precalculus and College Algebra*, CD-ROM, John Wiley & Sons, New York, 1999.
4. *Wiley Web Tests for Calculus*, CD-ROM, John Wiley & Sons, New York, 1998.

Educational Software and Activities

2009-2010 *UNL Math Placement Test:* Chief architect developing a 3-tier web-application to administer UNL's Math Placement Exam.

2001-2005 *Contract with Brownstone Learning:* Chief architect developing Enterprise Diploma (EDU); Versions 1.5 (July 2001), 2.0 (July 2002), 2.2 (March 2003), 2.5 (July 2003), 2.5.2 (December 2003), 2.6 (December 2004). Developed Maple T.A. for Waterloo Maple Inc.; Versions 1.0 (Fall 2002), 1.5 (Fall 2003), 2.0 (Fall 2005). Developed PH Grade-Assist for Prentice Hall; released Fall 2002. Developed McGraw-Hill Homework Manager (MHHM) and Netgrade for McGraw-Hill; released Fall 2003. Developed ISolve for W. H. Freeman; released Fall 2003.
See: `http://joanorr.com/software/edu`

1999-00 *Java Applets for Liberal Arts Math:* Developed a suite of software for use with a liberal arts math course. The applets are published by John Wiley & Sons as a companion to *"Mathematics beyond the Numbers"*, Gilbert & Hatcher. See: `http://www.joanorr.com/software/gilbhatch`

1996-2001 *EDU/eGrade Software:* Developed software to deliver tests over the World-Wide Web. This software is used to give core competency tests in Math 102, 103, 106 and 107. The system has been used or is being developed for use in departments from A&S, TC, Engineering, and the Library. In AY1999-2000, over 7,400 UNL students made use of the software in their classes. John Wiley & Sons has published versions of this software since 1998.

1995-96 *Analysis WebNotes:* A "virtual textbook" on the World-Wide Web for a two-semester Analysis course. It incorporates complete class notes, which are extensively cross-referenced and seeded with numerous pop-questions, interactive demonstrations, and active participation on-line, by means of on-line discussion pages. This project was supported by a $20,000 Curricular Development grant from the College of Arts and Sciences.
See: `http://www.analysiswebnotes.com`

1994-95 *Calculus Reform:* Member of the lead team of faculty to develop a calculus curriculum for UNL based on the CCH book, which incorporates group work, graphing calculators, and projects. This major curricular reorganization was supported by $76,000 of diversified internal funds.

Courses Taught

Year	Fall	Spring	Summer
2010-11	Math 104 (WHT) Math 106		
2009-10	Math 203 (WHT)	Math 104 (WHT) Math 497 (Course on Web Graph) [1]	Math 896 (Intro Math Lit)
2008-09	Math 825	Math 826	Math 896 (Intro Math Lit)
2007-08	Math 106 (Calc I) [145] Math 921 (Real Analysis) [10]	Math 930 (C*-algebras) [7] Math 922 (Real Analysis) [10]	
2006-07	UNL Faculty Development Leave, Sept. 2006 – May 2007	Integration Thry (Lancaster)	Math 897 (Op. Thry) [1]
2005-06	Math 825 (Analysis I) [30] Math 106 (Calc I) [100]	Math 826 (Analysis II) [27]	Math 897 (Funct. An.) [8]
2004-05	Math 203 (Contemp Math) [30]	Math 203 (Contemp Math) [30]	Math 497 (Algo Num Thry)
2003-04	Math 106 (Calc I) [122]		
2002-03	Math 106 (Calc I) [122]		
2001-02	Working full-time on UNL-Brownstone contract, Jan. 2001 – Aug. 2002		
2000-01	Math 398 (Maple & Mathematics) [6] Math 203 (Contemp Math) [33]		
1999-2000	Math 203 (Contemp Math) [36]	Math 203 (Contemp Math) [35]	
1998-99		Math 208 (Calc III) [36] Math 314H (Matrix Thry) [31]	
1998	UNL Faculty Development Leave, Sept. 1998 - Dec. 1998		
1997-98	Math 106 (Calc I) [117] Math 425/825 (Analysis I) [15]	Math 426/826 (Analysis II) [12]	
1997	On leave from UNL at the University of Waterloo, Jan. 1997 – Jul. 1997		
1996-97	Math 106 (Calc I) [125] Math 924 (Analytic Functs) [15]	Funct An (U. Waterloo)	
1995-96	Math 425/825 (Analysis I) [29] Math 203 (Contemp Math) [34] Math 399H (Honors Thesis) Math 497 (Operator Thry)	Math 426/826 (Analysis II) [19] Math 929 (Funct An II) [7]	Math 897 (C* Algebras)
1994-95	Math 921 (Measure Thry I) [14] Math 106 (Calc I) [114]	Math 106 (Calc I) [123]	Math 897 (Topology) Math 897 (Ergodic Thry)
1993-94	Math 928 (Funct An I) Math 425 (Analysis I)	Math 929 (Funct An II) [5] Math 426 (Analysis II) [6] Math 399H (Honors Thesis)	Math 897
1992-93	Math 425/825 (Analysis I) Math 203 (Contemp Math)	Math 426/826 (Analysis II) Math 203 (Contemp Math)	Math 497 (Function Thry) Math 198 (Contemp Math)

1991-92	Math 314 (Matrix Thry)	Math 314 (Matrix Thry)
	Math 221 (Diff Eq)	Math 221 (Diff Eq)
1989-90	Measure Thry (*U. Waterloo*)	Complex An (*U. Waterloo*)

Honors Theses

1. *"Probabilistic Checks on the Equivalence of Mathematical Expressions"*, Travis Fisher, 1999.
2. *"Some dense subalgebras of nest algebras"*, Lucinda M. Zmarzly, 1995.
3. *"Cutting intervals in partially ordered sets"*, Karna L. Bryan, 1994.

Grants and Contracts - Funded

1. NSF $194,196 DUE 1044658, "Multi-modal modules for learning introductory astronomy concepts" (with Kevin Lee), 2011-13
2. NSA $18,000, NCUWM 2008 Conference. (Lead authors Marley, Orr; other co-PIs Donsig, Ledder, Walker, Harbourne)
3. NSF $25,000 DMS 0650030, "Collaborative Research: Operator Theory/Operator Algebras, GPOTS 07-08," (with David Pitts, Cynthia Farthing, and Allan Donsig)
4. Maplsoft, Inc. Negotiated free license to UNL for MapleTA product, five-year value of contract approx. $90,000, 2006.
5. UNL Research Council. $600 for visiting scholar (Mark Tomforde), 2005.
6. Brownstone Research Group, $529,351 contract, plus $10,000/year graduate student fellowship for Math Department and $5,000/year technology transfer fee, 2001-06.
7. NSF $493,156 three-year grant (with Jones, Ledder, Lindsley-Griffin, and Lee), 2001-04.
8. UNL Teaching Council, $3,080, to develop on-line learning tools on wireless devices (with D. Fowler), 2001.
9. John Wiley & Sons, $31,875 publishing contract for eGrade, 2000.
10. NU Foundation and UNL College of Arts and Sciences, $175,000 for College On-Line Testing Center, 1999.
11. Member of group funded by $1,750 grant from UNL Teaching Council, "Assessment and Improvement of Student Learning in an Interdiciplinary Capstone Course", 1999.
12. John Wiley & Sons, $4,800, upgrade to *Wiley Web-Tests in Calculus* software and tests, 1999.
13. John Wiley & Sons, $11,800, development of *Wiley Web-Tests in Precalculus* software and tests, 1998.
14. UNL Teaching Council, $5,301, "Spreading the Word: Growing the use of tests on the World-wide Web at UNL" (with E. Greenwald, V. DiSalvo, R. Fuller), 1997-98.
15. John Wiley & Sons, $25,000, development of *Wiley Web-Tests in Calculus* software and tests, 1997-98.
16. College of Arts and Sciences, $20,000 to fund curriculum development on the World-Wide Web (with M. V. Sapir), 1996-97.
17. Member of group funded by $6,000 grant from UNL Teaching Council, "Development of an Interactive Program to Aid Students Overcome Mathematics Deficiencies", 1996-97.
18. Member of group funded by $7,500 grant from UNL Teaching Council, "Increasing UNL's Capability for Interactive Internet Instruction", 1996-97.
19. NSF, $133,694 three-year grant DMS-9500839 (with D. R. Pitts), 1995-98.
20. NSF REU, $3,500, supplement to NSF grant DMS-9204811, 1993.
21. UNL Research Council. $500 for conference participation, 1993.
22. UNL diversified internal funds. $5,500 to support GPOTS organization, 1993.
23. UNL Research Council. $560 for visiting scholar, 1992.
24. UNL Research Council, $500 for conference participation, 1992.
25. NSF, $106,260 in three-year grant DMS-9204811 (with D. R. Pitts), 1992-95.
26. NSERC (Canada) International Fellowship, $27,000 stipend, 1990-91.

Grants and Contracts - Not Funded

1. NSF, $1,944,944, "A Large-Scale Implementation and Study of Interactive Assessment," (with Kevin Lee, Rita Kean, Baniel Bernstein, Roger Bruning), 2006
2. NSF, $493,593, "Using student misconceptions to diagnose and assess STEM problem-solving skills," (with Arthur I. Zygielbaum, James A. Minstrell, and Leen-Kiat Soh), 2005
3. The Pew Grant Program in Course Redesign (member of cross-unit coalition), 1999.
4. NSF proposal, $457,528 (with A. Donsig and D.R. Pitts), 1998.

5. Nebraska Research Initiative, $1,071,331 (with D. W. Brooks and B. Placke), 1998.
6. NSF proposal, $461,494 (with A. Donsig and D.R. Pitts), 1997.

Departmental Service

1. Chair, Math 100A Redesign committee, Spring 2011
2. Chair, Calculus textbook selection committee, Spring 2011
3. Vice Chair, May 2008-11.
4. Undergraduate Advisory Commitee (*ex officio*), Fall 2008-11
5. NCUWM organizing committee, Fall 2007-11.
6. Technology Advisory Committee, Fall 2005-11, Chair, 2010-11
7. Supervisor of department technology support staff, 2010-11
8. Web Czar, 2009-10.
9. Organizer of Operator Theory/Operator Algebras seminar, Spring 2006-10.
10. Design and development of new on-line NCUWM registration site, 2009. Maintainance/upgrades 2010
11. Design and development of new on-line Math Placement System, 2009-10
12. Modern Analysis search commitee, Fall 2009
13. Modern Analysis search commitee, Fall 2008
14. Modern Analysis search commitee, Fall 2007
15. Calculus textbook selection commitee, Spring 2006
16. Chair, Math 203 textbook selection commitee, Spring 2006
17. Analysis qualifier committee, Jan 2005 - Jan 2006. Chair, Jan 2006.
18. *Ad hoc* walking tour web-site development committee, Fall 2004.
19. Promotion evaluation for Gordon Woodward, Fall 2002.
20. Engineered custom extensions to EDU software for on-line Math Placement Exam, Fall 2002.
21. Administered departmental update of faculty records on World-Wide Web, 1996-2004.
22. Vice Chair, May 1999-December 2000. *Ex officio* member of Departmental Executive Committee.
23. Department newsletter and alumni relations committee, 1998-2000.
24. Technology Advisory Committee, 1998-2000.
25. Member, Graduate Requirements Committee, Summer 1998.
26. *Ad hoc* adjunct to Operator Theory search, Spring 1997.
27. Departmental WWW Homepage Advisory committee, 1996-97.
28. Wrote departmental nomination for NU System-wide Teaching Award (with A. J. Radcliffe), Fall 1996.
29. Member, Algebra/Algebraic Geometry search committee, Spring 1996.
30. Chair, Computer Support Staff search committee, Fall 1995.
31. Seminar room renovation advisory team, 1995.
32. Elected member of the Departmental Executive Committee, 1994-96.
33. Math and Stats departmental Newsletter Committee, 1993-96.
34. Pi Mu Epsilon faculty advisor, 1993-00.
35. Writing and grading of Graduate Examinations, 1993-present.
36. Prepared Math Bowl tournament questions for UNL Math Day, Fall 1993.

College Service

1. College Assessment committee, Fall 2005 - 09
2. Wrote "internal teaching review" for Cal Garbin promotion, 2002.
3. College On-Line Testing Center Steering Committee, 1999-11

University Service

1. EDU Advisory Committee.
2. UNL Instructional Technology Advisory Committee, 2009.
3. Special Fees Committee, Fall 2007-09.

4. A&S Dean Search Committee, 2000.

5. UNL Faculty Senate, 1998-00.

Ph.D. Committees

1. Co-Advisor, Nathan Corwin, 2009-13.

2. Reader, William Grilliette, Mathematics, advisor David Pitts.

3. Reader, Mike McCoy, Mathematics, advisor David Pitts (did not complete).

4. Reader, Chris Ahrendt, Mathematics, advisor Peterson, Erbe.

5. Reader, Firuz Kamalov, Mathematics, advisor Allan Donsig.

6. Member, Laura Lynch, Mathematics, advisor Tom Marley.

7. Advisor, Kristina Lund, Mathematics, 2006-07 (did not complete).

8. Reader, Jeremy Parrott, Mathematics, advisor David Pitts.

9. Member, Sarah Crose, Curriculum and Instructor, advisor David Fowler.

10. Quingping Tao, Making efficient learning algorithms with exponentially many features, 2004. Advisor, Stephen Scott, Computer Science & Engineering.

11. Alberta Sauter, Evaluation of online students: methods and integrity issues, 2001. Advisor, David Brooks, Teaching, Learning & Teacher Ed.

12. Jean Mason, Relative effectiveness of human and computer-based feedback in a mastery context, 2000. Advisor, Dan Bernstein, Psychology.

13. Graham Leuschke, Finite Cohen-Macauly type, 2000. Advisor, Roger Wiegand, Math.

14. Tim Deis, Equations in Free Inverse Monoids, 1999. Advisor, John Meakin, Math.

15. Martin Hu, Search for anti-proton decay to muonic final states at the Fermilab Anti-Proton Accumulator, 1998. Advisor, Greg Snow, Physics & Astronomy.

16. Richard Avery, Multiple positive solutions to boundary value problems, 1997. Advisor, Allan Peterson, Math.

17. Dan Van Peursem, Analytical modeling of groundwater flow, 1997. Advisor, Glenn Ledder, Math.

Conferences and Meetings Organized

1. Nebraska Conference for Undergraduate Women in Mathematics, Lincoln, February 2011.

2. Nebraska Conference for Undergraduate Women in Mathematics, Lincoln, February 2010.

3. Nebraska Conference for Undergraduate Women in Mathematics, Lincoln, February 2009.

4. Nebraska Conference for Undergraduate Women in Mathematics, Lincoln, February 2008.

5. Great Plains Operator Theory Symposium meeting in Lincoln, May 2007.

6. Summer Mastery Workshop on Uses of the Web in Education, May 1999. Week-long workshop for UNL faculty in Math & Sciences attended by 17 faculty. Supported by the A&S Area of Strength in Math & Science Education.

7. Special session on Non-selfadjoint Operator Algebras at the AMS Annual Meeting in San Francisco, January 1995.

8. Great Plains Operator Theory Symposium meeting in Lincoln, May 1994. GPOTS is one of the largest annual Operator Theory meetings in the US, and this meeting drew over 100 participants from across the US, Canada, and overseas. Supported by NSF.

Presentations at Mathematics Conferences

1. Maximal ideals of triangular algebras, Banach Algebras Mini-Meeting, Leeds, UK, May 2007.

2. Classifying stable ideals of nest algebras, AMS regional meeting, Lincoln, NE, 2005.

3. Classifying stable ideals of nest algebras, Great Plains Operator Theory Symposium, Orlando, FL, Jun 2005.

4. Classifying stable ideals of nest algebras, Nebraska/Iowa Functional Analysis Seminar, Des Moines, IA, April 2005.

5. Interval analysis grading of on-line homework, MAA sectional meeting, Lincoln, NE, April 2005.

6. Principal bimodules of nest algebras, AMS Annual Meeting, Baltimore, MD, January 1998.

7. Principal bimodules of nest algebras, GPOTS/Canadian Operator Theory Symposium, Queen's University, Ontario, Canada, May 1997.

8. Ideals of nest algebras, invited one-hour talk, Canadian Operator Theory Meeting, University of Saskatchewan, Canada, May 1996.

9. Factorizing triangular operators through the diagonal, AMS Annual Meeting, Orlando, FL, January 1996.

10. Factorizing triangular operators through the diagonal, Great Plains Operator Theory Symposium, University of Cincinnati, May 1995.
11. The connectedness of the invertibles in nest algebras, Iowa-Nebraska Operator Theory Meeting, Des Moines, IA, October 1994.
12. Isomorphisms of triangular algebras, AMS Annual Meeting, Cincinnati, OH, January 1994.
13. Epimorphisms between nest algebras, AMS Regional Meeting, Texas A&M University, October 1993.
14. The structure of continuous nest algebras, invited one-hour talk, Great Plains Operator Theory Symposium, University of Colorado, June 1993.
15. The invertibles are connected in infinite multiplicity nest algebras, Canadian Operator Theory Conference, University of Victoria, Canada, May 1993.
16. The connectedness of the invertibles in a nest algebra, AMS Annual Meeting, San Antonio, TX, January 1993.
17. Isomorphisms of maximal triangular algebras, AMS Regional Meeting, Wright Sate University, October 1992.
18. The Jacobson radical of certain CSL algebras, Great Plains Operator Theory Symposium, University of Iowa, May 1992.
19. Some new maximal triangular algebras, AMS Regional Meeting, University of Alabama, March 1992.
20. The Jacobson radical of certain CSL algebras, AMS Regional Meeting, University of North Dakota, October 1991.
21. Automorphism invariant ideals of nest algebras, Great Plains Operator Theory Symposium, Texas A&M University, May 1991.
22. Maximal triangular algebras, Canadian Operator Theory Conference, Dalhousie University, Canada, June 1990.
23. Maximal triangular algebras, Great Plains Operator Theory Seminar, University of New Mexico, April 1990.
24. On the closure of triangular algebras, AMS Regional Meeting, Ball State University, October 1989.
25. Triangular algebras and ideals on nest algebras, Operator Theory and Operator Algebras Meeting, Cork University, Republic of Ireland, May 1989.
26. Maximal ideals of nest algebras, Operator Algebras Workshop, University of Lancaster, England, April 1989.

Presentations at Education Conferences
1. Poster at Learning at Scale, ACM Conference, Edinburgh, April 2016.
2. Panelist at MSRI workshop in Teaching Undergraduates Mathematics, Berkeley, May 2009.
3. Exhibitor at Blackboard Users' Conference, Phoenix AZ, March 2004.
4. Exhibitor at AMS Annual Meeting, Phoenix AZ, January 2004.
5. Invited panelist at Kansas City Math Technology EXPO, October 2003.
6. Exhibitor at Blackboard Users' Conference, Baltimore MD, March 2003.
7. Featured speaker at Kansas City Math Technology EXPO, October 2002.
8. Exhibitor at Blackboard Users' Conference, Phoenix AZ, March 2002.
9. Presentation at California Community Colleges Mathematics Conference, Monterey CA, December 2001.
10. Presentation at American Mathematical Association of Two-Year Colleges meeting in Washington, April 2001.
11. Presentation at California Community Colleges Mathematics Conference, Los Angeles CA, February 2001.
12. Panelist on on-line assessment at AMS Annual Meeting, New Orleans LA, January 2001.
13. One-hour invited presentation at "Celebration of Math" conference, University of Nebraska, June 2000.
14. Presentation on *eGrade* at MAA Sectional Meeting, Lincoln, NE, April 2000.
15. Panelist on CAS in algebra education, and presentation on on-line testing at ICTCM, San Francisco CA, November 1999.
16. Presentation at Midwest Internet Institute, Lincoln, NE, Summer 1999.
17. Focus group on Web-Testing software at ICTCM, New Orleans LA, November 1998.
18. Presentation on Gateway Testing at AMS Regional Meeting, Tucson AZ, November 1998.
19. Invited presentation on Gateway Webtesting System at Calculus for the 21st Century conference organized by the Missouri Undergraduate Faculty Enhancement Project, September 1998.
20. One-day workshop on Calculus Reform at Creighton University, August 1998.
21. Presentation on Gateway Webtesting System at "Shaping the Future" conference. University of Nebraska - Lincoln, May 1998.
22. Presentation on Gateway Webtesting system at UNL Department of Mathematics and Statistics Centennial Celebration.

University of Nebraska, May 1998.

23. Panelist in Technology in Education session at MAA meeting, Wayne State University, Wayne, NE, Spring 1998.

24. Exams in Calculus and Precalculus over the World-Wide Web, International Conference on Technology in Collegiate Mathematics, Chicago, Illinois, November 1997.

25. Invited panelist at Symposium on the Future of Teaching at Research Universities, MSRI, December 1996.

26. Presentation on Analysis WebNotes, International Conference on Technology in Collegiate Mathematics, Reno, Nevada, November 1996.

27. Panelist in Calculus Reform session at MAA meeting, Creighton U., Omaha, NE, Spring 1995.

Visits and Colloquia

1. Two seminars at Edinburgh University, UK, May 2007.
2. Seminar at University of Athens, Greece, May 2007.
3. Colloquium at University of Newcastle-on-Tyne, UK, May 2007.
4. Public lecture at Edinburgh Academy school, UK, (James Clerk Maxwell Science Lecture Series), March 2007.
5. Seminar at Oxford Math. Institute, February 2007.
6. Seminar at University of Lancaster, February 2007.
7. Six month visit to University of Lancaster, UK, Jan. - June 2007.
8. Four week visit to East Carolina University with two colloquia, October 2006.
9. Software consultancy with Waterloo Maple Inc., Waterloo ON, Summer 2006.
10. EDU training workshop for Lincoln Public Schools, August 2005.
11. Software consultancy with Waterloo Maple Inc., Waterloo ON, January 2004.
12. Software consultancy with Waterloo Maple Inc., Waterloo ON, January 2003.
13. Software consultancy at John Wiley & Sons, New York NY, March 2002.
14. Software consultancy with Waterloo Maple Inc., Waterloo ON, November 2002.
15. Presentation at UC Berkeley on PH GradeAssist software, November 2002.
16. Travel to Advisory Board meeting for U. Michigan NSF grant on Gateway Testing, May 2001.
17. Software consultancy at John Wiley & Sons, New York NY (two weeks), July 2000.
18. Software consultancy at John Wiley & Sons, New York NY (September 1999 and October 1999).
19. Colloquium at Oklahoma State University, September 1999.
20. Colloquium at University of North Carolina, Charlotte, Fall 1999
21. Colloquium at The Ohio State University, Fall 1999.
22. Presentation at University of Central Florida, April 1999.
23. Presentation at University of Miami, April 1999.
24. Colloquium at Florida State University, Spring 1998.
25. Colloquium at Renselaer Polytechnic Institute, Spring 1998.
26. Three day visit to Arizona State University, 1997.
27. One week visit to Texas A&M University, 1994.
28. Three week visit to Texas A&M University, 1991
29. Five day visit to University of Alabama at Tuscaloosa, 1991.
30. Five day visit to UCLA, 1991.
31. One week visit to U. Waterloo, 1991.
32. Colloquium at University of Nebraska–Lincoln, Winter 1991.
33. Colloquium at Wright State University, Winter 1991.
34. Colloquium at University of Waterloo, Spring 1991.
35. Twelve day visit to Texas A&M University, 1990.
36. Presentation to University of Toronto Operator Theory Seminar, 1990.
37. Presentation to University of Houston Operator Theory Seminar, 1990.
38. Presentation to SUNY at Buffalo Analysis Seminar, 1990.
39. Ten day visit to University of Athens, Greece, Summer 1989.
40. Presentation to University of Toronto Operator Theory Seminar, Fall 1989.

41. Presentation to Waterloo Analysis Seminar, 1989.
42. Presentation to Lancaster Analysis Seminar, 1989.
43. Four day visit to University of Alabama at Tuscaloosa, 1988.
44. One day visit to Georgia Technical Institute, 1988.

Intramural Presentations

1. Two presentations to summer faculty workshop on EDU, May 2005.
2. Two presentations to summer faculty workshop on EDU, May 2004.
3. Two presentations to summer faculty workshop on EDU, May 2003.
4. Invited presentation of EDU Assessment System to NU Board of Regents, Fall 2002.
5. Two presentations to summer faculty workshop on EDU, May 2002.
6. Presentation to UNL First Tuesday group, December 2002.
7. Workshop on Gateway Web-Testing System to Teachers College Faculty Workshop, June 2000.
8. Workshop on Gateway Web-Testing System to DCS/NebSat Faculty Institute Workshop, May 1999.
9. Presentation on Gateway Web-Testing System to DCS/NebSat Faculty Institute Workshop, March 1999.
10. Plenary talk on operator theory at UNL Regional Workshop, February 1999.
11. Presentation on Gateway Exams at the Preparing Future Faculty Workshop on Learning and Technology, February 1999.
12. Workshop for Teachers College faculty on Gateway Web-Testing System, January 1999.
13. Presentation at MATC metting joint with Oklahoma State University, Kansas City, December 1998.
14. Presentation on Gateway Exams at the Preparing Future Faculty Workshop on Learning and Technology, April 1998.
15. UNL Teaching and Learning Center "First Tuesday" talk on Gateway Exams in calculus, November 1997.
16. Panelist in UNL Teaching and Learning Center "Century Teaching Club" session on "Web Pages for Large Classes", September 1997.
17. Presentation on Analysis *WebNotes* to Department of Biological Systems Engineering, July 1996.
18. Two presentations on design and use of World-Wide Web homepages to Learning Technologies Workshop, May 1996.
19. UNL Teaching and Learning Center "First Tuesday" talk on use of the World-Wide Web in teaching, March 1996.

Conferences and Professional Meetings Attended (no presentation)

1. NBFAS, Edinburgh, April 2018.
2. "Combining Viewpoints in Quantum Theory," ICMS, Edinburgh, March 2018.
3. Conference to honour Aristides Katavolos and Vassili Nestoridis, Athens, December 2017.
4. NBFAS, Leeds, November 2017.
5. WWW 2010, Raleigh NC, May 2010.
6. MathML International Conference, Chicago IL, June 2002.
7. ICTCM, Baltimore MD, November 2001.
8. ICTCM, Atlanta GA, November 2000.
9. MathML International Conference, University of Illinois at Urbana-Champaign, October 2000.
10. "New Learning Strategies," workshop by VA Tech. and the Center for Academic Transformation (RPI), Charlotte NC, February 2000
11. "Excellence in Mathematics Scholarship," Bloomington IN, August 1999.
12. Iowa-Nebraska Operator Theory meetings biannually 1994-98.
13. Calculus Reform Workshop, Oklahoma State University, August 1994.
14. AMS annual meeting, San Francisco, CA, January 1991.
15. AMS Summer Research School on Operator Theory, Durham, NH, July 1988.
16. US-UK Joint Seminar on Operator Algebras, Warwick, England, July 1987.

Visitors Sponsored

2006 Dr. Mark Tomforde, College of William and Mary.

1999 Dr. Eberhard Gerbracht, Institut fur Netzwerktheorie und Schaltungstechnik.

1998 Professor Garry Weiss, University of Cincinnati.
Professor Vern Paulsen, Universty of Houston.
Professor Kenneth Davidson, University of Waterloo.

1996 Dr. Allan Donsig, University of Waterloo.
Professor Elias Katsoulis, University of East Carolina.
Professor Kenneth Davidson, University of Waterloo.

1993 Professor Belissario Ventura, University of California.
Professor Paul Muhly, University of Iowa.

1992 Professor Ian Putnam, University of Victoria.
Professor Kenneth Davidson, University of Waterloo.
Professor David Larson, Texas A& M University.

1991 Professor Justin Peters, Iowa State University.

Refereeing

2019 Operators and Matrices

2019 Journal of Functional Analysis

2008 American Math. Monthly
Houston J. Math

2006 Journal of Zhejiang University

1998 Proceedings of the AMS

1997 Journal of Operator Theory
Journal of the London Mathematical Society

1994 Proceedings of the American Math. Society
Journal of the Australian Math. Soc.
Transactions of the American Math. Soc.

1993 Canadian Journal of Mathematics
National Science Foundation grant proposal
Houston Journal of Mathematics

1992 Bulletin of the Canadian Math. Society
Houston Journal of Mathematics
Proceedings of GPOTS 1992

1991 Journal of Operator Theory
Journal of Linear and Multilinear Algebra

1990 Journal of the London Math. Society
Proceedings the American Math. Society

Memberships in Professional Associations

- Edinburgh Mathematical Society
- London Mathematical Society
- American Mathematical Society (lapsed)
- Association for Computing Machinery (lapsed)